LORNAY
ENVIRONMENTAL CONSULTING

IN PROCESS
BASIC ASSESSMENT REPORT

PROPOSED EXPANSION OF ROMANSBAAI ABALONE FARM ON REMAINDER OF PORTION 2 OF THE FARM 711, GANSBAAI

Prepared for

AQUNION

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Western Cape Government
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FORM NO. BAR10/2019

BASIC ASSESSMENT REPORT

THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.

NOVEMBER 2019

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GENERAL PROJECT DESCRIPTION

(This must Include an overview of the project including the Farm name/Portion/Erf number)

EXECUTIVE SUMMARY:

PROPOSED EXPANSION OF ROMANSBAAI ABALONE FARM ON PORTION 2 OF THE FARM 711, GANSBAAI, CALEDON RD

Initially, when Lornay Environmental Consulting was appointed to apply for the expansion of the Romansbaai Abalone Farm, the project was driven by the high $ market demand for Abalone. The existing facility could not produce enough abalone in response to this demand. The aim was to expand the existing operations, increase the pumping capacity and therefore volume of seawater and add approximately 300 tons to existing abalone output. However, in the beginning of 2024, declining sales were being reported. The situation is now so severe that abalone farms in Hermanus and Gansbaai have being forced to undertake large scale retrenchments at all employment tiers with some farms even being forced to close. As a result, the application for the expansion of Romansbaai Abalone has now shifted from expansion priorities to priorities around implementing the mechanisms aimed at reducing operating costs. The largest cost for an abalone farm relates to the electrical cost of needing constantly pump fresh seawater onto the farm and through the tanks. The application for expansion included the addition of a solar array, which aims to reduce the reliance on the municipal electrical grid. In addition to this, the plan also included the addition of a seawater reservoir. This system is designed to hold seawater for a few hours, which was pumped to it during low tariff periods, and then gravity feed it across the farm during high tariff periods.

Please note that the expansion application is still being pursued in the event that the abalone market recovers.

Overview of the Project

The Romansbaai Abalone Farm, located on Portion 2 of Farm No. 711 in Gansbaai, Western Cape, is a long-established aquaculture facility specializing in the cultivation of abalone.

In response to increasing global demand for abalone, Aqunion (Pty) Ltd, the operator of the facility, has proposed an expansion to enhance production capacity while prioritizing environmental sustainability and operational efficiency. The intent of this expansion is to increase the production capacity of the farm by adding new additional infrastructure to accommodate a greater production output, addressing both market needs and ecological considerations. This initiative is also aligned with the company's commitment to achieving a more substantial presence in the international aquaculture market.

Lornay Environmental Consulting has been appointed by Aqunion (Pty) Ltd, hereafter referred to as "the applicant," to apply for Environmental Authorisation in accordance with the National Environmental Management Act (NEMA, Act 107 of 1998) and the Environmental Impact Assessment (EIA) Regulations (2014), as amended. The application pertains to the proposed expansion of an abalone farm located on Portion 2 of Farm 711 in Gansbaai.

Project Proposal

The proposed expansion of the Romansbaai Abalone Farm involves a strategic enhancement of its operational capacity to meet increasing global demand for high-quality abalone. The primary components of the project include the construction of a new production area with additional grow-out tanks, the establishment of a lined seawater reservoir, the installation of new

pipelines, and the integration of a solar power array to support sustainable operations. These infrastructure upgrades aim to increase the farm's annual abalone production by an additional 150 tons (wet weight), boosting total production capacity while adhering to environmental best practices.

Currently, the farm occupies an area of approximately 57.5 ha, with a development footprint of 16 ha dedicated to operational activities. To facilitate the proposed expansion, the farm plans to increase the development footprint by 6.9 ha, resulting in a total operational footprint of 22.9 ha. This leaves 34.6 ha of the property undeveloped, ensuring sufficient space for ecological preservation and future adaptability.

Evolution of the Alternatives

The evolution of alternatives for the proposed expansion was a thorough process that balanced technical feasibility, ecological preservation, and alignment with ongoing operational requirements. Each alternative was assessed through the application of the mitigation hierarchy, avoidance, minimization, restoration, and offsetting to identify a development layout that would minimize environmental impacts while meeting project's goals. This assessment was undertaken with close collaboration with botanical specialists to identify and mitigate potential ecological constraints.

Alternative 1

Alternative 1 proposed a total development footprint of 9.6 ha, including a phased expansion of the production area, expansion of the existing pumphouse, construction of a lined seawater reservoir, installation of additional pipelines, and a solar array. This alternative aimed to increase abalone production by 300 tons (wet weight) through two phases:

1. **Production Area**

The initial intent of the proposal was to construct a production area that will be carried into 2 phase (Phase 1 and Phase 2) with the overall proposed 3 ha development footprint. The production area, this is where the abalone is grown, and the site development footprint included the following specifications:

→ **Phase 1**: with coverage footprint of **1.5 ha**
- Production capacity increase: 150 tons (wet weight)
- Number of tanks: 1 850
- Number of baskets: 12 950
- Seawater usage: 2 400 m^3/hour
- Aeration fans / blower room: 4 units
- Split/grading station: 1 unit

→ **Phase 2**: with coverage footprint of **1.5 ha**
- Production capacity increase: 150 tons (wet weight)
- Number of tanks: 1 850
- Number of baskets: 12 950
- Seawater usage: 2 400 m^3/hour
- Aeration fans / blower room: 4 units
- Split/grading station: 1 unit.

2. **Lined Seawater Reservoir:**

→ Storage capacity: 41 000 m^3
→ Surface area: 20 000m^2 (2 ha)
→ Depth: 3,5 meters
→ Fill-up time: 8 hours

→ Coverage footprint: **20 000m²** (2 ha).

3. Solar Array:

→ Power generation capacity: 4 MW (backup)
→ Coverage footprint: **40000 m² (4 ha).**

4. Expansion of the existing pumphouse:

→ The existing pumphouse will be expanded by 140 m² to house the 4 new pipelines used to abstract seawater
→ Coverage footprint: **140 m²**

5. 4 additional Pipelines:

1. Four additional pipelines will be installed for intaking of the seawater to the new proposed lined reservoir.
2. The pipeline will be placed alongside the existing network of pipeline situated within a disturbed area.
3. Each pipeline will be
    - Length: 600 meters
    - Diameter: 500 mm
    - Total area per pipeline = **300 m²** / pipeline

Total footprint: Approximately 9.13 ha

The botanical specialist assessed the construction-phase impact of Alternative 1. The primary ecological concern was the permanent loss of all Low, Medium, and High botanical sensitivity vegetation classified as part of the nationally gazetted Endangered Overberg Dune Strandveld ecosystem across three of the five footprint areas (Phases 1 and 2, and the seawater reservoir), along with the localised loss of subpopulations of five recorded plant Species of Conservation Concern (SoCC). The dam (seawater reservoir) area was assessed as having a Medium to High negative botanical significance, both before and after mitigation. This level of impact was assessed as potentially triggering a Biodiversity Offset requirement in terms of the National Biodiversity Offset Guidelines (DFFE, 2023), corresponding to a minimum offset area of approximately 200 ha for Alternative 1 (seawater reservoir area).

Alternative 2:

Alternative 2 was a previously preferred layout and consists of the same expansion as alternative 1 and was therefore not considered as the preferred alternatives due to site constraints and specialist input. The first being that the production area (grow-out platform) was proposed to be placed to align with the existing production areas on the property which would otherwise require infilling and levelling off the ground to support Phase 2 as well as . The second was that certain areas proposed for development fall within the mapped CBAs on the property. Alternative 2 contains the same specification as Alternative 1, with only minor changes to the location of the production area phases (Phase 1 and Phase). The alternative also involves the construction of Phase 1 and Phase 2 with the proposed development footprint of 3 ha situated adjacent to the exiting production areas:

1. Production Area

→ **Phase 1**: with coverage footprint of **1.5 ha**
    - Production capacity increase: 150 tons (wet weight)
    - Number of tanks: 1 850
    - Number of baskets: 12 950
    - Seawater usage: 2 400 m³/hour

- Aeration fans / blower room: 4 units
- Split/grading station: 1 unit

→ **Phase 2**: with coverage footprint of **1.5 ha**

- Production capacity increase: 150 tons (wet weight)
- Number of tanks: 1 850
- Number of baskets: 12 950
- Seawater usage: 2 400 m^3/hour
- Aeration fans / blower room: 4 units
- Split/grading station: 1 unit

3. Lined Seawater Reservoir:

→ Storage capacity: 41 000 m^3
→ Surface area: 20 000m^2 (2 ha)
→ Depth: 3,5 meters
→ Fill-up time: 8 hours
→ Coverage footprint: 20 000 m^2 (2 ha)

3. Solar Array:

→ Power generation capacity: 4 MW (backup)
→ Coverage footprint: **40000 m^2 (4 ha)**

4. Expansion of the existing pumphouse:

→ The existing pumphouse will be expanded by 140 m^2 to house the 4 new pipelines used to abstract seawater
→ Coverage footprint: **140 m^2**

5. 4 additional Pipelines:

4. Four additional pipelines will be installed for intaking of the seawater to the new proposed lined reservoir.
5. The pipeline will be placed alongside the existing network of pipeline situated within a disturbed area.
6. Each pipeline consists of the following dimensions:
   - Length: 600 meters
   - Diameter: 500 mm
   - Total area per pipeline = **300 m^2** / pipeline

Total footprint: approximately 9.13 ha

The botanical impact assessment for Alternative 2 (Helme, 2024) recorded a Medium to High negative significance rating for the dam area, and a Medium negative rating for the Phase 2 grow-out area the latter reflecting the higher sensitivity of the vegetation in the repositioned Phase 2 footprint relative to Alternative 1.

Alternative 3: No-go Option

The option of maintaining the status quo, i.e. no expansion, was also investigated.

Alternative 4

Alternative 4 emerged as the most environmentally and operationally balanced solution chosen through specialist involvements. This alternative sees the reduction in the proposed production area's footprint from 3 ha to 2 ha and the shifting of the platform to areas of low to medium ecological sensitivity. The footprint of the seawater reservoir is reduced from 2 ha to 0.8 ha, although the reservoir site remains within a highly sensitive botanical area. It is important to note that the location of the proposed seawater reservoir is confined to higher areas on the farm, in order to facilitate gravity-fed water flow to the production area.

The updated botanical impact assessment for Alternative 4 (Appendix G1b) recorded a reduction in botanical significance for the Phase 2 grow-out area from Medium negative to Low to Medium negative, and for the seawater reservoir from Medium to High negative to Medium negative. The overall post-mitigation impact for Alternative 4 was assessed as Low to Medium negative, with the seawater reservoir remaining the area of greatest concern at Medium negative significance.

The possibility of a Biodiversity Offset was still indicated for the reservoir footprint (approximately 1.5 ha of Medium to higher significance), with a minimum recommended alien clearing offset area of 15 ha, in accordance with the 10:1 offset ratio applicable to Endangered habitats under the National Biodiversity Offset (2023) guidelines.

It is a fundamental operational requirement that the seawater reservoir be located at the highest topographic point on the property, as this enables gravity-fed distribution of seawater to the grow-out platforms during peak electricity tariff periods. This topographic constraint was carefully considered and confirmed to preclude any further relocation of the reservoir to areas of lower botanical sensitivity. The mitigation hierarchy was accordingly applied to the maximum extent feasible through the reduction of the reservoir footprint rather than relocation.

Ongoing engagements between Lornay Environmental Consulting, Cape Nature and the Department of Environmental Affairs and Development Planning (DEA&DP) identified that the initial proposed mitigation mechanism an alien clearing programme of approximately 8 ha on Brown Dog Farm did not, in isolation, adequately address the residual Medium negative impact associated with the reservoir area in a sufficiently tangible manner. Cape Nature accordingly recommended that the mitigation hierarchy be fully reapplied prior to consideration of any formal Biodiversity Offset.

However, the reduction in footprint size of the seawater, as it was reassessed by the botanical specialist, reservoir minimises the impact on site by reducing the significance of impacts from medium - high negative rating (prior to mitigation) to a low medium negative rating after mitigation measures are implemented.

NOTE: **Importantly, Alternative 4 is no longer a preferred option. However, Alternative 5 emerged as a best practicable option form the botanical perspective, and the new layout (Alternative 5) involves reduction of the seawater reservoir footprint from 8000m² to 7000 m² under the new preferred (Alternative 5 layout.**

	Description	Volume	Size (m²)
1.	New production area/ grow out	150 tons (wet weight)	20000
2.	Line seawater reservoir	41 000 m²	8000
3.	Solar array	4MW	40000
4.	Pumphouse		140
5.	4 additional pipelines		1200
		Total size	**69 340 (6.9 ha)**

Alternative 5 (Preferred)

In response to the above, a further refined layout, Alternative 5 was prepared, incorporating an additional reduction in the seawater reservoir footprint from 8 000 m² (0.8 ha) to 7 000 m² (0.7 ha). The revised layout positions the reservoir immediately

adjacent to the existing reservoir infrastructure, thereby further minimising the loss of High botanical sensitivity vegetation and reducing the potential impact on plant SoCC occurring within the area.

		Alternative 1	Alternative 2	Alternative 4	Alternative 5 (Preferred)
Production area / grow out platform	Platform 1	1.5	1.5	2	2
	Platform 2	1.5	1.5		
Reservoir		2	2	0.8000	0.7000
Solar		4	4	4	4
Pumphouse		0.014	0.014	0.014	0.014
Pipelines (4 new)		0.12	0.12	0.12	0.12
TOTAL		**~9.134**	**~9.134**	**6.934**	**6.834**

SUMMARY OF THE IMPACTS ASSOCIATED WITH THE DEVELOPMENT

Initially, four layout Alternatives have been identified during the assessment process by the specialist, namely Alternative 1, 2, 3 and with Alternative 4 being the preferred option. Alternative 4 layout (previously preferred) was still left with the medium residual impact due to the seawater reservoir footprint being largely located within the high botanical sensitive area. Further to this, there have been ongoing engagement with Cape Nature, of which they recommended that a mitigation hierarchy should be reapplied prior to application of the biodiversity offset from the residual impact of medium for the seawater reservoir area. It is important to note that the seawater reservoir cannot be relocated to an alternative position on the farm. By virtue of its function, the reservoir must be situated at the highest topographic point on the property in order to enable the gravity-fed distribution of seawater across the grow-out platforms during peak tariff periods. This constraint was carefully considered during the initial alternatives assessment to further mitigation through redesign or relocation, as such the mitigation hierarchy was fully applied by the botanical specialist of which it was recommended that there should be an agreement for an alien clearing funding mechanism.

Consequently, the recommendation for alien clearing of an area of approximately 8 ha on Brown Dog Farm was sought forward. However, there had been ongoing discussions with Cape Nature, Lornay Consulting and DEA&DP official of which such the above mechanism does not fully address the medium residual impact and that the low medium negative impact applied as a mitigation hierarchy was not tangible enough such that it addresses the impact on the proposed seawater reservoir area.

In accordance with the National Biodiversity Offset Guidelines (2023), a Biodiversity Offset is required where a residual impact of medium or higher remains following full application of the mitigation hierarchy. After thorough application of the mitigation hierarchy, the botanist has confirmed (March 2026) that the residual impacts do not trigger the need for a Biodiversity Offset in terms of the Guidelines. It is important to note that the botanist has indicated that the only area of vegetation concern in the expansion area is the area proposed for the seawater reservoir (0.8ha final preferred alternative) and development here would result in the permanent loss of approximately 0.8 ha of Southwestern Strandveld, an ecosystem classified as Endangered under the National Biodiversity Assessment. However, after various assessments and investigations, the botanist has confirmed a medium low impact for the area in question. This was attributed to the reduced development footprint for the seawater reservoir area (2 ha to 0.8 ha) and the fact that the underlying Overberg Dune Strandveld (now referred to as Southwestern Strandveld) vegetation type is well conserved. This revised assessment is documented in the specialist's addendum dated attached as **Appendix G1c.**

Note that before the residual impact of the reservoir area was reassessed by the botanist, various mechanisms into the National Biodiversity Offset Guidelines needed to be investigated and for transparency purposes, the EAP shown the various

investigations that have been included in this assessment since its inception in 2023 relating to the Biodiversity Offset Guidelines. The investigations undertaken prior to the inception of the new preferred Alternative 5 layout are discussed below. Important to note, these offsets options were only applicable under Alternative 4 and are no longer applicable on Alternative 5 layout, as the mitigation hierarchy was reapplied:

The following Offset options were investigated – ***Biodiversity Offset is no longer are applicable and the information below is provided only to show the thorough assessment which has informed this application. The final conclusion from the Botanist and supported by the EAP as a result of no impacts being medium or higher, is to follow a mitigation strategy through monetary contribution as outlined below.***

1. Monetary contribution – Preferred option *(No Longer Applicable)*

This was the first recommendation of the botanist and serves as the final mitigation measure in this assessment to be carried into the Environmental Authorisation. This entails the allocation of financial resources to support the clearing and long-term management of alien invasive plant species within an already declared, but poorly managed conservation area in the vicinity. The objective of this would be to contribute toward improving ecological management in priority conservation areas, which reflect the vegetation type in question, but that are currently under threat due to limited capacity and resources for effective management. This option is supported by the botanist via his conclusions in his Terrestrial Impact Assessment and ultimately contributes to the low - medium rating.

Further consultation was undertaken with Sean Privett of the Grootbos Foundation. The Grootbos Foundation have confirmed the details and requirement of this agreement between the applicant and the Grootbos Foundation regarding the financial contribution towards the targeted alien clearing programme and management within existing and declared conservation areas or servitudes in the area. The agreement will between the Grootbos Foundation and the holder outlines the financial requirements as well as a basic management plan for the implementation of this type of "Offset" strategy. This was finalised in March 2026 since the strategic offset could be accepted over the National Biodiversity Offset Guidelines in itself.

We as the Environmental Assessment Practitioner (EAP) and Biodiversity Offset Facilitator as well as the botanist, originally recommended and supported this option as the preferred mechanism and mitigation measures in this scenario, due the case specific constraints and challenges outlined in this report.

In line with the National Biodiversity Offset Guideline (2023), Onsite Offset options were also investigated. The best possible areas on site and the mechanism for how this could have been implemented and maintained, were investigated. After consultation with the applicant and Cape Nature, as well as through the consideration of the sensitivity areas identified by the Terrestrial specialist, a preferred area for the 8 ha Onsite Offset area was identified. However, through further investigation it became evident that the real challenge with this specific Onsite Offset related to mechanisms for implementation and how to secure the Offset area in the long term. These details are outlined below:

2. Onsite Biodiversity Offset (No longer Applicable)

2a. *Registration of a Conservation Servitude* (8 ha) in title, on a suitable portion of the property in favour of a recognised conservation entity such as Cape Nature, Overberg Renosterveld Conservation Trust or Grootbos Foundation. This mechanism would provide for the permanent legal protection of onsite areas of biodiversity value, along with associated land use restrictions to maintain or enhance ecological functioning. In other development scenarios, this is the preferred mechanism for the securing of a Biodiversity Offset, however in this particular case, a number of implementation challenges were identified as outlined in the BO Report and given these challenges, it was concluded in consultation with Cape Nature, that this option was not viable.

2b. *Stewardship Site* - The designation of the Offset area as a Stewardship Site in Agreement with Cape Nature was also considered. However, this option is not feasible, as the proposed offset area does not fall within a Priority Area or present as a high value asset for Cape Nature and therefore given capacity and financial constraints at Cape Nature, this site does not qualify as a Stewardship site. Cape Nature confirmed in their Stewardship review meeting that the site in question does not qualify for any level of Stewardship.

2c. Subdivision and Rezoning to Open Space - The option of allocating the 8 ha of the site to a rezoned Open Space designation was investigated. After consultation with both the appointed Town Planning Consultants (Plan Active) and the Overstrand Municipality's Town Planning Department (Senior Town Planner: Mr Schalk van der Merwe), it was confirmed that both the Overstand Municipality and the National Department of Agriculture (NDA) will not support the removal of 8 ha from the 57 ha Agriculture Zone 1 Property, to be rezoned to Open Space. In addition to this, Spot Zoning will also not be supported as confirmed by the Overstrand Municipality. The Overstrand Municipality had advised that the only option which would be supported by them, would be via the submission and subsequent approval of a Site Development Plan with the Biodiversity Offset area indicated on it. This municipal approval would include specific conditions of authorisation relating to what is and is not permitted in the Offset Area.

Strategic Offset — Previously Preferred Mechanism (No longer Applicable)

As a result of the botanist's final residual impact ratings of medium low and low a final mitigation measure was recommended under Alternative 4 layout. This mechanism involves a financial contribution directed toward the clearing and long-term management of alien invasive plant species within a priority conservation area in the vicinity of the site.

Specifically, as outlined in the agreement letter from Sean Privett of the Grootbos Foundation, dated 18 March 2026 (App L), **approximately 8 ha of Endangered Sand Fynbos habitat on Brown Dog Farm, representing 10 times the reservoir footprint area, will be cleared of invasive alien vegetation using the funding generated by this strategic offset (approximately R256 000). The work will be administered and overseen by the Grootbos Foundation. This landforms part of a key ecological corridor in the area and supports numerous plant Species of Conservation Concern**.

The botanist further recommends the adoption of this agreement and inclusion as a condition of the EA.

The above outlined offset options were investigated in conjunction with Alternative 4, previously preferred layout. However, since mitigation hierarchy has been further reapplied, these options are no longer applicable under Alternative 5, as the residual impact has been reduced to low-medium after mitigation. This is because, the iterative design process resulted in a tangible reduction in the extent of impact on the High botanical sensitivity area associated with the seawater reservoir footprint, with the total vegetation loss progressively minimised from 8 000 m² under Alternative 4 to 7 000 m² under the current preferred Alternative 5.

Process Status to date – New Preferred Alternative 5

The progressive refinement of the site layout through the alternatives assessment process has substantially reduced the extent and significance of residual ecological impact relative to the initially proposed layouts. The primary construction-phase impacts associated with the preferred Alternative 5 are:

- → Permanent transformation of approximately 0.7 ha of indigenous vegetation within low and medium and a significantly small portion (<35%) of the high botanical sensitive areas associated with the seawater reservoir footprint compared to the previous preferred Alternative layout.
- → Localised loss of vegetation in Low to Medium botanical sensitivity areas within the consolidated grow-out platform footprint (2.0 ha).

→ Potential loss of subpopulations of up to five plant Species of Conservation Concern recorded within the development footprints, including species listed as Vulnerable (*Athanasia quinquedentata* ssp. *rigens*, *Cynanchum zeyheri*, *Lampranthus fergusoniae*) and Near Threatened (*Muraltia pappeana*, *Agathosma geniculata*).

The botanical specialist confirmed that under Alternative 5 layout, less than 35% of the reservoir footprint falls within an area of High botanical sensitivity a material improvement over the original 2024 layout, in which more than 50% of the then 2.0 ha reservoir footprint occupied High sensitivity habitat. The balance of the reservoir footprint under Alternative 5 falls within Low and Medium sensitivity areas. On this basis, the overall botanical significance of the seawater reservoir footprint has been reduced to a Low to Medium negative level.

The specialist further confirmed that this level of botanical impact does not require any Biodiversity Offset or off-site conservation contribution. This conclusion reflects the applicant's demonstrated commitment to avoiding and setting aside the bulk of the High sensitivity indigenous vegetation on the property through the progressive redesign of the development layout. It is further noted that some High sensitivity vegetation will be partially affected by the proposed Solar PV Array, but this impact is similarly assessed at a Low to Medium negative significance, given that the applicant intends to retain ground-level vegetation cover beneath the panels.

All mitigation measures identified in the original Botanical Impact Assessment of November 2024 (Appendix G1a) remain applicable and must be timeously implemented. These include, inter alia:

- Clear demarcation of all approved development footprints prior to construction, with no disturbance of natural vegetation outside demarcated areas permitted at any time.
- Removal of all listed invasive alien plant species from the site within one year of project authorisation, using approved methodology.
- Search-and-rescue translocation of all geophyte bulbs and succulents including *Lampranthus fergusoniae* from the reservoir and grow-out platform footprints to ecologically comparable undisturbed areas on the property, undertaken at the appropriate seasonal phase prior to construction.
- No large-scale soil disturbance or clearing within the Solar PV area; vegetation to be trimmed to a maximum height of 1 m to permit panel installation while retaining the bulk of vegetative cover.

SUMMARY OF THE SPECIALISTS

The screening tool report was generated, and the following themes were indicated for the subject property:

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme	X			
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Based on the findings of the above and the Specialist Assessments recommended in the Screening Tool report, the following specialists were appointed as part of the NEMA process and informed the evolution of alternatives:

- → Heritage Impact Assessment (J. Kaplan)
- → Visual Impact Assessment (S.C Lategan)
- → Archaeological Impact Assessment (J. Kaplan)
- → Palaeontological Impact Assessment (John Pether)
- → Terrestrial Impact Assessment (N. Helme)
- → Animal Species Compliance Statement (J. Venter)

The alternatives evolved in line with the specialist input:

Terrestrial Biodiversity Assessment

The Terrestrial Biodiversity Assessment confirmed the following:

- → Approximately 14 hectares of the 50-hectare property are classified as high botanical sensitivity.
- → The vegetation type on-site is Overberg Dune Strandveld, which is Endangered on a national scale.
- → At least five plant Species of Conservation Concern (SoCC) were identified within four of the five proposed footprint areas.

Despite these findings, the specialist concluded that viable populations of the recorded SoCC are expected to persist within the undeveloped portions of the property. The report confirmed that the ecological functionality of vegetation within the PV array area can be maintained if vegetation height is managed through brush-cutting at approximately 1 meter.

Botanical Impacts

- → Loss of Overberg Dune Strandveld vegetation and identified SoCC within the development footprint, particularly at the locations for the proposed seawater reservoir and grow-out tanks.
- → Potential fragmentation of habitats; however, the development footprint was refined and reduced based on specialist input, significantly mitigating the impact on high-sensitivity areas.

The specialist further confirmed that this level of botanical impact does not require any Biodiversity Offset or off-site conservation contribution. This conclusion reflects the applicant's demonstrated commitment to avoiding and setting aside the bulk of the High sensitivity indigenous vegetation on the property through the progressive redesign of the development layout. It is further noted that some High sensitivity vegetation will be partially affected by the proposed Solar PV Array, but this impact is similarly assessed at a Low to Medium negative significance, given that the applicant intends to retain ground-level vegetation cover beneath the panels.

Animal Species Compliance Statement

The compliance statement confirmed the absence of sensitive animal species and habitats on the site. Based on a combination of desktop research and field verification, no species requiring further assessment were identified.

Heritage Impact Assessment

A Notice of Intent to Develop (NID) was submitted to Heritage Western Cape. A Heritage Impact Assessment comprising of an Archaeological Impact Assessment, Palaeontological Impact Assessment, Visual Impact Assessment on the Cultural Landscape was requested. The assessment was compiled by Agency for Cultural Resource Management (ACRM). The Heritage Impact Assessment has been submitted to Heritage Western Cape and South African Heritage Resources Agency (SAHRA) and the final comment is attached as **Appendix E2**.

Archaeological Impact Assessment

Potentially important shell midden deposits (in the proposed seawater intake pipeline), and Later Stone Age campsites (in the proposed solar plant, grow out tanks & storage dam) may be uncovered vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.

Unmarked Khoisan burials may also be uncovered during construction phase excavations.

Palaeontological Impact Assessment

The installation of a Solar Energy Facility involves shallow excavations for cabling. Typically, the main excavations are the shallow trenches for connecting cabling, while the solar panel arrays are supported on driven posts or concrete sleepers and the transformers/inverters, and a Battery Energy Storage System are located on shallowly embedded concrete slabs. It is assumed that the depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be up to 2-3m. Earthworks will mainly affect the Qg dune coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin. Fossil bones are overall sparse in the Qg coversands and those which may be discovered are expected to be of latest Quaternary age and mainly to be species of extant fauna.

The fossil bones that may occur in the Waenhuiskrans Fm. are, like the later coversands, also mainly comprised of representatives of extant fauna, but unexpected species of a different fauna are more likely to occur, as a result of phases of different ecological and palaeoclimatic conditions in the past, as well as the bones of some species which became extinct in the geologically recent past.

The overall, default palaeontological sensitivity of unconsolidated coversand deposits is classified as LOW/Blue by the SAHRIS Palaeo-Sensitivity map.

The Klein Brak Fm. is not rated on the SAHRIS palaeontological sensitivity map but is assigned CLEAR/Unclassified. Due to the open coast setting of the seashore of the Project Area only extant species are expected and a LOW sensitivity may be assigned to the raised beach deposits. Furthermore, the additional pipelines will be installed along an already disturbed route through the beach deposits. An impact on the fossil heritage of the Klein Brak Fm. is not expected.

Visual Impact Assessment

According to Lategan (2024), the expansion of the Romansbaai Aqunion Abalone Farm will not have an impact of great significance on the Cultural Heritage Landscape. The topography of the area with its steep coastal edge and hills to the west, creates an area with a high visual absorption level. The abalone farm is furthermore situated in a depression which screens the facility from the surrounding area. `The overall visual impact is thus low, and the heritage landscape will not be altered through the expansion of the facility' (Lategan 2024).

The overall visual impact of the proposed abalone farm expansion is low and not of such a nature that it will result in a deterioration of the cultural landscape (Lategan, 2024). No mitigation measures are therefore deemed necessary.

PROCESS INFORMATION

Initially, three rounds of public participation were conducted, including a 50-day extension, during which the additional round of public participation (PPP4) was conducted. However, the application was withdrawn prior to the BAR's final submission due the requirement for investigation of the National Biodiversity Offset Guidelines as well as needing to further apply and consider the mitigation hierarchy.

Following the comments received during PPP4 (30 March 2026 to 04 May 2026) further reapplication of the mitigation hierarchy given the reduction of the residual impacts from medium to Medium low, Alternative 5 is presented as the final

preferred layout alternative for the proposed expansion. Therefore, no biodiversity offset is applicable, no alien clearing fund will be initiated, and no onsite offset will be implemented.

IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.

2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".

3. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.

4. All applicable sections of this BAR must be completed.

5. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.

6. This BAR is current as of **November 2019**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at http://www.westerncape.gov.za/eadp to check for the latest version of this BAR.

7. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.

8. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.

9. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.

10. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.

11. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.

12. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.

13. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link https://screening.environment.gov.za/screeningtool to generate the Screening Tool Report. The screening tool report must be attached to this BAR.

14. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ('NEM:AQA"), the submission of the Report must also be made as follows, for-
    Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

    Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE: REGION 1 and REGION 2 **(Region 1: City of Cape Town, West Coast District)** **(Region 2: Cape Winelands District & Overberg District)**	**GEORGE OFFICE: REGION 3** **(Central Karoo District & Garden Route District)**
BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1 or 2) Private Bag X 9086 Cape Town, 8000 Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Development Management (Region 1 and 2) at: Tel: (021) 483-5829 Fax (021) 483-4372	BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530 Registry Office 4th Floor, York Park Building 93 York Street George Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 805 8650

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	The scale of the locality map must be at least 1:50 000. For linear activities or development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following: • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s)

	• a north arrow; • a legend; and • a linear scale. For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken. Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and Public Works) that will be affected by the proposed development must be included in the Report.
Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following: • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development **must** be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): o Watercourses / Rivers / Wetlands o Flood lines (*i.e.,* 1:100 year, 1:50 year and 1:10 year where applicable); o Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"): o Ridges; o Cultural and historical features/landscapes; o Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.
Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as **Appendix C**. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as **Appendix D**.
Linear activities or development and multiple properties	GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as **Appendix A3**.

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ **(**tick) or a **x** (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A:	**Locality Map**	✓
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	Included in BAR
Appendix B:	**Appendix B:**	**Site development plan(s)**	✓
	Appendix	**A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;**	
Appendix C:	**Photographs**		✓
Appendix D:	**Biodiversity overlay map**		✓

Appendix E:	**Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.**		
	Appendix E:	**Heritage**	✓
Appendix F:	**Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.**		✓
Appendix G:	**Specialist Report(s)** **APP G1a Terrestrial Biodiversity Impact Assessment** **APP G1b Terrestrial Biodiversity Impact Assessment Amendment** **Appendix G1c Terrestrial Biodiversity Impact Assessment Addendum** **Appendix G1d Terrestrial Biodiversity Impact Assessment Addendum** **APP G2a Terrestrial Animal Species Compliance** **APP G2b Terrestrial Animal Species Compliance Addendum** **APP G3 Marine Coastal Impact Assessment** **APP G4 Heritage Impact Assessment** **APP G5 Visual Impact Assessment**		✓
Appendix H:	**EMPr**		✓
Appendix I:	**Screening Tool**		✓
Appendix J:	**Cape Nature lease**		✓
Appendix K:	**Proof of Compliance monitoring**		✓
Appendix L	**Grootbos Agreement (No longer Applicable)**		✓

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE:		GEORGE OFFICE:
	REGION 1 (City of Cape Town, West Coast District	REGION 2 (Cape Winelands District & Overberg District)	REGION 3 (Central Karoo District & Garden Route District)
Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	Aqunion (Pty) Ltd		
Name of contact person for Applicant/Proponent (if other):	Rowan Yearsley		
Company/ Trading name/State Department/Organ of State:	Aqunion (Pty) Ltd		
Company Registration Number:	1995/001834/07		
Postal address:	PO Box 1086		
	HERMANUS	Postal code: 7200	
Telephone:	028 312 1106	Cell: -	
E-mail:	rowan@aqunion.co.za	Fax: -	
Company of EAP:	Lornay Environmental Consulting		
EAP name:	Michelle Naylor		
Postal address:	Unit F, Hemel en Aarde Valley		
	HERMANUS	Postal code: 7200	
Telephone:	083 245 6556	Cell: 083 245 6556	
E-mail:	michelle@lornay.co.za	Fax: -	
Qualifications:	Master of Science (Rhodes University)		
EAPASA registration no:	EAPASA. 2019/698,., SACNASP., IAIASA		
Duplicate this section where there is more than one landowner Name of landowner:	Aqunion Property Company Proprietary Limited		
Name of contact person for landowner (if other):	-		
Postal address:	-		
	-	Postal code:-	
Telephone:	-	Cell:-	
E-mail:	-	Fax: -	
Name of Person in control of the land:	Aqunion Property Company Proprietary Limited		
Name of contact person for person in control of the land:	-		
Postal address:	-		
	-	Postal code:-	
Telephone:	-	Cell:-	
E-mail:	-	Fax: -	

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	Overstrand Municipality	
Contact person:	C. Arendse	
Postal address:	P.O BOX 26	
	Gansbaai	Postal code:
Telephone	028 384 8300	Cell:
E-mail:	gbenvironmental@overstrand.gov.za	Fax: ( )

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INCLUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	New		Expansion	X
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
Romansbaai Abalone Farm is an existing and operational Abalone Farm in Gansbaai. The proposed site for the expansion of the farm is situated in an area classified as a greenfield site, although the site has been impacted by day-to-day activities.					
~~3.~~	~~**For Linear activities or developments**~~				
~~3.1.~~	~~Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:~~				
~~N/A~~					
~~3.2.~~	~~Development footprint of the proposed development for all alternatives.~~			~~m²~~	
~~3.3.~~	~~Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.~~				
~~3.4.~~	~~Indicate how access to the proposed routes will be obtained for all alternatives.~~				
~~3.6.~~	~~**Starting point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~‘~~	~~“~~	
	~~Longitude (E)~~	~~º~~	~~‘~~	~~“~~	
	~~**Middle-point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~‘~~	~~“~~	
	~~Longitude (E)~~	~~º~~	~~‘~~	~~“~~	
	~~**End point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~‘~~	~~“~~	
	~~Longitude (E)~~	~~º~~	~~‘~~	~~“~~	
~~**Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.**~~					
4.	**Other developments**				
4.1.	Property size(s) of all proposed site(s):			**575000 m² (57.50ha)**	
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):			Approximately **160 000 m²** **(16 ha)**	

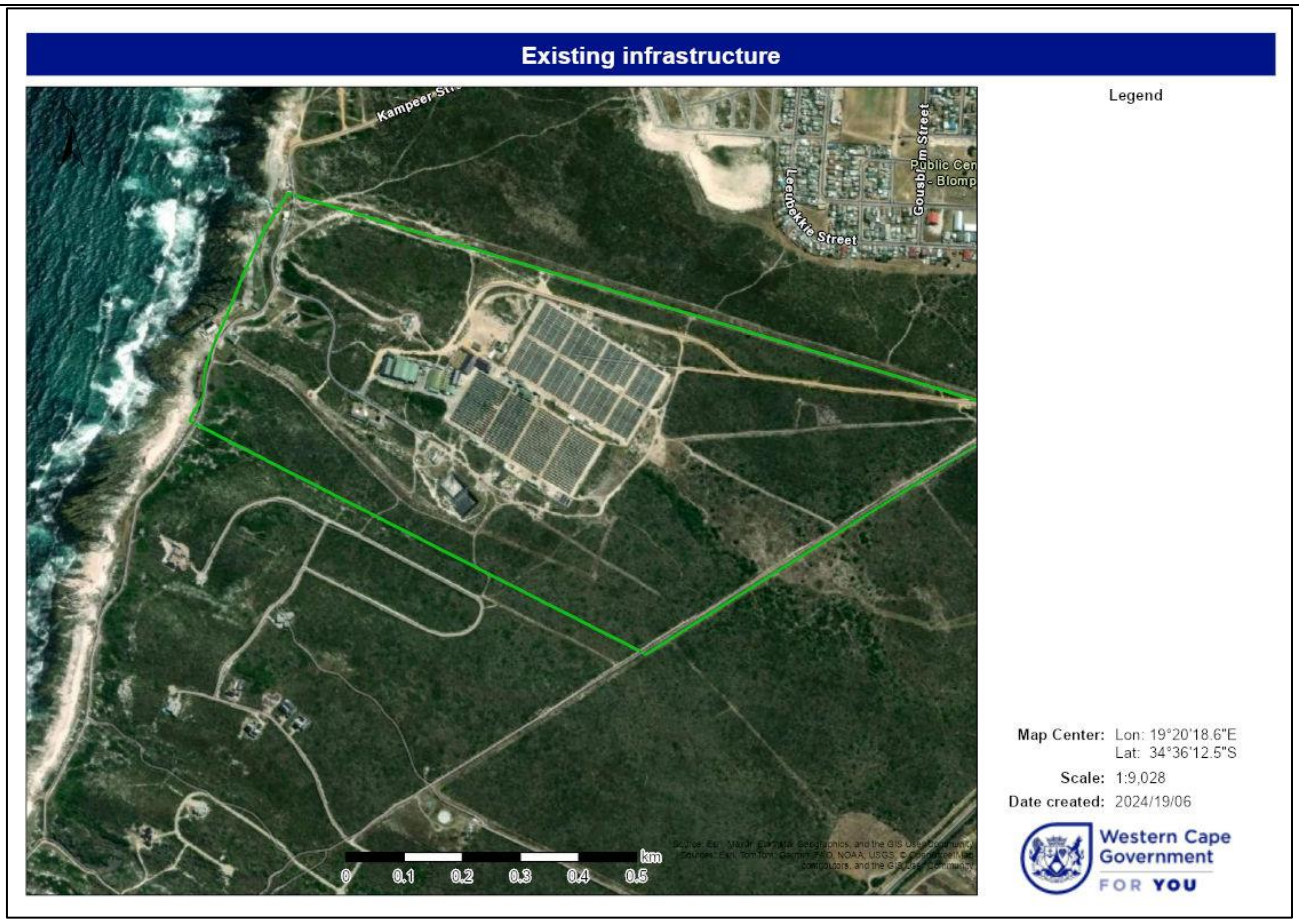


Figure 1: Aerial view showing the existing infrastructure and operations on the subject property.

4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:

The holder is submitting an application to expand existing operations at Romansbaai Abalone Farm, situated on Portion 2 of the Farm No. 711. The expansion of the existing production and grow out area to increase the production output by 150 tons / annum is proposed. In order to accommodate this, the existing pumphouse will be increased in size to allow for the increased abstraction of sea water. Additional sea water pipelines will also be added to transport the seawater to the farm. A lined seawater reservoir is also proposed to temporarily hold seawater which can be used during peak electricity tariff periods or during electricity outages.

The following is proposed:

Production Area (New grow out platform):

→ Additional production area: **20000m^2 (2 ha)**

→ Production additions:

- Production capacity increase: 150 tons (wet weight)
- Number of tanks: 1 850
- Number of baskets: 12 950
- Seawater usage: 2 400 m^3/hour
- Aeration fans / blower room: 4 units
- Split/grading station: 1 unit

Lined Seawater Reservoir:

1. Storage capacity: 41 000 m^3

2. Surface area: 7000 m² (0.7 ha)
3. Depth: 3,5 meters
4. Fill-up time: 8 hours
5. Coverage footprint: **7000 m² (0.7 ha)**

Solar Array:

→ Power generation capacity: 4 MW (backup)

→ Coverage footprint: **40000 m² (4 ha)**

Expansion of the existing pumphouse:

→ The existing pumphouse of approximately 450m² will be expanded by **140 m²** for the installation of 4 new pumps that will connect the new additional pipelines.

→ Coverage footprint: **140 m²**

4 additional Pipelines:

→ Four additional pipelines will be installed for intaking of the seawater to the new proposed lined reservoir.

→ The pipeline will be placed alongside the existing network of pipeline situated within a disturbed area.

→ Each pipeline will be

- Length: 600 meters
- Diameter: 500 mm
- Total area per pipeline = **300 m²** / pipeline
- Total area required for 4 new pipelines is **1200 m²**

Table 1: Total additional footprint summary

No.	Description	Volume	Size (m²)
1.	Production area / grow out	150 tons / annum	20000
2.	Lined seawater reservoir	41 000 m³	7000
3.	Solar array	4 MW	40000
4.	Pumphouse expansion		140
5.	4 additional pipelines		1200
		Total size	**68 340 (6.834ha)**

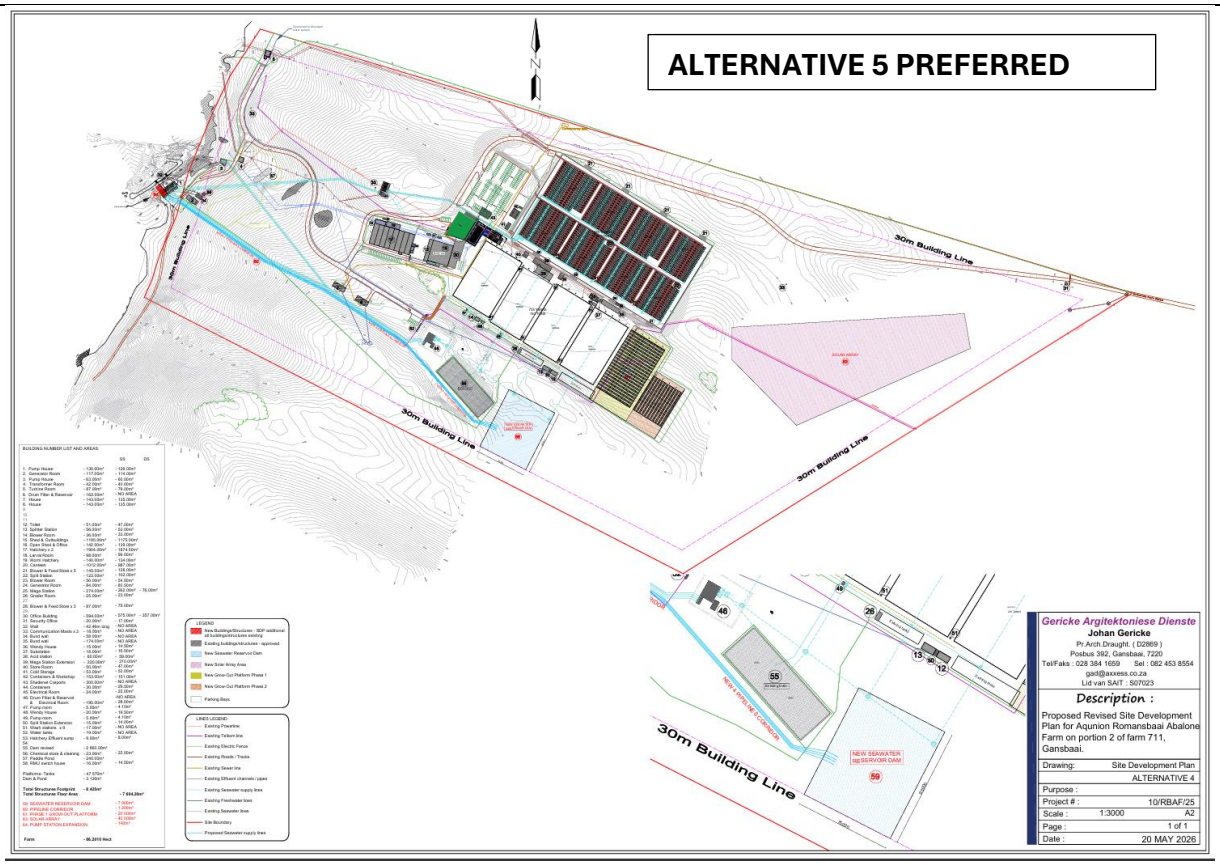


Figure 2. Preferred layout Alternative 5 with the reduced seawater reservoir footprint size.

4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).

Romansbaai Abalone Farm is situated on the Remainder of Portion 2 of Farm No. 711, between Gansbaai and Danger Point (refer to **Figure 2**). The proposed expansion aims to increase abalone production capacity from the current 450 tons (wet weight) by an additional 150 tons (wet weight) annually, resulting in a total production output of 600 tons per year. The expansion will span approximately 6.8 ha, adding to the existing 16 ha developed area on the 57.5 ha property. This initiative is designed to enhance operational capacity of the farm and meeting growing market demands.

Figure 3: Locality of Romansbaai Abalone Farm

1. **Increase in Production Capacity**

   → This will be achieved by adding new production area of grow-out tanks, targeting an annual production increase of 150 tons (wet weight).
   → The proposed development footprint: **2 ha**

2. **Construction of a Lined Reservoir**

   → A lined seawater reservoir will be developed to hold seawater for short periods during power outages or high tariff periods, and will be executed as follows:

   - The reservoir will cover a footprint of about **0.7 ha**
   - The reservoir will have a storage capacity of **41 000 m^3**

3. **Solar Power Array**

   → To support energy efficiency and sustainability of the farm, an above ground solar power array will be installed as part of the expansion proposal:

   - The solar installation will cover an area of **4 ha**, utilizing brush-cut vegetation removal only.

- The system will generate 4 MW of electricity, significantly reducing reliance on grid power and lowering the environmental footprint of the farm. The generated power will only be used on site.

4. Expansion of the Existing Pumphouse

→ The existing pumphouse occupies an area of approximately 450 m^2 and consists of 7 pumps and 7 pipelines installed for the supply of seawater to the existing production area. This will be expanded by approximately **140 m^2** to accommodate additional infrastructure for increased water intake (**Figure 3-1 & Figure 3-2**):

- A total of 4 new pumps and 4 pipelines will be installed at the pumphouse
    - 1 new pump and 1 new pipeline will be fitted within the existing pumphouse
    - 3 new pumps and 3 pipelines will be installed within the proposed expanded pumphouse

5. Installation of Additional Pipelines

→ **4 new pipelines** will be installed from the pumphouse to connect the new lined seawater reservoir and directly to the production area:

- Each pipeline will be 600 meters long and 500 mm in diameter.
- The combined water extraction rate will be 1600 m^3 per hour.
- Pipeline installation will not require major ground excavation, as they will be laid alongside the existing pipeline in a previously disturbed area (**Figure 4**).

6. Seawater Intake and Discharge Systems

→ The expansion of the abalone farm will require the abstraction of more seawater which will be facilitated through the expansion of the pumphouse. The additional seawater intake will therefore result in an increase in effluent water discharge. Ecologically, the operation of an abalone farm can be considered to be a low impact activity with negligible impacts on the environment when compared with other land-based agricultural activities. The effluent water, which is the circulated seawater which gets discharged back to the marine environment, has been found to have a negligible to zero impact on the marine environment (Probyn et al. 2014).

→ The discharge is undertaken in line with the Department of Forestry, Fisheries and the Environments (DFFE) General Discharge Authorisation (GDA) issued in terms of Section 69(2) of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 of 2008). No amendment to the GDA is required to accommodate the increased seawater discharge.

- The current intake system will be upgraded to abstract a larger volume of water per hour, while the discharge volume will be increased from 230 880 m^3 to 270 000 m^3 annually.
- The farm operates under the General Discharge Act, which covers the expanded discharge needs without requiring additional coastal water discharge permits.

Figure 3-1. Photo showing existing pumphouse and seawater abstraction lines.

Figure 3-2: View of the existing pumphouse (green) and the area outlined in red, which is proposed for expansion to accommodate the installation of new pipelines. One pipeline will be integrated into the existing pumphouse infrastructure, as illustrated.

Figure 3-3: Overview of the pumphouse and the area proposed for the expansion highted in green.

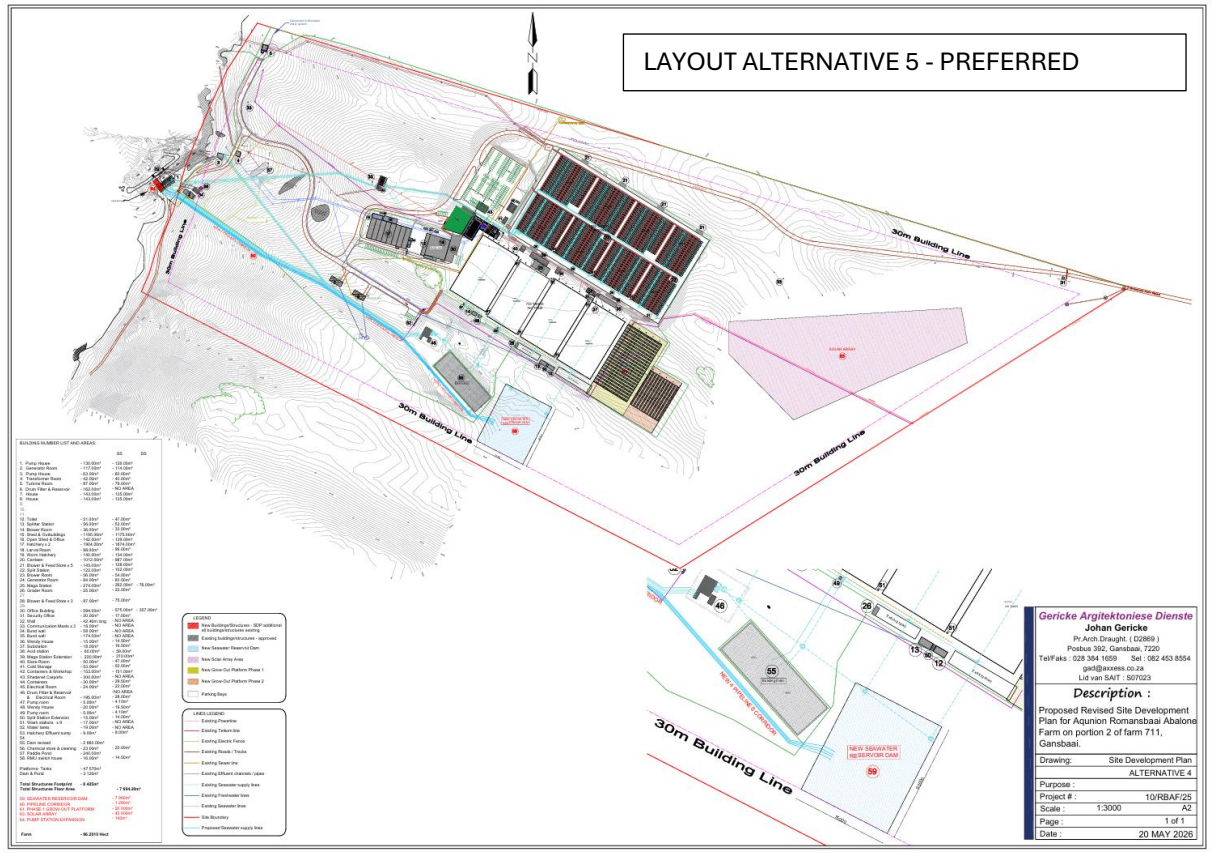


Figure 4: The new pipelines, depicted in yellow, will be installed from the pumphouse to the proposed seawater reservoir and then to the new production area (phases 1 and 2), as illustrated. The new pipelines will be installed in the existing pipeline corridor where the existing pipelines are installed.

Infrastructure Services

Electricity Supply

→ The farm is allocated 2.4 MVA of municipal electricity, but current usage stands at 1.7 MVA, leaving a surplus capacity of 0.7 MVA.

→ No additional confirmation from the local authority is required for electrical services, as the existing capacity is sufficient for the proposed expansion.

Sewage and Effluent Management

→ Existing bulk sewage and water reticulation systems are capable of handling up to 350 people, accommodating the additional 350 jobs that will be created through the expansion.

→ These systems, which include potable water supply, toilets, and wastewater treatment infrastructure, are adequately designed, and no further upgrades or modifications are needed to accommodate the proposed expansion.

4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.
There is an existing access road via Van Dyk Road to the farm. No new or additional access is required.	
4.6.	SG Digit code(s) of the proposed site(s) for all alternatives: C01300000000071100002

4.7.	Coordinates of the proposed site(s) for all alternatives:			
	Latitude (S)	34°	36‘	12.49“
	Longitude (E)	19°	20‘	32.54“

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. Exemption applied for in terms of the NEMA and the NEMA EIA Regulations

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations. If yes, include a copy of the exemption notice in Appendix E18.	YES	NO x

2. Is the following legislation applicable to the proposed activity or development.

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (“ICMA”). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES x	NO
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (“NHRA”). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1. Refer to **Appendix E** of the BAR.	YES x	NO

The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3.	YES	NO x
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO x
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO x
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES x	NO
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO x
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO x

3. Other legislation

List any other legislation that is applicable to the proposed activity or development.

Marine Living Resources Act (Act 18 of 1998)

The Marine Living Resources Act (MLRA), Act 18 of 1998, provides for the conservation of the marine ecosystem, the long-term sustainable utilisation of marine living resources, and the orderly access to and control over these resources. The Act is particularly relevant to aquaculture operations, including the cultivation and harvesting of abalone (Haliotis midae), a high-value species endemic to South African waters.

The proposed expansion of the Romansbaai Abalone Farm involves the increase in the volume of seawater abstraction and the intensification of abalone grow-out operations, both of which fall under the scope of activities regulated by the MLRA. In terms of this Act, all aquaculture activities in the marine environment must be authorised through a valid Marine Aquaculture Right issued by the Department of Forestry, Fisheries and the Environment (DFFE), along with an accompanying Aquaculture Permit, all of which are valid and in place with no amendment required.

Sea-Shore Act (Act 21 of 1935)

The proposed expansion of the Romansbaai Abalone Farm includes the installation of additional intake and effluent pipelines. Specifically, four new pipelines are proposed to be installed alongside the existing intake pipelines to facilitate the increased abstraction of seawater required for the new seawater reservoir. The intake points for these pipelines are located within 100 metres of the high-water mark of the sea.

In terms of the Sea-Shore Act (Act 21 of 1935), the land situated between the low-water mark and the high-water mark is considered State land and falls under the jurisdiction of the Minister of Public Works. As such, any use or occupation of this area such as the placement of pipelines or other infrastructure requires formal authorisation or lease agreements from Cape Nature. Therefore, an application to include the expansion was submitted to CapeNature on 16 July 2025 for their review and input. Supporting documentation are attached as **Appendix J**.

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	**ADMINISTERING AUTHORITY and how it is relevant to this application**	**TYPE Permit/license/authorisation/comment / relevant consideration** (*e.g.* rezoning or consent use, building plan approval, Water Use License and/or General Authorisation, License in terms of the SAHRA and CARA, coastal discharge permit, *etc.*)	**DATE** (if already obtained)**:**

Overstrand Municipality by Law on Municipal Land Use Planning, 2015	Overstrand Municipality	Consent Use for Aquaculture on Agriculture Zone 1	In place
Overstrand Municipality Spatial Development Framework, 2020	Overstrand Municipality	Comment	In place
General Discharge Authorisation in terms of Section 69(2) of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 of 2008).	Department of Forestry, Fisheries and the Environment (DFFE)	License	In place
National Heritage Resources Act 25 of 1999 (NHRA) Act 25 of 1999 (NHRA)	Heritage Western Cape and South African Heritage Resources Agency	Comment	In place
The Sea-Shore Act, (Act 21 of 1935)	Cape Nature	Lease agreement already on place	In place

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.

EIA Guideline and Information Document Series, dated March 2013	Applied to various components in the Basic Assessment process. The following guidelines were considered throughout this Basic Assessment process: • Guidelines for EIA Requirements • Guidelines for Public Participation • Guidelines on Alternatives • Guideline on Need and Desirability • Guideline for Involving Biodiversity Specialists in EIA Processes • Guideline for Environmental Management Plans
GN No. 326 – Appendices 1 and 4 relating to the information requirements in the BAR and EMPr	Provincial Department of Environmental Affairs and Development Planning
Environmental Impact Assessment Guideline for Aquaculture in South Africa (Notice No. 101 of 2013).	DFFE
Western Cape Biodiversity Spatial Plan (2023)	The project plan was in line with the management requirements as specified in the Western Cape Biodiversity Spatial Plan (2023).

6. Protocols

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form

Agricultural Theme – High Sensitivity – The activity involves the expansion of an existing agricultural facility, specifically an Abalone Farm. The activity is in line with the agricultural theme and therefore no further assessment is required.

Animal Species Theme – High Sensitivity –– Terrestrial Animal Species Compliance has been undertaken by Jan Venter of Wildlife Conservation Decision Support. A total of seven animal species of concern was identified by the screening tool. One additional species, Cape dwarf chameleon, *Bradypodion pumilum*, was identified and added during the desktop study. The expansion is situated within an area already impacted by the day-to-day operations of the existing Abalone Farm. The adjacent property has been artificially stocked with various species of small antelope which access the land, these will not be impacted by the expansion. The areas proposed for the expansion link directly to the existing operations and have been impacted by fringe activities. Based on the findings of the site survey, none of the identified species of concern were observed within the proposed development footprint. Therefore, the proposed expansion will not affect potential breeding sites or foraging habitats of the animal species identified in the assessment.

Aquatic Biodiversity Theme – Very High Sensitivity – There are no freshwater indicators on site, this has been verified through on-site sensitivity verification by the EAP as well as findings by the Terrestrial / Botanical specialist, where no wetland indicator species are identified. The expansion of the pumphouse will take place below the high-water mark of the sea but is a small-scale expansion to existing disturbed zone. No further assessment required under this theme.

Archaeological and Cultural Heritage Theme – Very high sensitivity – In line with the requirements of the National Heritage Resources Act, a Notice of Intent to Develop was submitted to Heritage Western Cape as part of the BAR process. HWC confirmed that a Heritage Impact Assessment with AIA, PIA, VIA and comments from SAHRA Maritime Underwater Culture Unite, is required. These assessments have been completed and are included herein. SAHRA has no objection to the proposed development, (refer to **Appendix E2**). Mitigation measures have been incorporated in the EMP.

Civil Aviation Theme – High sensitivity – The proposed development is the expansion of existing activities and therefore no additional impacts are expected to this theme. No further assessment required.

Defence Theme – Low. No impacts envisaged. No further assessment required

Palaeontology – very high - PIA completed and findings outlined herein. Mitigation measures have been incorporated into the EMP.

Plant Species Theme – Medium – A terrestrial biodiversity assessment covering the Plant Species Theme has been completed for the site.

Terrestrial Biodiversity Theme – Very high – Botanical Assessment was undertaken. The proposed expansion occurs next to the existing operation facilities of the farm and some areas are already disturbed by day-to- day operations. The assessment incorporated the plant species theme under this theme. About 14ha of the 50ha property surveyed is of High botanical sensitivity, and the underlying vegetation type (Overberg Dune Strandveld) is gazetted as Endangered on a national basis. At least five plant Species of Conservation Concern (SoCC) were recorded in four of the five footprint areas, but viable populations of all SoCC will remain on undeveloped parts of the property, and most of them will survive in the PV area if the vegetation in this area is brushcut to about 1m tall. Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for production area (grow-out tanks) and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar. No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels, it may be trimmed on a regular basis, as needed, but should never be cut below

300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby. All these mitigation measures, amongst others are incorporated in the EMP.

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
1	The development and related operation of facilities or infrastructure for the generation of electricity from a renewable resource where— (i) the electricity output is more than 10 megawatts but less than 20 megawatts; or (ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare.	A 4-ha ground mounted solar array is proposed. The combined solar infrastructure will generate no more than 4 MW of power. The power generated will be used on site only to supplement existing municipal supply.
9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water - (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where - (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	Intake and effluent pipelines will be installed and essential to operations and will flow from the pumphouse, across the farm and back out to sea. Pipelines will be located adjacent to existing pipelines. Four new pipelines to new production area to join into existing network – 4 lines @ 600 m x 500 mm, delivering 1600 m^3 / hour – located alongside existing pipeline within already disturbed pipeline corridor.
15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding - (i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.	4 new pipelines will be installed at the pumphouse 600 m x 500 mm, delivering 1600 m^3 / hour each – located alongside existing pipeline within already disturbed pipeline corridor, extended from expanded pumphouse
17	Development – (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres	Intake and effluent pipelines will be installed and essential to operations and will flow from the pumphouse, across the farm and back out to sea. Pipelines will be located adjacent to existing

	inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of - (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures with a development footprint of 50 square metres or more.	pipelines. Additional pipelines to new production area to join into existing network – 4 lines @ 600 m x 500 mm, delivering 1600 m3 / hour – located alongside existing pipeline within already disturbed pipeline corridor.
19A	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from - (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; - but excluding where such infilling, depositing, dredging, excavation, removal or moving – (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	Intake and effluent pipelines will be installed and essential to operations and will flow from the pumphouse, across the farm and back out to sea. Pipelines will be located adjacent to existing pipelines. Additional pipelines to new production area to join into existing network – 4 lines @ 600 m x 500 mm, delivering 1600 m3 / hour – located alongside existing pipeline within already disturbed pipeline corridor.
27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.	Vegetation clearance amounting to approximately 6.9 ha will be required as a result of the proposed expansion
30	Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).	Some vegetation belonging to the Overberg Dune Strandveld group will be removed as a result of the proposed development, this vegetation type is classified as En.
34	The expansion of existing facilities or infrastructure for any process or activity where such expansion will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions, effluent or pollution, excluding— (i) where the facility, infrastructure, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; (ii) the expansion of existing facilities or infrastructure for the treatment of effluent, wastewater, polluted water or sewage where the	Notice will be given to the DFFE of the expansion; however the farm operates under the General Discharge Authorisation (GDA) in terms of Section 69(2) of the ICMA.

	capacity will be increased by less than 15 000 cubic metres per day; or (iii) the expansion is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will be increased by 50 cubic meters or less per day.	
41	The expansion and related operation of facilities, infrastructure or structures for aquaculture of— (i) finfish, crustaceans, reptiles or amphibians, where the annual production output of such facility, infrastructure or structures will be increased by 20 000 kg (wet weight) or more; (ii) molluscs and echinoderms where the annual production output of such facility, infrastructure or structures will be increased by 30 000 kg (wet weight) or more; or (iii) aquatic plants where the annual production output of such facility, infrastructure or structures will be increased by 60 000 kg (wet weight) or more; excluding where the expansion of facilities, infrastructure or structures is for purposes of sea-based cage culture in which case activity 42 in this Notice will applies.	The annual production increase of the farm will be increased by 150 tons (150000 kg).
43	The expansion and related operation of hatcheries or agri-industrial facilities outside industrial complexes, where the development footprint of the hatcheries or agri-industrial facilities will be increased by 2 000 square metres or more.	The farm has an existing hatchery on site which may need to be enlarged to accommodate the proposed increase in production.
45	The expansion of infrastructure for the bulk transportation of water or storm water where the existing infrastructure— (i) has an internal diameter of 0,36 metres or more; or (ii) has a peak throughput of 120 litres per second or more; and (a) where the facility or infrastructure is expanded by more than 1 000 metres in length; or (b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more;	Additions and expansion of existing infrastructure is required - seawater
52	The expansion of structures in the coastal public property where the development footprint will be increased by more than 50 square metres, excluding such expansions within existing ports or harbours where there will be no increase in the development footprint of the port or harbour and excluding activities listed in activity 23 in Listing Notice 3 of 2014, in which case that activity applies.	The pump house will be increased in size by approximately 140 m^2 and the additional water pipelines will be installed from the pump house.
54	The expansion of facilities— (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of	The pump house will be increased in size by approximately 140 m^2 and the additional water pipelines will be installed from the pump house.

	100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures where the development footprint is expanded by 50 square metres or more.	
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
12	The clearance of an area of 300 square metres or more of indigenous vegetation i. Western Cape i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004 ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	Clearance of vegetation classified as En to accommodate the proposed expansion

Note:

- The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted.
- Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority.

~~List the applicable waste management listed activities in terms of the NEM:WA~~

~~Activity No(s):~~	~~Provide the relevant **Basic Assessment Activity(ies)** as set out in **Category A**~~	~~Describe the portion of the proposed development to which the applicable listed activity relates.~~

~~List the applicable listed activities in terms of the NEM:AQA~~

~~Activity No(s):~~	~~Provide the relevant **Listed Activity(ies)**~~	~~Describe the portion of the proposed development to which the applicable listed activity relates.~~

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.

Following the assessment of three design layout alternatives and a No-Go Option, Alternative 5 has been selected as the preferred layout alternative for the proposed expansion of the Romansbaai Abalone Farm. This alternative has been refined through iterative planning, specialist input, and consideration of environmental sensitivities, and is submitted for consideration and approval.
The following is proposed under Alternative 5:

Production Area (New grow out platform):

- → Additional production area: **20 000m² (2 ha)**
- → Production additions:
  - Production capacity increase: 150 tons (wet weight)
  - Number of tanks: 1 850
  - Number of baskets: 12 950
  - Seawater usage: 2 400 m³/hour
  - Aeration fans / blower room: 4 units
  - Split/grading station: 1 unit

Lined Seawater Reservoir:

- → Storage capacity: 41 000 m³
- → Surface area: 7000 m² (0.7 ha)
- → Depth: 3,5 meters
- → Fill-up time: 8 hours
- → Coverage footprint: **7000 m² (0.7 ha)**

Solar Array:

- → Power generation capacity: 4 MW (backup)
- → Coverage footprint: **40000 m² (4 ha)**

Expansion of the existing pumphouse:

- → The existing pumphouse of approximately 450m² will be expanded by 140 m² for the installation of 4 new pumps that will connect the new additional pipelines.
- → Coverage footprint: **140 m²**

4 additional Pipelines:

- → Four additional pipelines will be installed for intaking of the seawater to the new proposed lined reservoir.
- → The pipeline will be placed alongside the existing network of pipeline situated within a disturbed area.
- → Each pipeline will be
  - Length: 600 meters

- Diameter: 500 mm
- Total area per pipeline = **300 m^2** / pipeline
- Total area required for 4 new pipelines is **1200m^2**

Table 1: Total additional footprint summary for Alternative 5 – Preferred layout alternative

No.	Description	Volume	Size (m^2)
1.	Production area / grow out	150 tons / annum	20000
2.	Lined seawater reservoir	41 000 m^3	7000
3.	Solar array	4 MW	40000
4.	Pumphouse expansion		140
5.	4 additional pipelines		1200
	Total size		**68 340 (6.8 ha)**

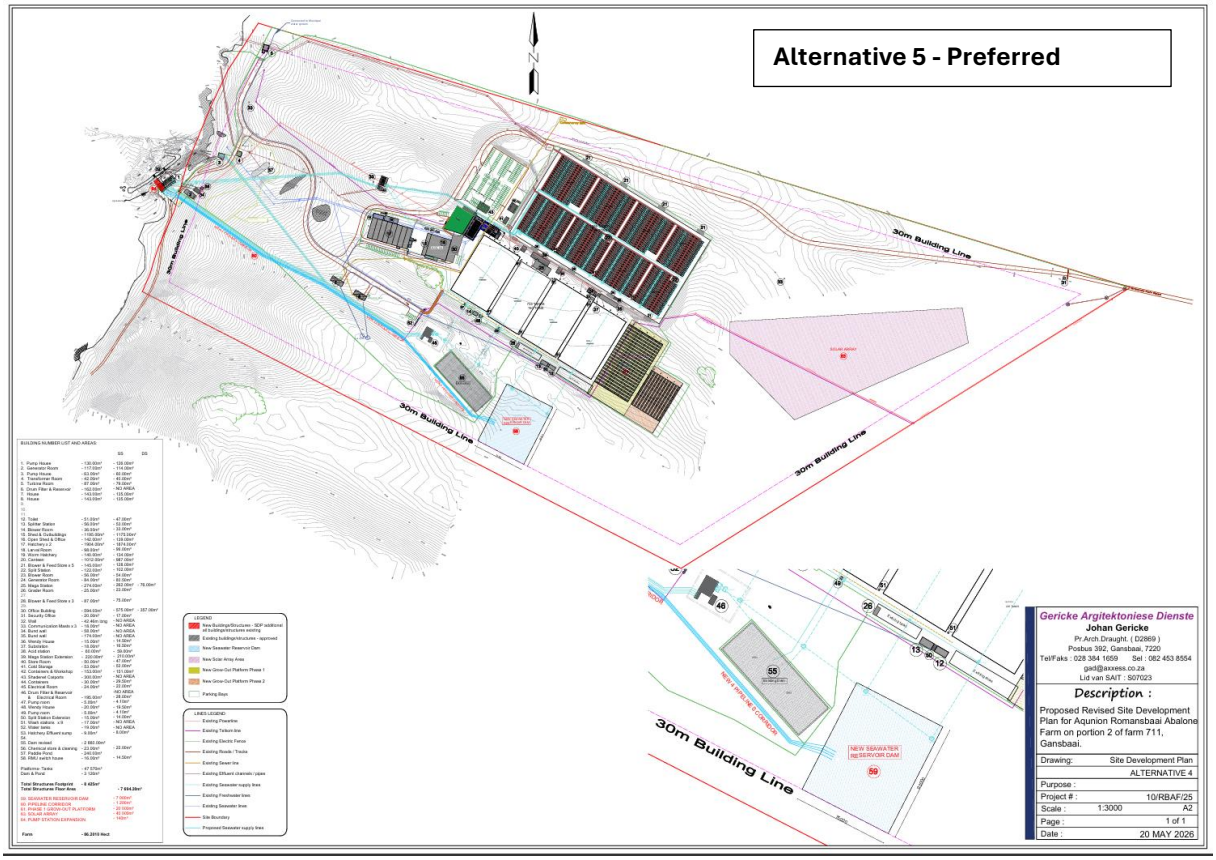


Figure 5. Preferred layout (Alternative 5) of expansion activities on the property – see the position of the seawater reservoir footprint situated within low, medium and small portion of the high botanical sensitive areas.

INFRASTRUCTURE SERVICES

Electricity

The Romansbaai Abalone Farm is currently allocated and financially responsible for 2.4 MVA of electricity. The current electricity usage stands at 1.7 MVA, demonstrating that there is sufficient capacity available for the proposed expansion. Given this surplus capacity, there is no need for additional confirmation from the local authority regarding electricity services. In addition, one of the primary aims of the expansion application is to reduce reliance on the electrical grid through the calculated use of seawater from the reservoir as well as supplementary solar power.

Sewage

The Romansbaai Abalone Farm's existing bulk sewage and water reticulation facilities are adequately designed to accommodate up to 350 people. This encompasses the necessary infrastructure for water supply, toilets, and wastewater treatment. The current capacity of these facilities is sufficient to support the planned expansion, which is projected to create an additional 350 jobs. Therefore, no further upgrades or modifications are required for the sewage and water reticulation systems to accommodate the expansion.

2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.

The proposed development is operating under a Consent Use for Aquaculture under the Agricultural Zone 1, as detailed in the Notice of Intent (NOI) and Application Form. There is an Environmental Authorisation in place for the existing Abalone Farm, along with the various required permits in terms of the Marine Living Resources Act (Act 18 of 1998). The expansion plans outlined in the proposed development primarily focus on enhancing the operational facilities within the confines of the Romansbaai Abalone Farm's existing property and operational infrastructure. Since the expansion is contained within the boundaries of the current approvals, it adheres to the established land use rights.

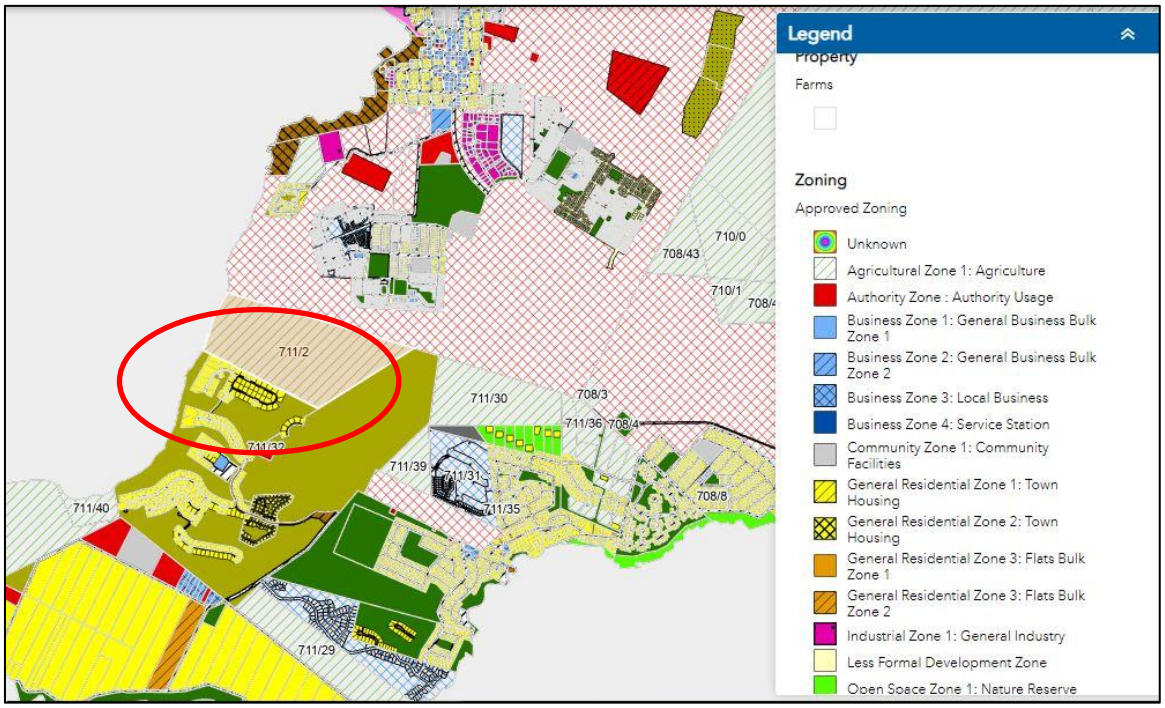


Figure 6: The property falls within Agricultural zone 1: Agriculture.

3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.

N/A

4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework.

The Extract form the Western Cape PSDF:

"The rural economy incudes but is not limited to farming; fishing and aquaculture Mining; Forestry; Commodity and Servicing; ECO and Agri-tourism; Outdoor recreation and events ; Infrastructure and service Delivery; and diverse Natural Resource related activities (e.g extraction rehabilitation harvesting, etc). Agriculture is going through a difficult transition period with its traditional export market in recession, escalating pressure on operating margins (i.e. input costs escalations exceed commodity price increases), more stringent international and national compliance requirements, and instability in the labour market.

The PSDF strategy for opening up opportunities in the rural space- economy has two dimensions, namely:

i. Accommodating a greater diversity of compatible land use activities on farms and in the rural landscape in general. Compatible activities are those that do not compromise biodiversity, farming activities, cultural and scenic landscapes, and are an appropriate scale and form to fit in with their context in the rural landscape (as specified in the to be updated 2009 PSDF rural land use planning and management guidelines).
ii. Channelling public investment in rural development initiatives (i.e. land reform, agrarian transformation, environmental rehabilitation, enterprise development, etc.) to areas where it can offer real and sustained improvements to beneficiaries and the rural community.

The proposed expansion of the Romansbaai Abalone Farm falls within the realm of aquaculture, which is identified as one of the components of the rural economy in the PSDF. Aquaculture is deemed as a compatible activity that does not compromise biodiversity, farming activities, or cultural and scenic landscapes. By expanding the existing operational facilities within the designated agricultural zone, the development fits into the context of the rural landscape while contributing to economic growth of the area.

The proposed development aligns with the Provincial Spatial Development Framework (PSDF) by contributing to the goals outlined for the rural economy, such as job provisions for the rural community. The PSDF recognizes the challenges faced by the agricultural sector, including factors such as recession in export markets, increasing input costs, and stricter compliance requirements. In response to these challenges, the PSDF emphasizes the need to diversify land use activities in rural areas and channel investments towards initiatives that offer real and sustained improvements to the rural community.

4.2	The Integrated Development Plan of the local municipality.

Extract from the 2017 – 2021 Overstrand IDP: "the aquaculture industry is one of the fastest growing industries in the area with well-established farms with the major players extending their farms to increase tonnage. The Overstrand is host to an aqua hub with huge potential for established export market and one of the largest employers in the municipality. Significant focus has been given to the sector to ensure that jobs are maintained and that Overstrand remains the leader in exporting and growing the product. The Southern coastal line of the Overstrand produces the best quality product in the world and boosting export value and expansion of manufacturing which is key to employment creation. The thriving agriculture sector includes the ever-growing wine industry and with the decline in the sector, the sector shed a significant number of jobs over the years."

Extract from the Overstrand Municipality IDP (2024) "The Agriculture, Forestry and Fishing sector comprised R268.1 million (or 6.4 per cent) of the Municipality's GDP in 2015. It displayed moderate growth of 1.8 per cent for the period 2005 - 2015, but growth has nevertheless slowed marginally in the post-recessionary period (the sector experienced a growth rate of 1.1 per cent over the period 2010 – 2015). This sector is the second smallest sector in Overstrand's local economy. Agriculture, forestry and fishing employed 10.4 percent of the Municipality's workforce in 2015. Employment growth over the period 2005 – 2015 has contracted by 0.9 per cent per annum on average. Employment picked up significantly after the recession and grew at a rate of 3.8 per cent per annum on average since 2010. On net employment, 663 jobs have been lost since 2005 - not all of the jobs lost prior to and during the recession have been recovered. The labour force in the primary sector is characterised by a relatively large proportion of low- and semi-skilled labour (Western Cape Provincial Treasury, 2016 Socio-Economic profile)."

4.3.	The Spatial Development Framework of the local municipality.

EXTRACT FROM THE OVERSTRAND MUNICIPALITY 2020 "As outlined in detail in the status quo analysis section pertaining to the town of Greater Gansbaai, it is an extensive linear developed settlement, divided for the purpose of this MSDF into tree areas (i.e. De Kelders, Gansbaai Proper and Franskraal). Its primary functions are that of a fishing centre, residential, retirement and holiday town(refer Plan 64-66).

5.10.2.1 Local Spatial Development and Growth Management Principles

i. Promote:
- → A balanced land use mix, making adequate provision for commercial as well as service industrial growth related to fishing and mari-culture;
- → Tourism development based on the ecological and heritage value of the region; - the fishing industry and marine-culture;
- → The role of the coastal villages as holiday resorts, retirement villages; and
- → The provision of a balanced mix of residential housing stock to address the full range of socio-economic groupings from subsidized housing to housing options for the middle- and upper-income groups.

ii. Restrict:
- → Urban development to within the demarcated urban edge

iii. Maintain:
- → The unique character of the villages in formed by the provisions of the Draft HPOZs and EMOZs;
- → The dominance of the natural environment and viewsheds as the visual backdrop to the villages informed by specifically Heritage Landscapes of Significance HPOZ as well as Draft EMOZs;
- → The biodiversity open space corridors based on implementation of the Draft Urban Conservation EMOZs; - the heritage aspects of the "Old Harbour", in particular the slipway, as well as the sites of the old fishermen's cottages (Refer HPOZs)."

The proposed expansion of the Romansbaai Abalone Farm seeks to increase production by 150 tons annually, with key infrastructural additions such as a lined seawater reservoir, a solar power array, expansion of the pumphouse and installation of new pipelines. This proposal directly aligns with the service industrial growth and mariculture promotion objectives mentioned in the SDF. Moreover, the expansion is within the existing urban edge, which complies with the SDF's stipulation to restrict urban growth beyond the urban boundary.

4.4.	The Environmental Management Framework applicable to the area.

Romansbaai Abalone Farm and the property on which it is established is situated entirely within the Coastal Protection Zone (CPZ). The production and farming of Abalone is such that it requires a constant supply of seawater and therefore placing such facilities away from the coast is not possible.

According to the Overstrand Municipality Environmental Management Framework (EMF), this zone is designated for the protection and sustainable management of sensitive coastal ecosystems, including Environmental Management Overlay Zones (EMOZ).

Romansbaai Abalone Farm and its proposed expansion comply with the EMF by situating the majority of its built infrastructure above the 30 m contour line, thereby minimizing the disturbance to the sensitive coastal environment as well as reducing the risk to life or infrastructure through storm surges, sea level rise and coastal erosion. Whilst such operations often avoid being elevated from sea level due to the pumping costs associated with this, the placement of

this farms allows for the protection of the natural coastal processes and reduces the risk of impacts related to sea-level rise, storm surges, and erosion. The pumphouse inherently needs to be located in the coastal zone due to the function of it, however only small-scale expansion to existing pumphouse is required and this is directly alongside the existing infrastructure in this zone.

It is important to note that while the property lies within the CPZ, it is located outside of mapped ecological corridors and urban conservation zones, as identified in **Figure 7** below.

It is important to note that Romansbaai Abalone Farm is **Global Gap Accredited** which means that operations are required to meet various global standards, one of which is Environmental Sustainability.

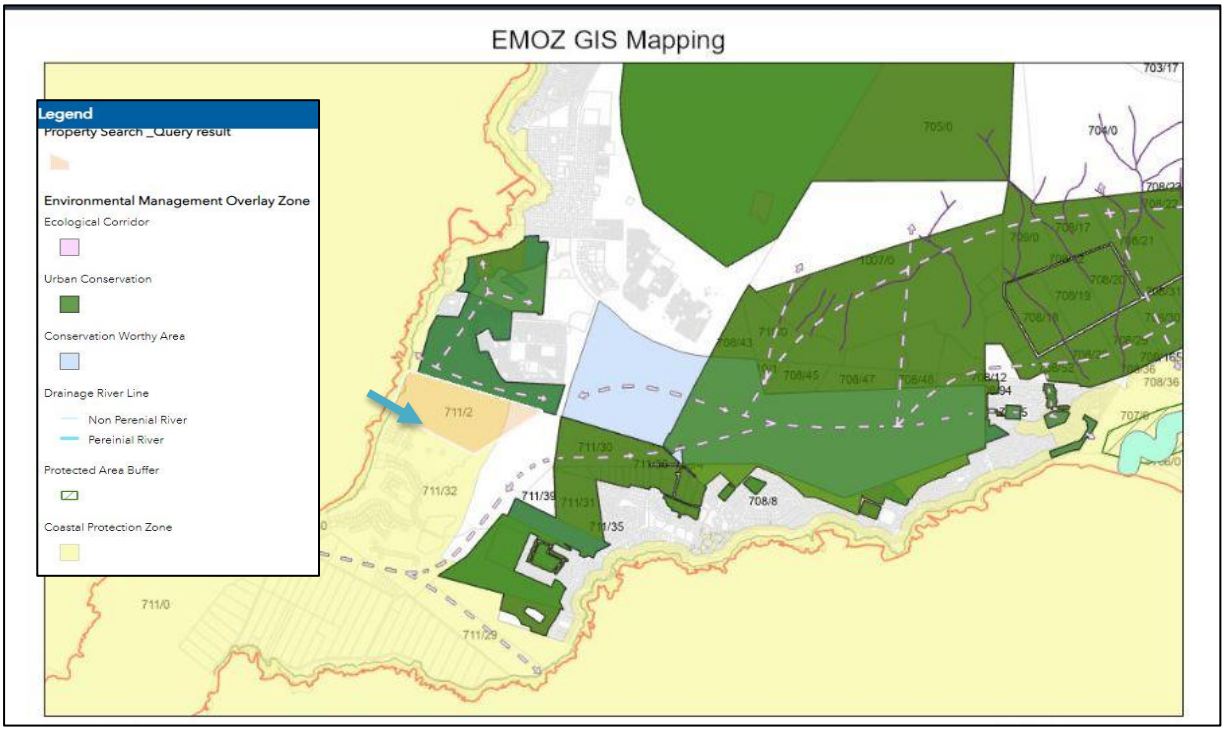


Figure 7: View of the property in relation to the EMOZ.

5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.

To be included after Public Participation Process.

PUBLIC PARTICIPATION PROCESS 1 – 09 OCTOBER 2024 TO 08 NOVEMBER 2024

Department of Environmental Affairs and Development Planning: Coastal Management

DEADP acknowledged that the proposed expansion occurs within the coastal protection zone (CPZ), which serves to reduce the risks associated with dynamic coastal processes such as sea-level rise and erosion. In response, the development footprint, particularly the bulk infrastructure and production areas, was strategically positioned on elevated land above the 10 m and 30 m contour lines, thereby minimizing ecological disturbance and coastal risk exposure.

The SD: CM commended the use of the Western Cape Biodiversity Spatial Plan (2017) to assess the farm's relationship with Critical Biodiversity Sreas (CBA) and Ecological Support Areas (ESA). The mapping of the coastal management line

(CML) and the thoughtful placement of infrastructure mostly landward of the CML, except for essential pipeline infrastructure, indicates a clear response to biodiversity sensitivity zones. These considerations helped avoid unnecessary encroachment into ecologically significant areas.

The Department emphasized the importance of not impacting the littoral active zone, which performs crucial ecological functions. The proposal committed to not constructing walkways or paths in this zone to ensure that public access to the coastline would not be impeded, thus helping preserve coastal ecological integrity and public benefit.

The Department noted that the seawater discharge from the farm has a negligible to zero impact on the marine environment, and it was stressed that no thermal alteration of the seawater should occur.

The Department reinforced the importance of Section 28 of NEMA and Section 58 of the NEM: ICMA, highlighting the applicant's legal duty to prevent or mitigate biodiversity loss and coastal degradation. In line with the indicated sections above, the project incorporates precautionary mitigation measures and ongoing environmental monitoring to prevent coastal ecosystem.

Cape Nature

Cape Nature identified two bird species of high sensitivity that may potentially occur on site namely the Black Harrier (Circus Maurus) and the African Marsh Harrier (*Circus Ranivorus*) as well as several other species of medium sensitivity. Although the absence of wetlands makes the presence of the African marsh harrier unlikely, the intact strandveld vegetation provides potentially suitable habitat for black harriers, despite reduced suitability due to surrounding urban development. In light of this, Cape Nature recommends that, at a minimum, an animal species Compliance Statement be undertaken to assess the potential presence of these and other sensitive species. Additionally, it was recommended that potential issues related to problem-causing animals at the aquaculture facility such as gulls, also be addressed. In response to these recommendations, an Animal Species Compliance Statement was undertaken. Although none of the high-sensitivity bird species were observed during the site survey, the findings confirmed that the proposed development footprint poses a low to very low risk to these species. In addition, a pre-construction site survey will be undertaken to identify the presence of any possible animal species of conservation concern (SCC).

Cape Nature highlighted that five plant species of conservation concern (including one at subspecies level) occurring on the site. While none of these are classified as endangered or critically endangered, the presence of two near threatened species both common across the site and other vulnerable species (albeit more sparsely distributed), necessitated a cautious approach to development planning. The timing of the field survey, which was conducted during a sub-optimal season, was flagged as a limitation. As such, it was recommended that the findings be ideally supplemented with a follow-up spring survey to better inform the assessment of plant species presence and sensitivity. In such a case, it was recommended that precautionary mitigation measures must be outlined to account for the possible presence of these species within the proposed development footprint. To strengthen the current assessment, it has also been recommended that the 2008 botanical study conducted for a previous phase of expansion by the same specialist be used to supplement the findings of the current study, while considering changes that may have occurred in the interim. In response to these mitigation measures, a development footprint was reduced in order to minimise impacts on identified plant species of conservation concern.

Cape Nature has emphasized the importance of specific sensitive habitats previously identified namely, a limestone outcrop and milkwood thickets which must be avoided. They also noted that these features are not explicitly mentioned in the current botanical assessment, their exclusion is presumed to indicate that they fall outside the footprint of the current proposed expansion (EAP confirms that these habitats fall outside these area). Cape Nature also emphasised that their continued avoidance must remain as a critical consideration, consistent with the original EA conditions. Additionally, search and rescue of *lampranthus fergusoniae* a species of conservation concern (SCC) was recommended in the 2008 botanical study and remains applicable, as this species was again recorded in the recent

survey. In response, these sensitive habitats were taken into account during the planning phase of the development by ensuring that the placement of the solar array would not encroach upon or result in the clearance of the milkwood thicket, and that the proposed expansion components do not encroach in any of these habitats.

IN PROCESS PUBLIC PARTICIPATION PROCESS 2 – 21 MAY 2025 TO 23 JUNE 2025

Department of Forestry, Fisheries and Environment (DFFE)

The Department emphasised the implementation of precautionary measures relating to the expansion of the seawater intake and pumphouse infrastructure. Additionally, concerns were raised regarding the potential contamination of incoming seawater during construction activities near or upstream of the intake point, particularly due to sediment disturbance that may release accumulated heavy metals or other pollutants. These mitigation measures were already incorporated into the EMPr.

Cape Nature

Cape Nature highlighted the importance of including bontebok in the assessment and considering habitat suitability for this species. It was further noted that brush-cutting of vegetation beneath the solar panels may create favourable conditions for bontebok, potentially enhancing habitat quality, unless the presence of the solar panels themselves acts as a behavioural deterrent. In response to this, it is important to clarify that the individual Bontebok referenced in the Terrestrial Biodiversity and Faunal Assessment was not part of a natural or established population. Instead, the presence of Bontebok on the property is the result of an artificial introduction by a private landowner within the adjacent Romansbaai Beach Estate (Mr. David Mostert).

The Bontebok present on-site are not part of a conservation translocation program, nor are they managed by or under the custodianship of the Romansbaai Abalone Farm. Therefore, these individuals do not represent a wild, naturally occurring population, and their presence does not reflect suitable or critical habitat for Bontebok from a biodiversity conservation perspective. As such, while the presence of Bontebok on the property was noted, it does not warrant a detailed impact assessment in the context of the proposed development. Nonetheless, the project will continue to implement appropriate biodiversity safeguards to minimise disturbance to any fauna present in the area.

PUBLIC PARTICIPATION PROCESS 3: 29 August 2025 to 01 October 2025

The Application form was submitted in August 2025, and Public Participation Process 3 (PPP3) was conducted as the final round of public participation for the project. In the course of this process, comments received from organs of state, particularly Cape Nature, indicated that a biodiversity offset would be required to address the residual medium negative impact remaining for the 0.8 ha proposed seawater reservoir area. This triggered the thorough investigation possible suitable biodiversity offset options to address the residual impact. At this time, the review and application for the mitigation hierarchy was also encouraged as a possible mechanism for further reduction in residual impacts.

Cape Nature noted that undeveloped areas remain on-site that could accommodate the implementation of an on-site offset and recommended that this option be investigated as an option. Cape Nature further confirmed that all previous recommendations and required actions had been adequately addressed within the BAR. It was additionally stipulated that, should an on-site offset be selected, a condition of approval must be included requiring that a mechanism to secure the site be determined by the Cape Nature Stewardship Review Committee. Note that it was later confirmed by the Cape Nature Stewardship review committees that the site is no eligible for such and would not be considered as a possible Cape Nature site. This finding was not surprising given its small extent and location within a active industrial operation nestled between other low-income housing and high-end residential housing. The botanist has also indicated early in the process that this does not present as a desirable CN Offset site.

Furthermore, two biodiversity offset options were evaluated to address the then medium residual impact of the 0.8ha reservoir area. The first and preferred option and as originally recommended by the Botanist, comprised a strategic offset through financial contributions toward alien invasive plant clearing, facilitated through the Grootbos Foundation. The second option entailed the demarcation of undeveloped on-site areas to be included as part of a onsite biodiversity offset area; however, this option was not preferred by the applicant and was similarly not supported by Cape Nature as a viable Stewardship site. The site was also not desirably to any third party for a conservation servitude option. The possibility "spot zoning" as a condition of municipal landuse approval was also investigated to secure the on-site offset, however the Overstrand Municpality confirmed non-support of spot zoning of any kind.

Following the conclusion of the third round of public participation (PPP 3), and in response to the outstanding concerns raised particularly in relation to the residual Medium negative impact associated with the seawater reservoir footprint under Alternative 4. This re-assessment was undertaken in conjunction with the reapplication of the mitigation hierarchy and with reference to the alien invasive species clearing agreement formulated by Sean Privett of the Grootbos Foundation, which proposed the clearing of 8 ha of Endangered Sand Fynbos habitat on Brown Dog Farm which was identified for alien clearing.

In arriving at his revised assessment, the botanical specialist considered the following key factors collectively:

- **The progressive reduction of the seawater reservoir footprint from 2.0 ha to 0.8 ha under Alternative 4, representing a tangible and measurable reduction in the extent of permanent vegetation loss within the High botanical sensitivity area.**

- **The implementation of the alien invasive species clearing programme on Brown Dog Farm as a positive mitigation measure, which would directly benefit the long-term ecological integrity of an already-protected area of the same vegetation type within the broader Walker Bay landscape.**

- **The confirmed conservation status of the underlying Overberg Dune Strandveld vegetation type, which whilst gazetted as Endangered on a national basis is well conserved in terms of remaining extent, with 36% of its original extent formally conserved against a national conservation target of 36%. Critically, however, the vegetation type is recognised as being poorly managed within formally conserved areas, and in significant need of active management intervention most notably in the form of invasive alien plant clearing to maintain its long-term ecological integrity.**

On the basis of these factors, the botanical specialist confirmed that the overall residual botanical impact of the proposed development under Alternative 4, following the full application of the mitigation hierarchy, must be assessed at a Low to Low-Medium negative significance level. This revised rating reflected the cumulative effect of footprint reduction, layout refinement, and the implementation of a targeted alien clearing programme in an ecologically meaningful location, and represented a genuine improvement over the Medium negative rating that had persisted through earlier assessment iterations.

NOTE: It is important to note, however, that this assessment and the associated alien clearing mechanism proposed through the Grootbos Foundation ultimately did not constitute the final resolution of the outstanding biodiversity concerns associated with the project. Subsequent engagement with CapeNature during PPP 4 confirmed that the proposed clearing mechanism, whilst ecologically well-motivated, did not fully meet the requirements of the National Biodiversity Offset Guidelines (DFFE, 2023) as then structured, and that a further tangible reapplication of the mitigation hierarchy through physical layout redesign was required. This ultimately led to the development of the preferred Alternative 5, in which the seawater reservoir footprint was further reduced from 8 000 m² to 7 000 m² and repositioned to minimise encroachment into the High botanical sensitivity area, resulting in a confirmed

Low to Medium negative residual impact that does not trigger any Biodiversity Offset or off-site conservation contribution requirement.

NOTE: The above mechanisms are no longer applicable under Alternative 5 layout**.** The mitigation hierarchy was reapplied through reduction of the seawater reservoir footprint, resulting to **low-medium** negative post-mitigation. **Therefore, no biodiversity offset is required, no funding for Brown Dog Farm will be initiated and no onsite or offsite conservation is required.**

PUBLIC PARTICIPATION PROCESS 4: 30 MARCH 2026 – 04 MAY 2026

The fourth round of public participation (PPP 4) was conducted from 30 March 2026 to 04 May 2026, with Alternative 4 as the then-preferred development layout. All registered Interested and Affected Parties (I&APs) and relevant authorities were notified of the availability of the Final Basic Assessment Report and invited to submit comments within the prescribed 30-day commenting period. Comments were received from the Overstrand Municipality Environmental Management and Conservation Division, the Overberg District Municipality Department of Environmental Management Services, Cape Nature, and the DEA&DP. The comments received during PPP 4 directly informed the further refinement of the development layout and the reapplication of the mitigation hierarchy, ultimately resulting in the identification of Alternative 5 as the new preferred development alternative. The key comments received and their influence on the proposed development are summarised below.

Overstrand Municipality

The Overstrand Municipality's Environmental Management and Conservation (EM&C) Division expressed support for Alternative 4 as the preferred layout, noting positively the reduction in the total development footprint from approximately 9.6 ha (Alternatives 1 and 2) to 6.9 ha, the repositioning of the grow-out platform to areas of Low and Medium botanical sensitivity, and the avoidance of mapped High sensitivity areas to the greatest extent practicable. The EM&C Division identified the presence of two patches of High botanical sensitivity located primarily within the Solar PV array area and the seawater reservoir footprint as matters requiring continued attention in the design refinement process. This observation reinforced the need for further reduction of the reservoir footprint, which was subsequently achieved under Alternative 5 (Current Preferred). The EM&C Division's support was conditional on the applicant adhering to all mitigation measures identified in the Draft Basic Assessment Report, and this requirement has been carried forward and incorporated into the Environmental Management Programme.

Overberg District Municipality

The Overberg District Municipality (ODM) noted the progressive reductions achieved through the alternatives assessment process, specifically the reduction of the seawater reservoir footprint from 2.0 ha to 0.8 ha, and the refinement of the layout to avoid areas of highest botanical sensitivity, including milkwood thickets and limestone outcrops. The ODM confirmed its support for the Alternative 4 on the basis that the mitigation hierarchy had been appropriately applied to reduce impacts on the Endangered Overberg Dune/Southwestern Strandveld vegetation type. The ODM further reminded the applicant of ongoing legal obligations under the National Environmental Management: Biodiversity Act (NEMBA), 2004 and the Conservation of Agricultural Resources Act (CARA), 1983 regarding the control and eradication of invasive alien plant species on the property. This comment reinforced the importance of the invasive alien plant removal on the subject property, already identified in the Botanical Impact Assessment, which remains a non-negotiable mitigation condition under Alternative 5.

Cape Nature

Cape Nature's comments during PPP 4 constituted the most substantive biodiversity-related input received and had a direct and material influence on the further development of both the site layout and the specialist impact assessment.

CapeNature reiterated that a Biodiversity Offset was required under the National Biodiversity Offset Guidelines (DFFE, 2023) where a residual impact of Medium negative or higher remains following full application of the mitigation hierarchy, as was the case for the seawater reservoir under Alternative 4. Cape Nature reviewed the two offset options that had been proposed a monetary contribution to an alien clearing non-profit organisation, and an on-site 8 ha conservation area and concluded that neither met the requirements of the guidelines in their then-current form. The monetary contribution was not supported as it lacked a specific expenditure framework and did not comply with the guidelines as proposed. The proposed on-site offset area under Alternative 4 was presented at the pilot Landscape South Offset Stewardship Screening Review (3 February 2025), where it was found not to be worthy of biodiversity stewardship and was not recommended as a viable offset option.

Critically, Cape Nature recommended that the investigations undertaken of identifying a compliant offset was not in itself an acceptable basis for revising impact significance ratings and indicated that any change to the impact rating would need to be motivated with reference to the original assessment methodology, citing additional information or an aspect previously overlooked or misinterpreted. Cape Nature further offered two conditional pathways forward: authorisation of the development excluding the seawater reservoir pending the establishment of a strategic offset, or authorisation with an on-site 8 ha conservation area as a condition of environmental authorisation.

Cape Nature's comments prompted two consequential responses. First, the site layout was further refined to produce Alternative 5, in which the seawater reservoir footprint was reduced from 8 000 m² to 7 000 m² and repositioned as close as possible to the existing reservoir, thereby reducing the proportion of the footprint falling within High botanical sensitivity habitat from more than 50% to less than 35%. Second, the botanical specialist reviewed the revised layout and confirmed that the overall botanical significance of the reservoir footprint under Alternative 5 is now Low to Medium negative, and that this level of impact does not require any Biodiversity Offset or off-site conservation contribution. The specialist's revised assessment is grounded in the tangible reduction in the development footprint, the repositioning of the reservoir relative to High sensitivity habitat, the well-conserved status of the Southwestern Strandveld (formerly known as Overberg Dune Strandveld) vegetation type (with 36% of its original extent formally conserved, meeting the national conservation target), and the applicant's demonstrated commitment to setting aside the bulk of High sensitivity indigenous vegetation on the property.

In summary, the biodiversity-related comments received during PPP 4 were instrumental in driving the final design refinement from Alternative 4 to Alternative 5, and in ensuring that the specialist impact assessment was sufficiently robust and transparently motivated to withstand regulatory scrutiny. The preferred Alternative 5 represents the outcome of a thorough, iterative process of engagement between the applicant, the environmental assessment practitioner, the botanical specialist, and the relevant authorities.

6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.

The Western Cape Biodiversity Spatial Plan (WCBSP, 2017), administered by Cape Nature, served as a foundational reference throughout the environmental assessment and alternatives development process for the proposed expansion of the Romansbaai Abalone Farm, since the application was compiled prior to the updated WCBSP (2023). The BSP spatial layers comprising Critical Biodiversity Areas (CBA1), Ecological Support Areas (ESA1 and ESA2), and Other Natural Areas (ONA) were used to inform the botanical sensitivity mapping of the property, guide the placement of development footprints, and evaluate the acceptability of proposed layout alternatives from a biodiversity planning perspective.

Identification of Biodiversity Planning Categories on the Property

The initial BSP mapping (2017) indicated that the majority of the Romansbaai property was classified as Other Natural Area (ONA), with a patch of CBA1 in the northeast and patches of ESA1 (associated with coastal corridors) in the west.

Following ground-truthing by the botanical specialist, it was determined that the published BSP mapping did not fully reflect the ecological condition and conservation value of the undeveloped portions of the property, largely because the existing farm infrastructure had been constructed after the BSP imagery was commissioned, resulting in some developed areas being incorrectly mapped as CBA1 or ONA. The specialist confirmed that, upon ground-truthing, the CBA1 designation warranted extension to include much of the natural vegetation in the eastern and southeastern portions of the property. This assessment was subsequently confirmed by Cape Nature (November 2024), which advised that the updated, but then-unpublished Biodiversity Spatial Plan (BSP, 2023) revision had reclassified most of the currently undeveloped portions of the property as CBA1.

This revised understanding of the BSP status of the property had a direct and significant influence on the alternatives assessment process. The recognition that a substantially larger area of the property carried a CBA1 designation elevated the conservation significance of the undeveloped land and strengthened the case for limiting the development footprint to areas of lower ecological sensitivity wherever operationally feasible.

Influence on Layout Refinement and Footprint Reduction

The BSP framework, read together with the botanical sensitivity mapping derived from the ground-truthing exercise, directly shaped the progressive refinement of the development layout from Alternatives 1 and 2 and 4 through to the preferred Alternative 5. In particular, the designation of most of the undeveloped eastern portion of the property as CBA1 in the updated BSP (2023) informed the specialist's recommendation that development footprints be confined to areas of Low and Medium botanical sensitivity to the greatest extent possible, with incursions into High sensitivity and CBA1-mapped areas minimised through iterative layout redesign.

Under the preferred Alternative 5, the grow-out platform (2.0 ha) has been positioned entirely within areas of Low to Medium botanical sensitivity, consistent with the BSP (2023) handbook guidance favouring low-impact development over CBA and ESA areas**.** The seawater reservoir (0.7 ha), while unavoidably located at the highest topographic point on the property due to the operational requirement for gravity-fed water distribution, has been reduced to the minimum viable footprint and repositioned as close as possible to existing infrastructure, resulting in less than 35% of the footprint falling within the High sensitivity area. The Solar PV array, while partially overlapping with CBA1-mapped land, has been designed to retain ground-level vegetation cover, thereby preserving ecological connectivity and the majority of species diversity through the affected area, an approach directly consistent with BSP handbook guidance on managing development within or adjacent to CBAs.

Extract from the Terrestrial Biodiversity Assessment

According to the SA Vegetation Map the original natural vegetation in the study area is all Overberg Dune Strandveld (Mucina & Rutherford 2018). Based on the botanical specialist ground truthing he would agree with this. No copy of this mapping is provided as it adds little value.

The site has not been burnt for at least twenty years, the vegetation is grazed and fairly lightly trampled (in places) by game (eland, bontebok, springbok and zebra), and has a low density of invasive alien species (<0.5% cover of rooikrans and manitoka; *Acacia cyclops* and *Myoporum sp*.), and most of it can thus be regarded as being in good condition.

The study area was walked, and all plants on site were noted. Photographs of certain plant species were made (using a Fuji mirrorless slr camera) and uploaded to the inaturalist.org website. Satellite imagery dated May 2023 (and earlier) was used to inform this assessment, and for mapping. It is assumed that all-natural vegetation in the dam and growing facility footprints will be permanently lost, and that vegetation in the PV area will be brush-cut and maintained at less than 1m tall, with perhaps a 30% cover loss at the construction phase. The vegetation in the pipeline area is assumed likely to be lost during construction, but most species will return over time (5-10yrs).

At least five plant Species of Conservation Concern (SoCC) were recorded on site, with distribution as per Table 1 in the terrestrial biodiversity assessment report. All have substantial and viable populations on the greater property, but their distribution and abundance vary from footprint to footprint. There is a moderate likelihood of one or two other SoCC being present on the various footprints. Rare local endemic species such as *Cliffortia anthospermoides* (Endangered) do not appear to be present on site and were actively searched for. *Erica irregularis* (Endangered) does not occur south of Gansbaai, although it is common at Grootbos. *Dasispermum grandicarpum* is an inconspicuous, low herb that grows annually from a rootstock (especially now, early in the season), and was until recently known only from Grootbos NR, but has now been recorded from Stanford to Gansbaai (pers. obs.). The species is Redlisted as Data Deficient, but it was not seen in the study areas.

Athanasia quinquedenta ssp. rigens is a shrub Redlisted as Vulnerable and occurs in coastal sands over limestone from Gansbaai to Stilbaai. Scattered plants occur in three of the study areas.

Agathosma geniculata is a shrub Redlisted as Near Threatened and occurs in coastal sands from De Kelders to Arniston. The species is common on three of the study areas.

Muraltia pappeana is a shrub Redlisted as Near Threatened and occurs in coastal sands from De Kelders to Riversdale. The species is common throughout most of the study areas.

Cyanchum zeyheri (not flowering, provisional id) is a creeping shrub Redlisted as Vulnerable and occurs in coastal sands and rocky areas from Saldanha to Agulhas and is probably very overlooked. Scattered plants occur in three of the study areas.

Lampranthus fergusoniae is a vygie Redlisted as Vulnerable and is found from Kleinmond to Knysna on coastal sands. Scattered plants occur in three of the study areas.

At least five plant Species of Conservation Concern (SoCC) were recorded in four of the five footprint areas, but viable populations of all SoCC will remain on undeveloped parts of the property, and most of them should survive in the PV area if the vegetation in this area is brushcut to about 1m tall.

- Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter.

- All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*).

- Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.

- No large scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

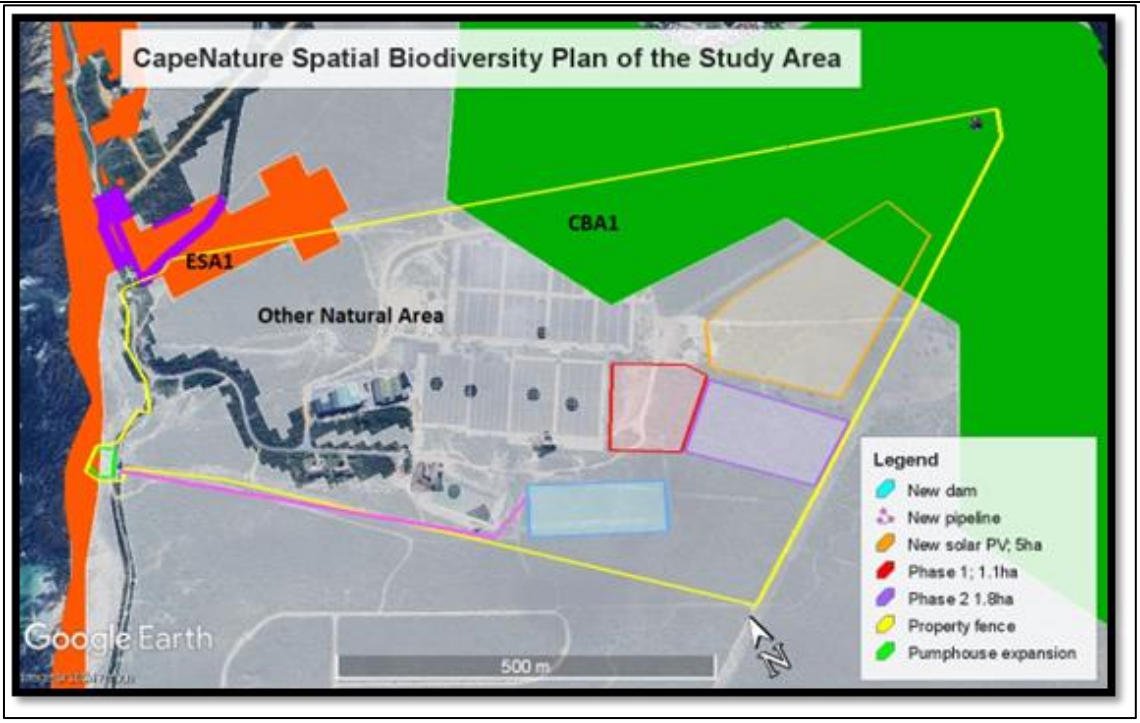


Figure 8: The map illustrates that the majority of the proposed expansion area falls within Other Natural Areas (ONA). A small portion of Ecological Support Area (ESA) is located on the northwestern side, while Critical Biodiversity Area 1 (CBA1) is found on the northeastern side.

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.

The site is located within the Coastal Protection Zone (CPZ).

The CPZ aims:

- → To protect the ecological integrity, natural character and the economic, social and aesthetic value of the neighbouring coastal public property;
- → To avoid increasing the effector severity of natural hazards;
- → To protect people, property and economic activities from the risks and threats which may arise from dynamic coastal processes such as wave and wind erosion, coastal storm surges, flooding and sea-level rise;
- → To maintain the natural functioning of the littoral activity zone;
- → To maintain the productivity of the coastal zone; and
- → To allow authorities to perform rescue and clean-up operations.

The existing intake and effluent channels for the Abalone Farm are already situated within the High-Water Mark (HWM). The proposed expansion will enable additional seawater intake through the expansion of the existing pumphouse and the installation of additional pipelines. These pipelines will be positioned to minimize any potential environmental impact, with the required blasting of bedrock being carefully planned to result in minimal disturbance to the surrounding area. The impacts associated within the installation of the pipelines will be short term and with the implementation of the mitigation measures, they can be managed. The expansion over installation at a new site, reduces the impacts as the expansion area is small and confined to areas directly adjacent to the existing pumphouse which has already been impacted and disturbed by operational activities.

The bulk of the farm's infrastructure, including the proposed expansion area, is located on elevated terrain above the 30 m contour. This elevation includes the expansion area, which is beyond the 30 m contour, providing additional protection from coastal processes. To mitigate the risks associated with climate change, including sea-level rise and storm surges, the preferred development alternative has been designed to situate all bulk infrastructure for the proposed expansion more than 500 meters inland from the HWM and above 30 m contour. The placement of this infrastructure behind (to the northeast of) the existing operations further ensures resilience against coastal hazards while maintaining the integrity and functionality of the project.

Coastal access will not be affected during construction or operation and will be retained as current, where the general public have unrestricted access along the coastline. The placement of the pumphouse within the littoral zone is strategically important, as the distance between the farm and the sea directly impacts operational costs. The electrical costs associated with the pumping of water is one of the largest expenses in the operation of an abalone farm, therefore the further the farm is located from the sea, the substantially higher the pumping cost.

8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.

The screening report has not changed.

9.	Explain how the proposed development will optimise vacant land available within an urban area.

The proposed expansion of the abalone farm is strategically designed to make optimal use of remaining available land on the subject property, maximizing both land efficiency and operational sustainability. This option is preferred over developing a new farm on a greenfield site. The expansion activities will tie into existing operations and infrastructure thereby reducing need for additional infrastructure and keeping expansion activities close to current operations. The core aim of this expansion is to increase the farm's production capacity in response to the growing market demand for abalone exports, while ensuring that the vacant land is effectively utilized to support both agricultural and environmental goals.

One of the main ways the development optimizes vacant land is through the installation of Solar Arrays. These arrays will be installed on unused portions of land, providing an alternative and sustainable energy source to power the farm's operations. This approach not only reduces reliance on traditional electricity sources and fossil fuels but also ensures the farm can maintain continuous operations during power interruptions or load shedding. By utilizing available vacant land for renewable energy infrastructure, the development aligns with broader sustainability objectives and contributes to reducing the farm's carbon footprint.

The proposed expansion of the production area (grow out tanks) will significantly increase the farm's production capacity to 300 tons of wet weight abalone production per year. The approach allows for the efficient and gradual utilization of available land, ensuring that resources are optimized without overburdening the site.

In addition to the Solar Arrays, a new seawater reservoir of approximately 7000 m^2 will be constructed as part of the expansion. The reservoir will hold additional seawater drawn through newly proposed pipelines, ensuring the farm has the necessary water supply for uninterrupted operations, even during power outages. This infrastructure plays a vital role in safeguarding the abalone's health and ensuring the long-term sustainability of the farm.

10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.

The proposed expansion of the abalone farm is designed to significantly optimize the use of existing resources and infrastructure on site, enhancing operational efficiency and sustainability. The development leverages the current facilities, allowing for a strategic upgrade rather than requiring extensive new construction on a greenfield site. This

approach not only maximizes the utility of existing assets but also reduces the need for additional infrastructure in other areas outside the property, aligning with principles of sustainable development and resource efficiency.

A significant component of this optimization is the enhancement of the farm's existing production facilities. The expansion plan includes integrating additional equipment and expansion within the current infrastructure. For example, the existing pumphouse will be expanded, production area will be increased and new pipelines will be installed to facilitate increased seawater intake. This method ensures that the farm can boost its production capacity by 300 tons of wet weight abalone per year without the necessity of constructing entirely new infrastructure. By building upon and improving existing systems, the development minimizes the environmental footprint typically associated with new construction projects. The expansion also represents an "infill type" of development within the current operational footprint through focusing on areas already developed and disturbed by day-to-day operations.

11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).

Bulk Sewage and Water Reticulations

The Romansbaai Abalone Farm's existing bulk sewage and water reticulation facilities are adequately designed to accommodate up to 350 people. The current capacity of these facilities is sufficient to support the planned expansion, which is projected to create an additional 350 jobs. Therefore, no further upgrades or modifications are required for the sewage and water reticulation systems to accommodate the expansion.

Electricity

The Romansbaai Abalone Farm is currently allocated and financially responsible for 2.4 MVA of electricity. The current electricity usage stands at 1.7 MVA, demonstrating that there is sufficient capacity available for the proposed expansion. Given this surplus capacity, there is no need for additional confirmation from the local authority regarding electricity services. Given the fact that an abalone farms highest cost relates to electricity due to the constant need to pump seawater, Romansbaai actively seeks renewable options and mechanisms to reduce the pumping costs associated with operations.

12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.

In accordance with the Department of Environmental Affairs' Integrated Environmental Management Guideline on Need and Desirability, as articulated in the EIA Regulations, 2014 (as amended), the proposed expansion of the Romansbaai Abalone farm on Portion 2 of Farm 711 in Gansbaai meets the criteria for need and desirability in several critical aspects:

Aquaculture

Marine Aquaculture has been identified as an important sector for development in South Africa as well as at a provincial and local level and is supported by initiatives such as Operation Phakisa. This is linked to a Governmental drive for improved and sustainable utilisation of South Africa's marine resources and coastline which is currently underutilised (Aquaculture).

The Aquaculture industry is one of the fastest growing industries in the Overstrand and also one of the largest employers in the municipality (Overstrand IDP, 2018-2022). The Overberg District Coastal Management Programme (2015) has identified Aquaculture (local economic development and sustainable job creation) as a high priority going

forward, with the Final Situation Analysis Report (2015), identifying Aquaculture, specifically abalone, as an opportunity in the SWOT Analysis for the Overberg through sustainable utilisation of marine living resources and sustainable Aquaculture. Further afield, the Western Cape Joint Planning Initiative (JPI), has identified Aquaculture as a priority JPI for the Overstrand Municipality, for its ability to promote economic growth and development in the municipality. At a National level, the National Aquaculture Policy Framework (2013) has been highlighted as one of the key pillars in achieving the objectives of the National Development Plan (2030) to reduce poverty, unemployment and inequality. This policy framework, aims to, amongst others "promote responsible and sustainable development of globally competitive aquaculture in South Africa and facilitate and support the growth of the aquaculture sector to enable it to contribute to the economic growth, food security and job creation" for South Africa. At full production, the development will provide approximately 350 operational jobs. There will also be opportunities for skills training and Adult Basic Education Training (ABET).

In addition to the socio-economic benefits associated with the proposal, the following aspects should also be considered:

- → The expansion of Romansbaai Abalone Farm will follow the same tried and tested methodology as already operating on site and this have been proven to be successful.

- → Ecologically, the operation of an abalone farm can be considered to be a low impact activity with negligible impacts on the environment when compared with other land-based agricultural activities. For example, the effluent water, which is the circulated seawater which gets discharged back to the marine environment, has been found to have a negligible to zero impact on the marine environment (Probyn *et al*. 2014).

- → Due to the dwindling natural / wild populations of abalone, there is concern relating to the impact of abalone aquaculture on the genetics of the wild stock. However, farms implement management actions to prevent the escape of cultured abalone and spat.

- → The main impacts associated with the expansion of the abalone farm relate to the construction phase.

- → Abalone farming relies on seawater, with a low requirement for freshwater, compared to land based agricultural practices and therefore reduces pressure on natural freshwater resources.

- → There is a high demand for the product on the Asian market. All the stock is exported and this in turn brings foreign capital into the country.

In terms of the renewable power generation, a combination of the high electricity costs of running an abalone farm, as well as the drive for increased renewable energy options, the small-scale solar power generation proposed here is favourable. Reducing the electrical costs of the operation as well as providing an opportunity to feed some of the excess power into the municipal grid is highly advantageous.

Need for the Development

The expansion is driven by a clear market demand for abalone products, which has seen significant growth in recent years. The current production capacity of the farm is insufficient to meet this rising demand, creating a need for increased output to maintain market competitiveness and profitability. By expanding its facilities, the farm will be able to scale up its production by additional 150 tons of abalone annually, addressing the demand gap and supporting the economic viability of the operation.

In addition, the expansion includes the integration of renewable energy solutions and infrastructure upgrades, such as the installation of Solar Arrays and a new seawater reservoir. These enhancements will improve the farm's

operational resilience and efficiency, reducing its reliance on traditional power sources and mitigating the risk of production disruptions due to power outages or load shedding. This approach not only supports the farm's sustainability but also aligns with broader environmental goals of reducing carbon footprints and enhancing energy security.

Desirability of the Development

The desirability of the proposed expansion is underscored by several factors. Firstly, the project represents an efficient use of existing resources and infrastructure, minimizing the need for new land development and reducing overall environmental impact. By focusing on infill development within the current operational area, the expansion avoids additional land disturbance and maintains the integrity of surrounding natural environments.

Furthermore, the project contributes to local and regional economic development by creating job opportunities and increasing the farm's export capacity. This has positive implications for the local economy and supports the sustainability of the regional aquaculture industry.

The proposed development also aligns with the principles of sustainable development outlined in the DEA's Integrated Environmental Management Guideline. It demonstrates a commitment to environmental stewardship through the optimization of existing infrastructure, the adoption of renewable energy technologies, and the enhancement of operational efficiency. These factors collectively enhance the desirability of the expansion by ensuring that the project meets both economic and environmental objectives in a balanced and responsible manner.

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

N/A

2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

The Proof of Public Participation document is attached as **Appendix F**.

3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

→ DEADP Land Use → DEADP: Coastal Management Unit → Cape Nature → Overberg District Municipality → Overstrand Municipality → Department of Agriculture (DOA) → Department of Forestry, Fisheries and the Environment (DFFE) → Department of Infrastructure: Roads

4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

N/A

5. if any of the State Departments and Organs of State did not respond, indicate which.

N/A

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

Name	Comment	Response
PPP1 – PRE-APPLICATION PPP (09 October 2024 to 08 November 2024)		
Department of Infrastructure: Roads	• Acknowledged the receipt of the email regarding the public participation pross.	• Noted. No further actions required.
Overstrand Municipality	• Expressed no objection to the proposed expansion of the Romansbaai Abalone Farm, provided that all necessary and relevant documents are submitted to the Department of Environmental Affairs and Development Planning (DEA&DP) for approval and reconsideration.	• Noted. No further actions required.
DEADP: Coastal Management	• The SD: CM does not object to the proposed expansion, provided it adheres to NEMA and NEM: ICMA requirements, including Sections 62 and 63 of NEM: ICMA for CPZ considerations and Section 28(1) of NEMA for the duty of care to prevent environmental harm. • The applicant must ensure compliance with the DFFE GDA and implement measures to avoid adverse effects on the coastal environment (Section 58 of NEM: ICMA). • The SD: CM also notes that the applicant is in the process of obtaining a lease agreement with CapeNature for a section of the channel that is located within the littoral active zone. • The SD: CM notes from the Pre-App DBAR that the expansion of the abalone farm will require the abstraction of more seawater which will be facilitated through the expansion of the pumphouse and thus result in an increase in effluent water discharge. According to the Pre-App DBAR ecologically, the operation of the abalone farm can be considered to be a low	• Noted. An application for update of the lease agreement with Cape Nature was submitted on 16 July 2025.

	impact activity with negligible impact on the environment compared with other land-based agricultural activities.	
Cape Nature	• The animal species theme must be addressed by a specialist in accordance with the protocols. • Recommended that the botanical assessment should review the 2024 National Vegetation Map and updating the assessment. • Cape Nature recommend that the botanical assessment must be amended to include the SEI calculations (SANBI 2020). • Noted the reference to a limestone outcrop and milkwood thickets which must be avoided, and which are not referred to in the current botanical assessment, and therefore presumably outside of the current proposed expansion footprint. • In general, CapeNature recommends that an audit of the existing EA should be undertaken before the current application is considered for approval. • The botanical assessment's layout differs from the two BAR alternatives, requiring reassessment of impact significance for both layouts. • A biodiversity offset is necessary to remedy residual impacts of medium significance or higher after following the mitigation hierarchy. In this regard, Phase	• Terrestrial Animal Site Sensitivity Verification Report and Compliance Statement was undertaken and is attached in the BAR. • The botanical assessment was updated and made reference to the revised mapping of the 2024 beta National Vegetation Map. • The botanical assessment has been updated and the specialist added that: *"No Site Ecological Importance (SEI) was calculated for the various Species of Conservation Concern (SoCC) recorded on site as frankly I don't believe in shoehorning ecological observations (which are never complete in terms of our recording of them or understanding of their abundance and ranges) into neat little boxes merely so that office-bound decision makers can say that this or that is now done. However, an estimate of the site abundance for each SoCC is provided, in the context of the development footprints, the study area, and the region and/or total ranges of these species, which I believe is an equally or even more useful approach, and doesn't require an ecological shoehorn."* Helme, (2025). • Page 11 of the Botanical Assessment indicates that there are no milkwood thickets or limestone outcrops that will be impacted by the proposed expansion. • An audit was conducted on the property and the correspondence from DEADP is attached as **Appendix K.** • This was amended, the BAR and the Botanical Assessment Addendum contain the same updated layout which have been drawn by the Architect. • The mitigation hierarchy has been re investigated by the Botanist in conjunction with an alien vegetation management option with Grootbos (March 2026), as well as adjustments in location and footprint size, have been made to the proposed site development plan accordingly. It is important to note that the current layout (Alternative 5) represents the final preferred

	2 and the dam are of medium and medium to high significance respectively and therefore a biodiversity offset would be required for the loss of habitat in these two footprints.	alternative. The positioning of proposed components has been carefully considered to align with existing operational areas of the farm, thereby minimizing further disturbance to the surrounding natural environment on the property. The biodiversity offset is no longer applicable for the loss of vegetation within the proposed seawater reservoir area.
	• Cape Nature notes that spillage of seawater and associated salinisation of the affected habitat should be included as another potential impact associated with the seawater dam. It is noted that the assessment took into account that the vegetation would only be brush-cut within the footprint of the solar photovoltaic array and therefore would not result in complete loss of vegetation and therefore does not exceed the thresholds despite being partly located within the high sensitivity area.	• The dam is lined with the with HDPE lining to prevent seawater leakage. Water is abstracted in line with CWDP and GDA the volumes of water abstracted are carefully monitored via pump capacities and volume of seawater required on the farm is known, should there be a malfunction of the lining the loss of water will be immediately evident.
	• However, the two development layouts presented in the Basic Assessment Report (BAR) differ from the layout assessed in the botanical assessment and therefore the impact significance would need to be re-assessed for both layouts. It is also essential that the mitigation hierarchy is followed and must include investigation of alternative locations for project components which result in an impact significance of medium or higher.	• The mitigation hierarchy has been reapplied, and minor adjustments have been made to the proposed site development plan accordingly. It is important to note that the current layout (Alternative 5) represents the final preferred alternative. The positioning of proposed components has been carefully considered to align with existing operational areas of the farm, thereby minimizing further disturbance to the surrounding natural environment on the property. The biodiversity offset is no longer applicable for the loss of vegetation within the proposed seawater reservoir area.
	• The applicant must confirm that the mitigation measures associated with the solar PV array can be implemented. We also recommend that the impacts associated with the solar PV array should also be evaluated in the context of the	• The mitigation measures associated with the Solar PV will be strictly adhered to and these are incorporated into the EMPr. The high cost of electricity is one of the farm's largest expenses, the applicant had to look for alternative energy measures to ensure long-term financial viability of the farm through renewable energy measures.

	alternative of connecting to the local electricity grid. • Conditions from prior NEMA and municipal planning approvals (e.g., 1996 LUPO consent use, 2008 Botanical Assessment, 2009 Environmental Authorisation) remain relevant unless amended. An audit of the existing Environmental Authorisation (EA) is recommended. • The 1996 approval required undeveloped areas to be managed as a nature reserve, a condition reiterated in municipal planning comments. Overstrand Municipality's Spatial Planning component should be consulted.	Application for consent use for aquaculture and amendment of the site development plan will be undertaken. **Existing NEMA approval** **Botanical Assessment dated 2008 by Nick Helme contained these mitigations** • Limestone outcrops will not be impacted • Milkwood's to be avoided • Search and Rescue operations are undertaken in the proposed new production areas before development. • The Dune area to the west must be excluded from any future development. • Adequate ecological connectivity and a corridor of vegetation must be maintained between the eastern and western parts of the site along the northern boundary. About 40m wide. • All these identified areas are excluded from the proposed expansion. **Archeological Impact Assessment (2008) contained these mitigations** • The middens were identified on the southern portion of the farm and this area has been demarcated as a no-go. This mitigation is also included in the 2025 expansion application. **Conditions of Environmental Authorization (2009)** • The 2025 expansion application is in line with the conditions of the EA. **COMPLIANCE MONITORING CONDUCTED BY DEA&DP OFFICIAL IN 2024** • Compliance monitoring was undertaken on 14 March 2024, and the response from the Department did not find any non-compliance issues, see **Appendix K.** **APPLICATION FOR THE AMENDMENT OF CONDITIONS OF AUTHORIZATION DATED 2013** • The letter was submitted to Overstrand Municipality for amendment of condition of approval in 2013 for the expansion of the farm. • The letter dated September 2013 for applicability of the NEMA Regulations of the expansion of the farm from DEADP stated that the applicant does not require an environmental authorisation in terms of the NEMA EIA Regulations 2010 in order to expand the aquaculture farm, as long as the expansion work on the aquaculture farm remains consistent with the Description of activity section as well as the conditions of the aforementioned environmental authorisation.

		Summary In summary, the 2025 expansion application has been developed with full consideration of the existing NEMA and municipal planning approvals. All relevant conditions from the 2008 assessments, 2009 Environmental Authorisation, and 2013 amendment correspondence remain applicable and are adhered to. The application for consent use and amendment of the site development plan will be undertaken.
	• Noted major gap in the screening tool is the coastal and marine environment. The proposed project includes an expansion of the pumphouse which abstracts water from the sea. The impact on the coastal and marine ecosystems must be evaluated in a separate specialist study.	• The SSVR and the BAR was amended and include reference to coastal and marine environment.
	• Cape Nature query the legislation which would be relevant for storage of seawater, as storage of freshwater is a water use in terms of the National Water Act. We therefore recommend that comment must be obtained from Department of Fisheries, Forestry and the Environment (DFFE) Oceans and Coasts, Department of Environmental Affairs and Development Planning (DEA&DP) Coastal Management and the Breede Olifants Catchment Management Agency (BOCMA) regarding the abstraction and storage of seawater and discharge of effluent. Any additional legislative processes should proceed concurrently with the Basic Assessment process.	• Relevant Legislations have been included in the BAR; however, it is important to highlight that the seawater is only temporary held for few hours, and BOCMA is not the competent authority. A comment from DFFE, and DEADP are attached. However, BOCMA is not the competent authority.
	• The expansion of the pumphouse is located well below the high water mark as indicated on the DFFE and DEA&DP Coastal Viewers and therefore requires a Sea Shore Lease.	• A lease agreement with Cape Nature is already in place, see Appendix J.

DEADP: Land Use	• The expansion must comply with the conditions of the Environmental Authorisation (EA) issued on 03 March 2009 (Ref: E12/2/3/1-E2/11-0262/07). • As the facility is now owned by a new entity, an amendment application is required to transfer EA rights and obligations. • The BAR lists numerous activities; the Environmental Assessment Practitioner (EAP) must refine this to include only relevant listed activities. • The botanical specialist's offset recommendations (for impacts on a critically endangered ecosystem per NEMBA Section 52) are absent from the Environmental Management Programme (EMPr). The EAP must justify their exclusion, given unavoidable impacts.	• The application for the expansion is in line with the conditions of the Environmental Authorisation issued in 2009. • The amended application has been submitted to DEADP for change of EA holder. • The list of activities has been amended. • The biodiversity offset is no longer considered applicable for the project. The area that was previously assessed as having a Medium residual impact has been reassessed following the reapplication of the mitigation hierarchy. Through the identification and implementation of additional mitigation measures, the botanical specialist confirmed that the residual impact associated with the loss of the Overberg Dune Strandveld vegetation type due to the construction of the seawater reservoir has been reduced to a Low–Medium negative impact.
DFFE (Michelle Pretorius)	• Unable to review the documents • Requested that and I&AP database should be updated with the list of DFFE officials who are to review EIAs for aquaculture.	• Noted
Department of Infrastructure (Roads)	• No objection to the application	• Noted.
Department of Agriculture	• No objection to the proposed development .	• Noted.
PPP2 - In Process Public Participation (21 May 2025 – 23 June 2025)		
Department of Forestry Fisheries and Environment (Alexis Osborne)	• The Basic Assessment Report omitted key legislation specifically the National Environmental Management Act (NEMA) and Marine Living Resources Act (MLRA)—which must be included alongside relevant policies related to marine aquaculture permits and rights. The revised Environmental Management Programme (EMPr) must be submitted to DFFE for monitoring.	• Noted. The BAR has been updated to include the NEMA and MLRA under relevant legislation. • The revised EMPr will be submitted to the DFFE for monitoring.

	• Precautionary measures are required to prevent contamination of incoming seawater during construction near the intake and pumphouse expansion. Sediment disturbance risks releasing heavy metals and pollutants. Effluent discharge must be managed to avoid cross-contamination, considering local nearshore currents.	• Mitigation measures to prevent contamination during construction have been included in the EMPr.
	• The lined reservoir must avoid introducing harmful chemicals and prevent dead zones that could promote pathogenic microorganisms, safeguarding aquatic animal health and food safety.	• Noted – the water does not remain in the reservoir for extended periods.
	• Increased production necessitates enhanced hygiene management, biosecurity protocols, staff training, and waste management to mitigate risks of overstocking, disease spread, and pathogen proliferation.	• Hygiene management, biosecurity controls, staff training is already undertaken.
	• A site-specific Waste Management Plan is encouraged, with required approvals for biological waste disposal and adherence to marine aquaculture permit conditions, especially during mass mortality events.	• Noted. Waste management is already implemented on the farm.
DEADP: Coastal Management	• The SD: CM does not object to the proposed expansion, provided it adheres to NEMA and NEM: ICMA requirements, including Sections 62 and 63 of NEM: ICMA for CPZ considerations and Section 28(1) of NEMA for the duty of care to prevent environmental harm.	• As above – no further actions required
Overberg District Municipality	• The Western Cape Biodiversity Spatial Plan (WCBSP) 2017 initially classified the majority of the property as Other Natural Area (ONA), with the PV development zone	• Noted • Noted.

	identified as a Critical Biodiversity Area (CBA). • The recently updated WCBSP now classifies the entire development area as CBA, which heightens conservation requirements. • The Municipality supports the mitigation measures proposed in the specialist reports to conserve areas of ecological significance. • In accordance with NEM: Biodiversity Act (2004) and Conservation of Agricultural Resources Act (1983), landowners are obligated to remove alien invasive species and prevent regrowth. • A comprehensive Alien Invasive Species Management Plan must be developed and implemented across the entire property.	• Noted. • Invasive Alien Plant Clearing already takes place in the farm, in line with the existing IAP Management.
Cape Nature	• Site Ecological Importance (SEI) was not calculated. While acknowledged due to data constraints, an estimate should still be included as required by the Species Environmental Assessment Guideline. • The layout assessed by the botanical specialist is not the same as that presented in the Pre-Application BAR. • The solar array footprint is much larger than indicated in Appendix B2, raising concerns about spatial accuracy. • The total footprint for the current preferred layout is much smaller (6.9 ha) than the previous preferred layout (9.6 ha), however this is not evident from the spatial depiction (footprints as stated in the BAR). • An addendum to the botanical assessment was submitted to evaluate the current preferred alternative. However, no diagrams or layout plans were included, creating uncertainty	• Noted. • The Botanical report and addendum have been updated with the Architecturally drawn layouts included to create an accurate representation of the proposal. • As above • As above The layouts have been updated and drawn by Johan Gericke of Gericke Architects. • The addendum has been updated with the architecturally drawn layout. Theses scaled layouts address the concerns listed above. Additionally, a residual impact associated with the development of the seawater reservoir has been reduced from medium to

	as to which layout was assessed by the botanical specialist. The addendum refers only to a reduction in the overall footprint, assumed to be a reduced version of Alternative 2. • Based on the reduced footprint: o Phase 2 impacts are now rated as low-medium negative. o Seawater reservoir impacts are rated medium negative. Although reduced, medium negative significance still triggers the threshold for a biodiversity offset, though a smaller offset quantum is motivated compared to the previous preferred alternative.	loW-medium negative after mitigation hierarchy has been reapplied.
	• Only one SCC was observed: the bontebok *(Damaliscus pygargus pygargus*), likely introduced along with other game species. • The bontebok was observed in disturbed pasture areas and should also be included in the assessment and the habitat suitability should also be taken into account.	• The presence of Bontebok on the property is the result of an artificial introduction by a private landowner within the adjacent Romansbaai Beach Estate (Mr. David Mustard). The Bontebok present on-site are not part of a conservation translocation program, nor are they managed by or under the custodianship of the Romanbaai Abalone Farm. Therefore, these individuals do not represent a wild, naturally occurring population, and their presence does not reflect suitable or critical habitat for Bontebok from a biodiversity conservation perspective. The game is not the responsibility of Romansbaai Abalone Farm.
	• A coastal and marine impact report has been compiled to address impacts on the coastal and marine environment, which as CapeNature highlighted is not addressed within the screening tool.	• Updated in Coastal and Marine Report – the area where the expansion will take place is directly within and alongside the existing pumphouse infrastructure with most of the area already characterised by transformed platforms and cemented therefore the impact of the expansion at the pumphouse is considered to be short term and negligible. Mitigation measures are provided for construction and operation phases to ensure that impact associated with these phases remain low.
	• There are a number of mitigation measures proposed all of which must be	

	considered essential and included in the EMPr. • While the impact assessment of the coastal and marine impact report is considered comprehensive, there is no description provided regarding the coastal habitat which will be affected. • The biodiversity offset applicability assessment provides an overview of the botanical and animal species studies. Cape Nature note that biodiversity offsets can also be applicable to the coastal and marine environment, and we are aware of at least one precedent which was investigated but would not be relevant in this case. The only residual impact after mitigation which is of medium negative significance or higher and therefore within the threshold for a biodiversity offset is the loss of terrestrial habitat for the proposed seawater reservoir • Cape Nature notes that the study refers to the conclusions of the botanical assessment regarding the proposed offset, which states that the affected vegetation type, Overberg Dune Strandveld, is already well conserved and there is a large remaining extent, however the main threat is alien invasive species. It is therefore motivated that conserving more of this vegetation type will have less of a positive outcome for biodiversity than implementing an offset targeted at clearing alien invasive species. The conclusion provided is that a biodiversity offset is not applicable for this site..	• The EMPr was amended with the inclusion of these mitigation measures. • See attached under Appendix G3, amended report. • The addendum has been updated with the architecturally drawn layout. Theses scaled layouts address the concerns listed above. Additionally, a residual impact associated with the development of the seawater reservoir has been reduced from medium to low-medium negative after mitigation hierarchy has been reapplied. • In accordance with the National Biodiversity Offset Guidelines (2023), the mitigation hierarchy was applied thoroughly and sequentially throughout the evolution of the site layout and alternatives assessment process. The development footprint of the seawater reservoir was reduced from 2 ha to 8 000 m² through this process. Notwithstanding this reduction, the Terrestrial Specialist initially determined that a residual Medium negative impact remained for the seawater reservoir footprint, triggering the offset requirement under the Guidelines.

	• CapeNature does not support the conclusion that the biodiversity offset is not applicable. Firstly, the biodiversity offset applicability assessment has not demonstrated detailed investigation of the mitigation hierarchy of avoid, minimize, mitigate/restore and only then investigate an offset for the residual impact if it is of medium significance or higher. The primary flaw in this regard is the inconsistent and inaccurate layout plans provided which have not permitted an accurate determination of the options of avoid and minimize.	• Subsequently, and in direct response to the need to exhaust all possible mitigation measures before pursuing an offset, the botanical specialist and the EAP jointly undertook a reapplication of the mitigation hierarchy. Through this process, the botanical specialist identified that a monetary contribution toward the clearing of alien invasive plant species within the adjacent nature reserve constitutes a meaningful and implementable mitigation measure for managing this vegetation type. On the basis that this measure is funded and implemented, the botanical specialist revised the residual impact rating from Medium to Low-Medium.
	• The layout plans need to be provided by the project engineers and architects with detailed plans that would also be submitted to the Overstrand Municipality for building plan approval. The plans should include co-ordinates of the development components.	• The layout plans have been updated by the architect and these plans will be used for the Planning and Building Application to the Overstrand Municipality.
	• Cape Nature noted that should it be confirmed that a biodiversity offset is applicable for the site, there should be sufficient natural habitat remaining on the property should an on-site offset be considered.	• A mitigation hierarchy was applied to the proposed seawater reservoir in order to identify the most appropriate measures to avoid, minimise, and rehabilitate impacts prior to considering the implementation of a biodiversity offset. In this regard, the botanical specialist, together with the Environmental Assessment Practitioner (EAP), reapplied the mitigation hierarchy to reassess the significance of the impacts and to identify additional mitigation measures that could further reduce the residual impact on the affected vegetation.
	• CapeNature does not support the Biodiversity Offset Applicability Assessment and wishes to raise concern regarding the inaccuracies and inconsistencies in the layout plans for the alternatives presented in both Appendix B and the specialist studies.	
DEADP: (Dmitri Matthews)	• Since a new entity owns the existing facility, an amendment application must be submitted to the	• Amendment application is in process, see proof of submission attached as Appendix M.

	Department to transfer the rights and obligations of the EA issued on 3 March 2009 (Reference: E12/2/3/1-E2/11-0262/07). • The issues highlighted by CapeNature must be addressed, especially their comments regarding the requirement for a biodiversity offset must be addressed • A Georeferenced map of all the proposed components for the expansion must be provided for the preferred alternative. • The applicant Regulatory Requirements: • Proof of the notifications sent to registered I&APs for the commenting purposes must be included in the BAR.	• Responses completed as above • Architect drawn layouts have been added • Proof of PPP contained under Appendix F.
PUBLIC PARTICIPATION 3: 29 August 2025 to 01 October 2025		
Cape Nature *(Rhett Smart)*	• The Basic Assessment Report and appendices have been updated to address concerns related to discrepancies in the alternative layout plans presented and the Biodiversity Offset Applicability Assessment has been replaced by a Biodiversity Offset Report which proposes two potential offsets. • Cape Nature recommends that should the application be authorised, the co-ordinates of the vertices for each of the five development components should be provided as is standard practice for environmental authorisations issued by the competent authority. • The biodiversity offset is therefore only required for the 0.8 ha extent of the reservoir, as the botanical assessment had separated out the impact assessment according to the development components. The offset ratio which was applied is 10:1 (area	• Noted. However, the Biodiversity Offset Report is no longer applicable since mitigation hierarchy has been reapplied. • Noted. • Comment is noted. The vegetation referred to in the Basic Assessment report is Overberg Dune Strandveld vegetation, which was the vegetation type applicable during when the project started. The Biodiversity offset is no longer applicable on this project.

	conserved: area lost). The vegetation type referred to in the Biodiversity Offset Report is Southwestern Strandveld, however the ratios which have been applied are for Overberg Dune Strandveld, listed as endangered, which is still the official vegetation type occurring on the site. An explanation should be provided that the vegetation is mapped as Southwestern Strandveld in the current draft beta National Vegetation Map, however the threat status of this vegetation type has not yet been determined and the 2018 National Vegetation Map is still the official version, therefore the offset should be calculated based on the statistics for Overberg Dune Strandveld. It should further be noted that the full extent of Overberg Dune Strandveld will be incorporated into Southwestern Strandveld and Grootbos Strandveld (Sean Privett pers. comm.).	
	• The proposed ratio is supported as the National Biodiversity Offset Guideline (the guideline) indicates that it should be based either on the threat status or a combination of the ecosystem extent and protection level, whichever is higher. Using the latter, no offset is required for Overberg Dune Strandveld, however the endangered threat status dictates an offset ratio of 10:1, and is further confirmed in Annexure A of the guidelines. The area which needs to be conserved must therefore ideally consist of 8 ha of intact Overberg Dune Strandveld.	• The comment is noted. The mitigation hierarchy was reapplied through consultation with the botanical specialist, who confirmed that a formal biodiversity offset is no longer applicable due to the Low–Medium residual impact associated with the construction of the seawater reservoir after mitigation measures were reconsidered. The mitigation measure applied involves a financial contribution toward alien invasive vegetation clearing, which will support ecological restoration within nearby conservation areas. This contribution will be implemented through collaboration with the Grootbos Foundation, thereby contributing to improved ecological functioning and the conservation of the Southwestern Strandveld vegetation type within the broader landscape.
	• Two alternative offset options are presented, namely a monetary contribution which is the preferred option and an on-site offset. The preferred option of a monetary	• Noted. As above.

	contribution consists of a financial contribution towards alien clearing on an existing conservation area which lacks sufficient resources to adequately manage alien invasive plants. As stated, this option was presented by the botanical specialist and was strongly supported over the option of securing an additional area for conservation. It should be noted that one of the motivations is that Overberg Dune Strandveld is threatened because of alien invasive species, meanwhile there is a large percentage remaining and in the conservation estate.	
	• Reference is made to the meeting with Cape Nature, however the report does not reflect that it was clearly stipulated that a financial contribution towards a strategic offset would need to demonstrate alignment with the guidelines. The guidelines state that removal of alien invasive species is a legal requirement and therefore does not satisfy the additionality principle of offsetting (pg 42). However as stipulated in Section 7.6.2., the funds for an offset would encompass both funds for securing the site (e.g. land purchase, legal fees, declaration costs etc.) and funds for ongoing management (e.g. invasive species alien control, firebreaks, erosion control etc.). A strategic offset would consist of an aggregation of funds towards these objectives.	• The botanical specialist has applied the mitigation hierarchy which resulted to low-medium residual impact. Therefore, a biodiversity offset is no longer applicable.
	• Cape Nature recommend that should the option of an on-site offset be selected, a condition of approval should be that the	• A biodiversity offset is no longer applicable for the proposed development.

	mechanism for securing the biodiversity offset will be decided upon by the CapeNature Stewardship Review Committee (or alternatively an ad hoc meeting with the chairperson of the Stewardship Review Committee). This will provide for sufficient time for deciding upon an appropriate mechanism, which must also adhere to the guidelines. We recommend that there is consultation with both CapeNature and the Overstrand Municipality prior to the site being presented to the review committee. We do not support that the application should proceed without an offset. • CapeNature recommends that should the option of an on-site offset be selected, a condition of approval should be included that the mechanism to secure the site must be determined by the CapeNature Stewardship Review Committee. Should the option of contribution towards a strategic offset be selected, we recommend that a more detailed proposal is required that aligns with the guidelines. We are satisfied that all other comments have been adequately addressed.	• As above.
Western Cape Government of Infrastructure (Roads)	• Application for the submission of a property environmental study for comment (Application No - 2025-09-0091) submitted to the Western Cape Government on 2025/08/27 is receiving attention, and further communication will be addressed to you soon as circumstances permit.	• Noted. No further action required.
DEADP: CMU	• The SD: Coastal Management has no further comments on	• Comment noted. No further actions required.

	the subject matter, and our previous comments remain.	
ODM	• The previous comment submitted by the municipality still stands.	• Noted. No further actions required.
(DEADP)	• The biodiversity offset for the proposed development must be finalised with consultation with CapeNature prior to the submission of the final BAR, since this aspect is an essential aspect to the decision-making process. If this cannot be achieved, it is recommended to withdraw the application and finalise the biodiversity offset prior to submitting a new application. • Proof of the notifications sent to registered I&APs for the commenting purposes must be included in the BAR.	• The biodiversity offset is no longer applicable for the project since mitigation hierarchy has been reapplied. • Noted.
Western ape Department of Infrastructure; Roads	• No objection to the issuing of the Environmental Authorisation.	• Noted. No further actions required.
PUBLIC PARICIPATION PROCESS 4: ***(30 March 2026 to 04 May 2026)***		
DEA&DP: CMU	• No further comments on the subject matter.	• Noted, no further actions required.
Overstrand Municipality	• The Overstrand Municipality agrees that Alternative 4 will be the preferred layout to be implemented.	• Noted. The new preferred layout is Alternative 5 which addresses all the concerns raised during PPP4.
Overberg District Municipality	• The applicant must ensure that the mitigation hierarchy continues to be appropriately applied throughout the construction and operational phases of the development, with specific focus on reducing impacts on the Endangered Overberg Dune/Southwestern Strandveld vegetation type and avoiding sensitive ecological features, including milkwood thickets and limestone outcrops. • The invasive alien plant species identified on the property during the specialist assessment and application	• The mitigation hierarchy was reapplied, and this involved the reduction of the seawater reservoir from 8000m^2 to 7000m^2. • Invasive Alien clearing on the property is being undertaken.

	process must be actively managed and cleared in accordance with approved methodology, as a condition of the environmental authorisation.	
Cape Nature	• The applicant must provide a robust and transparent motivation for the revised residual impact significance rating for the seawater reservoir, demonstrating that the change in rating is grounded in the original impact assessment methodology and that additional information or a previously overlooked or misinterpreted aspect justifies the revision. The intractability of identifying a compliant biodiversity offset is not in itself an acceptable basis for revising impact significance ratings.	• Noted. The mitigation hierarchy was reapplied for the residual impact of medium associated with the seawater reservoir area. The footprint area of the reservoir was reduced from 8000m^2 under Alternative 4 to 7000m^2 under the current preferred layout Alternative option. Therefore, the residual impact associated with the seawater reservoir have bene reduced to low-medium negative, and as a result no biodiversity offset is required.
	• The applicant must ensure that the motivation for the revised impact significance rating addresses the criteria used in the botanical assessment impact table — namely extent, duration, intensity, and probability — in accordance with Section 6.2 of the National Biodiversity Offset Guidelines (DFFE, 2023), which defines significance as a combination of consequence and likelihood.	• As above.
	• The applicant must clarify and justify the rating of the extent of impact associated with the seawater reservoir as both local and regional, given that the extent of the reservoir footprint relative to the remaining total extent of Overberg Dune Strandveld may only warrant a local extent rating. A quantitative method to support the	• As above. The seawater reservoir footprint was reduced to 7000m^2 under the current preferred layout (Alternative 5).

	significance determination must be demonstrated. • The applicant must ensure that the vegetation type identified on Brown Dog Farm in the Grootbos Foundation correspondence is accurately reflected in line with the National Vegetation Map, which indicates the site as Overberg Sandstone Fynbos (Endangered), with small patches of Elim Ferricrete Fynbos (Endangered) and Western Coastal Shale Band Vegetation (Endangered), rather than Agulhas Sand Fynbos (Critically Endangered) as referenced in the correspondence. • Should the revised residual impact significance rating not be accepted by the competent authority, the applicant must be prepared to pursue one of the following two pathways as recommended by CapeNature: o Proceed with authorisation of the development excluding the seawater reservoir, with the reservoir to be included in a subsequent amendment or separate application once a compliant strategic offset mechanism has been formally established with the required stakeholder buy-in; or o Proceed with authorisation inclusive of an on-site offset consisting of the identified 8 ha conservation area, supported by a Conservation	• This option is no longer applicable since the mitigation hierarchy was reapplied and further refinements on the layout have been undertaken. • These options are no longer applicable to this application. As indicated above, the mitigation hierarchy was reapplied which resulted to low-medium negative impact for the proposed seawater reservoir. Therefore, no biodiversity offset or strategic offset is required.

	Management Plan as a condition of the Environmental Authorisation.	
	• Should the on-site 8 ha conservation area be pursued as an offset condition of the Environmental Authorisation, the applicant must prepare and submit a Conservation Management Plan for the conservation area to the satisfaction of the competent authority, noting that whilst this area does not qualify as a formal stewardship site, precedent exists for conservation areas established as conditions of environmental authorisation.	• As above, a biodiversity offset is no longer applicable.
	• The applicant must ensure that all other mitigation measures recommended in the botanical specialist assessments are fully implemented, irrespective of whether the revised residual impact significance rating is accepted, as these remain conditions for the development impact to be within acceptable thresholds.	• Noted.
	• The applicant must note that the application for a Sea Shore Lease for the expansion of the seawater intake pumphouse has been received by CapeNature and will be considered further only once, and if, an Environmental Authorisation is issued for the proposed development.	• Noted.
DEA&DP: Development Management	• It is noted that the requirement with respect to a biodiversity offset has not been resolved.	• The mitigation hierarchy was re-applied, the size of the seawater reservoir has been reduced to 7000m^2 under the revised layout Alternative 5 resulting to low-medium negative impact. Therefore, a biodiversity offset is no longer applicable.
	• CapeNature has indicated in comment (dated 4 May 2026)	• The comment is noted and appreciated. Following receipt of CapeNature's recommendations, further

	that the recommendation by the botanical specialist for an on-site offset of 8ha would not make any meaningful contribution to the conservation of this vegetation type nor biodiversity conservation in general. The comment further indicated that the proposed 8 ha on-site offset was not considered worthy of biodiversity stewardship. Clarity in this regard is required, as an offset is deemed necessary; however, it is also stated that the on-site vegetation is not conservation worthy and is not considered suitable for biodiversity stewardship.	engagements were undertaken with CapeNature, the Environmental Assessment Practitioner, and the botanical specialist, which resulted in the reapplication of the mitigation hierarchy and the development of a new preferred layout Alternative 5. Under this revised layout, the seawater reservoir footprint has been further reduced from 8 000 m² to 7 000 m², and the reservoir has been repositioned in closer proximity to the existing reservoir infrastructure. This repositioning ensures that the seawater reservoir is now predominantly situated within areas of Low to Medium botanical sensitivity, thereby tangibly minimising the extent of vegetation loss within the High botanical sensitivity area. The botanical specialist in his addendum (Appendix G1d) has confirmed that under Alternative 5, less than 35% of the reservoir footprint falls within the High sensitivity area a material improvement relative to previous layout iterations and that the overall residual botanical impact is assessed as Low to Medium negative. On this basis, no Biodiversity Offset or off-site conservation contribution is required.
	• CapeNature further indicated that neither the size of the reservoir nor the protection status of the vegetation type have changed since the previous botanical addendum and that the intractability of identifying an offset is not an acceptable motivation for changing the impact ratings.	• As above.
	• The matter regarding the appropriate offset, or whether an offset is required, must be further investigated, and a motivation must be provided as to the appropriate mechanism that will be implemented to manage the biodiversity impacts associated with the reservoir.	• As indicated above, the biodiversity offset is no longer required.
	• Since the site identified for the placement of the reservoir is regarded as sensitive from a botanical perspective, it is advised that further technology alternatives be investigated.	• The mitigation hierarchy was fully and progressively applied to the reservoir component through successive reductions in the development footprint, from 20 000 m² (2.0 ha) under Alternatives 1 and 2, to 8 000 m² (0.8 ha) under Alternative 4, and further to 7 000 m² (0.7 ha) under the new preferred Alternative 5. In addition, the reservoir has been repositioned as close as possible to the existing reservoir infrastructure under Alternative 5, ensuring that less than 35% of the reservoir footprint

	• Placing the reservoir on raised platforms could be considered to minimise impacts.	now falls within the High botanical sensitivity area. It is therefore submitted that all reasonable and feasible technology and layout alternatives for the seawater reservoir have been thoroughly investigated and that the preferred Alternative 5 represents the most environmentally balanced solution achievable within the constraints of the project's operational requirements.

Note:

A register of all the I&AP's notified, including the Organs of State, and all the registered I&Aps must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&AP's that all information submitted by I&AP's becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that *"Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority."*

All the comments received from I&Aps on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&Aps and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
  - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
  - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
  - if a facsimile was sent, a copy of the facsimile Report;
  - if an electronic mail was sent, a copy of the electronic mail sent; and
  - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	YES	NO x
1.2.	Provide the name and or company who conducted the specialist study.		
N/A			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
N/A			
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		
N/A			

2. Surface water

2.1.	Was a specialist study conducted?	YES	NO x
2.2.	Provide the name and/or company who conducted the specialist study.		
N/A			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
N/A			

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO x
3.2.	Provide the name and/or company who conducted the specialist study.		
N/A – The application is for the expansion of existing infrastructure within an already impacted coastal area.			
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
If yes, describe the following: (i) the extent to which the applicant has in the past complied with similar authorisations; N/A (ii) whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development proposal or listed activity is consistent with the purpose for establishing and protecting those areas;			

The expansion of the pumphouse and addition of 4 pipelines will be located within CPP and CPZ, however the location of these structures cannot be avoided due to the inherent nature of abalone farms and their reliance for a constant supply of freshwater. The Application is also for the expansion to existing infrastructure and therefore confined to these specific areas.

(iii) the estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area;

N/

(iv) the likely socio-economic impact if the listed activity is authorised or is not authorised;

The proposed expansion will generate a significant amount of additional job opportunities for people in the direct area

(v) the likely impact of coastal environmental processes on the proposed development;

In order to avoid the effects of climate change, sea level rise and storm surges, the preferred alternative aims to reduce as far as practically possible, all infrastructure within the 100 m from the high-water mark zone, only essential infrastructure is located within this zone. The Bulk of the farm is located above the 10 m contour and therefore not at risk

(vi) whether the development proposal or listed activity—
(a) is situated within coastal public property and is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations;

N/A, coastal access is not restricted by the operation of the infrastructure within the CPP and the general public are still able to access and walk along this section of coast – this will not change with the expansion

(b) is situated within the coastal protection zone and is inconsistent with the purpose for which a coastal protection zone is established as set out in section 17 of NEM: ICMA;

N/A, the farm will operate within the coastal protection zone (CPZ). The CPZ aims:
- To protect the ecological integrity, natural character, and the economic, social and aesthetic value of the neighbouring coastal public property;
- To avoid increasing the effect or severity of natural hazards;
- To protect people, property and economic activities from the risks and threats which may arise from dynamic coastal processes such as wave and wind erosion, coastal storm surges, flooding and sea-level rise;
- To maintain the natural functioning of the littoral active zone;
- To maintain the productivity of the coastal zone; and
- To allow authorities to perform rescue and clean-up operations.

The proposed development is consistent with the objectives and as reflected in the preferred alternative

(c) is situated within coastal access land and is inconsistent with the purpose for which coastal access land is designated as set out in section 18 of NEM: ICMA;

N/A, Coastal access will not be affected during construction or operation.

(d) is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated;

N/A, the impacts associated within the installation of the new pipelines and expansion of the pumphouse, will be short term and with the implementation of the mitigation measures, they can be managed. During the operational phase,

discharge of effluent water will not cause any negative effects on the marine environmental due to the quality of the discharge water

(e) is likely to be significantly damaged or prejudiced by dynamic coastal processes;

N/A, only essential infrastructure is located within 100 m of the high water mark. The bulk of the expansion activities are located above the 30 m contour.

(f) would substantially prejudice the achievement of any coastal management objective; or

N/A – the proposed expansion will take place directly alongside the existing abalone farm and not affect any Greenfield sites.

(g) would be contrary to the interests of the whole community;

N/A – Abalone farms are one of the main job providers in the Overstrand, an operation of this size will be creating a significant number of jobs for local communities.

(vii) whether the very nature of the proposed activity or development requires it to be located within coastal public property, the coastal protection zone or coastal access land;

Yes, the electrical costs associated with the pumping of water is one of the largest expenses in the operation of an abalone farm, therefore the further the farm is located from the sea, the substantially higher the pumping cost. It is not financially feasible to locate an abalone farm off the coast.

(viii) whether the proposed development will provide important services to the public when using coastal public property, the coastal protection zone, coastal access land or a coastal protected area; and

No, however, the area is known for extensive abalone poaching activity and it is expected that the presence of the operations in the area and the associated security infrastructure, may act as a deterrent for poaching in the vicinity.

(ix) the objects of NEM: ICMA, where applicable.

There is an existing lease agreement in place, see **Appendix J**.

Disturbance and Impact minimization

The proposed expansion involves the additional disturbance of approximately 140 m² area within the coastal zone for the expansion of the pumphouse. This expansion will be located directly adjacent to the existing pumphouse. It will include the installation of four new pumps and four pipelines (one new pump will be housed in the existing pumphouse). The excavation required for this extension will involve drilling into the bedrock and using Nonex, a non-explosive rock-breaking agent. This method is chosen to minimize noise and vibration impacts compared to traditional blasting methods. The impact of this excavation will be contained to the immediate area of the expansion, with the broken rock being removed to create a sump that integrates with the existing infrastructure. This careful approach ensures that while there will be excavation and blasting, the extent of disturbance is minimized and managed effectively.

New pipeline: Located within existing pipeline corridor - will be excavated for a depth limited to approximately 1 m, which is necessary to accommodate the new pipelines, each with a diameter of 0.5 m.

Alignment with existing infrastructure

The proposed pipelines will be aligned alongside the existing pipelines and disturbed route of the infrastructure. This alignment is crucial in reducing additional environmental disturbance and ensuring that the new development integrates

with the existing infrastructure rather than creating new disturbance. The expansion of the existing pumphouse will allow for the increased seawater intake required for the expansion of the production area on the farm. The project design has been carefully planned to avoid impacts on protected areas, including limestone formations, milkwood trees, and replanted vegetation, which are highlighted in yellow in **Figure 10**.

Preservation of Public Access

The design of the expansion explicitly avoids any alterations to existing public pathways. The project ensures that public access to the coastal area remains unaffected as currently in effect, respecting the principles of maintaining public access as stipulated by Section 63 of the ICMA.

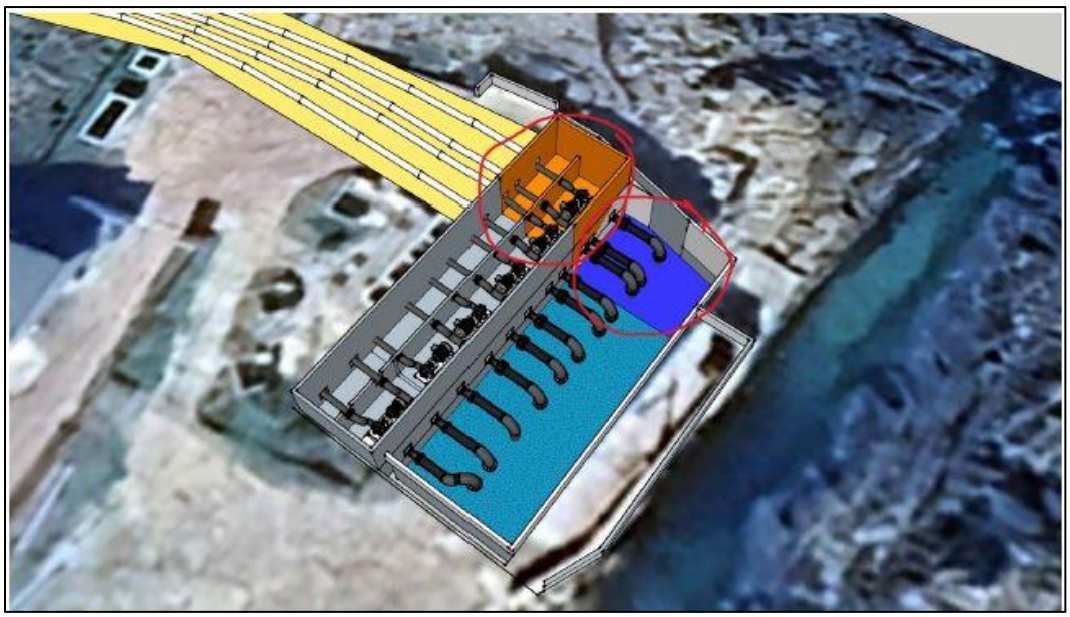


Figure 9: Area illustrated in orange and blue is the area of expansion that will be excavated and blasted for the installation of new pumps to be fitted on the new pipelines. The pipelines in white will be subsurface so as not to restrict public access and movement along the coastline.

Figure 10: The pipeline corridor is indicated in red and the yellow circle indicates the limestone vegetation area.

3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.

N/A

3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.

Abalone Farms inherently rely on a constant supply of fresh seawater and operate mostly on a continued through flow system, where the seawater is pumped onto the farm, runs through the tanks and is then discharged back to sea. The pumphouse and associated infrastructure needs to be located within the high-water mark and CPZ. In the case of Romansbaai Abalone Farm however, the bulk of the infrastructure such as abalone tanks, offices, service infrastructure etc are located high on the farm above the coastal contour and therefore are at low risk of impacts relating to storm surges and sea level rise.

One of the key considerations has been the farm's location relative to climate change risks, such as sea level rise, storm surges, and coastal erosion. The bulk infrastructure, including the proposed production area for the expansion, is strategically situated on elevated ground above the 10-meter contour line, with the new production area being located beyond the 30-meter contour. The positioning of all major infrastructure more than 500 meters inland from the High-Water Mark provides an added layer of protection from the dynamic forces of the coastal environment.

In terms of excavation and blasting, the development involves minimal disturbance alongside the existing pumphouse. Although some bedrock excavation and minor blasting will be necessary to create space for the installation of the pipelines, these activities will be highly localized and controlled to limit environmental impact. Excavation will occur to a depth of 1 m to accommodate the three 0.5 m diameter pipes, ensuring the infrastructure is securely installed without compromising the surrounding geological features. Blasting, where required, will follow strict environmental protocols to mitigate vibrations and reduce the risk of disrupting nearby sensitive areas, such as the existing limestone formations.

The decision to place the bulk infrastructure behind the existing operations, northeast of the farm and more than 500 meters from the High-Water Mark, aligns with sustainable development principles. By keeping the expanded facilities away from vulnerable coastal areas and critical zones like the Littoral Active Zone, the development not only ensures long-term operational stability but also limits ecological disturbance to sensitive coastal ecosystems.

4. Biodiversity

4.1.	Were specialist studies conducted?	YES x	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
Nick Helme Botanical Surveys			
4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.		

The systematic conservation planning, which is supported by Cape Nature BSP, SA vegetation maps, NFEPA, iNaturalist as well as other biodiversity informants have been utilised for the assessment of the study area.

Extracted from the Botanical Specialist report:

SA Vegetation Map shows that the original natural vegetation in the study area is all Overberg Dune Strandveld (Mucina & Rutherford 2018). This was also confirmed through ground truthing by the specialist.

Overberg Dune Strandveld is now gazetted as Endangered on a national basis (Government of South Africa 2022). About 90% of its total original extent remains intact, about 36% is conserved, and the national conservation target is also 36% (Rouget et al 2004), and I am thus unclear on how this can be listed as Endangered, even though it is listed under the B1(iii) criterion (restricted distribution and threatening processes). The unit is known to support relatively few plant Species of Conservation Concern (Raimondo et al 2009), most of which are threatened by habitat loss to urban development and alien invasive vegetation. This unit occurs on nutrient poor, deep, alkaline sands on the coastal lowlands, and the vegetation type does not need fire for optimal ecological functioning, although it can and does occasionally burn (Helme & Rebelo 2016).

The site has not been burnt for at least twenty years, the vegetation is grazed and fairly lightly trampled (in places) by game (eland, bontebok, springbok and zebra), and has a low density of invasive alien species (<0.5% cover of rooikrans and manitoka; *Acacia cyclops* and *Myoporum sp*.), and most of it can thus be regarded as being in good condition.

Photo 1: View of natural Strandveld vegetation in the area proposed for the PV facility, looking southwest (Helme, 2024).

Photo 2: View of High sensitivity Overberg Dune Strandveld on the Phase 2 facility area, looking northwest (Helme, 2024).

Photo 3: View of disturbed, Low sensitivity Overberg Dune Strandveld in the proposed Phase 1 facility area, looking north towards the existing infrastructure (Helme, 2024).

Photo 4: View of High sensitivity Strandveld vegetation in proposed dam area, looking west (Helme, 2024).

Photo 5: View west along proposed pipeline route to existing pumpstation, with brushcut area to the right (north) of the fence (Helme, 2024).

As can be seen in the site photos above the natural vegetation on most areas has high structural diversity, with a mix of tall shrubs, small trees, grasses, restios and herbs. Autumn flowering geophytes are also present (*Brunsvigia, Oxalis, Haemanthus*).

Indigenous species noted in the natural vegetation in most of the study areas include *Searsia glauca, S. laevigata, S. lucida, Anthospermum spathulatum*, *A. galiodes, Euclea racemosa, Pterocelastrus tricuspidatus, Thamnochortus insignis, Cynodon dactylon, Carpobrotus acinaciformis, Otholobium bracteolatum, Jordaaniella dubia, Ruschia sarmentosa, Restio eleocharis, R. calcicola, Helichrysum niveum, H. patulum, H. dasyanthum, Cassine peragua, Maytenus lucida, Lachenalia rubida, Ficinia ramosissima, F. indica, F. secunda, Schoenus arenicola, Chaenostoma subspicatum, Phylica ericoides, Metalasia muricata, Salvia aurea, Brunsvigia orientalis, Passerina paleacea, Satyrium carneum, Osteospermum moniliferum, Eriocephalus racemosus, Tetragonia fruticosa, Sideroxylon inerme, Roepera flexuosa, Geranium incanum, Muraltia satureoides, M. pappeana, Haemanthus coccineus, Brunsvigia orientalis, Chironia baccifera, Olea exasperata, Ehrharta villosa, Cineraria geifolia, Asparagus asparagoides, Rumex sagittatus, Oncosiphon suffruticosum, Pentameris pallida, Arctotheca calendula, Athanasia quinqedentata ssp. rigescens, Cassine peragua, Aspalathus hispida, Cotula pruinosa, Tephrosia capensis, Agathosma geniculata, Pelargonium betulinum, Massonia depressa, Solanum guineense, Ifloga repens, Babiana nana, Myrsine africana, Zaluzianskya villosa, Oxalis depressa and Trachyandra ciliata.*

At least five plant Species of Conservation Concern (SoCC) were recorded on site, with distribution as per **Table 1**. All have substantial and viable populations on the greater property, but their distribution and abundance vary from footprint to footprint. There is a moderate likelihood of one or two other SoCC being present on the various footprints. Rare local endemic species such as *Cliffortia anthospermoides* (Endangered) do not appear to be present on site and were actively searched for. Erica *irregularis* (Endangered) does not occur south of Gansbaai, although it is common at Grootbos. *Dasispermum grandicarpum* is an inconspicuous, low herb that grows annually from a rootstock (especially now, early in the season), and was until recently known only from Grootbos NR, but has now been recorded from Stanford to Gansbaai (pers. obs.). The species is Redlisted as Data Deficient, but it was not seen in the study areas.

The table below summarizes the findings of the botanical specialist during the assessment of Alternatives 1 and 2, conducted prior to the evolution of the refined alternatives (Alternative 4 and 5). The refined alternative (Alternative 5) was informed by the botanical sensitivity map, which highlighted the distribution of Plant Species of Conservation Concern (SoCC) within the study area. The revised site layout, Alternative 5 minimizes impacts on the identified areas of botanical sensitivity, specifically the high botanical sensitive area as well as plants species of conservation concern. This approach ensures alignment with ecological conservation goals and avoiding highly sensitive areas through application of mitigation hierarchy.

Table 2: Distribution of the plant SOCC in the study areas. No SoCC were recorded in the pumpstation or pipeline areas (Helme, 2024).

Species	***Redlist Status***	***Found where***
Athanasia quinquedentata ssp. *rigens*	VU	PV, Phase 2, Dam
Cynanchum zeyheri	VU	PV, Phase 2, Dam
Muraltia pappeana	Near Threatened	PV, Phase 1, Phase 2, Dam
Agathosma geniculata	Near Threatened	PV, Phase 2, Dam
Lampranthus fergusoniae	VU	PV, Phase 2, Dam

Athanasia quinquedenta ssp. rigens is a shrub Redlisted as Vulnerable, and occurs in coastal sands over limestone from Gansbaai to Stilbaai. Scattered plants occur in three of the study areas.

Agathosma geniculata is a shrub Redlisted as Near Threatened, and occurs in coastal sands from De Kelders to Arniston. The species is common on three of the study areas.

Muraltia pappeana is a shrub Redlisted as Near Threatened, and occurs in coastal sands from De Kelders to Riversdale. The species is common throughout most of the study areas.

Cyanchum zeyheri (not flowering, provisional id) is a creeping shrub Redlisted as Vulnerable, and occurs in coastal sands and rocky areas from Saldanha to Agulhas, and is probably very overlooked. Scattered plants occur in three of the study areas.

Lampranthus fergusoniae is a vygie Redlisted as Vulnerable, and is found from Kleinmond to Knysna on coastal sands. Scattered plants occur in three of the study areas.

The botanical sensitivity of the site, as illustrated in **Figure 11**, indicates two patches of high botanical sensitivity. These areas are primarily located within the proposed photovoltaic (PV) array area and the footprint for the new seawater reservoir. Recognizing the ecological importance of these sensitive areas, the design of the new preferred alternative, Alternative Layout 5, has been refined to reduce environmental impacts, especially within high sensitive areas onsite. Alternative Layout 5 keeps the proposed production area, including the grow-out tanks, into areas of low and medium botanical sensitivity, avoiding the mapped high-sensitivity patches wherever possible. Compared to previous alternatives, the total development footprint on Alternative Layout 5 has been reduced to 6.8 ha. Initially, the combined Phase 1 and Phase 2 development covered 3 hectares, as proposed in Alternative Layouts 1 and 2. Whereas Alternative Layout 4 and

the preferred new layout Alternative 5 limit the development footprint of the production area to 2 hectares. This reduction demonstrates a commitment to minimizing the disturbance of indigenous vegetation and reducing overall environmental impact on highly botanical sensitive areas.

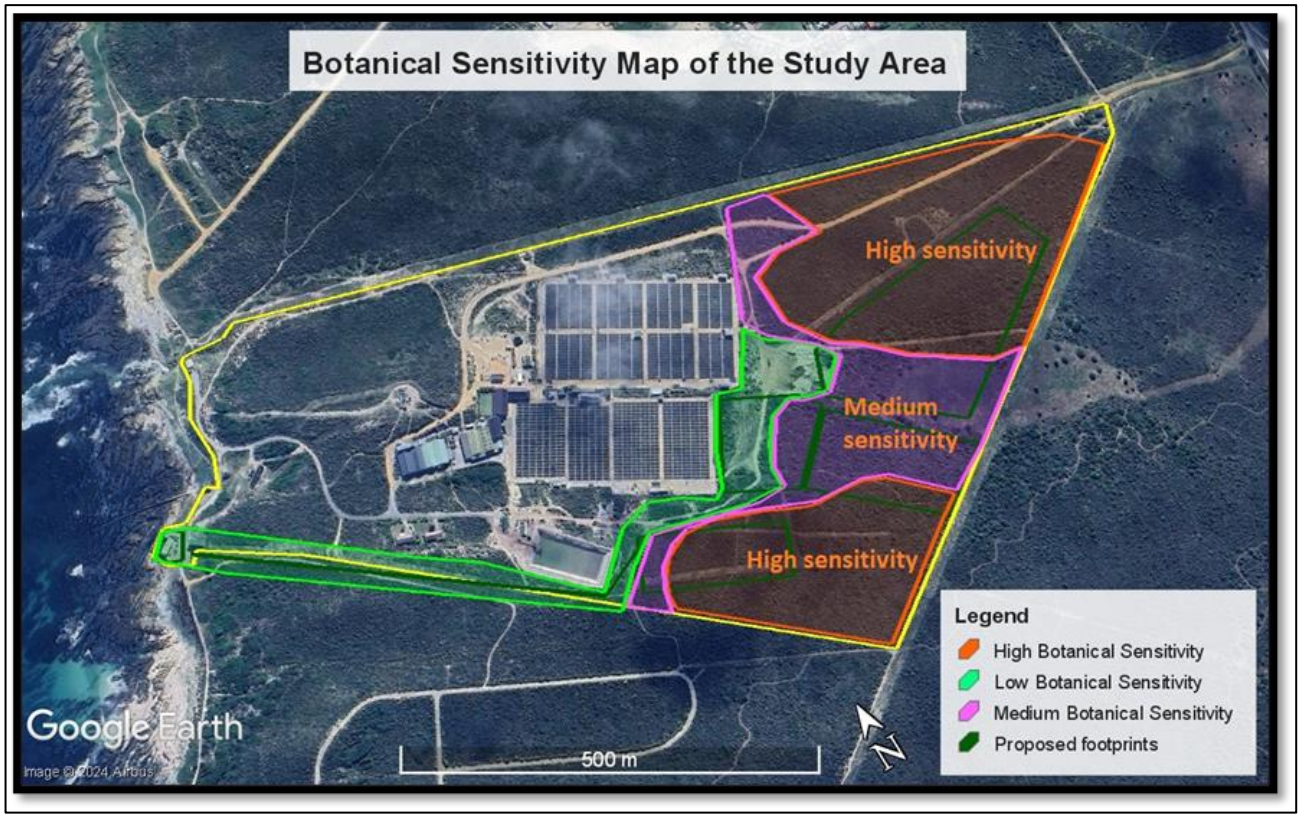


Figure 11: Botanical sensitivity map for the portion of the property (property outline in yellow) (Helme, 2024).

Alternative 1 and Alternative 2: Construction and Post-Construction phase impacts

Construction Phase

The primary construction phase ecological impact of the proposed development would be permanent loss of all Low, Medium and High sensitivity vegetation (gazetted as an Endangered vegetation type) in three of the five footprints, along with associated loss of the site populations of the five recorded plant Species of Conservation Concern in these areas. Areas where vegetation loss will be total are the two growing facilities (Phases 1 & 2) and the new dam.

Temporary vegetation loss would occur in the PV area and the pipeline. In the PV area vegetation loss will be most significant for the larger, taller woody species, which will need to be brush-cut down to less than 1m, whilst the lower growing species should actually benefit from the reduced canopy cover. Total vegetation loss in the PV area is neither desirable nor likely, as the applicant wants to ensure that vegetation cover is largely retained, to limit sand and dust impact. No vegetation loss is likely as a result of the pumphouse expansion.

The proposed PV development would also result in degradation of about 6ha of area mapped as CBA1 (Critical Biodiversity Area 1), with the rest of the footprint impacting on ONA (Other Natural Area). Loss of mapped CBAs and ESAs are not supported, as they are deemed to be irreplaceable habitat and serve multiple ecological functions, for both species, ecological connectivity and for meeting national conservation targets. Loss of CBAs is usually associated with High negative ecological impact.

Botanical significance of this habitat and species loss (before and after mitigation) ranges from **Very Low negative** for the pumpstation expansion to **Medium - High negative** for the dam area. There is little one can do to mitigate the impacts of loss of habitat and SoCC.

The extent of the impacts is deemed to be local and regional, but also national, in that the vegetation types and threatened species are also assessed at a national level.

Table 3: Summary table for construction phase botanical impacts associated with the proposed development (**Alternative 1 and Alternative 2**).

Development Area	Extent of impact	Duration of impact	Intensity	Probability of impact	Irreplaceable loss of biodiversity	Significance before mitigation	Significance after mitigation
PV area	Local	Long term	Medium	Definite	Low to Medium	Low to Medium -ve	Low to Medium -ve
Phase 1 Area	Local & regional	Permanent	High	Definite	Low	Low -ve	Low -ve
Phase 2 Area	Local & regional	Permanent	High	Definite	High	Medium -ve	Medium -ve
Dam area	Local & regional	Permanent	High	Definite	High	Medium to High -ve	Medium to High -ve
Pipeline	Local	Temporary	Low	Definite	Low	Low -ve	Low -ve
Pumphouse expansion	Local	Permanent	Very Low	Definite	Very Low	Very Low -ve	Very Low -ve
No Go	Local	Unknown and variable	Neutral to low negative	Unknown	Low	Neutral to Low negative	Neutral to Low negative

Operational Phase Botanical Impacts

Operational phase impacts will take effect as soon as the natural vegetation on the site is lost or disturbed, and will persist in perpetuity, or as long as the area is not fully rehabilitated (not likely within 30yrs). Operational phase impacts include loss of current high levels ecological connectivity across the study areas, and associated habitat fragmentation. The construction may also result in alien Argentine ant introduction, with associated negative ecological impacts on seed dispersal for up to 25% of the remaining indigenous plant species within 50m of any construction.

Table 4: Summary table for operational phase botanical associated with the proposed development (**Alternative 1 and Alternative 2**)

Development Area	Extent of impact	Duration of impact	Intensity	Probability of impact	Irreplaceable loss of biodiversity	Significance before mitigation	Significance after mitigation

PV area	Local	Long term	Medium	Likely	Low to Medium	Low to Medium -ve	Low to Medium -ve
Phase 1 Area	Local & regional	Permanent	High	Definite	Low	Low to Medium -ve	Low to Medium -ve
Phase 2 Area	Local & regional	Permanent	High	Definite	High	Medium -ve	Medium -ve
Dam area	Local & regional	Permanent	High	Definite	High	Medium -ve	Medium -ve
Pipeline	Local	Temporary	Low	Likely	Low	Low -ve	Low -ve
Pumphouse expansion	Local	Permanent	Very Low	Definite	Very Low	Very Low -ve	Very Low -ve
No Go	Local	Unknown and variable	Neutral to low negative	Unknown	Low	Neutral to Low negative	Neutral to Low negative

Alternative 4 (Previously preferred)

Following the conclusion of Public Participation Process 3 and the remaining concerns raised, particularly relating to the National Biodiversity Offset Guidelines, the botanical specialist along with Sean Privett of the Grootbos Foundation formulated an Alien Clearing Plan for an already protected area with the same vegetation type, located nearby to the development site. This along with the reduction of the reservoir footprint size from 2ha to 0.8 ha resulted in the final conclusion by the Botanist that all residual impacts of the proposed expansion are less than medium. This re-assessment was informed by the application of the mitigation hierarchy, the reduced reservoir footprint, and the consideration that Overberg Dune Strandveld is well conserved, but in need of management, with 36 % of its original extent fully conserved against the national target. Upon application of the mitigation hierarchy, the specialist revised the overall residual botanical impact rating from Medium to Low Medium. As a consequence of this revised impact rating, a formal Biodiversity Offset is no longer triggered. The mitigation measured measure applied involves the funding of alien invasive plant clearing across approximately 8 ha of Endangered Sand Fynbos habitat on Brown Dog Farm, to be administered and overseen by the Grootbos Foundation at an estimated cost of R256 000. The specialist confirmed support for this mitigation scenario and recommended its adoption as the preferred approach for the project.

Notwithstanding the above, it subsequently became apparent through ongoing engagement with Cape Nature, the DEA&DP, and the Environmental Assessment Practitioner that the revised Low to Medium negative residual impact rating for the seawater reservoir under Alternative 4, and the associated mitigation mechanism proposed, did not constitute a sufficiently tangible reapplication of the mitigation hierarchy to the satisfaction of the relevant authorities. Cape Nature specifically advised that the intractability of identifying a compliant biodiversity offset did not, in itself, constitute an acceptable motivation for revising the impact significance rating, and that the two proposed offset options a monetary contribution to a non-profit organisation and an on-site 8 ha conservation area did not fully meet the requirements of the National Biodiversity Offset Guidelines as then proposed. In response to this, the mitigation hierarchy was reapplied, and a new preferred layout Alternative 5 was developed to further minimise the botanical impact associated with the seawater reservoir through an additional reduction in footprint size and a repositioning of the reservoir relative to the High botanical sensitivity area.

Alternative 5 — New Preferred Layout

In direct response to the concerns raised during PPP 4 and the subsequent engagement with CapeNature, a new preferred layout Alternative 5 was developed through the further reapplication of the mitigation hierarchy. This new layout represents a tangible and measurable improvement over Alternative 4 in respect of the botanical impacts associated with the seawater reservoir, which had consistently been identified as the most ecologically sensitive component of the proposed development.

The key distinction between Alternative 4 and Alternative 5 lies in the further reduction of the seawater reservoir footprint from 8 000 m² (0.8 ha) to 7 000 m² (0.7 ha), and the deliberate repositioning of the reservoir as close as possible to the existing reservoir infrastructure. This design refinements resulted in a material change to the botanical sensitivity areas regarding the reservoir footprint. Under the original Terrestrial Biodiversity Impact Assessment, (2024), the then-proposed 20 000 m² reservoir footprint was assessed as Medium to High negative, driven by its large size and the fact that more than 50% of the footprint fell within an area mapped as High botanical sensitivity. Under Alternative 4, this was reduced to Medium negative following the reduction of the footprint to 8 000 m². However, under the new preferred Alternative 5, less than 35% of the 7 000 m² reservoir footprint now falls within the High botanical sensitivity area, with the majority of the footprint situated within Low and Medium sensitivity areas.

The botanical specialist confirmed that these cumulative refinements reduce the overall botanical significance of the seawater reservoir footprint to a **Low to Medium** negative level, and that Alternative 5 is accordingly confirmed as the preferred development layout. Critically, the specialist further confirmed that this level of botanical impact **does not require any Biodiversity Offset or off-site conservation contribution**, noting that the applicant has demonstrated a clear commitment to avoiding and setting aside the bulk of the High botanical sensitivity natural vegetation on the property in the design of this development. It is further noted that whilst a portion of the High sensitivity area will be partially affected by the proposed Solar PV Array, this impact is similarly assessed at a Low to Medium negative significance, given that ground-level vegetation cover will be retained beneath the panels. All mitigation measures identified in the original Terrestrial Biodiversity Impact Assessment of November 2024 remain applicable and must be implemented in full.

4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.

It is important to note at the outset that this project commenced in October 2023, with the first round of public participation conducted in October 2024. All preliminary assessments and the initial alternatives analysis were accordingly undertaken with reference to the 2017 Western Cape Biodiversity Spatial Plan (BSP; Pence, 2017), as the revised 2023 BSP was only gazetted in December 2024, subsequent to the commencement of the assessment process.

Application of the 2017 BSP

In terms of the 2017 BSP, a Critical Biodiversity Area 1 (CBA1) designation intersects the northwestern portion of the property. The objectives and management guidelines of the BSP informed the assessment of this designation and influenced the site layout in the following material ways.

The CBA1-mapped area in the northwest coincides with the portion of the property proposed for the Solar Photovoltaic (PV) Array. Whilst the BSP management guidelines generally do not support development that results in the loss or permanent transformation of CBA1-designated habitat, the proposed Solar PV Array has been specifically designed to avoid the total loss of vegetation within this area. The array will be elevated a minimum of 1 m above the ground surface, thereby allowing the bulk of the indigenous vegetation beneath the panels to remain intact. Partial shading caused by the solar panels may occur in localised areas, however, the botanical specialist confirmed that most plant species within this area are expected to persist under these conditions, and that ecological connectivity through the CBA1-mapped area will be maintained. The impact on the CBA1 area associated with the Solar PV Array is accordingly assessed at a Low to Medium negative significance level, both before and after mitigation.

The option of relocating the Solar PV Array southward, entirely outside the CBA1-mapped area and the High botanical sensitivity zone, was investigated and considered during the alternatives assessment process. However, this option was not feasible for two reasons. First, the presence of a milkwood forest situated to the south of the proposed array location precludes southward relocation, as the BSP guidelines afford particular protection to milkwood thicket habitats, and any development impact on this feature would represent a significantly greater ecological impact than the partial shading of Strandveld beneath elevated panels. Second, the effective generation of solar energy requires specific slope orientation, which constrains the placement of the array to a topographically suitable position on the property. The available topography was determined to limit viable placement options to the current proposed location.

The BSP management guidelines and spatial layers further informed the positioning of all other development components. Guided by the principle of avoiding CBAs and preferencing development within ONA and degraded areas, the grow-out platform (2.0 ha) has been positioned within areas of Low to Medium botanical sensitivity under the preferred Alternative 5, entirely outside the CBA1-mapped area. Similarly, the pipeline route has been confined to an existing disturbed corridor alongside the existing pipeline network, and the pumphouse expansion is located within an already-disturbed area associated with existing road infrastructure, consistent with the BSP objective of minimising further fragmentation of natural habitats.

Figure 12a: The northwestern area of the property falls within CBA1 as per 2017 BSP

Figure 12b. 2023 BSP Map

Consideration of the 2023 BSP

The 2023 BSP, gazetted in December 2024, classifies the entire Romansbaai property including the existing operational footprint as CBA. It is important to note that this blanket CBA designation would appear to be cartographically inaccurate in its current form, as it encompasses the existing developed operational area of the abalone farm, as well as areas of lower-income housing situated to the north of the property. These areas manifestly do not meet the ecological criteria associated with a CBA designation, as they comprise existing infrastructure, disturbed land, and areas with limited or no remaining natural habitat. This apparent inaccuracy was identified through site visits, ground-truthing, and specialist input.

Notwithstanding the above, the assessment and layout refinement process has, in practical terms, applied a standard equivalent to and in many respects more stringent than that which would be required under the 2023 BSP, through the rigorous application of the mitigation hierarchy, the progressive reduction of development footprints, the restriction of development to areas of lower ecological sensitivity, and the avoidance of the most ecologically valuable vegetation on the property. The preferred Alternative 5 layout reflects the outcome of this process and is consistent with the overarching objectives of the BSP to protect irreplaceable biodiversity, maintain ecological connectivity, and limit the transformation of sensitive habitat to the minimum extent necessary.

4.5.	Explain what impact the proposed development will have on the site-specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.

The proposed development has the potential to impact the site-specific features and functionality of the Biodiversity Spatial Plan (BSP) category associated with the Overberg Dune Strandveld, which is classified as Endangered. The Terrestrial Assessment highlights that the original vegetation on the site is primarily Overberg Dune Strandveld, characterized by a mixture of grazed and lightly trampled areas by game species such as eland, bontebok, and springbok, and a low density of alien vegetation (*Acacia cyclops* and *Myoporum sp*.), much of which is in good condition. (Note that the assessment used the 2018 Veg mapping due to the timing on the project and the Botanist confirmed that regardless of the upgrading to the

2024 National Vegetation Map, the vegetation type remains as assessed but has changed names to: Southwestern Strandveld, with the assumption of the same threat status in the absence of threat status for this new vegetation category.

The assessment identifies at least five plant Species of Conservation Concern (SoCC) present on the site, with viable populations across the greater property. The distribution and abundance of these species vary across the development footprint. Notably, while rare local endemics like *Cliffortia anthospermoides* (Endangered) and *Erica irregularis* (Endangered) are not found on site, other species such as *Dasispermum grandicarpum*, currently Redlisted as Data Deficient, have been recorded in proximity. Additionally, species such as *Athanasia quinquedenta ssp. rigens* (Vulnerable), *Agathosma geniculata* (Near Threatened), *Muraltia pappeana* (Near Threatened), *Cyanchum zeyheri* (Vulnerable, provisional identification), and *Lampranthus fergusoniae (*Vulnerable) are observed within various study areas. These species contribute to the ecological value of the site and the broader region, indicating that the area supports a diverse range of plant life with varying conservation statuses.

The botanical sensitivity of the site, as depicted in **Figure 11**, reveals that two patches of High sensitivity are located primarily within the proposed photovoltaic (PV) area and the new dam footprint. The proposed PV development would result in disturbance of about 4 ha of area mapped as CBA1 (Critical Biodiversity Area 1), with the rest of the footprint impacting on ONA (Other Natural Area).

The possibility of relocating the PV solar array to areas of Medium botanical sensitivity was explored. However, this option was deemed unsuitable due to the presence of milkwood forests in these areas, which are ecologically significant. In the new preferred alternative layout (Alternative 5), the solar array remains in its originally proposed location. The site is classified as Overberg Dune Strandveld (now named Southwestern Strandveld) (Endangered) vegetation. Large sections of the proposed expansion area have been impacted by current activities onsite including animals from the adjacent property which are roaming between the subject property. During the clearance of vegetation associated with the previous expansion, Search and Rescue was conducted by a professional Botanical Specialist prior the construction of the previous expansion on the farm which aimed at retracting the sensitive plants and replanted them in areas indicated in yellow on the map in **Figure 13** below. The proposed expansion will not extend or impact these areas. **Figure 14** indicate the areas of limestone outcrops, milkwood and vygie on the property. By illustration the expansion of facilities for the production area, construction of lined seawater reservoir and additional pipelines will not expand to these features.

Figure 13: The map illustrating the plants rescued from the previous 2009 EA and planted in the areas indicated in yellow.

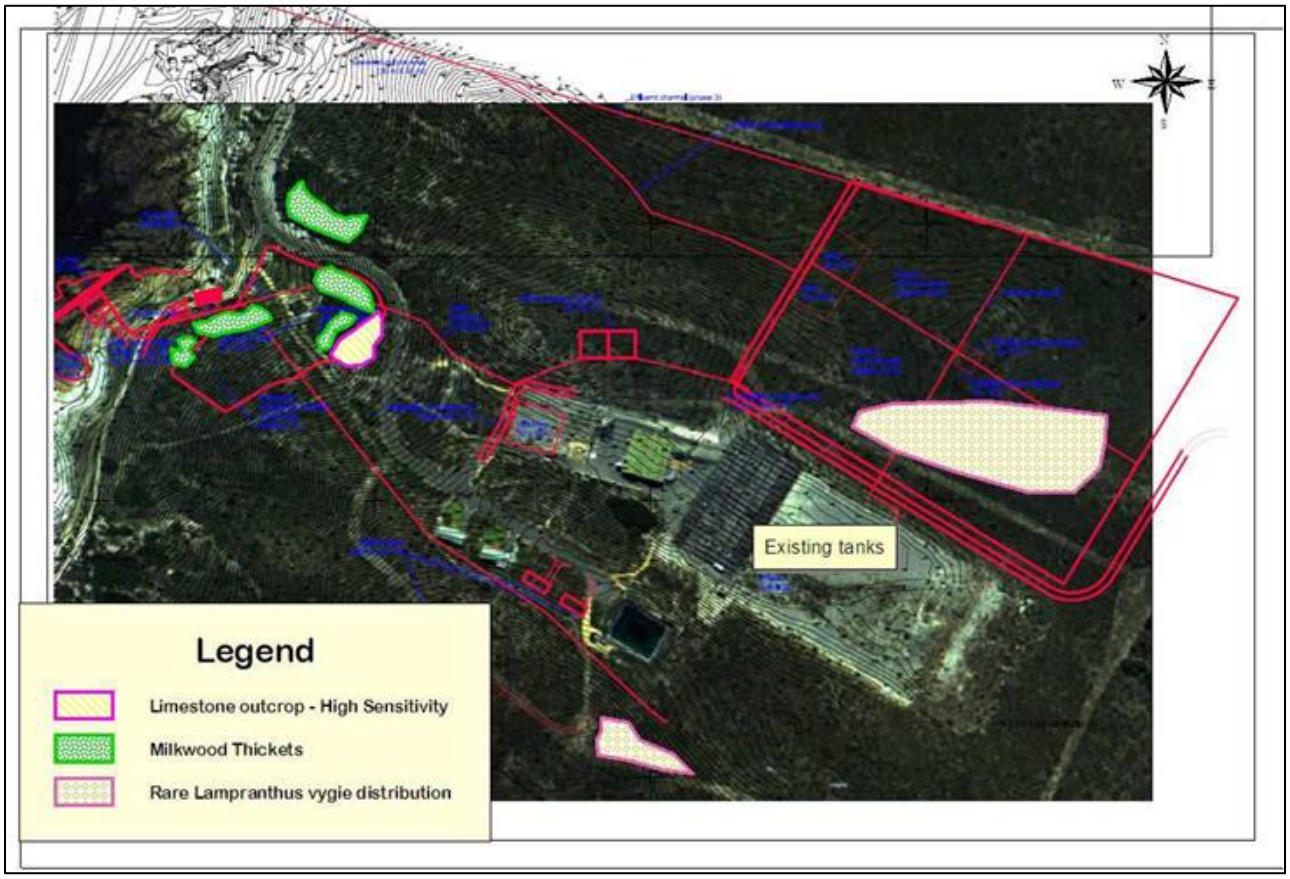


Figure 14: A clear illustration of the limestone, milkwood thicket and vygie distribution.

4.6.	If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.

N/A.

4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

An animal species assessment conducted and observed the faunal species during the site survey on the study area. The survey consisted of meandering visual, acoustic surveys and point surveys performed at and between the various proposed development sites. During the analysis, the animal species assessment highlighted and tabulated faunal species of conservation concern (SoCC) that could be present on or close to the development footprint, refer to **Figure 15 and Table 5** below.

Table 5: The PAOI was set considering main SCC we think are present on or close to the development footprint.

Species/Group	PAOI Buffer size	Notes
Raptors and Birds general	300 m	Foraging and resting areas
Waterbirds	300 m	Foraging and resting areas
Nocturnal insects	250 m	Influence of artificial lights
Diurnal insects and herpetofauna	100 m	Foraging and breeding habitat

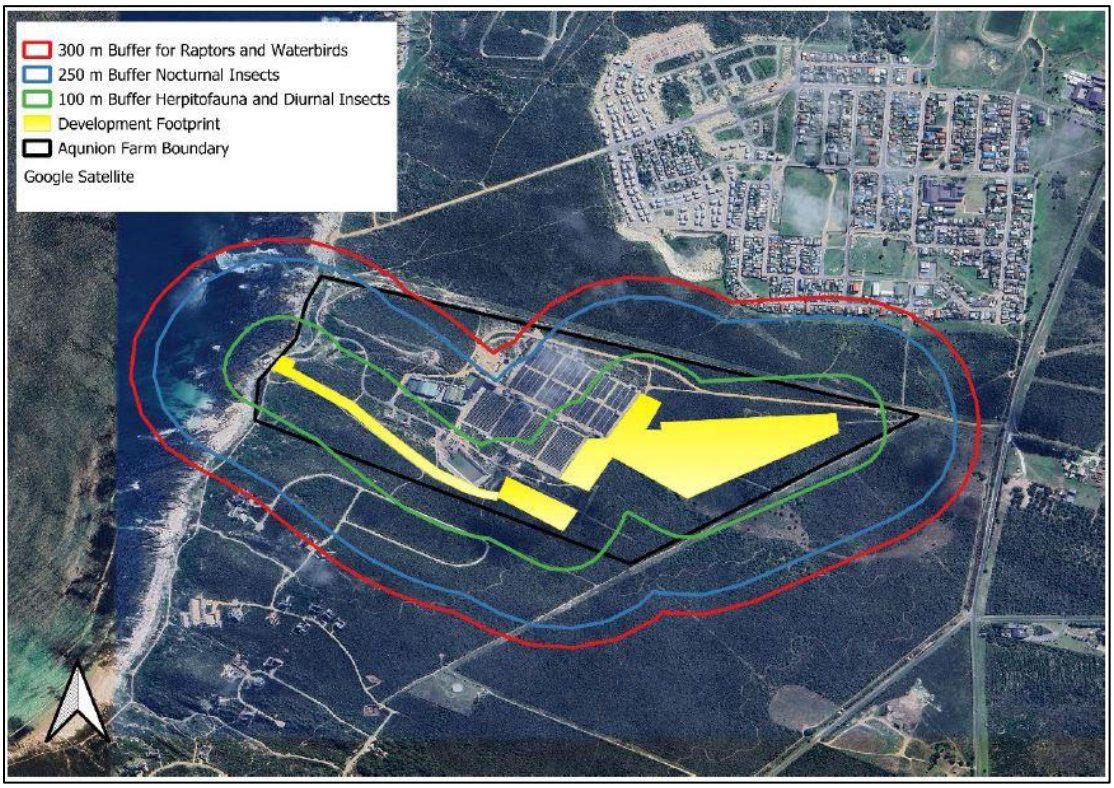


Figure 15: The PAOI was set considering main SCC we think are present on or close to the development footprint. (*source*: Venter, 2024).

The screening of the development site was conducted using Google Earth imagery and on-site verification. The assessment identified three broad habitat types, e.g natural fynbos, short, disturbed fynbos 'pasture', and built-up areas.

Natural fynbos

Based on the specialist findings, natural Overberg Dune Strandveld in relatively good condition. Some areas associated with roads and farm infrastructure are degraded. Vegetation areas of high sensitivity based on the (Helme 2024) report. The specialist also argues that this habitat type could be considered ideal habitat for faunal species as its condition is relatively good.

Short disturbed fynbos 'pasture'

Degraded Overberg Dune Strandveld which seems to have been converted into pasture for utilisation of the Burchell zebra and bontebok that are present on the site. This created open habitat with the presence of forbs and grasses not commonly associated with the surrounding natural vegetation. This habitat only covers about 2 ha of the property.

Built up areas

This is habitat that are covered in infrastructure (buildings, roads, fences, abalone rearing ponds etc) associated with the abalone farming activities. These areas are kept clean of vegetation and pest control takes place.

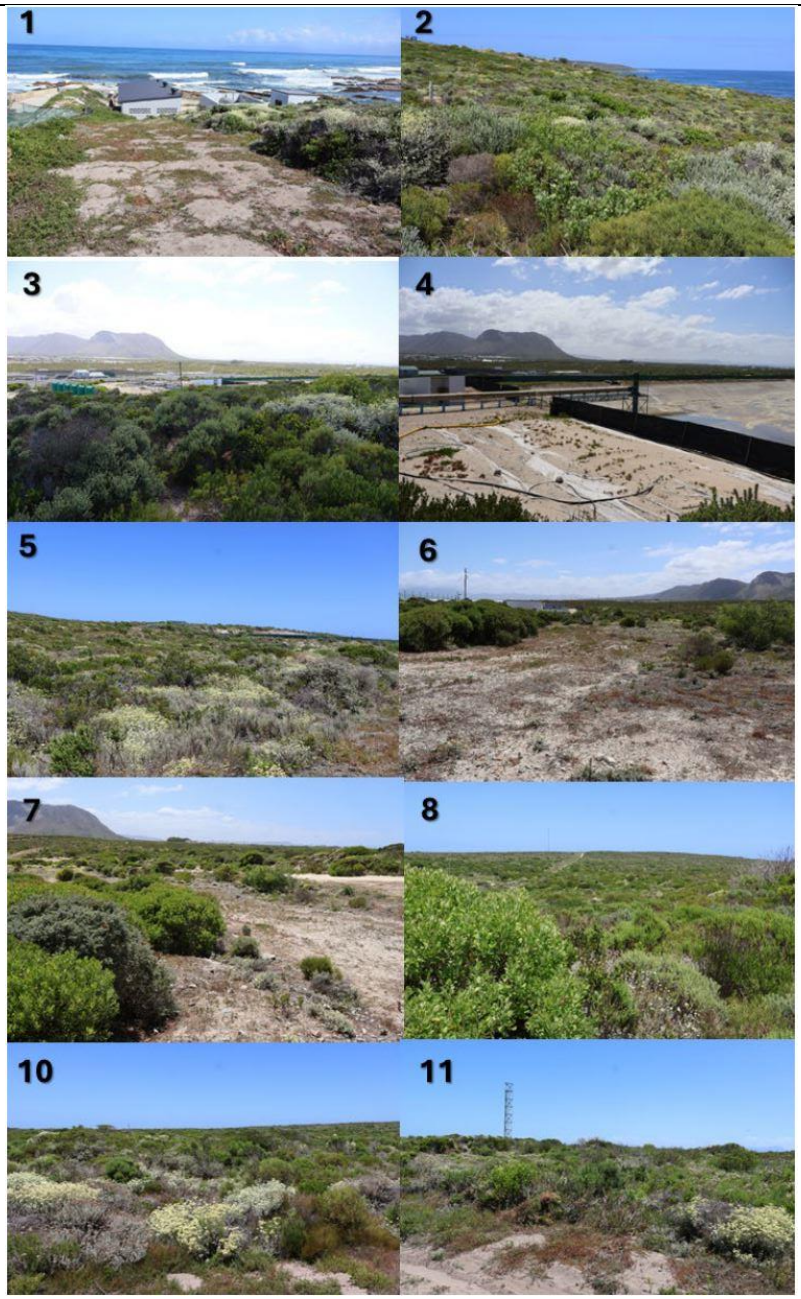


Figure 16: The Overberg Dune Strandveld habitats in relatively good condition

Table 6: Animal species observed during the field site visit

	Common Name	Scientific name	Status	Built-up areas	Disturbed fynbos	Natural fynbos
Birds	African Pipit	*Anthus cinnamomeus*	LC	X		
	Bokmakierie	*Telophorus zeylonus*	LC	X		
	Cape Bulbul	*Pycnonotus capensis*	LC	X		

	Cape Robin-Chat	*Cossypha caffra*	LC			X
	Cape Sparrow	*Passer melanurus*	LC	X		
	Cape Spurfowl	*Pternistis capensis*	LC	X	X	X
	Cape Wagtail	*Motacilla capensis*	LC	X		
	Cape Weaver	*Ploceus capensis*	LC	X		
	Cape White-eye	*Zosterops virens*	LC	X		
	Common Starling	*Sturnus vulgaris*	LC	X		X
	Cape Turtle Dove	*Streptopelia capicola*	LC			X
	Familiar Chat	*Oenanthe familiaris*	LC			X
	Grey-headed Gull	*Chroicocephalus cirrocephalus*	LC	X		
	Karoo Prinia	*Prinia maculosa*	LC			X
	Pearl-breasted Swallow	*Hirundo dimidiata*	LC	X		
	Pied Crow	*Corvus albus*	LC			X
	Southern Fiscal Speckled	*Lanius collaris*	LC			X
	Mousebird	*Colius striatus*	LC			X
	Speckled Pigeon	*Columba guinea*	LC	X		
	Spotted Thick-knee	*Burhinus capensis*	LC		X	X
	Three-banded Plover	*Charadrius tricollaris*	LC	X		
	Zitting Cisticola	*Cisticola juncidis*	LC			X
Reptiles	Angulate tortoise	*Chersina angulata*	LC			X
Mammals	Cape grysbok	*Raphicerus melanotis*	LC		X	X
	Bontebok	*Damaliscus pygargus*	VU		X	
	Burchell's zebra	*Equus quagga burchellii*	LC		X	X

	Large grey mongoose	*Herpestes ichneumon*	LC			X
	Vlei rat	*Otomys irroratus*	LC	X		
	Cape dune molerat	*Bathyergus suillus*	LC		X	X
Invertebrates	Common opal	*Chrysoritis thysbe*	LC			X
	Grasshopper	*Euloryma sp. 1*	N/A			X
	Garden Locust	*Acanthacris ruficornis*	LC	X	X	X
	Black Cocktail ant	*Crematogaster peringueyi*	LC			X

Photo 6: Degraded Overberg Dune Strandveld which seems to have been converted into pasture for utilisation of the Burchell zebra and bontebok that are present on the site.

Photo 7: This is habitat that are covered in infrastructure (buildings, roads, fences, abalone rearing ponds etc) associated with the abalone farming activities.

Animal Species of Conservation Concern

The screening tool report identified a total of 7 animal species of concern that may potentially utilise the site as their habitat. One additional animal species, Cape dwarf chameleon was also identified and added during the desktop study.

Black harrier *Circus maurus*

Specialist findings indicate a reasonable likelihood that the Black Harrier (Circus maurus) frequents the property for foraging purposes. However, the species was not observed during the site visit. The assessment concludes that the proposed development will result in an irreplaceable loss of foraging habitat for this species. The species range widely, and the minor loss of forage habitat could be tolerated. Furthermore, the development site does not significantly influence potential breeding sites for the species. The Black harrier *Circus maurus*, will therefore be negatively affected by loss of forage habitat but the development footprint is small. The proposed development and potential impact are therefore classified as 'low'.

African marsh harrier *Circus ranivorus*

The African Marsh Harrier (Circus ranivorus) was neither observed nor detected during the site survey. Specialists have concluded that the site is not suitable for this species, and there is a very low likelihood of its frequent use of the area. The African marsh harrier Circus ranivorus, will therefore not likely be significantly impacted by the proposed development and potential impact are therefore classified as 'very low'.

Southern black korhaan *Afrotis afra*

Most iNaturalist and GBIF records indicates several records in the open plain Renosterveld areas of the Overberg >60 km east of the property. The species was not observed during field visit and the habitat is considered not to be suitable for this

species kind. The impact of the development on Southern Black Korhaan *Afrotis afra* by the proposed development is therefore considered to be 'very low'.

Denham's bustard *Neotis denhami*

Most iNaturalist and GBIF records indicate several records to the east of the property but more in the open plain areas of the Overberg where they frequent the more open agricultural fields. During site survey, the species was not observed on site. The habitat in the development site is not suitable for the species. The impact of the development on Denham's bustard, Neotis denhami, by the proposed development is therefore considered to be 'very low'.

Southern Adder *Bitis armata*

The species was not observed on site during site survey. the habitat is considered to be only marginally suitable habitat for this species because of a lack of any rocky substrate. There is a low likelihood that this species would occur at the site. The impact of the development on Southern Adder (*Bitis armata)*, by the proposed development will therefore likely be 'low'.

Cape dwarf chameleon, *Bradypodion pumilum*

According to Venter (2024), several iNaturalist and GBIF records indicate the presence of *Bradypodion pumilum* near the development site, suggesting a likelihood of its occurrence within the area. However, the species was not observed during the site survey. Based on this, it is concluded that the habitat at the site is not considered optimal for the species' breeding and foraging requirements. It is likely that some of their habitat will be lost permanently and the disturbance during construction phase will have a negative impact. The adjacent land, that will remain undeveloped, do however provide adequate space for this species to escape and persist. The potential impact on Cape dwarf chameleon, *Bradypodion pumilum* is classified as 'low'.

Mute Winter Katydid *Brinckiella aptera*

No specimens were seen during a field visit. The proposed developments are classified as 'low' impact on *B. aptera*, due to 1) an absence of species data from this area, 2) no host plant records being available to link present vegetation to possible insect species occurrence, 3) no direct evidence of occurrence, 4) the limited size of the development relative to the surrounding vegetation and the species' regional occurrence and 5) the intactness of large areas of the type of vegetation that will remain unaffected by the developments (i.e., permitting movement through the landscape).

Yellow-winged Agile Grasshopper *Aneuryphymus montanus*

No specimens were seen during a field visit. The proposed developments are classified as 'low' impact on *A. montanus*, due to 1) an absence of species data from this area, 2) no host plant records being available to link present vegetation to possible insect species occurrence, 3) no direct evidence of occurrence, 4) the limited size of the development relative to the surrounding vegetation and the species' regional occurrence, 5) the intactness of large areas of the type of vegetation that will be unaffected by the developments permitting movement through the landscape and 6) the wide extent of occupancy of *A. montanus*.

Bontebok (Damaliscus pygargus pygargus)

The Bontebok is an endemic species restricted to the Western Cape, historically occurring on the coastal plains of the Overberg region, where it inhabited renosterveld and grassy fynbos vegetation types. While the species has experienced significant range contraction, its current distribution is mainly within formal conservation areas and private nature reserves, with managed populations supported through reintroduction initiatives.

However, in the context of this assessment, it is important to clarify that the individual Bontebok referenced in the Terrestrial Biodiversity and Faunal Assessment was not part of a natural or established population. Instead, the presence of Bontebok on the property is the result of an artificial introduction by a private landowner within the adjacent Romansbaai Beach Estate (Mr. David Mustard). The Bontebok present on-site are not part of a conservation translocation program, nor are they managed by or under the custodianship of the Romanbaai Abalone Farm. Therefore, these individuals do not represent a wild, naturally occurring population, and their presence does not reflect suitable or critical habitat for Bontebok from a biodiversity conservation perspective.

As such, while the presence of Bontebok on the property was noted, it does not warrant a detailed impact assessment in the context of the proposed development. Nonetheless, the project will continue to implement appropriate biodiversity safeguards to minimise disturbance to any fauna present in the area.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.
N/A

6. Heritage Resources

6.1.	Was a specialist study conducted?	YES x	NO
6.2.	Provide the name and/or company who conducted the specialist study.		
ACRM – Jonathan Kaplan			
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.		

Extract from the Heritage Impact Assessment Report:

The Notice of Intent to Develop was submitted to Heritage Western Cape requesting a Heritage Impact Assessment, Palaeontological Impact Assessment and the Visual Impact Assessment to be done. The Heritage Western requires that the above-mentioned studies should be conducted with the belief that the proposed expansion of the Romansbaai Abalone farm Portion 2 of Farm 711, Gansbaai will impact on the Heritage resources.

Archaeological Impact Assessment

A field assessment was conducted by Agency for Cultural Resource Management (ACRM) on 31 January 2024, in which the following observations were made:

A few thin, dispersed scatters of fragmented marine shellfish (mostly *Turbo sarmaticus* / *alikreuke*l, some *limpet* & *Haliotis/perlemoen*), and a few quartz and quartzite chunks and flakes were recorded in the route of the proposed seawater intake pipeline (an existing servitude). The resources occur in a severely degraded context. No grindstones, formal tools, pottery, ostrich eggshell or any other organic remains were found along the ± 400m long proposed pipeline.

No archaeological resources were encountered in the footprint area of the proposed solar plant, the proposed grow out tanks, and the proposed seawater storage dam, which is set back about 400m from the rocky shoreline.

Grading of archaeological resources

The very small numbers of stone pieces and the highly disturbed context in which they were found, means that the archaeological remains have been graded as Low (3C) local significance. The archaeological resources in the proposed pipeline route have been graded as having Low (Grade 3C) archaeological significance.

Potentially important shell midden deposits (in the proposed intake pipeline), and Later Stone Age campsites (in the proposed solar plant, grow out tanks & storage dam) may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.

Unmarked Khoisan burials may also be uncovered during construction phase excavations.

Palaeontology Impact Assessment

According to Pether (2024), the project area is mantled by unconsolidated pale coversands, labelled as the Qg coversands, which have a topography of dune ridges orientated NW-SE as part of a typical stabilized headland bypass dunefield. Underlying the stabilized dunefield are the aeolianites of the Waenhuiskrans Formation which is comprised of partly cemented older dunes and sandsheets and is typically capped by calcrete.

The installation of a Solar Energy Facility involves shallow excavations for cabling. It is assumed that the depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be up to 2-3m. Earthworks will mainly affect the Qg dune coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin. Fossil bones are overall sparse in the Qg coversands and those which may be discovered are expected to be of latest Quaternary age and mainly to be species of extant fauna.

The fossil bones that may occur in the Waenhuiskrans Fm. are, like the later coversands, also mainly comprised of representatives of extant fauna, but unexpected species of a different fauna are more likely to occur, as a result of phases of different ecological and palaeoclimatic conditions in the past, as well as the bones of some species which became extinct in the geologically recent past.

The overall, default palaeontological sensitivity of unconsolidated coversand deposits is classified as LOW/Blue by the SAHRIS Palaeo-Sensitivity map.

The Klein Brak Fm. is not rated on the SAHRIS palaeontological sensitivity map but is assigned CLEAR/Unclassified. Due to the open coast setting of the seashore of the Project Area only extant species are expected and a LOW sensitivity may be assigned to the raised beach deposits. Furthermore, the additional pipelines will be installed along an already disturbed route through the beach deposits. An impact on the fossil heritage of the Klein Brak Fm. is not expected.

Visual Impact Assessment

The site is located on the Danger Point Peninsula which is strongly linked with Gansbaai and the coastal plain to the east (Franskraal to De Damme), yet it forms an entity with its own character within this larger landscape. The R43 is a regional road linking the towns of Gansbaai, Franskraal, Pearly Beach, Buffeljagsbaai and De Damme. Van Dyk Street is the main access to the Romansbaai Peninsula giving access to the abalone farm, Danger Point (Lord Roberts Street) and Kleinbaai. Danger Point Lighthouse and Kleinbaai harbour are the main end destinations on the peninsula

According to Lategan (2024), the expansion of the Romansbaai Aqunion Abalone Farm will not have an impact of great significance on the Cultural Heritage Landscape. The topography of the area with its steep coastal edge and hills to the west, creates an area with a high visual absorption level. The abalone farm is furthermore situated in a depression which screens the facility from the surrounding area.

Solar arrays have the potential to create a glare effect which can amplify the visual impact but due to the screening of the ridge to the north, the glare is effectively screened from the receptors.

The overall visual impact is thus low, and the heritage landscape will not be altered through the expansion of the facility' (Lategan 2024).

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.

Extracted from the Heritage Impact Assessment (2024) "According to Lategan (2024), the proposed expansion of the Romansbaai Aqunion Abalone Farm will not have an impact of great significance on the Cultural and Heritage Landscape. The Romansbaai Abalone farm is located on the Danger Point Peninsula about 3 kms southeast of the town centre of Gansbaai. According to the HWC Report, large numbers of archaeological resources have been recorded in Gansbaai and the surrounding coastal region. These includes the unmarked Khoisans remains which were uncovered during the excavations for the residential development at Romansbaai Estate development. The remains occur in a severely degraded context. No grindstones, formal tools, pottery, ostrich eggshell or any other organic remains were found along the ± 400m long proposed pipeline.

No archaeological resources were recorded in the footprint area of the proposed solar plant, the proposed grow out tanks, and the proposed new storage dam, which is set back in a shallow depression about 400m inland from the shoreline.
The very small numbers of stone pieces and the highly disturbed context in which they were found, means that the archaeological remains have been graded as Low (3C) local significance."

No buildings, structures or features older than 60 years will be impacted by the proposed expansion of the Romansbaai Abalone Farm.

No graves or typical grave features were encountered during the field study.

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.

Extract from Overstrand Municipal IDP (**2024-2025**):

"*The Overstrand Municipal area is the smallest municipal area in the Overberg District in terms of geographical spread but is the second-largest economy in the district. In 2021 the Overstrand Municipal area economy was valued at R 8.1 billion and contributed 31.7 per cent to the Overberg District economy during the year.*

In 2022, GDPR growth in the Overstrand municipal area was forecast to increase to 2.5 per cent. In the 2023 forecast period, economic growth in the Overstrand municipal area is expected to contract with -0.2 per cent, which is lower than the anticipated growth rates of the Overberg District and Provincial economies (Western Cape Provincial Treasury,

Overstrand SEP 2023). Overstrand's 2024 projected forecast is 0.7 per cent economic growth, which is lower than both the District and Western Cape projection over the same period.

In 2021, a total of 31 309 workers were employed in the Overstrand municipal area, contributing 27.2 per cent to Overberg District employment during the year. Despite the 2 595 formal and informal jobs gained in 2022 not all jobs lost over the Covid-19 pandemic have been regained. The unemployment rate in the Overstrand remains the highest in the Overberg District (21.5 per cent). The estimated decline in employment opportunities is likely to result in a decline in household income, which in turn will continue to restrain municipal revenue and increase the demand for free basic services."

The Blompark neighbourhood provide a range of housing options mostly within the middle to lower price bracket as well as social housing. Most residents are locally employed, and the various abalone farms and fishing industry is an important job provider. This community has a strong link to the ocean and the resource use and industrial components linked to it. Proximity to such employment opportunities is thus important and this provide a high level of tolerance and acceptance of such facilities.

8.2.	Explain the socio-economic value/contribution of the proposed development.

The proposed expansion of the abalone farm has several socio-economic benefits for the local community and the broader region:

- → By expanding the abalone farm, new employment opportunities will be generated. These jobs can directly benefit local residents, providing them with stable income and improving their quality of life. Additionally, the influx of workers may lead to increased demand for housing, services, and other goods, further stimulating economic activity.
- → The expansion project will contribute to the overall economic growth of the province. As the abalone farm increases production, it will generate additional revenue. This revenue can flow into the local economy, supporting other businesses and services. Increased economic activity can lead to a positive cycle of growth, benefiting both the farm and the surrounding community.
- → When the abalone farm thrives it will make a great contribution throughout the region. For instance:
    - Local businesses may experience higher demand as farm workers spend their earnings on goods and services.
    - Infrastructure development (such as roads, utilities, and transportation) may improve due to increased economic activity.
    - Educational institutions and healthcare facilities may receive additional funding from tax revenues generated by the farm.

8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.

Job provisions would be a good thing that the community would like to uplift the standard of living and therefore contributing to more wellbeing.

8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.

- → Due to the topography of the site, the visual expansion of the development will be minimal. The natural landscape effectively screens the site, making the expansion less noticeable to the surrounding communities.
- → The potential for noise disturbance during construction activities, such as blasting will be minimal.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred property and site alternative.

The preferred property for the proposed expansion is Portion 2 of Farm No. 711, located within the urban edge of Gansbaai in the Western Cape. This property is currently the operational site of the Romansbaai Abalone Farm, an established aquaculture facility. Given that the proposed development involves the expansion of existing operations, this property represents the most logical and practical choice.

No other property alternatives were considered for the expansion, as the intention is to consolidate and intensify operations within the boundaries of the existing farm. This approach avoids the need to establish new infrastructure on undisturbed land and limits the spatial footprint of the project. The preferred site alternative focuses on areas that have already been impacted by prior development activities or are located in close proximity to existing infrastructure.

Provide a description of any other property and site alternatives investigated.

No additional property or site alternatives were investigated for the proposed expansion as the project is intended to take place within the existing Romansbaai Abalone Farm. Therefore, there were no alternative properties or sites considered for the development. Expansion alongside existing operations is preferred over developing a new, Greenfields site.

Provide a motivation for the preferred property and site alternative including the outcome of the site selectin matrix.

As above.

Provide a full description of the process followed to reach the preferred alternative within the site.

N/A as no property or site alternatives were investigated.

Provide a detailed motivation if no property and site alternatives were considered.

The decision to focus solely on expanding the existing Romansbaai Abalone Farm on Portion 2 of Farm No. 711 can be justified due to several factors:

→ The current farm already contains the necessary infrastructure and operational expertise for abalone production. Expanding on this existing site leverages this expertise and minimizes the need to duplicate infrastructure in a new location.
→ Developing a new site would likely require land conversion and potential disruption of ecosystems and associated impacts. Expanding on the existing farm minimizes this impact as the land is already dedicated to abalone production.
→ Since the expansion occurs on land already zoned for this purpose and owned by the same entity (Terrasan Group), the approval process can potentially be streamlined compared to acquiring and developing a new site.

→ Developing a new site would involve additional costs for land acquisition, infrastructure development, and potentially relocation expenses. Expanding on the existing farm leverages existing resources and minimizes these costs.

List the positive and negative impacts that the property and site alternatives will have on the environment.

It is important to highlight that the preferred property for the proposed development is Portion 2 of Farm 711, which is the location of the existing Romansbaai Abalone Farm. No other properties were considered, as the proposed expansion is confined within the boundaries of the existing farm. The selection of this site is based on the strategic intention to utilize areas already disturbed by current operations, thereby limiting the need to impact previously undisturbed or ecologically sensitive areas.

Positive Impacts

→ Expanding on the existing farm minimizes the need to convert undeveloped land, potentially reducing habitat loss and fragmentation.

→ Utilizing existing farm infrastructure can minimize the need for new construction projects that may disrupt the environment.

Negative Impacts

→ Even within the existing farm, some level of vegetation removal and habitat disturbance may be necessary for construction activities. Measures to minimize this impact should be explored.

→ Increased production can lead to a higher volume of effluent discharge.

→ Potential loss of archaeological sites

→ Construction activities can generate noise that may disrupt wildlife.

→ Construction activities can create dust that can affect air quality and nearby vegetation.

~~1.2.~~	~~Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.~~

~~Provide a description of the preferred activity alternative.~~

~~Provide a description of any other activity alternatives investigated.~~

~~Provide a motivation for the preferred activity alternative.~~

~~Provide a detailed motivation if no activity alternatives exist.~~

~~List the positive and negative impacts that the activity alternatives will have on the environment.~~

1.3.	Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts

Provide a description of the preferred design or layout alternative.

The application assessed herein is for the expansion of an already existing Abalone Farm. Abalone Farms rely on very specific criteria in order to operate in a feasible way. Factors such as proximity to the coast to ensure the constant supply of fresh seawater, as well as availability of relatively level ground, are critical. With the Romansbaai Abalone Farm already being in operation, there are few options for alternative layouts on the subject property. The expansion project needs to

tie into the existing operations and cannot be placed in random places on the farm. This has resulted in there being limited options for design and layout alternatives, with only minor realignments of expansion areas being possible in order to avoid identified sensitive areas and no development zones.

ALTERNATIVE 5 (NEW PREFERRED)

Alternative 5 represents the preferred development layout for the proposed expansion of the Romansbaai Abalone Farm, arrived at through an iterative design process involving the progressive application of the mitigation hierarchy in close collaboration with the independent botanical specialist, the Environmental Assessment Practitioner, CapeNature, and the relevant authorities. The current preferred layout has a total development footprint of approximately 6.834 ha and comprises the following components:

Grow-Out Platform (New Production Area) — 2.0 ha (20 000 m²)

A single consolidated grow-out platform is proposed, replacing the two-phase production area approach of the earlier alternatives. The platform is situated within areas of Low to Medium botanical sensitivity, entirely outside the mapped Critical Biodiversity Area 1 (CBA1) and the High botanical sensitivity zone, in order to avoid the permanent transformation of ecologically sensitive indigenous vegetation to the greatest extent practicable. The grow-out platform is positioned adjacent to the existing production infrastructure, thereby limiting the extent of further habitat disturbance and minimising the need to disturb previously undisturbed areas. The platform is designed to accommodate the following production specifications:

- Production capacity increase: 150 tons (wet weight)
- Number of tanks: 1 850
- Number of baskets: 12 950
- Seawater usage: 2 400 m³/hour
- Aeration fans/blower room: 4 units
- Split/grading station: 1 unit

Lined Seawater Reservoir — 0.7 ha (7 000 m²)

The lined seawater reservoir is the component of the proposed development that has undergone the most significant refinement through the alternatives assessment process, having been progressively reduced from an initial footprint of 20 000 m² (2.0 ha) under Alternatives 1 and 2, to 8 000 m² (0.8 ha) under Alternative 4, and further to the current 7 000 m² (0.7 ha) under the preferred Alternative 5. The reservoir has been repositioned as close as possible to the existing reservoir infrastructure, ensuring that less than 35% of the footprint falls within the High botanical sensitivity area, with the majority situated within Low and Medium sensitivity areas.

The reservoir must be located at the highest topographic point on the property a non-negotiable operational requirement in order to enable gravity-fed distribution of seawater to the grow-out platforms during peak electricity tariff periods, thereby reducing operational energy costs and improving energy security. The reservoir is designed to the following specifications:

- Storage capacity: 41 000 m³
- Depth: 3.5 m
- Fill-up time: approximately 8 hours

Solar Photovoltaic Array — 4.0 ha (40 000 m²)

A 4 MW Solar PV Array is proposed to provide backup and off-grid electricity supply to the farm, reducing long-term reliance on the national grid and contributing to the operational sustainability of the facility. The array is located in the

northeastern portion of the property, partially overlapping with an area mapped as CBA1 under the 2017 BSP. In order to minimise botanical impact within this area, the array will be elevated a minimum of 1 m above the ground surface, allowing the bulk of the indigenous vegetation beneath the panels to remain intact. Vegetation within the PV area will be managed through trimming to a maximum height of 1 m rather than clearing, ensuring that ground-level cover is retained and that ecological connectivity through the CBA1-mapped area is maintained. The botanical specialist has confirmed that most plant species within this area are expected to persist under these conditions, with the associated impact assessed at a Low to Medium negative significance level.

Pumphouse Expansion — 140 m²

The existing pumphouse will be expanded by 140 m² to accommodate four new seawater intake pipelines. The expansion is located within an already-disturbed area associated with existing road and infrastructure networks, and no vegetation loss is anticipated as a result of this component.

Four Additional Seawater Intake Pipelines — 1 200 m² (total)

Four additional pipelines will be installed to convey seawater from the existing intake point to the new lined seawater reservoir. Each pipeline has the following specifications:

- Length: 600 m
- Diameter: 500 mm
- Total area per pipeline: 300 m²

The pipelines will be routed alongside the existing pipeline network within a previously disturbed corridor, thereby avoiding further habitat fragmentation and minimising the need to disturb natural vegetation. Vegetation loss within the pipeline corridor is expected to be temporary in nature, with most species anticipated to recover within five to ten years following construction.

The botanical specialist confirmed that under Alternative 5, the overall residual botanical impact of the proposed development is assessed at a **Low to Medium negative** significance level. This represents a substantial improvement relative to the Medium to High negative rating associated with the original Alternatives 1 and 2, and reflects the cumulative effect of successive design refinements, footprint reductions, and layout adjustments implemented throughout the alternatives assessment process. Critically, the specialist confirmed that this level of residual impact does not require any Biodiversity Offset or off-site conservation contribution. All mitigation measures identified in the original Terrestrial Biodiversity Impact Assessment dated 2024 remain applicable and must be implemented in full as conditions of the environmental authorisation.

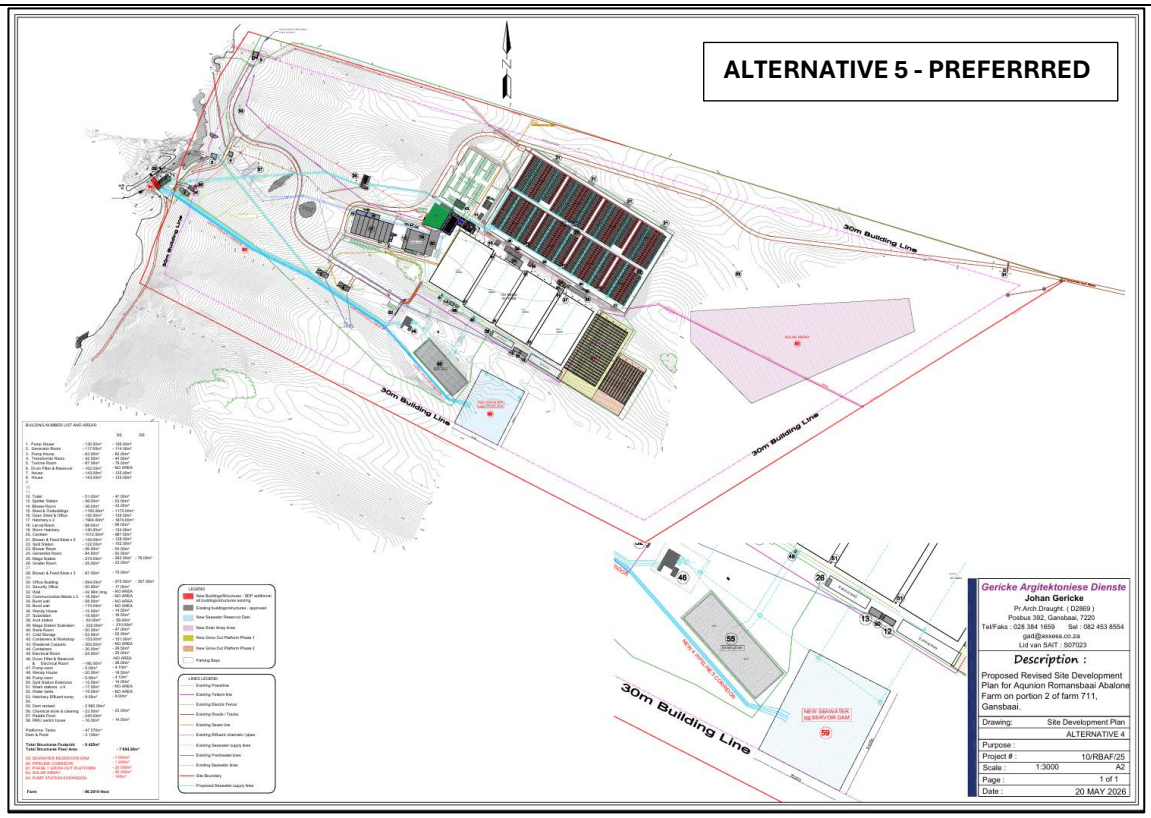


Figure 16: Alternative 5 - New Preferred Layout.

Provide a description of any other design or layout alternatives investigated.

Three layout alternatives, and the No Go option, with each alternative evolving in line with specialist findings and site sensitives as well as the fixed physical and practical factors on site associated with the expansion of an existing operation.

Alternative 1

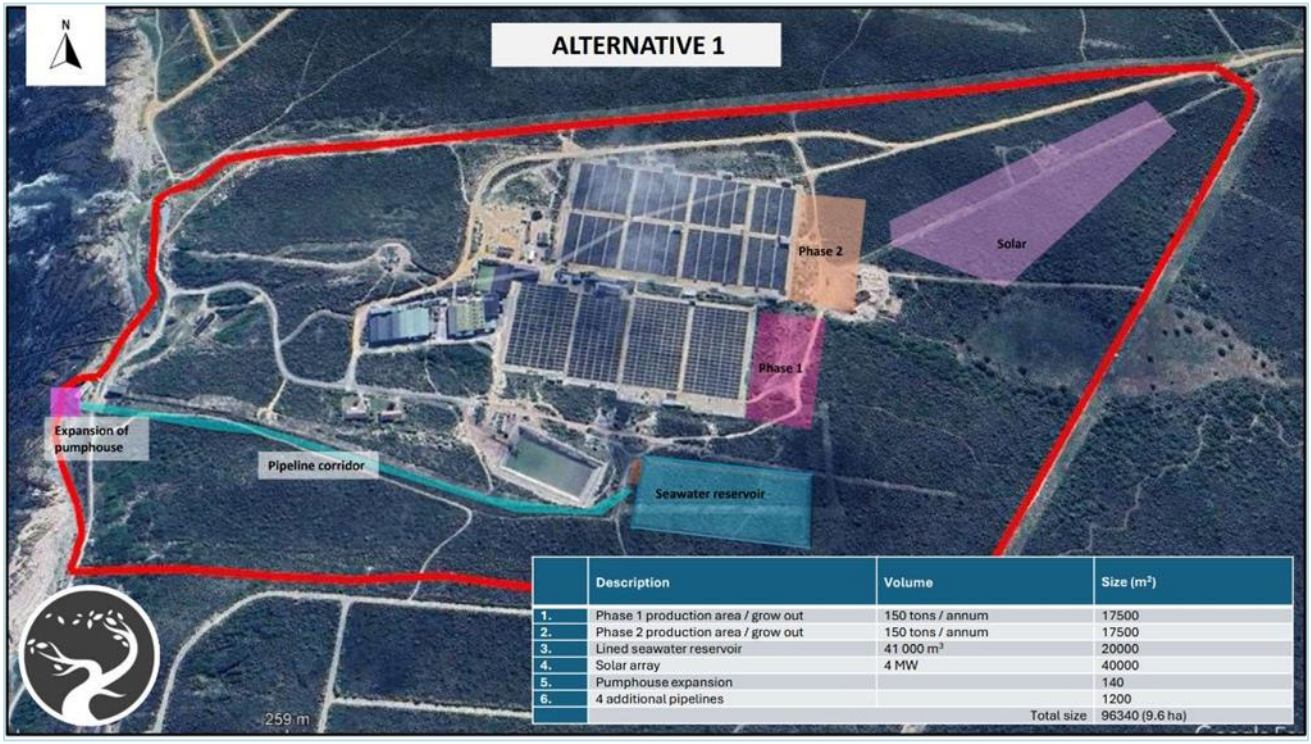
This is the initial layout proposed for the expansion activities and considers specific site constraints and practical options relating to expanding an existing operation. Factors such as topography and linking into existing infrastructure formed the starting point of this layout. This alternative layout proposes a larger development footprint of ~ 9.6 ha with the encroachment into botanically significant areas; areas rated as high sensitivity by the Botanist. Encroachment into the mapped 2017 BS CBA areas is also applicable to this alternative.

Alternative 1 layout involves the construction of the production area for the grow-out tanks which will be in the form of two phases. The production area will cover an area of 3 ha in total divided into 1.5 ha for each phase and proposed total output of 300 tons (wet weight).

The proposed seawater reservoir, although confined by virtue of its function, to the highest point on the site, is 2 ha in extent and encroaches significantly into a high botanical sensitivity zone.

The proposal also includes the installation of the solar array situated adjacent to phase 2 production area. However, the location proposed for the solar array at this location was found to present visual impacts and extends into the 2017 CBA area.

The expansion of the pumphouse and the addition of the pipelines are fixed actions which do not have other placement options as they need to tie into the existing infrastructure. However, the pipelines will be installed into the existing pipeline corridor which has already experienced disturbance from the existing operations and similarly, the expansion of the pumphouse will take place directly within and adjacent to the existing pumphouse and therefore also located within a transformed area. There are no location alternatives for the pipelines or pumphouse expansion over any of the alternatives assessed herein.



	Description	Volume	Size (m²)
1.	Phase 1 production area / grow out	150 tons / annum	17500
2.	Phase 2 production area / grow out	150 tons / annum	17500
3.	Lined seawater reservoir	41 000 m³	20000
4.	Solar array	4 MW	40000
5.	Pumphouse expansion		140
6.	4 additional pipelines		1200
		Total size	96340 (9.6 ha)

Figure 17: Illustration of Alternative 1

Alternative 2

Alternative 2 was previously preferred and presented as such in the out of process public participation. This layout option involves the same components along with the exact development footprint sizes as in Alternative 1. However the grow out platforms have been moved southwards, to avoid the high botanically sensitive area identified by the botanist. This shift resulted in the slight reduction of the overall impact of the development. All other expansion activities remain as for Alternative 1.

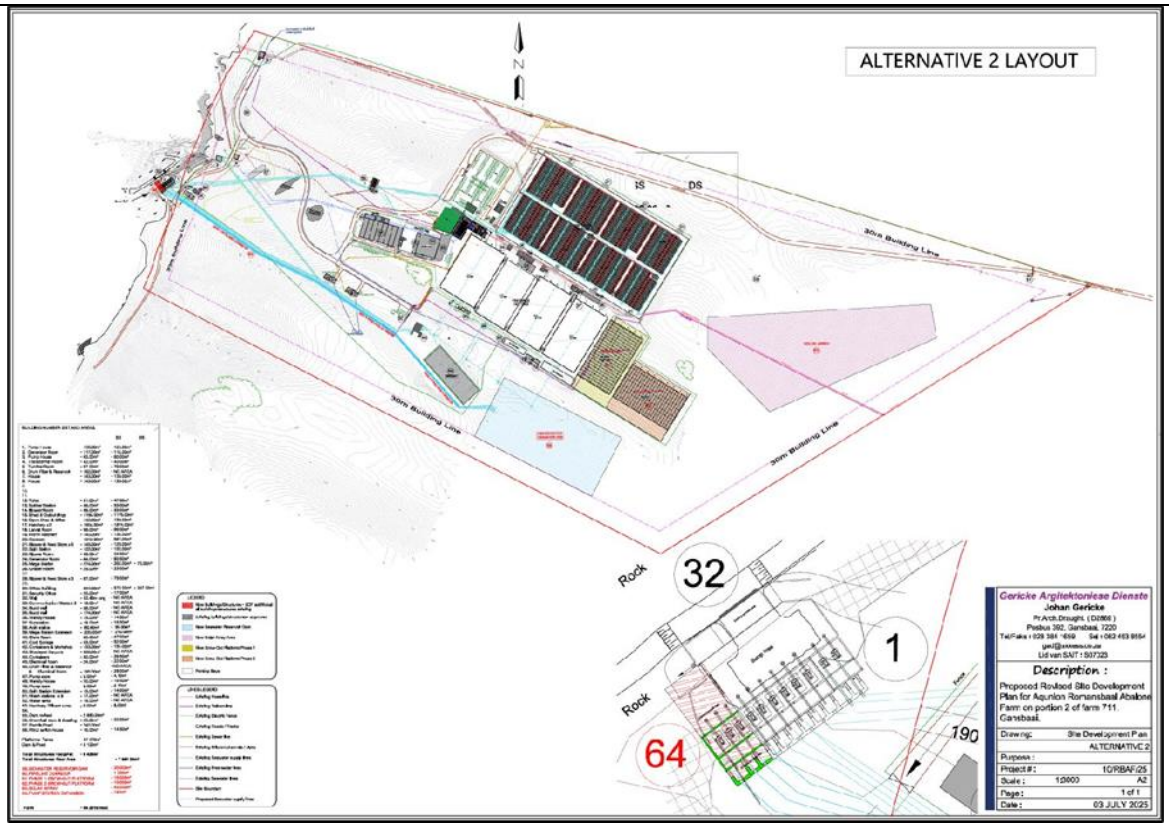


Figure 18: Illustration of Layout Alternative 2.

NOTE: There are no alternative locations or designs available for proposed pumphouse expansion, pipeline routing or reservoir location. The pumphouse needs to be expanded from existing footprint, the pipelines need to follow the route of the existing pipeline corridor to the farm, and the seawater holding reservoir needs to be located at the highest point on the farm to allow for the gravity flow to the farm. Therefore, the alternatives assessed in this report, only speak to alternative location options for the production areas (Phase 1 & 2) and solar PV.

Alternative 3: No-go

Alternative 3 entails the selection of the "No-Go" option, in which no development or expansion occurs and the status quo is maintained. This option would result in no additional environmental impacts, as no construction or operational changes would be introduced to the site. In this regard, the No-Go alternative represents the most environmentally neutral option, avoiding any loss of vegetation, habitat disturbance, or potential pressure on ecologically sensitive areas.

However, while the No-Go option avoids environmental impacts, it also imposes significant limitations on the long-term growth and sustainability of the existing abalone farming operation. The inability to expand production capacity would hinder the farm's ability to meet increasing market demand and improve operational efficiency. Furthermore, it would result in the forfeiture of socio-economic benefits associated with the expansion, such as job creation, enhanced energy efficiency through renewable technologies, and improved infrastructure.

Alternative layout 4 (Previously Preferred)

Alternative 4 represented a significant advancement in the mitigation of ecological impacts relative to the preceding layout alternatives, achieving a substantial reduction in the total development footprint from approximately 9.6 ha under Alternatives 1 and 2 to approximately 6.9 ha. This reduction was accomplished through the combined effect of a decreased

grow-out platform footprint, a materially reduced seawater reservoir footprint, and the strategic repositioning of key development components to areas of lower botanical sensitivity and existing disturbance.

Grow-Out Platform

Under Alternative 4, the grow-out platform was consolidated into a single production phase with a reduced footprint of 2.0 ha, compared to the two-phase 3.0 ha platform proposed under Alternatives 1 and 2. The platform was repositioned southward and located on the periphery of the existing operational area, serving the dual purpose of integrating more efficiently with existing farm infrastructure whilst avoiding the High botanical sensitivity area mapped by the botanical specialist and the CBA1-designated zone identified in the 2017 BSP (**Figure 19**). This repositioning reduced the botanical significance of the grow-out platform component to a Low to Low-Medium negative impact rating, representing a meaningful improvement over the Medium negative rating recorded for this component under Alternative 2.

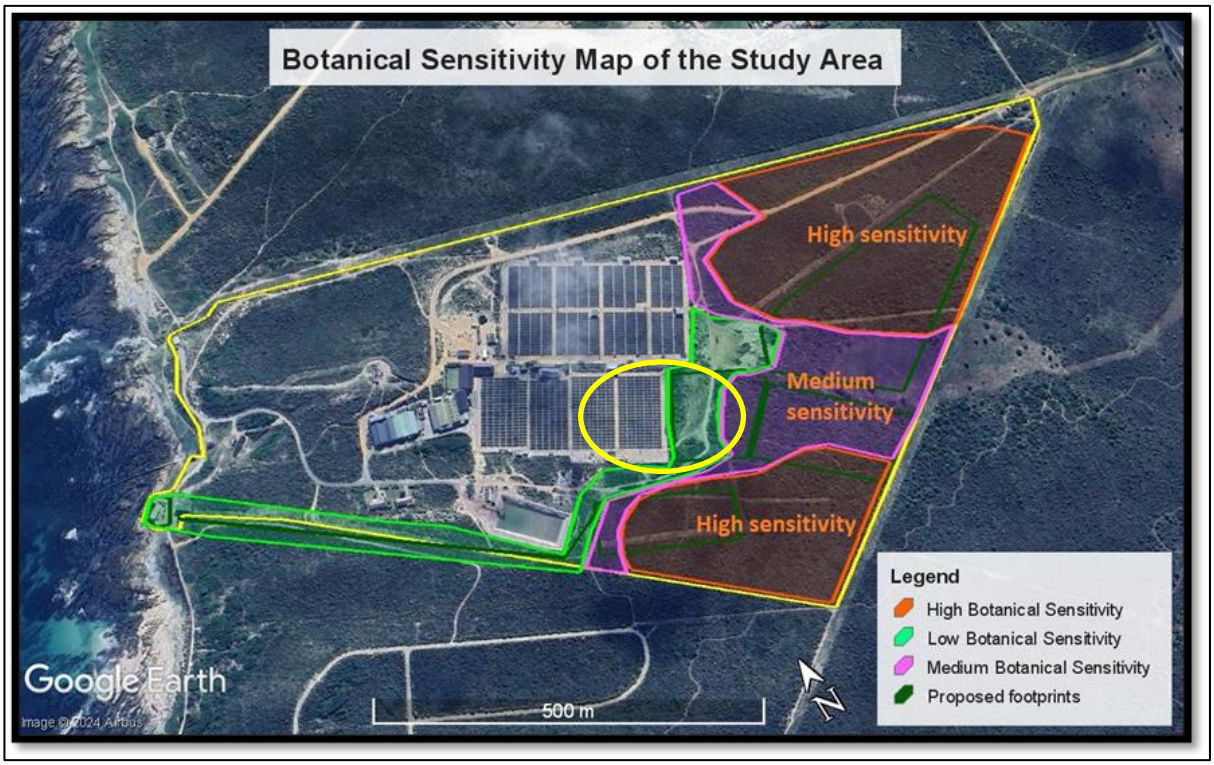


Figure 19. Botanically sensitive areas and production area which has been reduced in size and shifted south wards to avoid the high sensitivity areas**.**

Seawater Reservoir

The seawater reservoir, which by virtue of its operational function must be situated at the highest topographic point on the property to enable gravity-fed water distribution, unavoidably falls within an area of High botanical sensitivity. Whilst the topographic constraint precluded relocation to a less sensitive area, the footprint of the reservoir was significantly reduced from 20 000 m² (2.0 ha) under Alternatives 1 and 2 to 8 000 m² (0.8 ha) under Alternative 4. This reduction materially decreased the extent of permanent vegetation loss within the High sensitivity area and correspondingly reduced the botanical impact significance of the reservoir component from Medium to High negative to Medium negative. This component remained the primary area of ecological concern under Alternative 4 and was the subject of ongoing engagement with Cape Nature and the relevant authorities.

Solar Photovoltaic Array

The Solar PV Array under Alternative 4 retained a footprint of 4.0 ha to deliver the required 4 MW generation capacity. Whilst the array partially encroaches into the CBA1-designated zone as per the 2017 BSP, the placement of the array was progressively refined through the evolution of the layout alternatives to reduce this encroachment to the minimum extent practically achievable given topographic and orientation constraints. Throughout the assessment process, the feasibility of installing solar panels on the rooftops of existing farm buildings was investigated as an alternative to a ground-mounted array. However, it was determined that the available roof space could accommodate only approximately 5% of the required solar energy generation capacity, rendering this option technically unviable.

The use of a raised, ground-mounted array elevated a minimum of 1 m above the ground surface was identified as the preferred approach, as it negates the need to clear the underlying vegetation. In accordance with the botanical specialist's findings, the indigenous habitat beneath the array can be largely maintained, with species managed through trimming rather than removal, thereby preserving ground-level cover and ecological connectivity through the CBA1-mapped area.

Pipelines and Pumphouse Expansion

The four additional seawater intake pipelines proposed under Alternative 4 are routed alongside the existing pipeline network within a corridor already impacted by current farm operations, thereby confining construction disturbance to a previously disturbed area and avoiding further fragmentation of natural habitat. Each pipeline is 600 m in length and 500 mm in diameter, with a total combined footprint of 1 200 m². The botanical impact associated with the pipeline corridor is assessed as Low negative, with most species anticipated to recover within five to ten years following construction.

The existing pumphouse will be expanded by 140 m² to accommodate the pumps connecting the new pipelines to the proposed seawater reservoir. This expansion is confined to an area already disturbed by existing operational infrastructure, and no vegetation loss is anticipated as a direct result of this component.

Overall Impact of Alternative 4

The progressive refinement of the layout under Alternative 4 resulted in a meaningful overall reduction in the botanical impact of the proposed development. However, the seawater reservoir component retained a Medium negative residual impact rating, which in terms of the National Biodiversity Offset Guidelines (DFFE, 2023) potentially triggered a Biodiversity Offset requirement. This outstanding concern prompted further engagement with Cape Nature and the relevant authorities and ultimately led to the development of the preferred Alternative 5, in which the seawater reservoir footprint was further reduced and repositioned to achieve a residual impact below the Medium negative threshold.

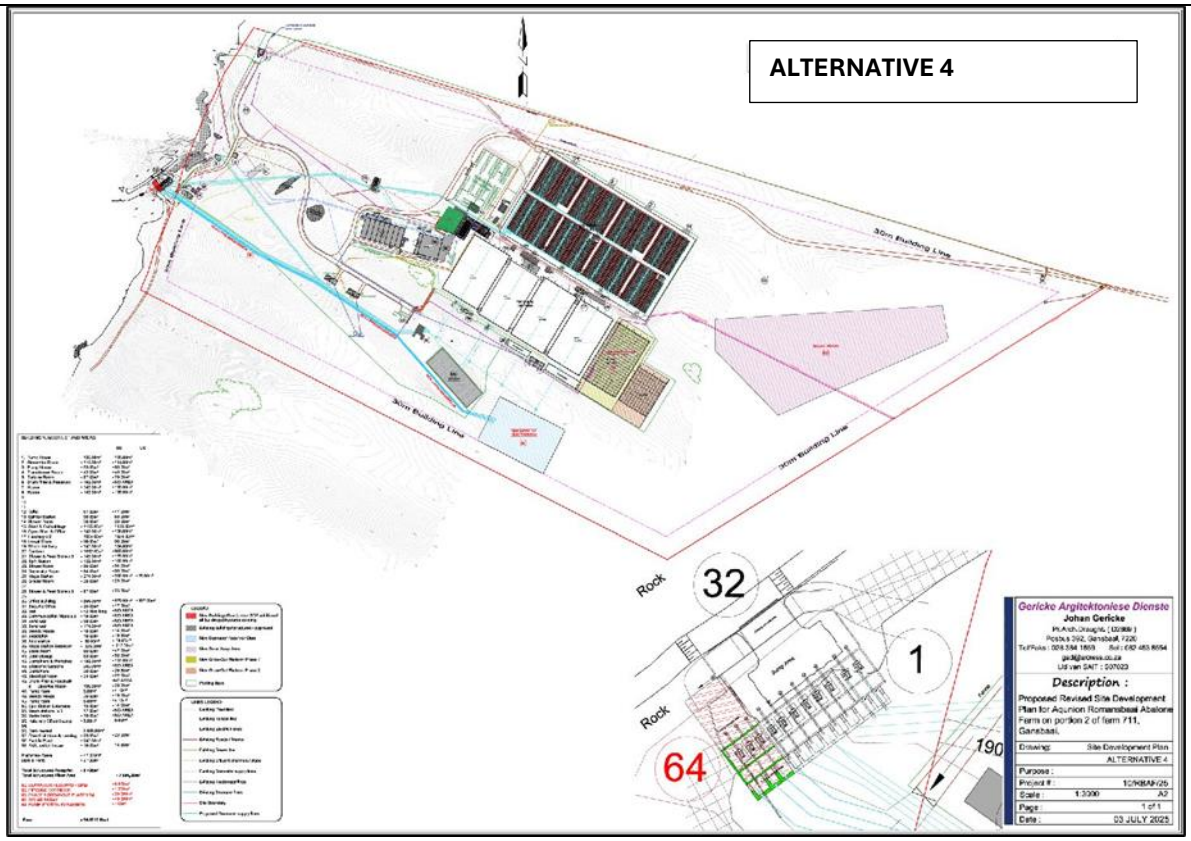


Figure 20: Illustration of Previous Layout Alternative 4.

Provide a motivation for the preferred design or layout alternative.

Alternative 5 (Preferred)

The selection of Alternative 5 as the preferred development layout for the proposed expansion of the Romansbaai Abalone Farm is motivated by a combination of operational, technical, ecological, and regulatory considerations. Alternative 5 represents the final layout design of an extensive and iterative alternatives assessment process spanning multiple rounds of public participation. It is the layout that best achieves the project's operational objectives whilst demonstrating full and transparent application of the mitigation hierarchy to the satisfaction of the relevant authorities and the independent botanical specialist.

Operational and Technical Motivation

The proposed expansion of the Romansbaai Abalone Farm is motivated by the need to increase abalone production capacity, reduce operational energy costs, and improve energy security through the installation of a Solar PV Array and a gravity-fed seawater distribution system. These operational requirements impose specific technical constraints on the placement of key development components, most notably the seawater reservoir, which must be situated at the highest topographic point on the property to enable gravity-fed water distribution to the grow-out platforms during peak electricity tariff periods. These constraints were identified, documented, and communicated to all relevant authorities at the outset of the assessment process, and were consistently taken into account in the evaluation of all layout alternatives.

Alternative 5 is the only layout that simultaneously satisfies these operational and technical requirements whilst achieving a residual botanical impact below the threshold at which a formal Biodiversity Offset is triggered under the National Biodiversity Offset Guidelines (DFFE, 2023). No other feasible layout alternative was identified that could further reduce

the development footprint or reposition the seawater reservoir without compromising the operational viability of the proposed expansion.

Ecological and Botanical Motivation

Alternative 5 achieves the most favourable ecological outcome of all assessed layout alternatives, as confirmed by the botanical specialist in his latest addendum attached as Appendix G1d. The key ecological motivations for the selection of Alternative 5 are as follows:

The grow-out platform (2.0 ha) is situated entirely within areas of Low to Medium botanical sensitivity, outside the mapped CBA1 designation and the High botanical sensitivity zone, thereby avoiding the permanent transformation of high ecologically sensitive indigenous vegetation within these areas. This represents a significant improvement over Alternatives 1 and 2, under which the grow-out platform was located partly within areas of Medium to High sensitivity and overlapping with mapped CBA1.

The seawater reservoir footprint has been reduced to its minimum viable size of 7 000 m² (0.7 ha) and repositioned in the closest practicable proximity to the existing reservoir infrastructure. As a result, less than 35% of the reservoir footprint falls within the High botanical sensitivity area under Alternative 5, compared to more than 50% under the original 20 000 m² reservoir footprint proposed under Alternative 2 and Alternative 4 (8000m^2). This represents a material and tangible reduction in the extent of permanent vegetation loss within the most ecologically sensitive area on the property.

The overall residual botanical impact of the preferred Alternative 5 is assessed at a **Low to Medium** negative significance level, which does not trigger a Biodiversity Offset or off-site conservation contribution requirement. This conclusion is supported by three key factors: the reduced reservoir footprint and its repositioning relative to the High sensitivity area; the well-conserved status of the underlying Overberg Dune Strandveld vegetation type, with 36% of its original extent formally conserved against a national conservation target of 36%; and the applicant's demonstrated commitment to setting aside and protecting the bulk of the High botanical sensitivity natural vegetation on the property.

The Solar PV Array, whilst partially overlapping with CBA1-mapped land, has been designed to retain ground-level vegetation cover through the use of an elevated, ground-mounted structure, thereby preserving ecological connectivity and species diversity through the CBA1 area. The botanical specialist confirmed that most plant species within this area are expected to persist beneath the elevated panels, and the associated impact is assessed at a Low to Medium negative significance level.

Viable populations of all five plant Species of Conservation Concern (SoCC) recorded on the property including species listed as Vulnerable and Near Threatened will be retained in the undeveloped portions of the property following implementation of Alternative 5, with search-and-rescue translocation of all geophytes and succulents from the development footprints to be undertaken prior to construction as a condition of authorisation.

Regulatory Motivation

Alternative 5 was developed in direct response to the comments and recommendations of CapeNature, the Overstrand Municipality, and the Overberg District Municipality received during the fourth round of public participation (PPP 4). CapeNature specifically advised that the residual Low - Medium negative impact associated with the seawater reservoir under Alternative 4 required a further tangible reapplication of the mitigation hierarchy, and that the intractability of identifying a compliant Biodiversity Offset was not in itself an acceptable basis for revising impact significance ratings. Alternative 5 addresses this concern through a further physical reduction and repositioning of the reservoir footprint, thereby reducing the residual impact through design rather than through offset mechanisms. This approach is consistent

with the process of avoidance and minimisation in the mitigation hierarchy, and with the regulatory expectation that all reasonable design alternatives be exhausted before offset mechanisms are considered.

The preferred Alternative 5 is further motivated by the fact that it is the only layout alternative that resolves the outstanding biodiversity offset question that has persisted across multiple rounds of public participation, and that it does so through a tangible design intervention supported by botanical specialist confirmation (refer to **Appendix G1d**). This provides the competent authority with a clear and defensible basis for decision-making, free of the regulatory uncertainty that characterised the assessment of Alternative 4.

Motivation Against the No-Go Alternative

Whilst the no-go alternative (Alternative 3) would result in the most favourable botanical outcome by avoiding any further transformation of indigenous vegetation on the property, it is not a viable option from an operational or socio-economic perspective. The proposed expansion is required to maintain and grow the productive capacity of the Romansbaai Abalone Farm, support employment during both the construction and operational phases, reduce operational energy costs through the Solar PV Array, and improve the long-term economic sustainability of the facility. The no-go alternative would preclude these benefits and is accordingly not considered a reasonable or appropriate outcome in the context of this application.

Conclusion

For the reasons set out above, Alternative 5 is motivated as the preferred development layout. It represents the most environmentally, technically, and operationally balanced solution available, having been arrived at through a thorough, transparent, and well-documented iterative design process conducted in full compliance with the requirements of the National Environmental Management Act (NEMA) and the applicable environmental assessment regulations. The preferred layout demonstrates genuine and measurable commitment to the principles of the mitigation hierarchy, and its adoption is supported by the appointed botanical specialist.

Provide a detailed motivation if no design or layout alternatives exist.

N/A

List the positive and negative impacts that the design alternatives will have on the environment.

Alternative 1

Positive impacts

→ Reduced impact on existing farm resources due to connection with existing production area.
→ Integration of solar energy (positive long-term impact on reducing reliance on fossil fuels).
→ Job creation for the local communities

Negative impacts

→ Loss of a highly sensitive area in the northeastern section of the site due to complete clearance of vegetation for phase 2 production platform development.
→ Encroachment of the Solar Array on CBA1 and Its Visual Impact on the adjacent residential area.

Alternative 2

Positive Impacts

→ Reduced impact on existing farm resources due to connection with existing production area.
→ Potential for less vegetation clearance compared to Alternative 1 (depending on specific layout details).
→ Integration of solar energy (positive long-term impact on reducing reliance on fossil fuels).
→ Job creation for the local communities.

Negative Impacts:

→ Some level of vegetation removal and habitat disturbance is likely during construction, even with the preferred design. Mitigation measures are necessary.

Alternative 3 (No-Go)

Positive Impacts

→ No environmental impact as the status quo remains (no construction or development).

Negative Impacts:

→ Lost opportunity for economic development and job creation.

Alternative 4 (Previously Preferred)

Positive impacts

→ Reduction in development footprint, minimising the loss of endangered vegetation type.
→ Production area is situated within low and medium botanical areas, avoiding complete loss of indigenous vegetation within high botanical sensitive areas.
→ Location of the components next to the existing operation area minimises the extent of the environmental impacts.
→ The placement of new infrastructure (e.g., pipelines and pumphouse expansion) adjacent to existing operations avoids further habitat fragmentation and minimises the need to disturb previously undisturbed areas.
→ The installation of a solar PV array reduces the long-term reliance on fossil fuels and contributes to a more sustainable operational model, supporting broader climate change mitigation efforts.
→ The proposed expansion is anticipated to create employment opportunities during both construction and operational phases, contributing positively to the local economy.

Negative impacts

→ Despite efforts to avoid high-sensitivity areas, the development will still result in the loss of vegetation within low to medium sensitivity zones, which may contribute to habitat degradation if not properly managed.
→ Temporary but unavoidable impacts such as dust generation, noise, and increased human activity during the construction phase may disturb local fauna and flora and require strict management through the EMPr.

Alternative 5 (Preferred)

Positive impact

- → The total development footprint is further reduced to approximately 6.834 ha, representing the smallest development footprint of all assessed alternatives and achieving the minimum extent of environmental impact consistent with the operational requirements of the project.
- → The further reduction of the seawater reservoir footprint to 7 000 m² (0.7 ha) and its repositioning adjacent to the existing reservoir infrastructure ensures that less than 35% of the footprint falls within the High botanical sensitivity area, with the majority situated within Low and Medium sensitivity areas. This represents a material and tangible improvement over all preceding alternatives.
- → The overall residual botanical impact of the preferred Alternative 5 is confirmed by the botanical specialist at a Low to Medium negative significance level, which does not trigger a Biodiversity Offset or off-site conservation contribution requirement under the National Biodiversity Offset Guidelines (DFFE, 2023). This represents the most favourable botanical outcome of any development alternative assessed.
- → The grow-out platform remains situated entirely within areas of Low to Medium botanical sensitivity, outside the mapped CBA1 designation and the High botanical sensitivity zone, avoiding the permanent transformation of ecologically sensitive indigenous vegetation within these areas.
- → Viable populations of all five plant Species of Conservation Concern recorded on the property will be retained in the undeveloped portions of the property, with search-and-rescue translocation of all geophytes and succulents from the development footprints to be undertaken prior to construction.
- → The Solar PV Array is designed with a raised, ground-mounted structure elevated a minimum of 1 m above the ground surface, allowing the bulk of indigenous vegetation to be retained beneath the panels and preserving ecological connectivity through the CBA1-mapped area.
- → The placement of all development components adjacent to existing operational infrastructure minimises habitat fragmentation, limits disturbance to previously undisturbed land, and reduces the overall cumulative ecological footprint of the expansion.
- → The 4 MW Solar PV Array reduces long-term reliance on fossil fuels, lowers operational energy costs, and improves energy security, contributing to a more sustainable operational model and supporting broader climate change mitigation objectives.
- → The proposed expansion is anticipated to create employment opportunities during both the construction and operational phases, contributing positively to the local economy and the long-term viability of the Romansbaai Abalone Farm.

Negative impacts

- → Permanent transformation of approximately 0.7 ha of indigenous Southwestern Strandveld, an Endangered ecosystem under the National Biodiversity Assessment, within the seawater reservoir footprint is unavoidable given the operational and topographic constraints governing reservoir placement.
- → Localised permanent loss of vegetation within Low to Medium botanical sensitivity areas within the grow-out platform footprint, which may contribute to habitat degradation if not actively managed through the EMPr.
- → The Solar PV Array continues to partially encroach into the CBA1-designated area as per the 2017 BSP, resulting in partial shading and associated modification of habitat conditions within a portion of the High sensitivity area, notwithstanding the retention of ground-level vegetation beneath the raised panels.
- → Temporary construction-phase impacts, including dust generation, noise, increased vehicular activity, and the potential introduction of invasive alien species and Argentine ants, may disturb local fauna and flora and require strict management through the EMPr to prevent escalation of impact.

1.4.	Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred technology alternative:

The proposed development will also include the installation of the solar arrays that will be used as the alternative source of power generation to continue operations of the farm during power cuts and high tariff periods. The development of the seawater reservoir to allow for seawater to be gravity fed as opposed to pumped, will also reduce the pumping demand and associated cost thereof. The cost of constantly pumping seawater onto the farm is by the far the highest cost on Abalone Farm and therefore it is a priority for farms to look into cost saving mechanisms particularly around electricity costs.

Provide a description of any other technology alternatives investigated.

N/A

Provide a motivation for the preferred technology alternative.

Solar arrays provide a dependable source of backup power, ensuring operational continuity during potential grid outages.

Provide a detailed motivation if no alternatives exist.

N/A

List the positive and negative impacts that the technology alternatives will have on the environment.

Positive impacts

- → Utilising a solar photovoltaic (PV) energy system will significantly reduce the reliance on fossil fuels, thereby lowering greenhouse gas emissions associated with the abalone farming operations.
- → The incorporation of renewable energy aligns with international and national commitments to sustainable development, particularly SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).
- → The solar PV array will enhance the farm's energy independence and provide consistent power supply during grid outages, reducing the risk of system failures that could impact abalone welfare.

Negative impacts

- → The installation phase could result in temporary disturbance to soil and vegetation, noise generation, and potential displacement of small terrestrial fauna.

~~1.5.~~	~~Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.~~

~~Provide a description of the preferred operational alternative.~~

~~N/A~~

~~Provide a description of any other operational alternatives investigated.~~

~~Provide a motivation for the preferred operational alternative.~~

~~Provide a detailed motivation if no alternatives exist.~~

~~List the positive and negative impacts that the operational alternatives will have on the environment.~~

1.6.	The option of not implementing the activity (the 'No-Go' Option).

Provide an explanation as to why the 'No-Go' Option is not preferred.

The 'No-Go' option, which entails maintaining the current operational footprint of the Romansbaai Abalone Farm without proceeding with the proposed expansion, is not considered the preferred alternative. While this option would avoid any new environmental impacts associated with construction and operational activities, it fails to address several critical needs and opportunities.

Primarily, the No-Go alternative would forfeit the opportunity to increase abalone production capacity, improve operational efficiency, and enhance the farm's resilience through infrastructure upgrades such as the installation of a seawater reservoir and renewable energy systems. This would hinder the farm's long-term economic viability and sustainability objectives.

Moreover, the No-Go alternative would result in the loss of potential socio-economic benefits, including job creation, skills development, and local economic stimulation associated with the proposed expansion. It would also prevent the adoption of environmentally progressive technologies, such as solar energy, that support the transition to cleaner, more sustainable aquaculture practices.

1.7.	Provide and explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.

The expansion of the abalone farm is limited by existing operations and specific requirements for operations, therefore only layout alternatives as described in Alternatives 1, 2, 4 and 5 are assessed, along with the no development option.

1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.

The preferred alternative for the proposed expansion of the Romansbaai Abalone Farm is Alternative 5. This selection has been made following a thorough, iterative, and well-documented alternatives assessment process spanning four rounds of public participation, multiple specialist botanical assessments, and sustained engagement with Cape Nature and the DEA&DP. Alternative 5 represents the development layout that best balances the operational requirements of the proposed expansion with the imperative to avoid, minimise, and mitigate impacts on the ecologically sensitive natural environment of the site.

Preferred Location

The proposed expansion is located within the existing Romansbaai Abalone Farm on Portion 2 of Farm Klipfonteyn No. 711, Gansbaai, Western Cape. This location has been identified as optimal for the following reasons. First, by situating the expansion within and immediately adjacent to the existing operational footprint, the project limits the extent of disturbance to previously undisturbed natural habitat and avoids the need to open up new areas of the property for development. Secondly, the expansion activities are required to integrate directly with existing farm infrastructure, including water sources, pipeline networks, pump systems, and operational workflows, which constrains the feasible location of development components to the immediate vicinity of the existing operations. Third, the presence of ecologically sensitive features elsewhere on the property including limestone outcrops, milkwood thicket, and vygie communities further limits the extent to which development can be relocated beyond the existing operational area without incurring significantly greater ecological impacts.

Motivation for the Preferred Alternative

The selection of Alternative 5 over the previously preferred Alternative 4 is motivated primarily by the further reduction in the seawater reservoir footprint from 8 000 m² (0.8 ha) to 7 000 m² (0.7 ha), and the repositioning of the reservoir in closer proximity to the existing reservoir infrastructure. These refinements ensure that less than 35% of the reservoir footprint falls within the High botanical sensitivity area, with the majority of the footprint situated within Low and Medium sensitivity areas. The botanical specialist also confirmed that the overall residual botanical impact of Alternative 5 is

assessed at a Low to Medium negative significance level, and that this level of impact does not trigger a Biodiversity Offset or off-site conservation contribution requirement under the National Biodiversity Offset Guidelines (DFFE, 2023). This confirmation resolves the outstanding biodiversity offset question that persisted through multiple preceding rounds of public participation under Alternative 4.

By selecting the preferred site and layout, the project effectively avoids the total loss of approximately 1.7 ha of indigenous vegetation within the CBA1-designated area that would have resulted from the original layout alternatives, whilst retaining the bulk of the High botanical sensitivity natural vegetation on the property in an undisturbed condition. The grow-out platform is situated entirely within areas of Low to Medium botanical sensitivity, outside both the CBA1 designation and the High sensitivity zone. The Solar PV Array, whilst partially overlapping with CBA1-mapped land, has been designed with a raised, ground-mounted structure that retains vegetation beneath the panels and preserves ecological connectivity through the area. Viable populations of all five plant Species of Conservation Concern recorded on the property will be maintained in the undeveloped portions of the site.

Operational Constraints Limiting Alternative Locations

In addition to the ecological constraints outlined above, the feasible alternatives for the proposed expansion are materially limited by the operational requirements of the farm. All expansion activities must integrate with existing on-site operations, including connections to existing water sources, pipeline networks, and pump systems. The grow-out platforms must be positioned in a manner that allows for optimal operational procedures, including appropriate water flow and pipeline connectivity, the systematic movement of stock through the farm as animals grow, efficient staff access and management, elevation to facilitate gravity-fed water distribution where possible, feeding routing, and access to existing services and utilities. These operational constraints, considered alongside the ecological sensitivity of the broader property, result in a limited number of viable alternative locations and configurations. All reasonable and feasible alternatives have been identified, assessed, and considered in arriving at the preferred Alternative 5, and it is submitted that no further reasonable or feasible alternatives exist beyond those evaluated in this assessment.

2. "No-Go" areas

Explain what "no-go" area(s) have been identified during identification of the alternatives and provide the co-ordinates of the "no-go" area(s).
No no-go areas identified during specialists' assessments.

3. Methodology to determine the significance ratings of the potential environmental impacts and risks associated with the alternatives.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.
An impact is any change to a resource or receptor brought about by a project component or through the execution of a project related activity. The evaluation of baseline data provides information for the process of evaluating and describing how the project could affect the biophysical and socio-economic environment. Impact is described according to their nature or type, as follows: **Nature/ Type**

Nature/ Type of impact	Definition
Positive	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
Negative	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor.
Direct	Impacts that result from a direct interaction between a planned project activity and the receiving environment/receptors (e.g. between occupation of a site and the pre-existing habitats or between an effluent discharge and receiving water quality).
Indirect	Impacts that result from other activities that are encouraged to happen as a consequence of the Project (e.g. in-migration for employment placing a demand on resources).
Cumulative	Impacts that act together with other impacts (including those from concurrent or planned future third-party activities) to affect the same resources and/or receptors as the Project.

Significance

Impacts are described in terms of significance. Significance is a function of the magnitude of the impact and the likelihood of the impact occurring:

Impact Magnitude	
Extent	**On site** – impacts that are limited to the boundaries of the development site.
	Local – impacts that affect an area in a radius of 20 km around the Development site.
	Regional – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ecosystem.
	National – impacts that affect nationally important environmental resources or affect an area that is nationally important/ or have macro-economic consequences
Duration	**Temporary** – impacts are predicted to be of short duration and intermittent/occasional.
	Short-term – impacts that are predicted to last only for the duration of the construction period.
	Long-term – impacts that will continue for the life of the Project but ceases when the project stops operating
	Permanent – impacts that cause a permanent change in the affected receptor or resource (e.g. removal or destruction of ecological habitat) that endures substantially beyond the project lifetime
	BIOPHYSICAL ENVIRONMENT
	Negligible – the impact on the environment is not detectable.
	Low – the impact affects the environment in such a way that natural functions and processes are not affected.
	Medium – where the affected environment is altered but natural functions and processes continue, albeit in a modified way.
Intensity	**High** – where natural functions or processes are altered to the extent that they will temporarily or permanently cease
	SOCIO-ECONOMIC
	Negligible – there is no perceptible change to people's livelihood
	Low - people/communities are able to adapt with relative ease and maintain pre-impact livelihoods
	Medium – people/communities are able to adapt with some difficulty and maintain pre-impact livelihoods but only with a degree of support
	High - affected people/communities will not be able to adapt to changes or continue to maintain pre-impact livelihoods.

Likelihood- the likelihood that an impact will occur

Likelihood	
Unlikely	The impact is unlikely to occur

Likely	The impact is likely to occur under the most conditions.
Definite	The impact will occur

Once an assessment is made of the magnitude and the likelihood, the impact significance is rated through a matrix process:

Significance				
Magnitude		Unlikely	Likely	Definite
	Negligence	Negligible	Negligible	Minor
	Low	Negligible	Minor	Minor
	Medium	Minor	Moderate	Moderate
	High	Moderate	Major	Major

Definition of significance:

Negligible	An impact of negligible significance (or an insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible'.
Minor	An impact of minor significance is one where an effect will be experienced, but the impact magnitude is small (with and without mitigation) and within accepted standards, and/or the receptor is of low sensitivity/value.
Moderate	An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable. This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are managed effectively and efficiently.
Major	An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued / sensitive resource / receptors. A goal of the EIA process is to get to a position where the Project does not have any major residual impacts.

Significance of an impact is then qualified through a statement of the degree of confidence. Degree of confidence is expressed as low, medium or high.

Significance colour scale (if applicable):

Negative	Positive
Negligible	Negligible
Minor	Minor
Moderate	Moderate
Major	Major

Impact rating colour scale:

Negative	Positive
Negligible	Negligible
Low	Low
Medium	Medium
High	High

4. Assessment of each impact and risk identified for each alternative

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

Four layout Alternatives and the No development option were assessed therein:

		Alternative 1	Alternative 2	Alternative 4	Alternative 5 (Preferred)
Production area / grow out platform	Platform 1	1.5	1.5	2	2
	Platform 2	1.5	1.5		
Reservoir		2	2	0.8000	0.7000
Solar		4	4	4	4
Pumphouse		0.014	0.014	0.014	0.014
Pipelines (4 new)		0.12	0.12	0.12	0.12
TOTAL		**~9.134**	**~9.134**	**6.934**	**6.834**

Alternative 1

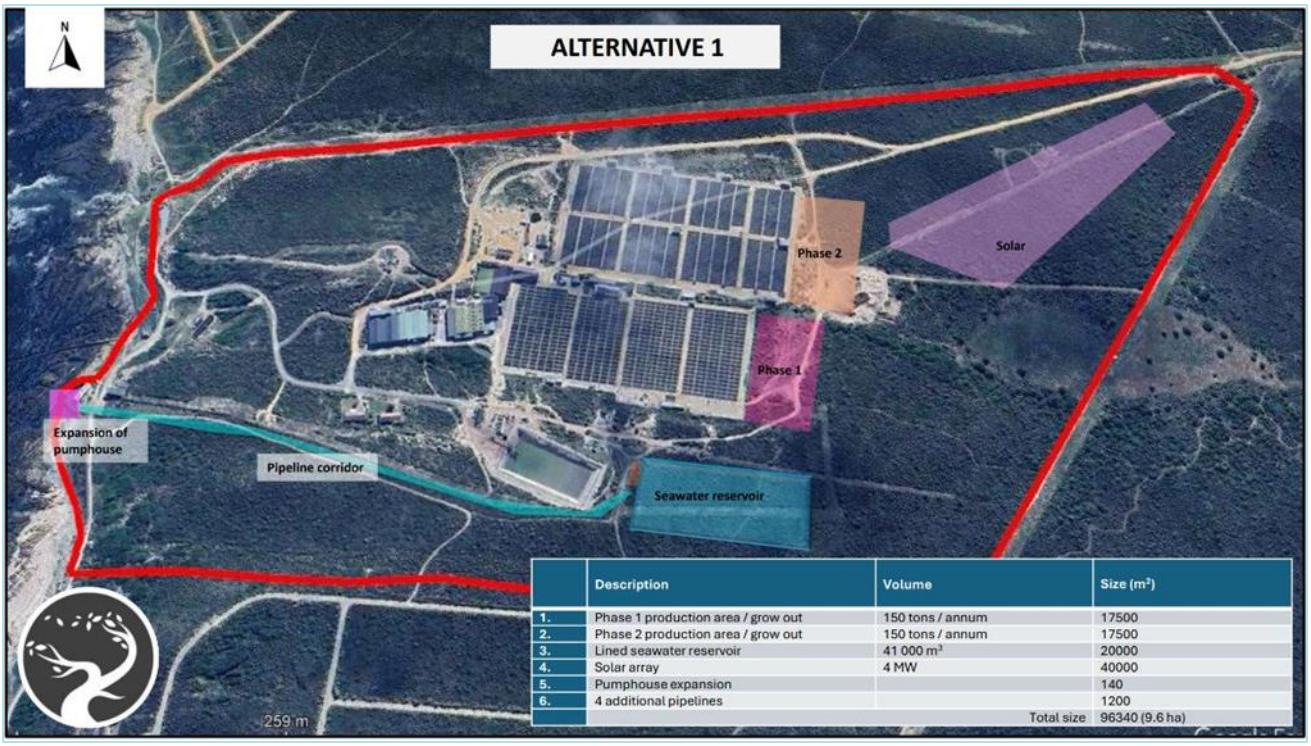
This is the initial layout proposed for the expansion activities and considers specific site constraints and practical options relating to expanding an existing operation. Factors such as topography and linking into existing infrastructure formed the starting point of this layout. This alternative layout proposes a larger development footprint of ~ 9.6 ha with the encroachment into botanically significant areas, areas rated as high sensitivity by the Botanist. Encroachment into the mapped 2017 BSP CBA areas is also applicable to this alternative.

Alternative 1 layout involves the construction of the production area for the grow-out tanks which will be in the form of two phases. The production area will cover an area of 3 ha in total divided into 1.5 ha for each phase and proposed total output of 300 tons (wet weight).

The proposed seawater reservoir, although confined by virtue of its function, to the highest point on the site, is 2 ha in extent and encroaches significantly into a high botanical sensitivity zone.

The proposal also includes the installation of the solar array situated adjacent to phase 2 production area. However, the location proposed for the solar array at this location was found to present visual impacts and extends into the 2017 CBA area.

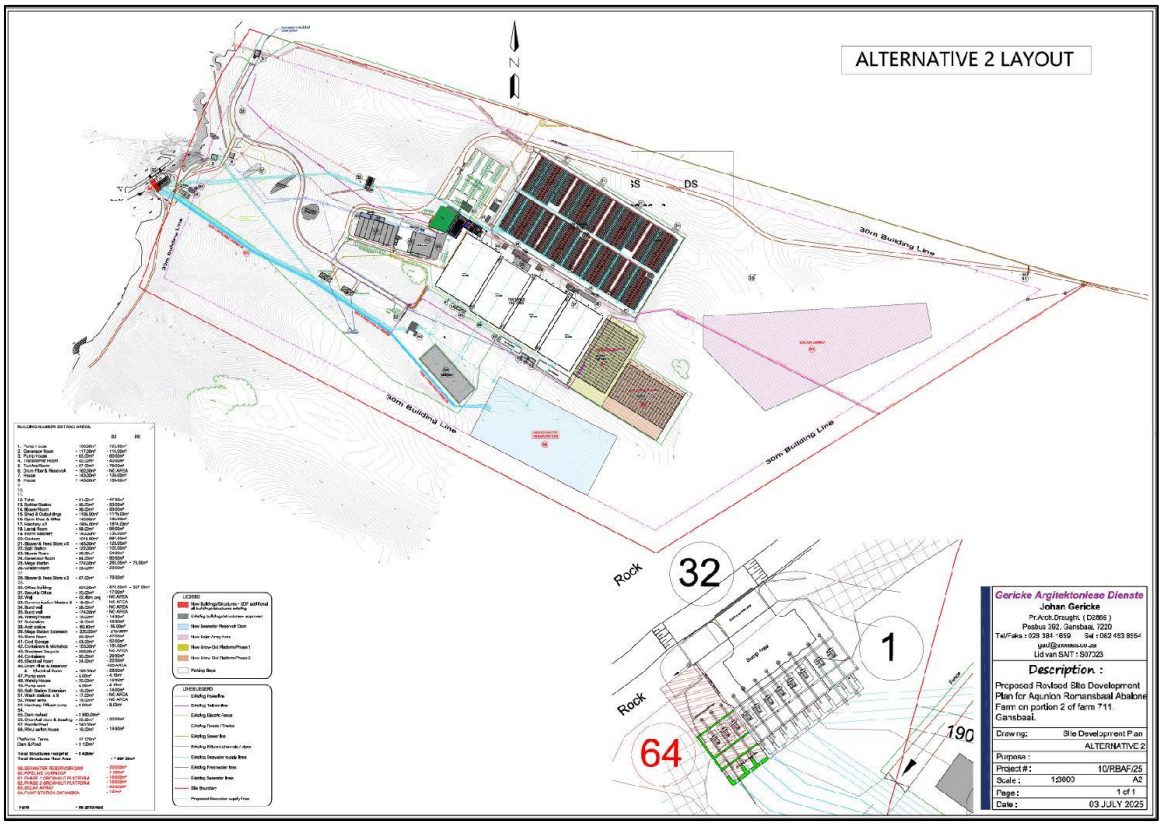
The expansion of the pumphouse and the addition of the pipelines are fixed actions which do not have other placement options as they need to tie into the existing infrastructure. However, the pipelines will be installed into the existing pipeline corridor which has already experienced disturbance from the existing operations and similarly, the expansion of the pumphouse will take place directly within and adjacent to the existing pumphouse and therefore also located within a transformed area. There are no location alternatives for the pipelines or pumphouse expansion over any of the alternatives assessed herein.



	Description	Volume	Size (m²)
1.	Phase 1 production area / grow out	150 tons / annum	17500
2.	Phase 2 production area / grow out	150 tons / annum	17500
3.	Lined seawater reservoir	41 000 m³	20000
4.	Solar array	4 MW	40000
5.	Pumphouse expansion		140
6.	4 additional pipelines		1200
		Total size	96340 (9.6 ha)

Alternative 2

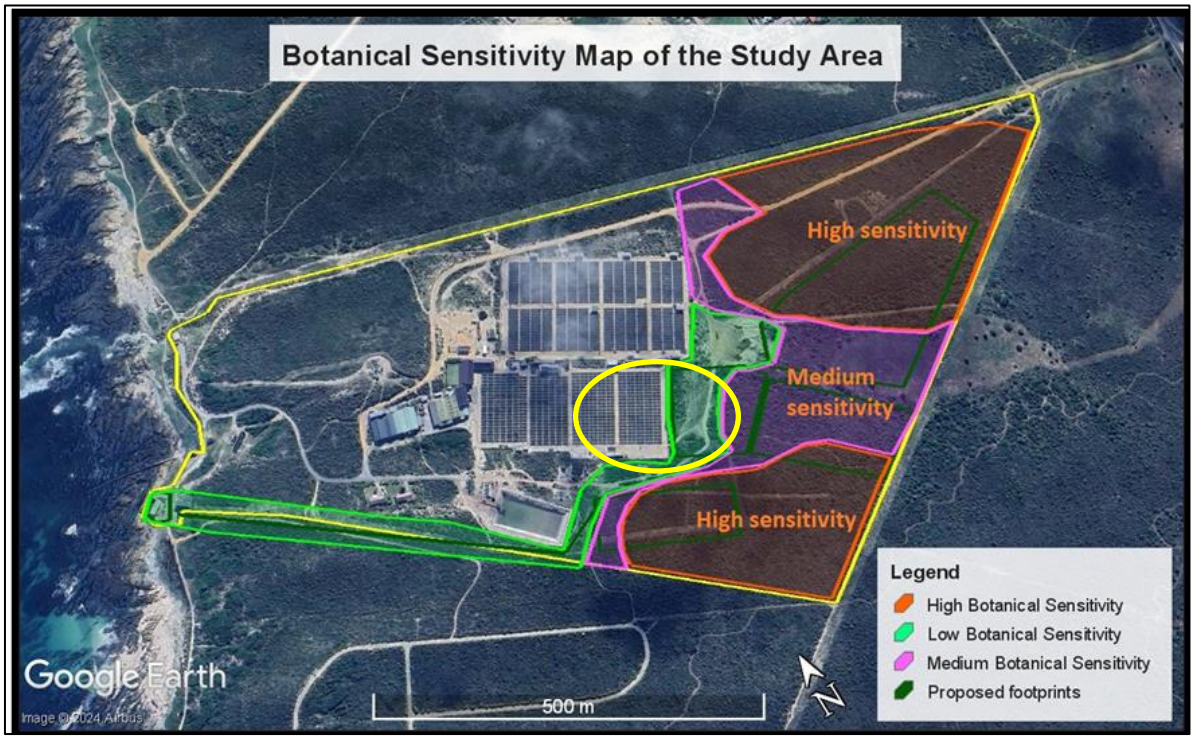
Alternative 2 was previously preferred and presented as such in the out of process public participation. This layout option involves the same components along with the exact development footprint sizes as in Alternative 1. However the grow out platforms have been moved southwards, to avoid the high botanically sensitive area identified by the botanist. This shift resulted in the slight reduction of the overall impact of the development. All other expansion activities remain as for Alternative 1.



ALTERNATIVE LAYOUT 4

Alternative 4 development layout option evolved through a comprehensive assessment of the site conditions, site constraints as well as the consideration of the specialist input. The key environmental considerations which influenced the layout include the presence of sensitive botanical areas, milkwood forest, and Critical Biodiversity Areas (CBAs).

Alternative 4 sees a significant reduction in expansion footprint size, from the previously proposed ~ 9.6 ha to ~ 6.9 ha. This is achieved through the reduction in size of the grow out platform (production area) and seawater reservoir. The grow out platform is reduced in size and located on the edge of the existing operations to better link into existing infrastructure and use already impacted land adjacent to the existing. In addition, the grow out platforms were reduced in size and shifted southwards, to avoid the indicated high sensitivity area mapped by the botanist as well as the 2017 BSP CBA.



Botanically sensitive areas and Alternative 4 production area which has been reduced in size and shifted south wards to avoid the high sensitivity areas. These changes reduced the botanical significance to a more acceptable impact of **low medium.**

The proposed sea water reservoir, which by virtue of its purpose, is located in the highly sensitive botanical area, is reduced in size from 2 ha surface area to 8000 m, this action significantly reduced the footprint required in the high botanical sensitivity area. The evolution of Alternative 4 results in the reduction of the overall botanical impact of the proposed development.

Although the solar PV array encroaches into the Critical Biodiversity Area (2017 BSP), the placement of the PV was adjusted in the evolution of the alternatives, to reduce encroachment into this zone as far as practically possible.

It is important to note that throughout the assessment, the option of installing solar panels on the rooftops of existing farm buildings was investigated. However, it was calculated that only 5 % of the required solar energy was possible with the available roof space, this option was deemed unviable. The use of a raised, solar array means that the vegetation

does not need to be cleared and removed, but only brush cut to a minimum of 1 m. As per the botanists' findings, the habitat can still be maintained below the array.

The proposal also involves the installation of new additional pipelines which are to be placed next to the existing route of pipelines in the property. It is important to note that this will only contribute to minimal impacts, since the area has already been impacted by existing operations of the farm. This also applies to the proposed expansion of the existing pumphouse. The pumphouse will be expanded by 140 m^2 for the installation of pumps that will connect the new proposed pipelines running to the new sea water reservoir. These activities will take place in areas already impacted by operations on site.

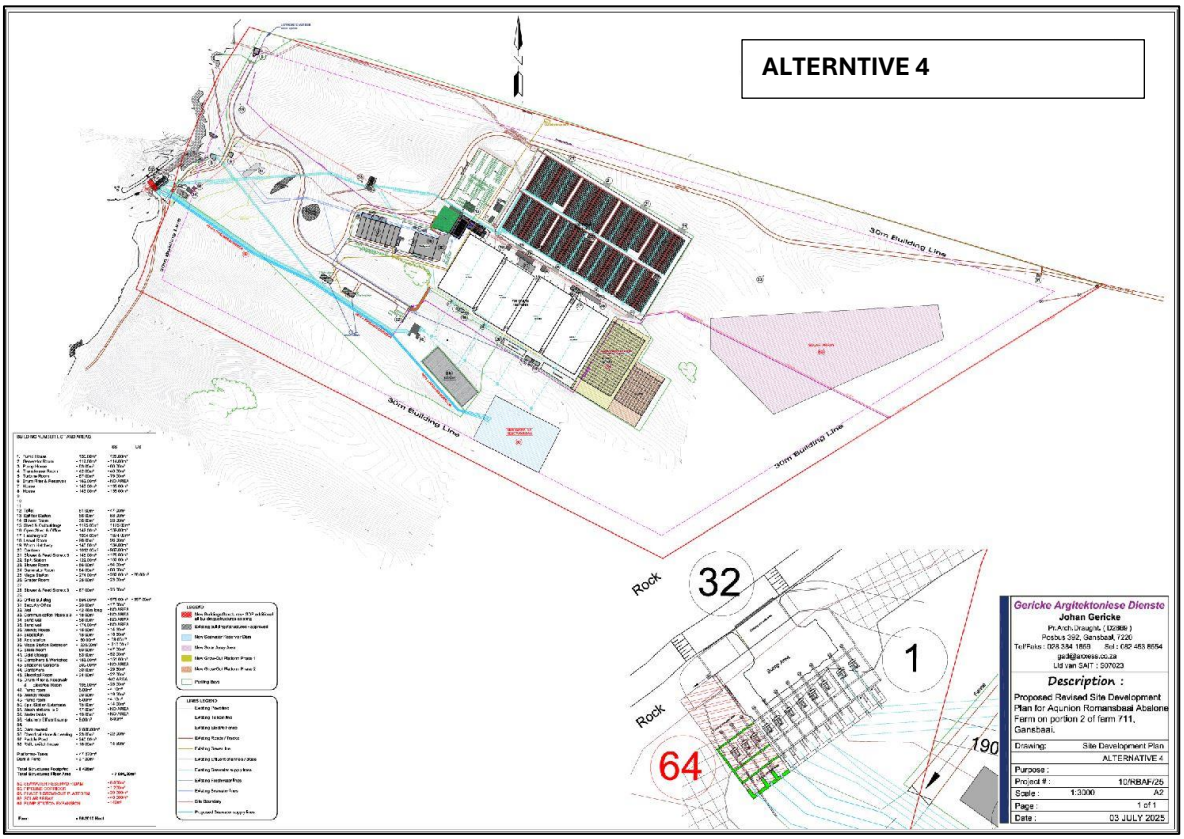


Illustration of Layout Alternative 4.

ALTERNATIVE 5 - PREFERRED

Alternative 5 represents the preferred development layout for the proposed expansion of the Romansbaai Abalone Farm, arrived at through an iterative design process involving the progressive application of the mitigation hierarchy in close collaboration with the independent botanical specialist, the Environmental Assessment Practitioner, CapeNature, and the relevant authorities. The current preferred layout has a total development footprint of approximately 6.834 ha and comprises the following components:

Grow-Out Platform (New Production Area) — 2.0 ha (20 000 m²)

A single consolidated grow-out platform is proposed, replacing the two-phase production area approach of the earlier alternatives. The platform is situated within areas of Low to Medium botanical sensitivity, entirely outside the mapped Critical Biodiversity Area 1 (CBA1) and the High botanical sensitivity zone, in order to avoid the permanent transformation of ecologically sensitive indigenous vegetation to the greatest extent practicable. The grow-out platform is positioned adjacent to the existing production infrastructure, thereby limiting the extent of further habitat disturbance and

minimising the need to disturb previously undisturbed areas. The platform is designed to accommodate the following production specifications:

- Production capacity increase: 150 tons (wet weight)
- Number of tanks: 1 850
- Number of baskets: 12 950
- Seawater usage: 2 400 m^3/hour
- Aeration fans/blower room: 4 units
- Split/grading station: 1 unit

Lined Seawater Reservoir — 0.7 ha (7 000 m²)

The lined seawater reservoir is the component of the proposed development that has undergone the most significant refinement through the alternatives assessment process, having been progressively reduced from an initial footprint of 20 000 m² (2.0 ha) under Alternatives 1 and 2, to 8 000 m² (0.8 ha) under Alternative 4, and further to the current 7 000 m² (0.7 ha) under the preferred Alternative 5. The reservoir has been repositioned as close as possible to the existing reservoir infrastructure, ensuring that less than 35% of the footprint falls within the High botanical sensitivity area, with the majority situated within Low and Medium sensitivity areas.

The reservoir must be located at the highest topographic point on the property a non-negotiable operational requirement in order to enable gravity-fed distribution of seawater to the grow-out platforms during peak electricity tariff periods, thereby reducing operational energy costs and improving energy security. The reservoir is designed to the following specifications:

- Storage capacity: 41 000 m^3
- Depth: 3.5 m
- Fill-up time: approximately 8 hours

Solar Photovoltaic Array — 4.0 ha (40 000 m²)

A 4 MW Solar PV Array is proposed to provide backup and off-grid electricity supply to the farm, reducing long-term reliance on the national grid and contributing to the operational sustainability of the facility. The array is located in the northeastern portion of the property, partially overlapping with an area mapped as CBA1 under the 2017 BSP. In order to minimise botanical impact within this area, the array will be elevated a minimum of 1 m above the ground surface, allowing the bulk of the indigenous vegetation beneath the panels to remain intact. Vegetation within the PV area will be managed through trimming to a maximum height of 1 m rather than clearing, ensuring that ground-level cover is retained and that ecological connectivity through the CBA1-mapped area is maintained. The botanical specialist has confirmed that most plant species within this area are expected to persist under these conditions, with the associated impact assessed at a Low to Medium negative significance level.

Pumphouse Expansion — 140 m²

The existing pumphouse will be expanded by 140 m² to accommodate four new seawater intake pipelines. The expansion is located within an already-disturbed area associated with existing road and infrastructure networks, and no vegetation loss is anticipated as a result of this component.

Four Additional Seawater Intake Pipelines — 1 200 m² (total)

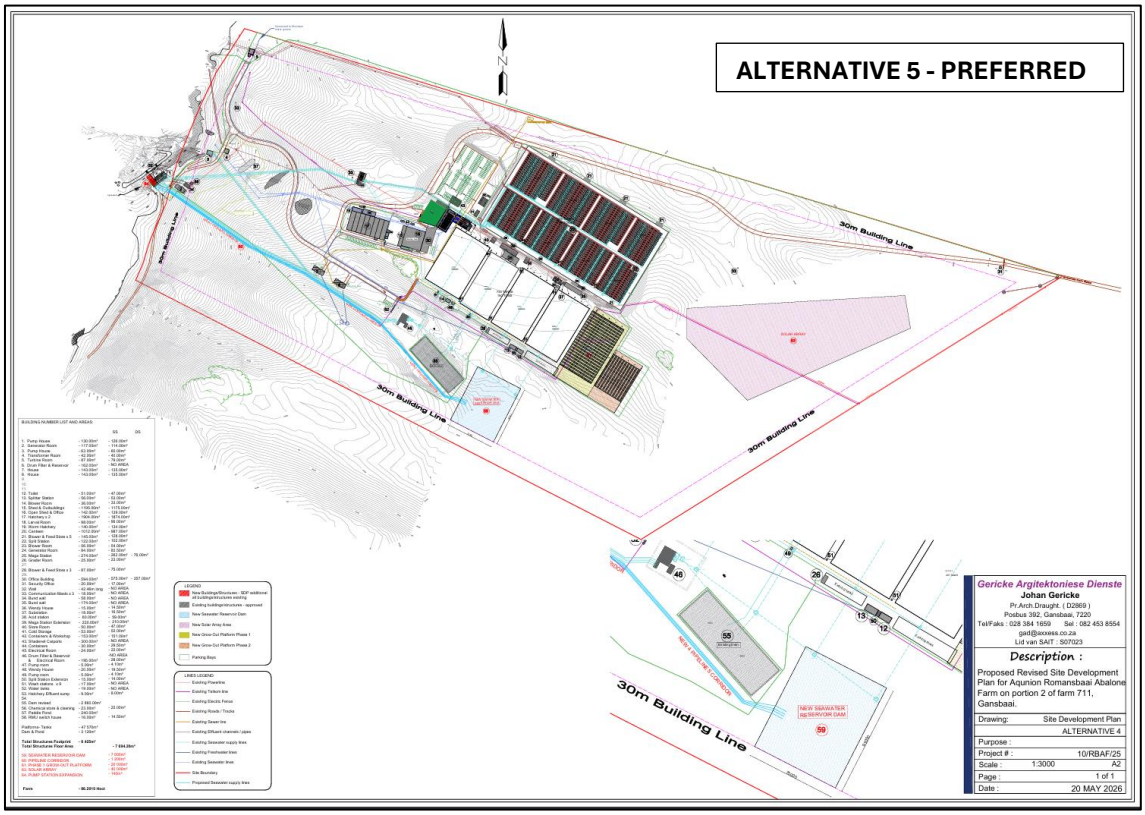
Four additional pipelines will be installed to convey seawater from the existing intake point to the new lined seawater reservoir. Each pipeline has the following specifications:

- Length: 600 m
- Diameter: 500 mm

- Total area per pipeline: 300 m²

The pipelines will be routed alongside the existing pipeline network within a previously disturbed corridor, thereby avoiding further habitat fragmentation and minimising the need to disturb natural vegetation. Vegetation loss within the pipeline corridor is expected to be temporary in nature, with most species anticipated to recover within five to ten years following construction.

The botanical specialist confirmed that under Alternative 5, the overall residual botanical impact of the proposed development is assessed at a **Low to Medium negative** significance level. This represents a substantial improvement relative to the Medium to High negative rating associated with the original Alternatives 1 and 2, and reflects the cumulative effect of successive design refinements, footprint reductions, and layout adjustments implemented throughout the alternatives assessment process. Critically, the specialist confirmed that this level of residual impact does not require any Biodiversity Offset or off-site conservation contribution. All mitigation measures identified in the original Terrestrial Biodiversity Impact Assessment dated 2024 remain applicable and must be implemented in full as conditions of the environmental authorisation.



ALTERNATIVE 1

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**1. Vegetation removal**
Potential impact and risk:	Removal of the Overberg Dune Strandveld (En) on the Northwest of the site, which includes the CBA area of terrestrial during the construction phase for the installation of the solar arrays. Loss of endangered species of vegetation including the section of the CBA.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Removal contributes to regional loss
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	-Search and rescue required -Fencing off of construction zones -Appointment of ECO for construction phase -Pipelines to be installed below ground on dunes, soil stockpiled for rehabilitation -Natural corridors to be implemented to retain connectivity - Amend layout to avoid CBA
Residual impacts:	Loss of endangered vegetation
Cumulative impact post mitigation:	Loss of vegetation contributing to retain connectivity
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High (-)**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**2. Socio-economic**
Potential impact and risk:	Job creation (+) Traffic as a result Impacts of large vehicles accessing the site (-)
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)

Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**3. Visual**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low

Degree to which the impact can be managed:	Medium	
Degree to which the impact can be mitigated:	Medium	
Proposed mitigation:	-Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account - Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. -Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach	
Residual impacts:	The solar installations visible to the public and residents of the nearby settlement, raising concerns about visual impact and aesthetic harmony	
Cumulative impact post mitigation:	Low - coastal expansion development in the area.	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**	**Medium negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**4. Heritage Impact**
Potential impact and risk:	→ **Archaeology-** potentially important shell midden deposited (in the proposed intake pipeline), and Later Stone Age campsite may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile. → Unmarked Khoisan burials may also be uncovered during construction phase excavations. → **Palaeontology-** potential loss of scientifically valuable fossil bones of the terrestrial animals.
Nature of impact:	Negative (disturbance/ loss of resources) Positive (discovery)
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Risk of destroying potential scientifically valuable fossil bones of terrestrial animals as well as sites already found.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low- Medium
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Possible loss of resources Possible significant findings
Cumulative impact prior to mitigation:	Disturbance and/ or loss of potentially significant archaeological and palaeontological sites.

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-) Disturbance or loss of site Medium (+) Possible discovery of the information
Degree to which the impact can be avoided:	High through correct monitoring of construction works
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
Residual impacts:	→ Potential loss of cultural resources (-) → Potential significant findings (+).
Cumulative impact post mitigation:	→ Reduce potential for archaeological and palaeontological sites
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
Impact	**5. Increase intake and effluent discharge of seawater**
Potential impact and risk:	Trapping and harming of the marine organisms, including fish larvae, plankton, and other small species during intake of seawater
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Medium-High
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the construction phase.
Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Cultivate marine algae in paddle ponds downstream of grow-out facilities to contribute to bioremediation of the effluent stream prior to release. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	Local biodiversity loss and disrupt marine food chains.
Cumulative impact post mitigation:	local biodiversity loss and disrupt marine food chains.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
POST-CONSTRUCTION PHASE	
Impact	**1. Socio-economic**
Potential impact and risk:	Job creation, staff support group through education programmes and community projects
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**

POST-CONSTRUCTION PHASE	
Impact	**2. Visual**
Potential impact and risk:	Visual impact of the expansion of facilities on the landscape
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Medium
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Medium
Cumulative impact prior to mitigation:	Little or no other commercial or industrial development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Keep general outdoor lighting as unobtrusive as possible through use of low-level bollard type lights, where needed, such as parking areas and footpaths. → Use discrete external signage and avoid commercial advertising or billboard-type signs - Fix signs to buildings or walls, if possible, to avoid the visual clutter of signposts.
Residual impacts:	Large extent of the abalone tanks on the urban edge Solar arrays
Cumulative impact post mitigation:	Low

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**	**Medium negative**

POST-CONSTRUCTION PHASE

Impact	**3. Increased volume of effluent water discharge**
Potential impact and risk:	Increased volume of operational discharge of the effluent seawater back into the marine environment, risks of causing eutrophication and increases in suspended solids.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (operations)
Consequence of impact or risk:	Medium
Probability of occurrence:	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the operational phase.
Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Moderate (medium)
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of General Discharge Authorisation (GDA). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the GDA specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	→ Low- provided that the management is effective- degradation of the coastal zone overtime.
Cumulative impact post mitigation:	More intake and more discharge and leading to risks of eutrophication and suspended solids.

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	N/A
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

ALTERNATIVE 2

PLANNING, DESIGN AND DEVELOPMENT PHASE **Impact**	**1. Vegetation removal/ Ecological/ Botanical impacts**
Potential impact and risk:	Removal of the Overberg Dune Strandveld (En) vegetation.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Removal contributes to regional loss of endangered vegetation
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Low
Indirect impacts:	
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low on the southern side of the site.

Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter. → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*). → Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar. → No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby. → -
Residual impacts:	Loss of high ecological sensitive areas
Cumulative impact post mitigation:	Loss of vegetation contributing to retain connectivity
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**2. Visual**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account → Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. → Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach
Residual impacts:	The solar installations visible to the public and residents of the nearby settlement, raising concerns about visual impact and aesthetic harmony
Cumulative impact post mitigation:	Low - coastal expansion development in the area.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**3. Blasting of a bedrock**
Potential impact and risk:	Blasting of bedrock is required along the high-water mark for the expansion of the pumphouse.
Nature of impact:	Negative
Extent and duration of impact:	Local: short term
Consequence of impact or risk:	Temporary noise impacts to humans as well as marine fauna, blasting dust may also be experienced
Probability of occurrence:	Definite – if blasting is undertaken
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Marine noise, short-term dust and noise
Cumulative impact prior to mitigation:	Contributes towards general marine noise
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ A survey should be done of the proposed line prior to blasting (and construction) and any sedentary animals should be removed from the site. To be repeated as required

	→ Nonexplosive rock breaking explosive (Nonex) to be used to avoid impacting any potential nearby marine mammals, sharks and fish → Undertake visual observation / pre-blast survey prior to blasting to ensure there are no marine mammals and flocks of diving seabirds present in the immediate vicinity (500 m radius) of the construction area
Residual impacts:	Marine dust may be experienced temporarily
Cumulative impact post mitigation:	Marine / underwater noise, short term dust in water column for underwater blasting.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**4. Socio-economic**
Potential impact and risk:	Job creation (+) Traffic as a result Impacts of large vehicles accessing the site (-)
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**5. Visual impacts**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	-Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account - Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. -Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach
Residual impacts:	Large extent of the abalone tanks on the urban edge Solar arrays
Cumulative impact post mitigation:	Low - coastal expansion development in the area.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**6. Archaeological impacts**
Potential impact and risk:	Potentially important shell midden deposited (in the proposed intake pipeline), and Later Stone Age campsite may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.
Nature of impact:	Negative (disturbance/ loss of resources) Positive (discovery)

Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Risk of destroying potential scientifically valuable fossil bones of terrestrial animals as well as sites already found.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low- Medium
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Possible loss of resources Possible significant findings
Cumulative impact prior to mitigation:	Disturbance and/ or loss of potentially significant archaeological and palaeontological sites.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-) Disturbance or loss of site Medium (+) Possible discovery of the information
Degree to which the impact can be avoided:	High through correct monitoring of construction works
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations
Residual impacts:	→ Potential loss of cultural resources (-) → Potential significant findings (+).
Cumulative impact post mitigation:	→ Reduce potential for archaeological and palaeontological sites
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**7. Palaeontological impacts**
Potential impact and risk:	The excavation of a trench for placement of the pipelines may intersect the underlying Waenhuiskrans Formation that potentially have fossil bones. The excavation depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be about the same, i.e. up to 2-3 m and that the earthworks will mainly affect the Qg coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin.

Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	The earthworks may intersect the underling formations
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Positive impacts: potential discovery of fossil bones
Cumulative impact prior to mitigation:	Medium
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
Residual impacts:	Positive: Discovery of new fossil bones uncovered during excavation.
Cumulative impact post mitigation:	Positive: Discovery of new fossil bones uncovered during excavation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative

ALTERNATIVE 2

POST-CONSTRUCTION PHASE

Impact	**1. Socio-economic**
Potential impact and risk:	Job creation, staff support group through education programmes and community projects
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**

POST-CONSTRUCTION PHASE

Impact	**2. Visual**
Potential impact and risk:	Visual impact of the expansion of facilities on the landscape
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Medium
Probability of occurrence:	Probable

Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Medium
Cumulative impact prior to mitigation:	Little or no other commercial or industrial development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Keep general outdoor lighting as unobtrusive as possible through use of low-level bollard type lights, where needed, such as parking areas and footpaths. → Use discrete external signage and avoid commercial advertising or billboard-type signs - Fix signs to buildings or walls, if possible, to avoid the visual clutter of signposts.
Residual impacts:	Solar arrays will not be visible to the residential area adjacent to the farm
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

POST-CONSTRUCTION PHASE

Impact	**3. Increased volume of effluent water discharge**
Potential impact and risk:	Increased volume of operational discharge of the effluent seawater back into the marine environment, risks of causing eutrophication and increases in suspended solids.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (operations)
Consequence of impact or risk:	Medium
Probability of occurrence:	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the operational phase.
Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Moderate (medium)
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP).

	→ Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	→ Low- provided that the management is effective- degradation of the coastal zone overtime.
Cumulative impact post mitigation:	→ Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
POST-CONSTRUCTION PHASE	
Impact	**4. Intake and effluent discharge of seawater**
Potential impact and risk:	Trapping and harming marine organisms during the intake which could lead to fatality of those organisms.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Medium- local marine ecosystem species loss
Cumulative impact prior to mitigation:	Low- local marine ecosystem species loss
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.

Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	Local marine ecosystem species loss
Cumulative impact post mitigation:	Local marine ecosystem species loss
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	N/A
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

ALTERNATIVE 3: NO-GO
Status Quo remains

The No Development option means that no expansion of the Abalone Farm takes place. As a result, no benefits and positive impacts associated with the proposed expansion will be realised. The Abalone Farm will not be a position to compete with international markets. In addition, no options for alternative electricity generation can be added to supplement existing and any future expansion. The No Go option however will not trigger the need to disturb indigenous vegetation alongside the existing farm or the need for works within the high water mark of the sea to expand the pump house and water lines.

ALTERNATIVE 4	
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**1. Vegetation removal/ Ecological/ Botanical impacts**
Potential impact and risk:	Removal of the Southwestern Strandveld (En), formerly known as Overberg Dune Strandveld vegetation within the seawater reservoir location only.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Removal contributes to regional loss of endangered vegetation
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Low
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	The vegetation type and faunal habitat and species to be impacted by the proposed development has been, and will continue to be, impacted by numerous developments and other factors.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low on the southern side of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter. → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*). → Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for production area and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar. → No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar

	panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels, it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.
Residual impacts:	Medium: Permanent removal of vegetation within the seawater reservoir footprint, resulting in the loss of Southwestern Strandveld species. While brush-cutting for the solar array reduces the extent of total vegetation loss.
Cumulative impact post mitigation:	Medium: The Overberg Dune Strandveld (Southwestern Strandveld) species to be impacted by the proposed development has been, and will continue to be, impacted by numerous developments and other factors.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low Medium (-)
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**2. Visual**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account → Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. → Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach.
Residual impacts:	The solar installations visible to the public and residents of the nearby settlement, raising concerns about visual impact and aesthetic harmony
Cumulative impact post mitigation:	Low - coastal expansion development in the area.

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**3. Blasting of a bedrock**
Potential impact and risk:	Blasting of bedrock is required along the high-water mark for the expansion of the pumphouse.
Nature of impact:	Negative
Extent and duration of impact:	Local: short term
Consequence of impact or risk:	Temporary noise impacts to humans as well as marine fauna, blasting dust may also be experienced
Probability of occurrence:	Definite – if blasting is undertaken
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Marine noise, short-term dust and noise
Cumulative impact prior to mitigation:	Contributes towards general marine noise
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ A survey should be done of the proposed line prior to blasting (and construction) and any sedentary animals should be removed from the site. To be repeated as required → Nonexplosive rock breaking explosive (Nonex) to be used to avoid impacting any potential nearby marine mammals, sharks and fish → Undertake visual observation / pre-blast survey prior to blasting to ensure there are no marine mammals and flocks of diving seabirds present in the immediate vicinity (500 m radius) of the construction area
Residual impacts:	Marine dust may be experienced temporarily
Cumulative impact post mitigation:	Marine / underwater noise, short term dust in water column for underwater blasting.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**4. Socio-economic**
Potential impact and risk:	Job creation (+) Traffic as a result Impacts of large vehicles accessing the site (-)
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**5. Faunal impacts**
Potential impact and risk:	Disturbance to the proportion of natural Overberg Dune Strandveld habitat.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	-Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account - Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. -Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach
Residual impacts:	Low: Minor loss of habitat and local disturbance to faunal activity during the construction phase.
Cumulative impact post mitigation:	Habitat fragmentation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	→ **Archaeological impacts**
Potential impact and risk:	Potentially important shell midden deposited (in the proposed intake pipeline), and Later Stone Age campsite may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.
Nature of impact:	Negative (disturbance/ loss of resources) Positive (discovery)
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Risk of destroying potential scientifically valuable fossil bones of terrestrial animals as well as sites already found.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low- Medium
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Possible loss of resources Possible significant findings
Cumulative impact prior to mitigation:	Disturbance and/ or loss of potentially significant archaeological and palaeontological sites.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-) Disturbance or loss of site Medium (+) Possible discovery of the information
Degree to which the impact can be avoided:	High through correct monitoring of construction works
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found

	→ If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations
Residual impacts:	→ Potential loss of cultural resources (-) → Potential significant findings (+).
Cumulative impact post mitigation:	→ Reduce potential for archaeological and palaeontological sites
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	→ **Palaeontological impacts**
Potential impact and risk:	The excavation of a trench for placement of the pipelines may intersect the underlying Waenhuiskrans Formation that potentially have fossil bones. The excavation depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be about the same, i.e. up to 2-3 m and that the earthworks will mainly affect the Qg coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	The earthworks may intersect the underling formations
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Positive impacts: potential discovery of fossil bones
Cumulative impact prior to mitigation:	Medium
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High

Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
Residual impacts:	Positive: Discovery of new fossil bones uncovered during excavation.
Cumulative impact post mitigation:	Positive: Discovery of new fossil bones uncovered during excavation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**Disturbance to coastal and intertidal habitat to accommodate expansion of pump house and additional pipelines**
Potential impact and risk:	Temporary disturbance of the coastal zone is expected for the expansion of the existing sump and pumphouse and addition of the 4 pipelines. The area proposed for the expansion is disturbed and largely transformed and already experiences anthropogenic and operational impacts on a daily basis.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Low due to the already disturbed nature of the expansion zone which has already been highly disturbed and transformed by existing operations
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Loss of and disturbance to coastal and intertidal habitat to accommodate expansion of pump house and additional pipelines

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Med to low
Degree to which the impact can be avoided:	Unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts
Proposed mitigation:	→ Clearly demarcate the construction area and mark all areas outside of this as No Go areas → Clearly demarcate the pipeline corridor and mark all areas outside of this zone a No Go area → Search and Rescue to be conducted on the pipeline route prior to disturbance for rehabilitation post construction → No batching of materials or concrete mixing to take place in areas outside the construction zone or areas which may be at risk of being inundated by seawater → Spills kits should be readily available in the event of spills Temporary weather and animal proof disposal areas provided within construction area
Residual impacts:	Increased disturbance in the coastal and intertidal zone, with increased risk of construction related impacts during this phase
Cumulative impact post mitigation:	Local biodiversity disturbance, loss and increased disturbance in the coastal and intertidal zone, however due to the small-scale nature of the disturbance to expand the pumphouse, and the disturbed nature of the area around the pumphouse, the significant is reduced to low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**Disturbance of marine fauna, including cetaceans, from marine noise and blasting**
Potential impact and risk:	Blasting of the rock, may be required to increase the size of the sump and to accommodate the expansion.
Nature of impact:	Negative
Extent and duration of impact:	Local; Short-term
Consequence of impact or risk:	Medium to low
Probability of occurrence:	Medium – blasting may be required to increase the sump size and accommodate the pumphouse expansion
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	In the event that blasting is required, the impact of the vibration and noise from the blasting could impact coastal and marine fauna and fish
Cumulative impact prior to mitigation:	Medium to high

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts associated with blasting.
Proposed mitigation:	→ Use Nonex over conventional explosives (reduced possible impact to low) → Conduct faunal survey before use and ensure no fauna are visible within a 1km radius Limit detonations over a 24-hr period, preferably 1 per day
Residual impacts:	Local biodiversity loss and disrupt marine food chains.
Cumulative impact post mitigation:	local biodiversity loss and disrupt marine food chains.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**Vehicle and pedestrian traffic**
Potential impact and risk:	Increased pedestrian and vehicle traffic is expected in the expansion area during the construction phase.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term, duration of construction
Consequence of impact or risk:	Medium-low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Ecological impacts and disturbance of sensitive areas during the construction phase, risk of sprawl of activities in the coastal zone, beyond the pumphouse and pipeline corridor
Cumulative impact prior to mitigation:	Degradation of coastal zone during the construction activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce confine the impacts to the already disturbed zones and manage the magnitude of impact
Proposed mitigation:	Clearly demarcate the construction zone, with temporary and durable barriers, all areas outside these zones marked as No-Go areas, this must include vehicle and human access areas, stockpiles, preparation, lunch areas etc.
Residual impacts:	Temporary disturbance to the coastal zone and habitats during construction
Cumulative impact post mitigation:	Construction related activities temporarily disturb the coastal zone and possible habitats of fauna and flora, however the impact is short term and small scale, located within an already transformed area.

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**Erosion and increased nearshore turbidity**
Potential impact and risk:	Construction activities for the expansion of the pump house will require the excavation of sediment and rock from the intertidal zone. Gravel pumps will be used to move sediment, and these actions will result in an increased risk of erosion as well as an increase in turbidity and suspended solids within the near shore environment. Sand stockpiles are susceptible to wind and rain erosion and may further increase risk of increased turbidity in the near shore environment.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term, duration of construction
Consequence of impact or risk:	Low
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	None identified
Cumulative impact prior to mitigation:	Low given extent and duration
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Limit gravel pump use to calm sea conditions as far as possible to reduce the field of impact → Where possible, relocate sessile macro-fauna such as wild abalone, limpets etc → Attempt to reduce construction time, as far as possible
Residual impacts:	None
Cumulative impact post mitigation:	None
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)

ALTERNATIVE 4	
POST-CONSTRUCTION PHASE	
Impact	**Socio-economic**
Potential impact and risk:	Job creation, staff support group through education programmes and community projects
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+)
POST-CONSTRUCTION PHASE	
Impact	**Visual**
Potential impact and risk:	Visual impact of the expansion of facilities on the landscape
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Medium
Probability of occurrence:	Probable

Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Medium
Cumulative impact prior to mitigation:	Little or no other commercial or industrial development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Keep general outdoor lighting as unobtrusive as possible through use of low-level bollard type lights, where needed, such as parking areas and footpaths. → Use discrete external signage and avoid commercial advertising or billboard-type signs - Fix signs to buildings or walls, if possible, to avoid the visual clutter of signposts.
Residual impacts:	Solar arrays will not be visible to the residential area adjacent to the farm
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)
POST-CONSTRUCTION PHASE	
Impact	**Increased volume of effluent water discharge**
Potential impact and risk:	Increased volume of operational discharge of the effluent seawater back into the marine environment, risks of causing eutrophication and increases in suspended solids.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (operations)
Consequence of impact or risk:	Medium
Probability of occurrence:	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the operational phase.
Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Moderate (medium)
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP).

	→ Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	→ Low- provided that the management is effective- degradation of the coastal zone overtime.
Cumulative impact post mitigation:	→ Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)
POST-CONSTRUCTION PHASE	
Impact	**Intake and effluent discharge of seawater**
Potential impact and risk:	Trapping and harming marine organisms during the intake which could lead to fatality of those organisms.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Medium- local marine ecosystem species loss
Cumulative impact prior to mitigation:	Low- local marine ecosystem species loss
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.

Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	local marine ecosystem species loss
Cumulative impact post mitigation:	local marine ecosystem species loss
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)

POST-CONSTRUCTION PHASE

Impact	**Abstraction of seawater**
Potential impact and risk:	Abstraction of large volumes of seawater directly from the sea on a continual basis may result to impacts such as entrapment, entrainment and impingement against intake lines are possible
Nature of impact:	Negative
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Not known
Cumulative impact prior to mitigation:	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	Clearly demarcate the construction zone, with temporary and durable barriers, all areas outside these zones marked as No-Go areas, this must include vehicle and human access areas, stockpiles, preparation, lunch areas etc.
Residual impacts:	Temporary disturbance to the coastal zone and habitats during construction

Cumulative impact post mitigation:	→ Ensure the intake area is designed to reduce the intake velocity through a flooded sump Fit and maintain screens in intake lines
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)
POST-CONSTRUCTION PHASE	
Impact	**Discharge of effluent seawater**
Potential impact and risk:	Abalone require good water quality in order to grow and therefore the water that is discharged from the farm after flowing through the tanks, is very similar in nature to the fresh seawater pumped onto the farm. The differences between the incoming and effluent seawater would be a small decrease in pH from approx. 7.9 to 8 to approx. 7.6 to 7.7. This is caused by the respiration of abalone as they take up oxygen and expire Co^2. The abalone remove oxygen from the incoming water, however the water is re-oxygenated due to the turbulence of the water movement through the tanks and on its path back to the sea.
Nature of impact:	Negative
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Not known
Cumulative impact prior to mitigation:	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High

Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Adhere to requirements of General Discharge Authorisation (GDA) → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the GDA specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Cultivate marine algae in paddle ponds downstream of grow-out facilities to contribute to bioremediation of the effluent stream prior to release. → Maintain effluent sump and discharge pipeline and screens in good working order.
Residual impacts:	Low – provided that the mitigation measures are implemented
Cumulative impact post mitigation:	→ Ensure the intake area is designed to reduce the intake velocity through a flooded sump → Fit and maintain screens in intake lines
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)
POST-CONSTRUCTION PHASE	
Impact	**Genetic impacts and disease**
Potential impact and risk:	Escapees from aquaculture operations have the potential to breed with the wild population. In addition to the genetics, the concentration of farmed animals always presents the risk of disease. The introduction of diseases, pathogens and parasites from farmed abalone to wild stocks is a real threat.
Nature of impact:	Negative
Extent and duration of impact:	Local; long term

Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Not known
Cumulative impact prior to mitigation:	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Develop a Biosecurity Management Plan for the facility → In order to minimise negative genetic impacts, broodstock and grow-out organisms should originate from the same genetic stock as the wild populations adjacent to the facility i.e. only west coast brood stock should be kept in the hatchery. → Effluent streams post hatchery spawning should be sterilised with bleach prior to release. → The facility must be affiliated to a Genetic Programme or run such internally → All broodstock and spawning to be undertaken in line with DFFE Hatchery Permit requirements. → Records to be maintained on broodstock origin and spawning. Regular inspection of effluent canals to remove escapees.
Residual impacts:	Low – provided that the mitigation measures are implemented
Cumulative impact post mitigation:	→ Ensure the intake area is designed to reduce the intake velocity through a flooded sump → Fit and maintain screens in intake lines

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)
POST-CONSTRUCTION PHASE	
Impact	**Disturbance to coastal environments during operations and maintenance**
Potential impact and risk:	Daily operations and maintenance within the coastal zone will be required. These activities are already experienced on the site and the proposed expansion is not expected to increase the significance of this impact, provided management and mitigation measures are implemented and enforced. Vehicle and pedestrian traffic, tank and pipe cleaning and associated short term fluctuations in turbidity and use of pumps and machinery within the intertidal zone will be required.
Nature of impact:	Negative
Extent and duration of impact:	Local; long term / operations
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	None identified
Cumulative impact prior to mitigation:	Medium – operations within the sensitive coastal zone could lead to operational impacts
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Fit refuse collection screens on open effluent canals across the farm → Refuse areas must be wind and animal proof

	→ High sensitivity areas such as the coastal zone and No Go conservation areas must have restricted access to authorised personal only Employees should be educated on proper waste management
Residual impacts:	Low – provided that the mitigation measures are implemented
Cumulative impact post mitigation:	→ Ensure the intake area is designed to reduce the intake velocity through a flooded sump → Fit and maintain screens in intake lines
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)

ALTERNATIVE 5 (PREFERRED)

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**1. Vegetation removal/ Ecological/ Botanical impacts**
Potential impact and risk:	Removal of the Southwestern Strandveld (En), formerly known as Overberg Dune Strandveld vegetation within the development footprint. Vegetation loss within High botanical sensitive areas is minimised with the reservoir footprint at approximately 7000m^2
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Removal contributes to regional loss of endangered vegetation
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Low
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	The vegetation type and faunal habitat and species to be impacted by the proposed development has been, and will continue to be, impacted by numerous developments and other factors.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low on the southern side of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these

	demarcated areas should be allowed, either during construction or thereafter. → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*). → Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for production area and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar. → No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels, it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.
Residual impacts:	Low – Medium
Cumulative impact post mitigation:	Low – Medium
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low Medium (-)**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**2. Visual**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium

Proposed mitigation:	→ Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account → Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. → Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach.
Residual impacts:	The solar installations visible to the public and residents of the nearby settlement, raising concerns about visual impact and aesthetic harmony
Cumulative impact post mitigation:	Low - coastal expansion development in the area.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**3. Blasting of a bedrock**
Potential impact and risk:	Blasting of bedrock is required along the high-water mark for the expansion of the pumphouse.
Nature of impact:	Negative
Extent and duration of impact:	Local: short term
Consequence of impact or risk:	Temporary noise impacts to humans as well as marine fauna, blasting dust may also be experienced
Probability of occurrence:	Definite – if blasting is undertaken
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Marine noise, short-term dust and noise
Cumulative impact prior to mitigation:	Contributes towards general marine noise
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ A survey should be done of the proposed line prior to blasting (and construction) and any sedentary animals should be removed from the site. To be repeated as required → Nonexplosive rock breaking explosive (Nonex) to be used to avoid impacting any potential nearby marine mammals, sharks and fish → Undertake visual observation / pre-blast survey prior to blasting to ensure there are no marine mammals and flocks of

	diving seabirds present in the immediate vicinity (500 m radius) of the construction area
Residual impacts:	Marine dust may be experienced temporarily
Cumulative impact post mitigation:	Marine / underwater noise, short term dust in water column for underwater blasting.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**4. Socio-economic**
Potential impact and risk:	Job creation (+) Traffic as a result Impacts of large vehicles accessing the site (-)
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**5. Faunal impacts**
Potential impact and risk:	Disturbance to the proportion of natural Overberg Dune Strandveld habitat.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account → Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. → Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach.
Residual impacts:	Low: Minor loss of habitat and local disturbance to faunal activity during the construction phase.
Cumulative impact post mitigation:	Habitat fragmentation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**Archaeological impacts**
Potential impact and risk:	Potentially important shell midden deposited (in the proposed intake pipeline), and Later Stone Age campsite may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.
Nature of impact:	Negative (disturbance/ loss of resources) Positive (discovery)
Extent and duration of impact:	Local; long-term

Consequence of impact or risk:	Risk of destroying potential scientifically valuable fossil bones of terrestrial animals as well as sites already found.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low- Medium
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Possible loss of resources Possible significant findings
Cumulative impact prior to mitigation:	Disturbance and/ or loss of potentially significant archaeological and palaeontological sites.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-) Disturbance or loss of site Medium (+) Possible discovery of the information
Degree to which the impact can be avoided:	High through correct monitoring of construction works
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations
Residual impacts:	→ Potential loss of cultural resources (-) → Potential significant findings (+).
Cumulative impact post mitigation:	→ Reduce potential for archaeological and palaeontological sites
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**Palaeontological impacts**
Potential impact and risk:	The excavation of a trench for placement of the pipelines may intersect the underlying Waenhuiskrans Formation that potentially have fossil bones. The excavation depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be about the same, i.e. up to 2-3 m and that the earthworks will mainly affect the Qg

	coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	The earthworks may intersect the underling formations
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Positive impacts: potential discovery of fossil bones
Cumulative impact prior to mitigation:	Medium
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
Residual impacts:	Positive: Discovery of new fossil bones uncovered during excavation.
Cumulative impact post mitigation:	Positive: Discovery of new fossil bones uncovered during excavation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**Disturbance to coastal and intertidal habitat to accommodate expansion of pump house and additional pipelines**
Potential impact and risk:	Temporary disturbance of the coastal zone is expected for the expansion of the existing sump and pumphouse and addition of the 4 pipelines. The area proposed for the expansion is disturbed and largely transformed and already experiences anthropogenic and operational impacts on a daily basis.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Low due to the already disturbed nature of the expansion zone which has already been highly disturbed and transformed by existing operations
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Loss of and disturbance to coastal and intertidal habitat to accommodate expansion of pump house and additional pipelines
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Med to low
Degree to which the impact can be avoided:	Unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts
Proposed mitigation:	→ Clearly demarcate the construction area and mark all areas outside of this as No Go areas → Clearly demarcate the pipeline corridor and mark all areas outside of this zone a No Go area → Search and Rescue to be conducted on the pipeline route prior to disturbance for rehabilitation post construction → No batching of materials or concrete mixing to take place in areas outside the construction zone or areas which may be at risk of being inundated by seawater → Spills kits should be readily available in the event of spills Temporary weather and animal proof disposal areas provided within construction area
Residual impacts:	Increased disturbance in the coastal and intertidal zone, with increased risk of construction related impacts during this phase
Cumulative impact post mitigation:	Local biodiversity disturbance, loss and increased disturbance in the coastal and intertidal zone, however due to the small-scale nature of the disturbance to expand the pumphouse, and the disturbed nature of the area around the pumphouse, the significant is reduced to low

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**Disturbance of marine fauna, including cetaceans, from marine noise and blasting**
Potential impact and risk:	Blasting of the rock, may be required to increase the size of the sump and to accommodate the expansion.
Nature of impact:	Negative
Extent and duration of impact:	Local; Short-term
Consequence of impact or risk:	Medium to low
Probability of occurrence:	Medium – blasting may be required to increase the sump size and accommodate the pumphouse expansion
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	In the event that blasting is required, the impact of the vibration and noise from the blasting could impact coastal and marine fauna and fish
Cumulative impact prior to mitigation:	Medium to high
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts associated with blasting.
Proposed mitigation:	→ Use Nonex over conventional explosives (reduced possible impact to low) → Conduct faunal survey before use and ensure no fauna are visible within a 1km radius Limit detonations over a 24-hr period, preferably 1 per day
Residual impacts:	Local biodiversity loss and disrupt marine food chains.
Cumulative impact post mitigation:	local biodiversity loss and disrupt marine food chains.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**Vehicle and pedestrian traffic**
Potential impact and risk:	Increased pedestrian and vehicle traffic is expected in the expansion area during the construction phase.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term, duration of construction
Consequence of impact or risk:	Medium-low

Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Ecological impacts and disturbance of sensitive areas during the construction phase, risk of sprawl of activities in the coastal zone, beyond the pumphouse and pipeline corridor
Cumulative impact prior to mitigation:	Degradation of coastal zone during the construction activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce confine the impacts to the already disturbed zones and manage the magnitude of impact
Proposed mitigation:	Clearly demarcate the construction zone, with temporary and durable barriers, all areas outside these zones marked as No-Go areas, this must include vehicle and human access areas, stockpiles, preparation, lunch areas etc.
Residual impacts:	Temporary disturbance to the coastal zone and habitats during construction
Cumulative impact post mitigation:	Construction related activities temporarily disturb the coastal zone and possible habitats of fauna and flora, however the impact is short term and small scale, located within an already transformed area.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**Erosion and increased nearshore turbidity**
Potential impact and risk:	Construction activities for the expansion of the pump house will require the excavation of sediment and rock from the intertidal zone. Gravel pumps will be used to move sediment, and these actions will result in an increased risk of erosion as well as an increase in turbidity and suspended solids within the near shore environment. Sand stockpiles are susceptible to wind and rain erosion and may further increase risk of increased turbidity in the near shore environment.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term, duration of construction
Consequence of impact or risk:	Low
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	None identified
Cumulative impact prior to mitigation:	Low given extent and duration
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low

Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Limit gravel pump use to calm sea conditions as far as possible to reduce the field of impact → Where possible, relocate sessile macro-fauna such as wild abalone, limpets etc → Attempt to reduce construction time, as far as possible
Residual impacts:	None
Cumulative impact post mitigation:	None
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**

POST-CONSTRUCTION PHASE

Impact	**Socio-economic**
Potential impact and risk:	Job creation, staff support group through education programmes and community projects.
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Low: Employment opportunities during the construction phase → Low: Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+)
POST-CONSTRUCTION PHASE	
Impact	**5. Visual**
Potential impact and risk:	Visual impact of the expansion of facilities on the landscape
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Medium
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Medium
Cumulative impact prior to mitigation:	Little or no other commercial or industrial development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Keep general outdoor lighting as unobtrusive as possible through use of low-level bollard type lights, where needed, such as parking areas and footpaths. → Use discrete external signage and avoid commercial advertising or billboard-type signs - Fix signs to buildings or walls, if possible, to avoid the visual clutter of signposts.
Residual impacts:	Solar arrays will not be visible to the residential area adjacent to the farm.
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
POST-CONSTRUCTION PHASE	
Impact	**Increased volume of effluent water discharge**
Potential impact and risk:	Increased volume of operational discharge of the effluent seawater back into the marine environment, risks of causing eutrophication and increases in suspended solids.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (operations)
Consequence of impact or risk:	Medium
Probability of occurrence:	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the operational phase.

Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Moderate (medium)
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	Low- provided that the management is effective- degradation of the coastal zone overtime.
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
POST-CONSTRUCTION PHASE	
Impact	**Intake and effluent discharge of seawater**
Potential impact and risk:	Trapping and harming marine organisms during the intake which could lead to fatality of those organisms.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Medium- local marine ecosystem species loss
Cumulative impact prior to mitigation:	Low- local marine ecosystem species loss
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium

Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order.
Residual impacts:	Local marine ecosystem species loss
Cumulative impact post mitigation:	Local marine ecosystem species loss
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)
POST-CONSTRUCTION PHASE	
Impact	**Abstraction of seawater**
Potential impact and risk:	Abstraction of large volumes of seawater directly from the sea on a continual basis may result to impacts such as entrapment, entrainment and impingement against intake lines are possible
Nature of impact:	Negative
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Not known
Cumulative impact prior to mitigation:	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High

Degree to which the impact can be mitigated:	High
Proposed mitigation:	Clearly demarcate the construction zone, with temporary and durable barriers, all areas outside these zones marked as No-Go areas, this must include vehicle and human access areas, stockpiles, preparation, lunch areas etc.
Residual impacts:	Low: Temporary disturbance to the coastal zone and habitats during construction
Cumulative impact post mitigation:	Ensure the intake area is designed to reduce the intake velocity through a flooded sump. Fit and maintain screens in intake lines.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
POST-CONSTRUCTION PHASE	
Impact	**Discharge of effluent seawater**
Potential impact and risk:	Abalone require good water quality in order to grow and therefore the water that is discharged from the farm after flowing through the tanks, is very similar in nature to the fresh seawater pumped onto the farm. The differences between the incoming and effluent seawater would be a small decrease in pH from approx. 7.9 to 8 to approx. 7.6 to 7.7. This is caused by the respiration of abalone as they take up oxygen and expire Co^2. The abalone remove oxygen from the incoming water, however the water is re-oxygenated due to the turbulence of the water movement through the tanks and on its path back to the sea.
Nature of impact:	Negative
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Not known
Cumulative impact prior to mitigation:	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low

Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Adhere to requirements of General Discharge Authorisation (GDA) → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the GDA specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Cultivate marine algae in paddle ponds downstream of grow-out facilities to contribute to bioremediation of the effluent stream prior to release. → Maintain effluent sump and discharge pipeline and screens in good working order.
Residual impacts:	Low – provided that the mitigation measures are implemented
Cumulative impact post mitigation:	Ensure the intake area is designed to reduce the intake velocity through a flooded sump Fit and maintain screens in intake lines
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
POST-CONSTRUCTION PHASE	
Impact	**Genetic impacts and disease**
Potential impact and risk:	Escapees from aquaculture operations have the potential to breed with the wild population. In addition to the genetics, the concentration of farmed animals always presents the risk of disease. The introduction of diseases, pathogens and parasites from farmed abalone to wild stocks is a real threat.
Nature of impact:	Negative

Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Not known
Cumulative impact prior to mitigation:	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Develop a Biosecurity Management Plan for the facility → In order to minimise negative genetic impacts, broodstock and grow-out organisms should originate from the same genetic stock as the wild populations adjacent to the facility i.e. only west coast brood stock should be kept in the hatchery. → Effluent streams post hatchery spawning should be sterilised with bleach prior to release. → The facility must be affiliated to a Genetic Programme or run such internally → All broodstock and spawning to be undertaken in line with DFFE Hatchery Permit requirements. → Records to be maintained on broodstock origin and spawning. → Regular inspection of effluent canals to remove escapees.
Residual impacts:	Low – provided that the mitigation measures are implemented
Cumulative impact post mitigation:	Ensure the intake area is designed to reduce the intake velocity through a flooded sump

	Fit and maintain screens in intake lines
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**
POST-CONSTRUCTION PHASE	
Impact	**Disturbance to coastal environments during operations and maintenance**
Potential impact and risk:	Daily operations and maintenance within the coastal zone will be required. These activities are already experienced on the site and the proposed expansion is not expected to increase the significance of this impact, provided management and mitigation measures are implemented and enforced. Vehicle and pedestrian traffic, tank and pipe cleaning and associated short term fluctuations in turbidity and use of pumps and machinery within the intertidal zone will be required.
Nature of impact:	Negative
Extent and duration of impact:	Local; long term / operations
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	None identified
Cumulative impact prior to mitigation:	Medium – operations within the sensitive coastal zone could lead to operational impacts
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High

Proposed mitigation:	→ Fit refuse collection screens on open effluent canals across the farm → Refuse areas must be wind and animal proof → High sensitivity areas such as the coastal zone and No Go conservation areas must have restricted access to authorised personal only → Employees should be educated on proper waste management
Residual impacts:	Low – provided that the mitigation measures are implemented
Cumulative impact post mitigation:	Ensure the intake area is designed to reduce the intake velocity through a flooded sump Fit and maintain screens in intake lines
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (-)**

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.

Specialist assessments were commissioned to determine the potential impacts of the proposed expansion of the Romansbaai Abalone Farm on the ecological, cultural, visual, and palaeontological environment. The assessments undertaken include a Terrestrial Biodiversity Assessment, an Animal Species Compliance Statement, an Archaeological and Palaeontological Impacts Assessment, and a Visual Impact Assessment. The findings of these assessments, summarised below, have collectively informed the design and layout of the proposed expansion and have influenced the iterative refinement of the preferred development alternative.

Terrestrial Biodiversity Assessment

The Terrestrial Biodiversity Assessment constituted the most consequential specialist input to the alternatives assessment process and had the greatest influence on the evolution of the preferred development layout.

The assessment identified at least five plant Species of Conservation Concern (SoCC) within the study area, all of which maintain substantial and viable populations across the broader property. These include three Vulnerable species — *Athanasia quinquedentata* ssp. *rigens*, a shrub occurring in coastal sands over limestone from Gansbaai to Stilbaai; *Cynanchum zeyheri*, a creeping shrub occurring in coastal sands and rocky areas from Saldanha to Agulhas; and *Lampranthus fergusoniae*, a vygie found from Kleinmond to Knysna on coastal sands as well as two Near Threatened species, namely *Agathosma geniculata*, occurring in coastal sands from De Kelders to Arniston, and *Muraltia pappeana*, occurring in coastal sands from De Kelders to Riversdale. The estimated proportion of the global population of each SoCC within the development footprints is less than 1% in all cases, and viable populations of all recorded SoCC will persist in the undeveloped portions of the property under the preferred Alternative 5.

The assessment further identified the natural vegetation on site as Overberg Dune Strandveld (now referred to as Southwestern Strandveld), gazetted as Endangered on a national basis. Two patches of High botanical sensitivity were mapped on the property, located primarily within the proposed Solar PV Array area and the seawater reservoir footprint. These findings directly informed the progressive refinement of the development layout from Alternatives 1 and 2 which carried Medium to High negative impact ratings for the seawater reservoir and triggered a formal Biodiversity Offset requirement through Alternative 4 and ultimately to the preferred Alternative 5. Under Alternative 5, the seawater reservoir footprint has been reduced to 7 000 m² and repositioned such that less than 35% of the footprint falls within the High botanical sensitivity area. The botanical specialist confirmed a residual impact of Low to Medium negative for the preferred layout, which does not trigger a Biodiversity Offset or off-site conservation contribution requirement under the National Biodiversity Offset Guidelines (DFFE, 2023).

The following mitigation measures were identified by the botanical specialist and must be implemented as conditions of the environmental authorisation:

- All approved development footprints must be clearly demarcated on site prior to any construction activity, with no disturbance of natural vegetation permitted outside the demarcated areas at any time.
- All listed invasive alien plant species must be removed from the site within one year of project authorisation, using approved methodology in accordance with the relevant legislative requirements.
- Search-and-rescue translocation of all geophyte bulbs and succulents — including *Lampranthus fergusoniae* — from the approved development footprints must be undertaken prior to construction, at the appropriate seasonal phase, with material translocated to ecologically comparable undisturbed areas on the property.
- No large-scale soil disturbance or vegetation clearing shall occur within the Solar PV Array area. Vegetation shall be trimmed to a maximum height of 1 m to accommodate panel installation, with ground-level cover retained at all times.

Animal Species Compliance Statement

The Animal Species Compliance Statement confirmed the absence of sensitive animal species and habitats within the study area. Based on a combination of desktop research and field verification, no animal species requiring further specialist assessment were identified on site. This finding confirmed that no additional fauna-related mitigation measures are required, and that the proposed development may proceed without material adverse impacts on animal species of conservation concern. This assessment did not necessitate any modifications to the proposed development layout.

Archaeological and Palaeontological Impacts Assessment

A field assessment was conducted by the Agency for Cultural Resource Management (ACRM) on 31 January 2024. The assessment recorded a small number of dispersed, fragmented marine shellfish remains primarily *Turbo sarmaticus* (alikreukel), limpet, and *Haliotis* (perlemoen) together with quartz and quartzite flakes within the route of the proposed seawater intake pipeline. These resources occur in a severely degraded context and were assigned a Low (Grade 3C) archaeological significance rating. No grindstones, formal tools, pottery, ostrich eggshell, or other organic remains were recorded along the approximately 400 m pipeline route. No archaeological resources were encountered within the footprints of the proposed Solar PV Array, grow-out platform, or seawater reservoir.

The assessment noted that potentially significant shell midden deposits within the pipeline route, and Later Stone Age campsites within the broader development area, may be uncovered during vegetation clearing and construction-phase excavations, including cut-and-fill operations and shaping of the dune profile. Unmarked Khoisan burials may similarly be uncovered during excavation activities. The following mitigation measures must be implemented:

- A qualified archaeologist must be placed on standby during all ground-disturbing activities in sensitive areas, and construction must be halted immediately upon the discovery of any archaeological material or human remains, pending specialist assessment and notification of the South African Heritage Resources Agency (SAHRA).
- All finds must be reported to SAHRA in accordance with the provisions of the National Heritage Resources Act (NHRA), 1999 (Act No. 25 of 1999).

With regard to palaeontology, shallow excavations associated with the Solar PV Array cabling, and deeper earthworks of up to 2 to 3 m associated with the grow-out platforms and seawater reservoir, will primarily affect Quaternary dune coversands. Where coversands are thin, the underlying Waenhuiskrans Formation aeolianites may be intersected, within which fossil bones of extant and potentially extinct fauna from past ecological and palaeoclimatic phases may be encountered. The following mitigation measure must be implemented:

- A qualified palaeontologist must be notified prior to commencement of deep earthworks, and a watching brief protocol must be established to manage the discovery of any fossil material during construction.

Visual Impact Assessment

The Visual Impact Assessment confirmed that the Romansbaai Abalone Farm is situated within a natural depression that effectively screens the facility from the surrounding landscape. The assessment concluded that the overall visual impact of the proposed expansion is low, and that the heritage landscape and cultural character of the Danger Point Peninsula will not be materially altered by the expansion of the facility. No visual mitigation measures were deemed necessary. This finding confirmed that the proposed development layout requires no modification on visual impact grounds, and that the expansion can proceed without adverse visual impacts on the adjacent residential area or the broader landscape character of the region.

2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr

The impact management measures identified by the specialists for inclusion in the Environmental Management Plan (EMPr) for the proposed abalone farm expansion are as follows:

Terrestrial Biodiversity Assessment

→ Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter.

→ All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*).

→ Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.

→ No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels, it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

Heritage Impact Assessment (VIA/AIA&PIA)

→ No archaeological mitigation is required prior to construction phase excavations commencing.

→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist.
→ If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist.
→ A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
→ Regarding the Cultural and Heritage Landscape, `no mitigation measures are deemed necessary' (Lategan 2024).

3.	List the specialist investigations and the impact management measures that will **not** be implemented and provide an explanation as to why these measures will not be implemented.

N/A

4.	Explain how the proposed development will impact the surrounding communities.

Romansbaai Abalone Farm is a significant job provider for the local community in Gansbaai. The proposed development is expected to have a positive impact on the surrounding communities in several ways. Firstly, it will create job opportunities for local residents, thereby enhancing employment prospects and contributing to livelihood improvement. This infusion of employment opportunities can lead to greater economic growth within the community, as some individuals will gain stable incomes and spending power. Additionally, with more residents engaged in formal employment, there may be a reduction in crime levels due to increased economic stability and decreased desperation for illegal means of income. Overall, the development has the potential to foster a more prosperous and secure environment for the surrounding communities, characterized by improved economic conditions and lower crime rates.

No significant negative impacts are expected as a result of the expansion application, as the activities will be in line with what is already taking place on the farm. There will be no significant changes in day-to-day operations.

5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.

N/A

6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.

None that the EAP is aware of.

7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.

The findings and recommendations of the various specialist assessments undertaken for the proposed expansion of the Romansbaai Abalone Farm have been carefully considered and integrated by the Environmental Assessment Practitioner to inform a comprehensive and coherent set of mitigation measures. These measures collectively address the potential impacts of the proposed development across all relevant environmental disciplines and have directly influenced the iterative refinement of the preferred development layout. The integrated findings and resultant mitigation measures are summarised by discipline below.

Terrestrial Biodiversity Assessment

The Terrestrial Biodiversity Assessment identified that approximately 14 ha of the 50 ha property is of High botanical sensitivity, underlain by Overberg Dune Strandveld, gazetted as Endangered on a national basis. The initial assessment

found that approximately 40% of the High sensitivity area would be lost or disturbed by the proposed development under the original layout alternatives, and that the seawater reservoir represented the component of greatest ecological concern, carrying a Medium to High negative significance rating. These findings directly triggered the iterative refinement of the development layout through the alternatives assessment process.

The progressive application of the mitigation hierarchy informed by the botanical specialist's findings across successive assessment addenda resulted in the following measurable improvements, ultimately culminating in the preferred **Alternative 5:**

- → The total development footprint was reduced from approximately 9.6 ha under Alternatives 1 and 2 to 6.834 ha under Alternative 5, representing a reduction of nearly 3 ha.

- → The production area footprint was reduced from 3.0 ha to 2.0 ha and repositioned to areas of Low to Medium ecological sensitivity, avoiding the permanent loss of indigenous vegetation within High botanical sensitivity areas.

- → The seawater reservoir footprint was progressively reduced from 2.0 ha to 0.8 ha under Alternative 4, and further to 0.7 ha under the preferred Alternative 5, with the reservoir repositioned to ensure that less than 35% of its footprint falls within the High botanical sensitivity area.

- → The overall residual botanical impact rating was reduced from Medium to High negative under the original alternatives to Low to Medium negative under the preferred Alternative 5, confirmed by the botanical specialist. This level of residual impact does not trigger a Biodiversity Offset or off-site conservation contribution requirement under the National Biodiversity Offset Guidelines (DFFE, 2023).

- → Viable populations of all five plant Species of Conservation Concern recorded on the property will be retained in the undeveloped portions of the site under the preferred layout.

The botanical specialist's findings further confirmed that the only CBA1-mapped area that will be impacted by the proposed development is within the Solar PV Array footprint, and that this impact will not result in the total loss of the CBA1 area, as most plant species within this zone are expected to persist beneath the raised array, and ecological connectivity through the area will be maintained.

The following mitigation measures, identified by the botanical specialist and integrated into the Environmental Management Programme (EMPr), must be timeously and properly implemented as conditions of the environmental authorisation:

- → All approved development footprints must be clearly demarcated on site prior to any construction activity. No disturbance of natural vegetation outside the demarcated footprints is permitted at any time during construction or thereafter.

- → All listed invasive alien plant species must be removed from the site within one year of project authorisation, using approved methodology in accordance with the relevant legislative requirements under NEMBA, 2004 and CARA, 1983.

- → Search-and-rescue translocation of all geophyte bulbs and succulents including *Lampranthus fergusoniae* from the approved development footprints must be undertaken prior to construction, at the appropriate seasonal phase, with all material translocated to ecologically comparable undisturbed areas on the property.

→ No large-scale soil disturbance or vegetation clearing shall occur within the Solar PV Array area. Vegetation shall be trimmed to a maximum height of 1 m to accommodate panel installation, whilst retaining the bulk of ground-level vegetation cover. Cut material shall be used as mulch to stabilise any exposed sand in the vicinity.

Heritage Impact Assessment — Archaeological and Palaeontological Findings

The Heritage Impact Assessment, comprising an Archaeological Impacts Assessment (Kaplan, 2024) and a Palaeontological Impacts Assessment (Pether, 2024), confirmed that the proposed development does not pose a significant threat to local archaeological heritage resources in the primary footprint areas. No archaeological resources were encountered within the footprints of the proposed Solar PV Array, grow-out platform, or seawater reservoir. Dispersed, fragmented marine shellfish remains, and lithic material were recorded within the proposed seawater intake pipeline route in a severely degraded context, assigned a Low (Grade 3C) archaeological significance rating.

Notwithstanding the above, the potential for shell midden deposits, Later Stone Age campsites, unmarked Khoisan burials, and fossil heritage material to be uncovered during construction-phase excavations was identified as a residual risk requiring active management. The palaeontological assessment further noted that earthworks of up to 2 to 3 m depth may intersect the underlying Waenhuiskrans Formation aeolianites, within which fossil material of potentially high archaeological significance may occur.

These findings have been integrated into the EMPr through the following mitigation measures, which must be implemented as conditions of the environmental authorisation:

→ Vegetation clearing and all construction-phase ground-disturbing activities must be monitored by a professional archaeologist for the duration of the construction phase.

→ In the event that any human remains are uncovered or exposed during excavations, all work in the affected area must cease immediately, and the finds must be reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan, 082 321 0172). Human remains must not be removed or disturbed until they have been inspected and assessed by the archaeologist, and the matter reported to the South African Heritage Resources Agency (SAHRA) in accordance with the National Heritage Resources Act (NHRA), 1999 (Act No. 25 of 1999).

→ A Fossil Finds Procedure (FFP) must be developed and incorporated into the Environmental Management Programme (EMPr) prior to the commencement of construction. The FFP must provide clear guidelines for the management, documentation, and reporting of any fossil bone material uncovered during excavation activities.

Visual Impact Assessment — Lategan (2024)

The Visual Impact Assessment confirmed that the Romansbaai Abalone Farm is situated within a natural depression that effectively screens the facility from the surrounding landscape, resulting in a low overall visual impact rating for the proposed expansion. Whilst the Solar PV Array carries some potential for glare effect, the assessment confirmed that the screening provided by the ridge to the north effectively limits the visibility of any glare from identified sensitive receptors. The assessment further confirmed that the heritage landscape and cultural character of the Danger Point Peninsula will not be materially altered by the proposed expansion.

These findings confirmed that no visual mitigation measures are deemed necessary for the proposed development. The Visual Impact Assessment accordingly required no modifications to the preferred development layout, and its findings support the conclusion that the proposed expansion can proceed without adverse visual impacts on the adjacent residential area or the broader landscape character of the region.

Integration and Conclusion

The integrated findings of the specialist assessments collectively confirm that the proposed expansion of the Romansbaai Abalone Farm, as configured under the preferred Alternative 5, can proceed without significant adverse impacts on the ecological, heritage, visual, or palaeontological environment, provided that all mitigation measures identified above are timeously and properly implemented. The most significant influence on the proposed development has been the Terrestrial Biodiversity Assessment, which drove the iterative refinement of the development layout across four alternatives and ultimately informed the selection of Alternative 5 as the preferred layout. The heritage and visual specialist assessments confirmed the absence of significant impacts in their respective disciplines, requiring only standard procedural mitigation measures to be incorporated into the EMPr. All specialist recommendations have been integrated into the EMPr, which will govern the implementation of mitigation measures throughout the construction and operational phases of the proposed development.

8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.

The mitigation hierarchy comprising avoidance, minimisation, restoration, and offsetting — has been applied systematically and progressively throughout the assessment and alternatives development process for the proposed expansion of the Romansbaai Abalone Farm. Various specialists were appointed to identify sensitive environmental features, assess impacts, and provide management and mitigation recommendations. The findings of these assessments were integrated into the project planning and design process at each stage, with specific measures implemented to reduce the significance of identified impacts before any consideration of Biodiversity Offset mechanisms.

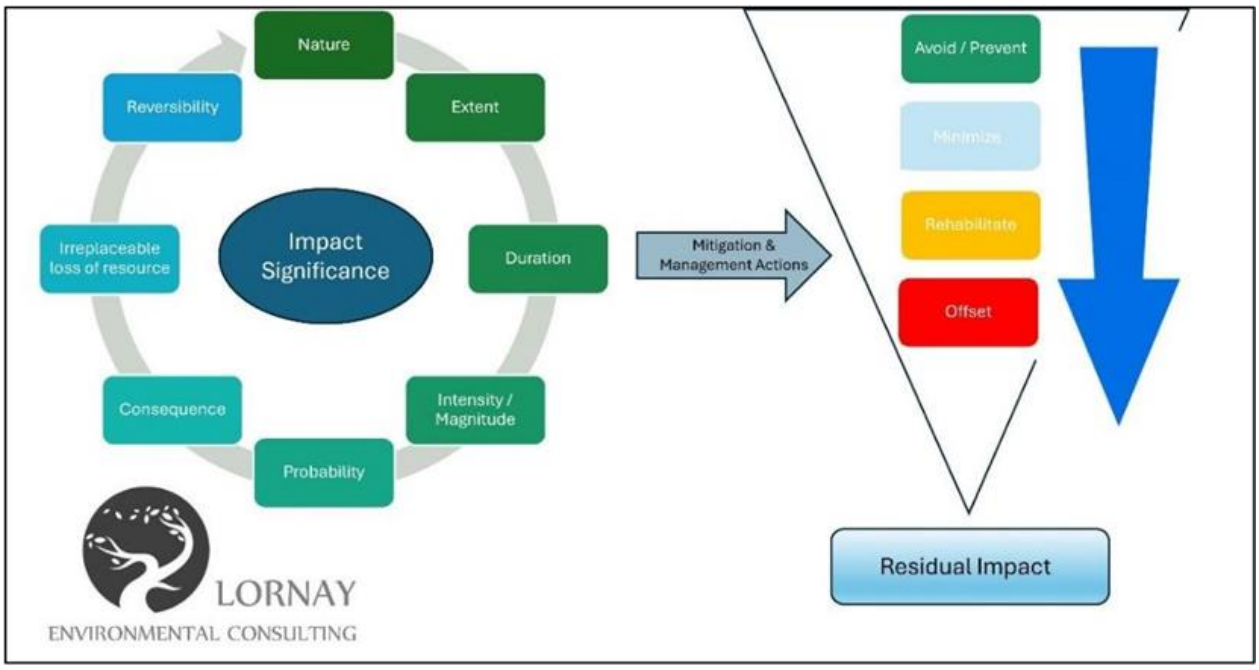


Figure 22. Mitigation hierarchy

It is important to note at the outset that this application concerns the expansion of an existing operational abalone farm, which imposes inherent practical and operational constraints on the placement of certain development components. The expansion site of the pumphouse and sump can only be located directly adjacent to the existing infrastructure, as expanding away from these existing operational areas is neither practical nor technically feasible. Similarly, the grow-out platforms must be positioned alongside and linked to the existing platforms to integrate with existing services and to allow for effective day-to-day operations, including tank cleaning, stock movement, feeding, and general farm management. Topography is also a critical design constraint, as the constant movement of water across the farm requires careful consideration of gradients and elevation in the placement of all components.

Most significantly, the seawater reservoir the component of greatest ecological concern throughout the assessment process must by operational necessity be located at the highest topographic point on the property. The reservoir is designed to store seawater abstracted during low electricity tariff periods, which is then gravity-fed across the farm during peak tariff periods, thereby significantly reducing the electrical costs associated with continuous seawater pumping. The electrical cost of pumping seawater represents the single largest operational costs for abalone farms, and the gravity-fed reservoir system is central to the economic viability of the proposed expansion. These constraints were identified, documented, and communicated to all relevant authorities at the outset of the assessment process, and were consistently taken into account in the evaluation of all layout alternatives.

A further spatial constraint influenced the placement of the Solar PV Array. The CBA1-designated area on the northern portion of the property, combined with the presence of a protected Milkwood forest to the south, imposed limits on the extent to which the array could be relocated to avoid sensitive ecological features entirely. These constraints were carefully considered and integrated into the layout planning process throughout the alternatives assessment.

Taking full cognisance of the above operational and spatial constraints, the mitigation hierarchy was applied to the proposed development as follows:

Avoidance

The first and primary step in the mitigation hierarchy was to avoid impacts on ecologically sensitive areas to the greatest extent practicable.

Three layout alternatives involving development (Alternatives 1, 2, and 4) were assessed prior to the identification of the preferred new layout Alternative 5. Under Alternative 1, the Phase 2 grow-out platform footprint encroached into areas of High botanical sensitivity in the northeastern portion of the property, and the seawater reservoir footprint of 2.0 ha was largely situated within the High sensitivity zone, with more than 50% of the footprint falling within this area. Under Alternative 2, the Phase 2 platform was repositioned but partially overlapped with the CBA1 designation under the 2017 BSP, and the seawater reservoir footprint remained at 2.0 ha within the High sensitivity area. Both alternatives were accordingly not carried forward as preferred layouts.

Under the preferred Alternative 5, the following avoidance measures have been implemented:

- The consolidated grow-out platform (2.0 ha) has been positioned entirely within areas of Low to Medium botanical sensitivity, outside the mapped CBA1 designation and the High botanical sensitivity zone, thereby avoiding the permanent transformation of ecologically sensitive indigenous vegetation within these areas.
- The Solar PV Array has been positioned to reduce encroachment into the CBA1-mapped area to the minimum extent practically achievable, given the constraint imposed by the Milkwood forest to the south and the topographic requirements for effective solar energy generation. The array has been designed as a raised, ground-mounted structure to avoid the need for vegetation clearing within the CBA1 area.
- The Solar PV Array and grow-out platform completely avoid the Milkwood thicket, a protected vegetation feature of high ecological significance.
- The pipeline route has been confined entirely to the existing disturbed corridor alongside the existing pipeline network, avoiding any further disturbance of natural habitat.
- The pumphouse expansion is located within an already-disturbed area associated with existing operational infrastructure, avoiding any impact on natural vegetation.

Minimisation

Where impacts could not be entirely avoided most notably in respect of the seawater reservoir, which must remain at the highest topographic point on the property the next step in the mitigation hierarchy was to minimise the extent and significance of those impacts to the lowest level practicably achievable. The minimisation of impacts was achieved progressively through successive reductions in the development footprint across four layout iterations, as follows:

- The grow-out platform footprint was reduced from a two-phase 3.0 ha footprint under Alternatives 1 and 2 to a single consolidated 2.0 ha platform under Alternatives 4 and 5, representing a reduction of 1.0 ha of vegetation loss. The platform was simultaneously repositioned to areas of lower ecological sensitivity, further reducing the botanical impact of this component.
- The seawater reservoir footprint was progressively reduced from 2.0 ha (20 000 m²) under Alternatives 1 and 2, to 0.8 ha (8 000 m²) under Alternative 4, and further to 0.7 ha (7 000 m²) under the new preferred Alternative 5. The reservoir was repositioned under Alternative 5 to be as close as possible to the existing reservoir infrastructure, ensuring that less than 35% of the footprint falls within the High botanical sensitivity area under the preferred layout, compared to more than 50% under the original alternatives.
- The total development footprint was reduced from approximately 9.6 ha under Alternatives 1 and 2, 6.9 for Alterbnatuve 4 layout, to 6.834 ha under the preferred Alternative 5, representing a reduction of approximately 2.8 ha.
- Within the Solar PV Array footprint, vegetation management has been limited to trimming to a maximum height of 1 m, with no clearing, grubbing, or soil disturbance permitted. This approach retains the bulk of ground-level vegetation cover and ecological connectivity through the CBA1-mapped area, minimising the extent of habitat modification within the array footprint.

Restoration

Rehabilitation and restoration measures have been identified for all development footprints where construction-phase disturbance is unavoidable, in order to facilitate the recovery of ecological function and biodiversity value following construction completion. The following restoration measures have been identified and must be implemented as conditions of the environmental authorisation:

- A Search-and-Rescue operation for all translocatable plant Species of Conservation Concern — including geophyte bulbs, succulents, and all individuals of *Lampranthus fergusoniae, Athanasia quinquedentata ssp. rigens, Cynanchum zeyheri, Muraltia pappeana,* and *Agathosma geniculata* must be undertaken by a suitably qualified botanist across all approved development footprints prior to the commencement of any vegetation clearing. All translocated material must be relocated to ecologically comparable undisturbed areas on the property.
- All listed invasive alien plant species must be removed from the property within one year of the date of issue of the environmental authorisation, and a post-construction monitoring and follow-up clearing programme must be maintained for a minimum of three years following construction completion.
- All exposed soil surfaces and reservoir embankments must be stabilised and revegetated with locally indigenous plant species as soon as practicable following construction completion.
- All vegetation trimmed within the Solar PV Array footprint must be retained on site and used as mulch to stabilise exposed sand surfaces within the development footprint.

Offset

Offset Assessment and Final Outcome

Following the full application of the avoidance, minimisation, and restoration steps of the mitigation hierarchy, the need for a Biodiversity Offset was assessed at each stage of the alternatives evaluation process. The evolution of this assessment is summarised below.

Alternatives 1 and 2: The botanical specialist assessed the residual impact of the seawater reservoir as Medium to High negative, driven by the large footprint (2.0 ha) and the fact that more than 50% of the footprint fell within the High botanical sensitivity area. This level of residual impact triggered a Biodiversity Offset requirement under the National Biodiversity Offset Guidelines (DFFE, 2023), with a minimum recommended offset area of 20 ha (Alternative 1) to 30 ha (Alternative 2).

Alternative 4: The reduction of the reservoir footprint to 0.8 ha reduced the residual impact to Medium negative, with a minimum recommended offset area of 15 ha. In response to this outstanding offset requirement, the following offset mechanisms were investigated and assessed:

Monetary contribution to the Grootbos Foundation:

A financial contribution toward the targeted clearing of alien invasive plant species within an already-declared conservation area specifically 8 ha of Agulhas Sand Fynbos on Brown Dog Farm was proposed as the preferred offset mechanism, supported by correspondence from Sean Privett of the Grootbos Foundation (18 March 2026). Whilst ecologically well-motivated, CapeNature advised that this proposal did not comply with the National Biodiversity Offset Guidelines as then structured, as it lacked a sufficiently specific expenditure framework and was not framed within the context of a formal biodiversity offset.

On-site conservation area (8 ha):

An 8 ha on-site conservation area was identified and presented at the pilot Landscape South Offset Stewardship Screening Review on 3 February 2025, where it was found not to be worthy of biodiversity stewardship and was not recommended as a viable offset option.

Conservation servitude:

Conservation entities declined to accept servitude sites linked to active industrial operations, and the Overberg Renosterveld Conservation Trust confirmed that this vegetation type was not a priority for their programme.

Stewardship site:

The proposed offset area did not qualify as a stewardship site due to the absence of a priority area designation and CapeNature's capacity and financial constraints.

Subdivision and rezoning to Open Space:

The Overstrand Municipality confirmed that the removal of 8 ha from the Agriculture Zone 1 property for rezoning to Open Space would not be supported.

Given the confirmed intractability of all investigated offset mechanisms, and in response to Cape Nature's recommendation during PPP 4 that a further tangible reapplication of the mitigation hierarchy be undertaken through physical layout redesign, the development layout was revised a final time to produce Alternative 5.

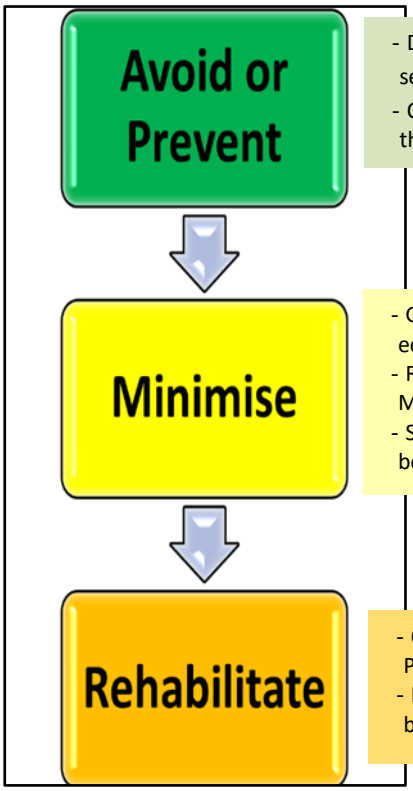
Alternative 5 – Final Outcome:

The further reduction of the seawater reservoir footprint from 8 000 m² to 7 000 m² and the repositioning of the reservoir in closer proximity to the existing infrastructure under Alternative 5 ensured that less than 35% of the reservoir footprint falls within the High botanical sensitivity area. The botanical specialist confirmed that the overall residual botanical impact

of the preferred Alternative 5 is assessed at a Low to Medium negative significance level, and that this level of impact does not require any Biodiversity Offset or off-site conservation contribution under the National Biodiversity Offset Guidelines (DFFE, 2023).

This outcome represents the conclusion of more than two years of iterative design refinement, specialist engagement, and regulatory consultation, and confirms that the mitigation hierarchy has been applied to its fullest practicable extent for this project. The preferred Alternative 5 constitutes the Best Practicable Environmental Option for the proposed expansion of the Romansbaai Abalone Farm, achieving the minimum feasible environmental impact consistent with the operational requirements of the project.

Summary of the Application of the mitigation hierarchy to reach the final preferred layout:



- Development footprint redesigned to prevent encroachment into high botanical sensitivity areas.
- Critical Biodiversity Areas (CBAs), Milkwood thickets, and heritage features avoided through layout refinement.

- Grow-out platforms and seawater reservoir scaled down and repositioned to reduce ecological disturbance.
- Reduction in development footprint to limit vegetation loss, particularly in High and Medium botanical sensitive areas.
- Search and rescue operations for plant and animal species of conservation concern will be conducted before construction begins

- Continued implementation of the long-term Invasive Alien Plant (IAP) Management Programme both on site.
- Revegetation of disturbed areas using indigenous species, including plant SCC identified by the botanical specialist.

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.

Terrestrial Biodiversity Assessment

The study area is underlain by Overberg Dune Strandveld, now formally referred to as Southwestern Strandveld, gazetted as Endangered on a national basis under the South African Red List of Terrestrial Ecosystems. The vegetation on the property remains largely in good condition despite the absence of fire for at least twenty years, and despite light grazing and trampling by game species including eland, bontebok, springbok, and zebra. The site supports high structural diversity, with a mix of indigenous shrubs, small trees, grasses, restios, and herbs, and maintains a low density of invasive alien species. Significant indigenous species recorded include *Searsia glauca*, *Euclea racemosa*, *Helichrysum niveum*, *Brunsvigia orientalis*, *Pterocelastrus tricuspidatus*, *Thamnochortus insignis*, and *Sideroxylon inerme*, amongst many others.

Five plant Species of Conservation Concern (SoCC) were recorded within the study area, namely:

- *Athanasia quinquedentata* ssp. *rigens* — Vulnerable; occurring in coastal sands over limestone from Gansbaai to Stilbaai.
- *Cynanchum zeyheri* — Vulnerable; occurring in coastal sands and rocky areas from Saldanha to Agulhas.
- *Lampranthus fergusoniae* — Vulnerable; occurring from Kleinmond to Knysna on coastal sands.
- *Agathosma geniculata* — Near Threatened; occurring in coastal sands from De Kelders to Arniston.
- *Muraltia pappeana* — Near Threatened; occurring in coastal sands from De Kelders to Riversdale.

All five species maintain viable populations across the greater property, and the estimated proportion of the global population of each species within the development footprints is less than 1% in all cases. Viable populations of all recorded SoCC will be retained in the undeveloped portions of the property under the preferred Alternative 5.

Two patches of High botanical sensitivity were identified on the property, located primarily within the proposed Solar PV Array area and the seawater reservoir footprint. The Phase 1 grow-out platform area is predominantly of Low botanical sensitivity, whilst the balance of the production area falls within Low to Medium sensitivity zones.

Construction Phase Botanical Impacts

The primary construction-phase botanical impacts of the proposed development are the permanent loss of Low, Medium, and High sensitivity indigenous vegetation within the approved development footprints, and the associated loss of footprint subpopulations of the five recorded plant SoCC. Total and permanent vegetation loss will occur within the seawater reservoir and grow-out platform footprints. Temporary vegetation loss is anticipated within the pipeline corridor, with most species expected to recover within five to ten years following construction. The Solar PV Array footprint will not be subject to total vegetation loss, as the array will be elevated a minimum of 1 m above the ground surface, allowing the bulk of indigenous vegetation to be retained beneath the panels.

The only CBA1-mapped area directly impacted by the proposed development is within the Solar PV Array footprint. This impact will not result in the total loss of the CBA1 area, as most plant species within this zone are expected to persist beneath the elevated panels and ecological connectivity through the area will be maintained.

Operational Phase Botanical Impacts

Operational phase impacts include the persistent loss of natural vegetation and associated reduction in ecological connectivity across the development footprints, contributing to habitat fragmentation at the property scale. A risk of Argentine ant introduction during the construction phase has been identified, with associated potential negative impacts on seed dispersal for indigenous plant species within 50 m of construction activities. The overall habitat fragmentation and loss of ecological connectivity impact is assessed at a Low to Medium negative significance level at the property scale under the preferred Alternative 5.

Evolution of the Preferred Alternative

The assessment process involved the evaluation of five layout alternatives. Through the progressive application of the mitigation hierarchy across the residual impact of medium associated with the seawater reservoir area, as well as engagement with Cape Nature and DEA&DP the development footprint was reduced from approximately 9.6 ha under Alternatives 1 and 2 to 6.834 ha under the preferred Alternative 5. Key reductions include the consolidation of the grow-out platform from a two-phase 3.0 ha footprint to a single 2.0 ha platform situated in areas of Low to Medium botanical sensitivity, and the progressive reduction of the seawater reservoir footprint from 2.0 ha to 0.7 ha.

The botanical specialist confirmed that under the preferred Alternative 5, less than 35% of the seawater reservoir footprint falls within the High botanical sensitivity area compared to more than 50% under the original 2.0 ha reservoir footprint and that the overall residual botanical impact of the development is assessed at a Low to Medium negative significance level. This level of residual impact does not trigger a Biodiversity Offset or off-site conservation contribution requirement under the National Biodiversity Offset Guidelines (DFFE, 2023). This conclusion represents the key finding of the terrestrial biodiversity assessment and reflects the cumulative outcome of more than two years of iterative design refinement, specialist input, and regulatory engagement.

Palaeontological Impact Assessment

The project area is underlain by unconsolidated pale coversands (Qg) of Quaternary age, which overlie the Waenhuiskrans Formation aeolianites. The Waenhuiskrans Formation carries high palaeontological sensitivity due to the potential presence of fossil bones representing both extant and potentially extinct fauna from past ecological and palaeoclimatic phases. Earthworks associated with the Solar PV Array cabling and the construction of the grow-out platforms and seawater reservoir estimated at depths of up to 2 to 3 m may intersect the Waenhuiskrans Formation where the overlying coversands are thin. The overall palaeontological impact of the proposed development is assessed as Low negative, provided that the recommended mitigation measures are properly implemented. A Fossil Finds Procedure (FFP) must be prepared by a qualified palaeontologist, incorporated into the EMPr, and adhered to in the event of any fossil material being uncovered during construction-phase excavations.

Archaeological Impact Assessment

The field assessment conducted by the Agency for Cultural Resource Management (ACRM) on 31 January 2024 recorded a small number of dispersed, fragmented marine shellfish remains primarily *Turbo sarmaticus* (alikreukel), limpet, and *Haliotis* (perlemoen) together with quartz and quartzite flakes within the route of the proposed seawater intake pipeline. These resources occur in a severely degraded context and were assigned a Low (Grade 3C) archaeological significance rating. No significant archaeological resources were encountered within the footprints of the proposed Solar PV Array, grow-out platform, or seawater reservoir.

Notwithstanding the above, the potential for shell midden deposits, Later Stone Age campsites, and unmarked Khoisan burials to be uncovered during construction-phase vegetation clearing and excavations was identified as a residual risk. The overall archaeological impact of the proposed development is assessed as Low, subject to the implementation of the following mitigation measures: professional archaeological monitoring of all ground-disturbing construction activities;

immediate cessation of work and reporting to SAHRA upon the discovery of any human remains or heritage artefacts; and compliance with all applicable requirements of the National Heritage Resources Act (NHRA), 1999 (Act No. 25 of 1999).

Visual Impact Assessment

The Visual Impact Assessment (Lategan, 2024) confirmed that the Romansbaai Abalone Farm is situated within a natural topographic depression that effectively screens the facility and its proposed expansion from the surrounding landscape and adjacent residential areas. The overall visual impact of the proposed expansion is assessed as Low, and the heritage landscape and cultural character of the Danger Point Peninsula will not be materially altered by the proposed development. Whilst the Solar PV Array carries some potential for glare, the screening provided by the ridge to the north of the site effectively limits the visibility of any glare from identified sensitive receptors. No visual mitigation measures are deemed necessary.

Animal Species Compliance Statement

The Animal Species Compliance Statement confirmed the absence of sensitive animal species and habitats within the study area. Based on a combination of desktop research and field verification, no animal species requiring further specialist assessment were identified on site. No fauna-related mitigation measures are required, and the proposed development may proceed without material adverse impacts on animal species of conservation concern.

Overall EIA Finding

The key overall finding of the Environmental Impact Assessment is that the proposed expansion of the Romansbaai Abalone Farm, as configured under the preferred Alternative 5, can proceed without significant adverse impacts on the ecological, heritage, visual, palaeontological, or faunal environment, provided that all mitigation measures identified in the specialist assessments are timeously and properly implemented as conditions of the environmental authorisation. The most significant environmental consideration throughout the assessment process has been the terrestrial biodiversity impact, which has been progressively addressed through the iterative refinement of the development layout over four alternatives and four rounds of public participation. The preferred Alternative 5 represents a genuine and demonstrable outcome of this process, achieving a residual botanical impact below the threshold at which a formal Biodiversity Offset is triggered, and providing a sound and well-motivated basis for the granting of environmental authorisation by the competent authority.

1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)

See attached under **Appendix B**.

1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.

Positive impacts

- → Romansbaai Abalone Farm is a significant job provider for the local community of Gansbaai and surrounds the expansion is expected to create more job opportunities during both the construction and operational phases, thus providing economic benefits to the local community.
- → Additionally, increased production of abalone can contribute to economic growth by enhancing the farm's productivity and revenue generation.
- → The expansion will also facilitate educational programs related to aquaculture and marine conservation, fostering community engagement and knowledge sharing.

→ Moreover, incorporating green energy generation into the expansion plans can promote sustainability and reduce environmental impact. The use of gravity fed water during peak hours, will reduce the load on electrical supply.
→ Expansion on the existing farm and impacted areas would result in less environmental impacts as opposed to developing a new abalone farm on another property.

Negative impacts

→ Impacts on and loss of areas of high botanical sensitivity
→ Short term impacts associated with the expansion of the pumphouse which is located within the littoral active zone. The areas surrounding the pumphouse where the expansion will take place is completely transformed so limited long-term impacts are expected.

2. Recommendation of the Environmental Assessment Practitioner ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr

Having regard to the findings of all specialist assessments undertaken, the iterative refinement of the development layout through the alternatives assessment process, the comments and recommendations of the relevant authorities and registered Interested and Affected Parties received across four rounds of public participation, and the progressive application of the mitigation hierarchy culminating in the preferred Alternative 5, the Environmental Assessment Practitioner (EAP) is of the opinion that the proposed expansion of the Romansbaai Abalone Farm on Portion 2 of Farm Klipfonteyn 711, Gansbaai, may be granted environmental authorisation, subject to the conditions and impact management measures set out below. It is noted that under the preferred Alternative 5 layout, the residual significance of botanical impacts has been assessed as Low-Medium negative post-mitigation. Accordingly, no biodiversity offset is required and no funding obligation for alien clearing at Brown Dog Farm will be imposed.

The following impact management outcomes define the environmental performance standards and obligations applicable to the proposed development throughout the pre-construction, construction, and operational phases. These outcomes are based on the findings of the specialist assessments and the recommendations of the EAP, and must be implemented as conditions of the environmental authorisation.

Mitigation measures recommended by the EAP

→ The applicant must appoint a suitably qualified and experienced Environmental Control Officer (ECO) prior to the commencement of any pre-construction or construction activities. The ECO appointment must be confirmed in writing to the relevant authorities prior to site mobilisation.
→ All approved development footprints must be precisely demarcated on site by a suitably qualified environmental professional, in accordance with the approved Alternative 5 layout, prior to any vegetation clearing or ground-disturbing activities. Physical demarcation markers must be maintained in good condition for the full duration of the construction phase.
→ A pre-construction environmental awareness briefing must be conducted by the ECO for all construction personnel prior to mobilisation. The briefing must cover the location and extent of all sensitive areas, the prohibition on disturbing vegetation outside demarcated footprints, the requirements of the EMPr, and the obligations of construction personnel under applicable environmental legislation.
→ All construction activities must be confined to standard working hours of 07:00 to 18:00 on weekdays and 07:00 to 13:00 on Saturdays, unless otherwise approved in writing by the ECO and the relevant authorities.

- → Active dust suppression measures, including regular watering of exposed soil surfaces and construction access roads, must be implemented throughout the construction phase, particularly during dry and windy conditions.
- → All construction vehicles must adhere to designated access routes and speed limits on site to minimise dust generation, soil compaction, and disturbance to adjacent natural vegetation and fauna.
- → No construction waste, rubble, cement, concrete washings, fuel, oils, or chemicals may be disposed of within any area of natural vegetation, drainage line, watercourse, or coastal zone.
- → All construction waste must be removed from site regularly and disposed of at a licensed waste disposal facility.

The following impact management outcomes have been identified based on the findings of the specialist assessments undertaken for the proposed expansion of the Romansbaai Abalone Farm. These outcomes define the environmental performance standards and management obligations that must be achieved and maintained throughout the pre-construction, construction, and operational phases of the proposed development. All mitigation measures must be timeously and properly implemented as conditions of the environmental authorisation.

Terrestrial Biodiversity Impact Assessment

Impact Management Outcomes:

- ❖ The permanent transformation of indigenous vegetation is limited to the approved development footprints only, and the extent of vegetation loss within High botanical sensitivity areas is minimised to the greatest extent practicable. The ecological integrity and connectivity of the undeveloped portions of the property, including CBA1-mapped areas and High sensitivity habitat, is maintained throughout the construction and operational phases.
- ❖ All listed invasive alien plant species are removed from the property within the prescribed timeframe, and their spread is prevented during and after the construction phase, in compliance with the National Environmental Management: Biodiversity Act (NEMBA), 2004 (Act No. 10 of 2004) and the Conservation of Agricultural Resources Act (CARA), 1983 (Act No. 43 of 1983).
- ❖ Viable populations of all five plant Species of Conservation Concern (SoCC) recorded on the property are maintained in undeveloped areas following construction, and no species is rendered locally extinct as a result of the proposed development.
- ❖ The indigenous vegetation within the Solar PV Array footprint, which partially overlaps with the CBA1-designated area under the 2017 BSP, is largely retained in a functional condition beneath the raised array, ecological connectivity through the CBA1 area is maintained, and no large-scale vegetation clearing occurs within the PV footprint.
- ❖ The permanent transformation of indigenous vegetation within the seawater reservoir footprint is strictly confined to the approved 7 000 m² footprint, and no additional encroachment into the High botanical sensitivity area beyond the demarcated footprint occurs at any time.

Mitigation measures:

- → Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter.
- → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens et al 2021). The main invasive species are rooikrans (*Acacia cyclops*) and manitoka (*Myoporum serratum* and *M tenuifolium*).
- → Search and Rescue of all translocatable bulbs (geophytes) and succulents (including *Lampranthus fergusonaiae*) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April

to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.

→ No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

Visual Impact Assessment

Impact Management Outcome:

The visual impact of the proposed expansion on the surrounding landscape and adjacent residential area remains at a low significance level throughout the construction and operational phases of the development, consistent with the findings of the Visual Impact Assessment (Lategan, 2024).

Mitigation measures:

→ Large structures should be located in low-lying positions on the site to minimize visual impacts, taking into account the site's topography to reduce the extent of earthworks and site disturbance.

→ Solar photovoltaic (PV) arrays should be positioned in low-lying areas, away from dune ridges, and in harmony with the natural topography to reduce their visual footprint.

→ The construction camp and associated storage and stockpile areas should be situated in locations that are visually unobtrusive and not visible from the beach, to minimize the visual impact on the landscape.

Heritage Impacts Assessment

Impact Management Outcome:

Any archaeological, heritage, or palaeontological material uncovered during construction-phase excavations is appropriately identified, documented, and managed in accordance with the requirements of the National Heritage Resources Act (NHRA), 1999 (Act No. 25 of 1999), and no heritage resources are lost or damaged as a result of construction activities.

Mitigation measures

→ Vegetation clearing and all construction phase excavations must be supervised by a professional archaeologist to ensure that any archaeological resources are identified and managed appropriately.

→ Archaeological monitoring should be conducted during vegetation clearance in foredunes, and shovel testing may be required if archaeological sites are discovered.

→ Should any human remains be uncovered during excavations, all work must cease immediately, and the findings must be reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be disturbed until inspected and managed by the archaeologist.

→ The Fossil Finds Procedure (FFP) must be included in the Environmental Management Plan (EMP) to provide guidelines for handling fossil finds during excavations.

→ According to the Cultural and Heritage Landscape assessment, no additional mitigation measures are deemed necessary (Lategan 2024).

Mitigation measures for Intake and Discharge of Seawater

- → The project must comply with the requirements of the General Discharge Authorisation (GDA).
- → Effluent water quality leaving the facility must be monitored regularly to ensure compliance with relevant aquaculture guidelines and GDA requirements
- → Specific parameters for water quality monitoring and the frequency of monitoring must adhere to GDA specifications.
- → Farm management practices should be designed to avoid excessive accumulation of feed in tanks, thereby preventing high levels of dissolved nutrients in the effluent water.
- → Regular cleaning of tanks must be carried out to prevent the accumulation of particulates in the grow-out facilities, thus avoiding spikes in particulate outputs during sporadic flushing events.
- → The effluent sump, discharge pipeline, and screens must be maintained in good working order to ensure effective effluent management.

2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.

The following aspects have been identified by the Environmental Assessment Practitioner (EAP) and the specialist as conditions that must be incorporated into the environmental authorisation. These conditions are non-negotiable and must be fulfilled timeously and in their entirety for the proposed development to proceed in a manner that is consistent with the findings and recommendations of the assessment process.

1. Development Footprint and Layout

The following conditions relating to the approved development footprint are regarded as fundamental to the validity of the environmental authorisation and must be strictly adhered to at all times:

- The proposed development must be implemented strictly in accordance with the preferred Alternative 5 layout (Rev C, dated 20 May 2026), as assessed by the botanical specialist (Helme, 25 May 2026; Appendix G1d) and supported by the EAP. No deviation from the approved layout, including any increase in the size or repositioning of any development component, is permitted without prior written approval from DEA&DP.
- The total development footprint must not exceed 6.834 ha as assessed and approved. Individual component footprints must not exceed the following maximum areas:
  - Grow-out platform: 20 000 m² (2.0 ha)
  - Lined seawater reservoir: 7 000 m² (0.7 ha)
  - Solar PV Array: 40 000 m² (4.0 ha)
  - Pumphouse expansion: 140 m²
  - Four additional pipelines: 1 200 m² (total)
- The seawater reservoir must be positioned such that no more than 35% of its footprint falls within the High botanical sensitivity area, consistent with the approved Alternative 5 layout. Any proposed amendment to the reservoir position that would result in an increased proportion of the footprint falling within the High sensitivity area constitutes a material change to the approved layout and must be subject to a new or amended environmental assessment process.

2. Appointment of Environmental Control Officer

- A suitably qualified and experienced Environmental Control Officer (ECO) must be appointed by the applicant prior to the commencement of any pre-construction or construction activities. The identity and qualifications of the appointed ECO must be confirmed in writing to DEA&DP prior to site mobilisation.

- The ECO must be present on site during all environmentally sensitive construction activities, including vegetation clearing, ground-disturbing earthworks, and any activities within or adjacent to areas of High botanical sensitivity or CBA1-mapped habitat.
- The ECO must compile and submit monthly construction monitoring reports to the EAP and DEA&DP for the full duration of the construction phase, documenting compliance status, any incidents or non-compliances identified, corrective actions taken, and progress against all EMPr requirements.
- A post-construction compliance audit must be undertaken by the ECO within three months of construction completion and the audit report submitted to DEA&DP within 30 days of audit completion.

3. Pre-Construction Search-and-Rescue of Plant Species of Conservation Concern

→ A search-and-rescue operation for all translocatable plant Species of Conservation Concern (SoCC) — including geophyte bulbs, succulents, and all individuals of *Lampranthus fergusoniae, Athanasia quinquedentata ssp. rigens, Cynanchum zeyheri, Muraltia pappeana*, and *Agathosma geniculate* must be undertaken by a suitably qualified botanist across all approved development footprints prior to the commencement of any vegetation clearing or construction activities.

→ The search-and-rescue operation must be conducted at the appropriate seasonal phase for the relevant species, between April and October, to ensure that geophytes are in an identifiable and physiologically suitable state for translocation.

→ All translocated material must be relocated to ecologically comparable undisturbed areas on the property, identified and approved by the botanical specialist prior to the commencement of the operation.

→ Full records of all species translocated, including species identity, numbers of individuals, translocation location, and date of translocation, must be compiled and submitted to the ECO and DEA&DP prior to the commencement of construction.

→ The search-and-rescue operation must be supervised by the botanical specialist or a person approved by the specialist, and a completion certificate confirming that the operation has been satisfactorily completed must be submitted to the ECO before any vegetation clearing in the affected footprints is authorised to commence.

4. Invasive Alien Plant Species Clearing

→ All listed invasive alien plant species identified on the property including rooikrans (*Acacia cyclops*) and manitoka (*Myoporum serratum and M. tenuifolium*) must be removed from the site using approved control methodology in accordance with the relevant requirements of NEMBA, 2004 and CARA, 1983.

→ A post-construction invasive alien plant monitoring and follow-up clearing programme must be established and implemented for a minimum period of three years following construction completion, with not less than two follow-up clearing sweeps per year. Annual invasive alien plant monitoring reports must be submitted to DEA&DP for this period.

→ The property owner must maintain ongoing legal compliance with NEMBA, 2004 and CARA, 1983 regarding the control and eradication of invasive alien plant species for the full operational lifespan of the facility.

Solar PV Array — Vegetation Management

→ No large-scale soil disturbance, vegetation clearing, grubbing out, or herbicide application shall occur within the Solar PV Array footprint at any time during the construction or operational phases.

→ Vegetation within the PV footprint must be managed exclusively through trimming to a maximum height of 1 m. Vegetation must never be cut below 300 mm above the ground surface at any time.

→ Solar panels must be installed and maintained at a minimum height of 1 m above the ground surface throughout the operational lifespan of the array.

Terrestrial Biodiversity Assessment:

- → Any approved development footprints must be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas is permitted, either during construction or thereafter.
- → All listed invasive alien plant species must be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*).
- → Search and Rescue of all translocatable bulbs (geophytes) must be undertaken from the approved development footprints for production area of production area and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.
- → No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels, it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

Visual Impact Assessment:

- → Large structures should be located in low-lying positions on the site to minimize visual impacts, taking into account the site's topography to reduce the extent of earthworks and site disturbance.
- → Solar photovoltaic (PV) arrays should be positioned in low-lying areas, away from dune ridges, and in harmony with the natural topography to reduce their visual footprint.
- → The construction camp and associated storage and stockpile areas should be situated in locations that are visually unobtrusive and not visible from the beach, to minimize the visual impact on the landscape.

Heritage Impacts Assessment:

- → Vegetation clearing and all construction phase excavations must be supervised to ensure that any archaeological resources are identified and managed appropriately.
- → Archaeological monitoring should be conducted during vegetation clearance in foredunes, and shovel testing may be required if archaeological sites are discovered.
- → Should any human remains be uncovered during excavations, all work must cease immediately, and the findings must be reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be disturbed until inspected and managed by the archaeologist.
- → The Fossil Finds Procedure (FFP) must be included in the Environmental Management Plan (EMP) to provide guidelines for handling fossil finds during excavations.
- → According to the Cultural and Heritage Landscape assessment, no additional mitigation measures are deemed necessary (Lategan 2024).

Intake and Discharge of Seawater:

- → The project must comply with the requirements of the General Discharge Authorisation (GDA).
- → Effluent water quality leaving the facility must be monitored regularly to ensure compliance with relevant aquaculture guidelines and GDA requirements
- → Specific parameters for water quality monitoring and the frequency of monitoring must adhere to GDA specifications.

- → Farm management practices should be designed to avoid excessive accumulation of feed in tanks, thereby preventing high levels of dissolved nutrients in the effluent water.
- → Regular cleaning of tanks must be carried out to prevent the accumulation of particulates in the grow-out facilities, thus avoiding spikes in particulate outputs during sporadic flushing events.
- → The effluent sump, discharge pipeline, and screens must be maintained in good working order to ensure effective effluent management.

2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.

Having carefully considered all of the above, the EAP is of the opinion that the proposed expansion of the Romansbaai Abalone Farm on Portion 2 of Farm Klipfonteyn 711, Gansbaai, should be authorised, for the following reasons:

- The proposed development serves a legitimate operational and socio-economic purpose, contributing to the productive capacity, energy security, and long-term sustainability of an established aquaculture facility, and generating employment opportunities for the local community during both the construction and operational phases.
- All reasonable and feasible layout alternatives have been thoroughly assessed and the mitigation hierarchy has been fully and demonstrably applied across five successive layout iterations, resulting in the preferred Alternative 5, which achieves the minimum feasible development footprint consistent with the operational requirements of the project.
- The residual botanical impact of the preferred Alternative 5 has been confirmed by the botanical specialist at a Low to Medium negative significance level, which does not trigger a Biodiversity Offset or off-site conservation contribution requirement under the National Biodiversity Offset Guidelines (DFFE, 2023). This represents a significant improvement relative to earlier alternatives and constitutes a genuine and tangible outcome of the mitigation hierarchy application process.
- The findings of the Heritage Impact Assessment, Animal Species Compliance Statement, Visual Impact Assessment, and Palaeontological Impact Assessment collectively confirm that the proposed development does not give rise to significant adverse impacts in these disciplines, provided that the identified mitigation measures are properly implemented.
- The proposed development is consistent with the objectives and management guidelines of the Western Cape Biodiversity Spatial Plan, the applicable municipal planning instruments, and the broader legislative framework governing environmental management in South Africa.
- All residual impacts of the proposed development, across all assessed disciplines, are within acceptable thresholds provided that the mitigation measures and conditions identified in this report and the EMPr are timeously and properly implemented.

The EAP is further of the opinion that the following conditions must be included in the environmental authorisation to give effect to the findings and recommendations of the assessment process.

Conditions of Authorisations:

- → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens et al 2021). The main invasive species are rooikrans (*Acacia cyclops*) and manitoka (*Myoporum serratum* and *M.tenuifolium*).
- → Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for production area (grow out tanks) and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.

→ No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1 m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1 m above ground level. If the vegetation grows above the panels, it may be trimmed on a regular basis, as needed, but should never be cut below 300 mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

→ Archaeological monitoring should be conducted during vegetation clearance in foredunes, and shovel testing may be required if archaeological sites are discovered.

→ Should any human remains be uncovered during excavations, all work must cease immediately, and the findings must be reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be disturbed until inspected and managed by the archaeologist.

→ The Fossil Finds Procedure (FFP) must be included in the Environmental Management Plan (EMP) to provide guidelines for handling fossil finds during excavations.

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.

N/A

2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.

This Environmental Authorisation is grated for:

→ A period of five years from the date of issue, during which the holder must commence with the authorised listed activities.

→ A period of ten (10) years, from the date the holder commenced with the authorised listed activities, during this period the authorised listed activities must be concluded.

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.
The proposed expansion will connect to the water networks provided by the Overstrand Municipality. Water will be reused and recycled where possible.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.
Waste is collected weekly by the municipality and it is recycled on the dumping site.

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.
The development proposal incorporates a solar array as a key design measure to improve the farm's efficiency. This will provide an alternative power source and ensure continued operations during periods of loadshedding.	

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

Note: Duplicate this section where there is more than one Applicant.

I, Rowan David Yearsley, ID number 8207175173080 in my personal capacity or duly authorised thereto hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;
- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;
- I appointed the Environmental Assessment Practitioner ("EAP") (if not exempted from this requirement) which:
  - meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations; or
  - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the NEMA EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the NEMA EIA Regulations;
- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;
- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation including but not limited to –
  - costs incurred for the appointment of the EAP or any legitimately person contracted by the EAP;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
  - Legitimate costs in respect of specialist(s) reviews; and
  - the provision of security to ensure compliance with applicable management and mitigation measures;
- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

27-05-2026

Signature of the Applicant: Date:

Aqunion Pty Ltd

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I **MICHELLE NAYLOR** EAPASA Registration number **2019/698** as the appointed EAP hereby declare/affirm the correctness of the:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

03/06/2026

Signature of the EAP: Date:

LORNAY ENVIRONMENTAL CONSULTING PTY LTD

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP

I ……, EAPASA Registration number …….. as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I Jonathan Kaplan....., as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

Jonathan Kaplan — 09 May 2025

Signature of the EAP: Date:

Agency for Cultural Resource Management

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I ..... John Pether ....., as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
  - ~~am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);~~
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

Signature of the EAP: 

Date: 9 May 2025

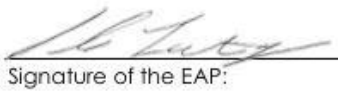
Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I SC Lategan, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.



Signature of the EAP: Date: 9 May 2025

N/A

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I Jan A Venter, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

Signature of the EAP: Date: 09/05/2025

Wildlife Conservation Decision Support

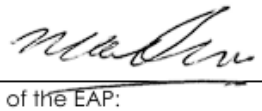
Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I NA Helme, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.



13 May 2025

Signature of the EAP: Date:

Nick Helme Botanical Surveys

Name of company (if applicable):

DECLARATION OF THE REVIEW SPECIALIST

I ……., as the appointed Review Specialist hereby declare/affirm that:

- I have reviewed all the work produced by the Specialist(s):
- I have reviewed the correctness of the specialist information provided as part of this Report;
- I meet all of the general requirements of specialists as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the review EAP (if applicable), the Specialist(s), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):