

PROJECT IMPACT ASSESSMENT, SIGNIFICANCE AND MITIGATION MEASURES SUMMARY

The following impact rating approach used by EnviroAfrica cc is a basic exponential rating system to assess actual and potential negative and positive environmental impacts.

Environmental activities or aspects are identified based on:

- the phases of the project,
- the nature (or description) of the actual and potential impacts of the activities.

For every project activity or aspect, various environmental impacts are listed. Every negative impact is allocated a -value as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Consequence (Receiving Environment)
- Magnitude (Intensity/severity)

Every positive impact is allocated a +value as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Magnitude (Intensity/severity)

Once a value is allocated for each of the criteria, the scores are averaged to determine the final impact rating (see Table 1 below).

EnviroAfrica then further assesses environmental significance, based on the nature of the impact, as per the score and colour key, which forms part of Table 1 below. This results in impacts having either a low (indicated in green), medium (indicated in yellow) or high (indicated in orange and red) negative significance, and a low (light blue), medium (blue) or a high (dark blue) positive significance

Note: i. As a baseline, impact rating values/scores are allocated taking the **worst-case** scenario into account, i.e. with no mitigation. The baseline rating is compared with those after mitigation has been taken into account, i.e. the post-mitigation rating. Post mitigation rating is used for the actual impact assessment.

SIGNIFICANCE CRITERIA	Very High	High	Medium	Low	Negligible (very low)
Value	16	8	4	2	1
Probability (likelihood) (P)		Definite. Impact will definitely occur (impact will occur regardless of any prevention measures)	Highly probable. Very likely for impact to occur.	Probable. Impact may likely occur.	Improbable. Low likelihood/unlikely for impact to occur.
Extent (E)	Impact potentially reaches beyond national boundaries	Impact has definite provincial/potential national consequences	Impact confined to regional area/ town	Impact confined to local region and impact on neighbouring properties	Impact confined to project property / site
Duration (D)		Permanent The impact is expected to have a permanent impact, with very little to no rehabilitation possible	Long-Term The impact is expected to last for a long time after construction with rehabilitation expected to be 15-50 years. Impact is reversible but only with long-term mitigation	Medium-term The impact is expected to last for some time after construction with rehabilitation expected to be 2 - 15 years. Impact is reversible but only with on-going mitigation	Short-term / temporary The impact is expected to be temporary or last for a relatively short time with rehabilitation expected to be <2years. The impact is reversible through natural process and/or some mitigation.
Magnitude (Intensity/ Severity) (M)	It is expected that the activity will have a very severe to permanent impact on the surrounding environment. Functioning irreversibly impaired. Rehabilitation often impossible or unfeasible	It is expected that the activity will have a severe impact on the surrounding environment. Functioning may be severely impaired and may be temporarily cease. Rehabilitation will be needed to restore system integrity	It is expected that the activity will have an impact on the surrounding environment, but it will maintain its function, even if moderately modified (overall integrity not compromised). Rehabilitation easily achieved	It is expected that the activity will have a perceptible impact on the surrounding environment, but it will maintain its function, even if slightly modified (overall integrity not compromised). Rehabilitation easily achieved	It is expected that the impact will have little or no effect on the integrity of the surrounding environment
Receiving environment (Consequence): (RE)	Very sensitive, pristine area – protected site or species permanently or seasonally present	Unused area containing only indigenous fauna / flora species	Unused area containing indigenous and alien fauna / flora species	Semi-disturbed area already rehabilitated / recovered from prior impact, or with moderate alien vegetation	Disturbed area/ transformed/ heavy alien vegetation

ENVIRONMENTAL RATING SIGNIFICANCE KEY:

Negative Impacts

SIGNIFICANCE	RATING	Final rating score/value range
Very Significant	Very High	-11 to -16
Significant	High	-7 to <-11
Increasing Significance	Medium	≥-5 to <-7
	Medium Low	-4 to ≤-5
Insignificant	Low	-3 to <-4
	Very Low	-1 to <-2

Positive Impacts

SIGNIFICANCE	RATING	Final rating score/value range
Significant	High	10 to 16
Increasing Significance	Medium	4 to <10
Insignificant	Low	1 to <4

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

PROJECT-SPECIFIC IMPACT ASSESSMENT AND SCORING MATRIX – WELVENPAS AGRICULTURAL DEVELOPMENT

Project: Establishment of an olive cultivation block over approximately 2.21 ha ($\pm 22\ 100\text{ m}^2$) on the Remainder of Farm Welvenpas No. 238, near Wellington, Drakenstein Local Municipality, Western Cape Province.

Alternatives assessed:

Alternative 1 (Preferred): Establish the olive cultivation block within the defined 2.21 ha footprint, using existing farm access and the existing authorised irrigation supply (no new buildings, dams, processing facilities or new access roads).

Alternative 2: Relocate the orchard to another area on the same farm (similar area), potentially requiring additional disturbance outside the verified footprint and additional irrigation tie-ins/internal access adjustments.

No-Go: Do not implement the activity; the site remains fallow/managed as-is.

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

ESTABLISHMENT PHASE (PLANNING, DESIGN AND DEVELOPMENT) – SUMMARY				
No.	Aspect / Impact	Alternative 1 (Preferred)	Alternative 2 (Relocate)	No-Go
1	Geographical / Topographical	Localised soil disturbance during land preparation; Low–Medium (Neg)	Potentially greater disturbance due to new area/unknown slopes; Medium (Neg)	No impact
2	Aquatic / Freshwater (indirect)	Indirect sediment/runoff risk during storms; Low (Neg)	Higher risk if closer to drainage features; Medium–Low (Neg)	No impact
3	Terrestrial Biodiversity	Loss of degraded secondary vegetation within footprint; Medium–Low (Neg)	Potentially higher biodiversity risk if less disturbed area; Medium (Neg)	No impact (potential natural recovery)
4	Visual	Temporary disturbance from clearing/soil preparation; Low (Neg)	Potentially more visible depending on location; Low–Medium (Neg)	No impact
5	Socio-economic	Short-term jobs; Low–Medium (Pos) + temporary nuisance; Low (Neg)	Similar benefits but potentially higher nuisance; Low–Medium (Neg/Pos)	No jobs/benefits; Low–Medium (Neg)
6	Heritage	Low risk; chance-finds procedure; Very Low (Neg)	Slightly higher uncertainty; Low (Neg)	No impact
7	Noise & Dust	Temporary; manageable; Low–Medium (Neg)	Potentially higher if more exposed; Medium–Low (Neg)	No impact
8	Waste	Limited; manageable; Low (Neg)	Slightly higher volumes (more materials); Low–Medium (Neg)	No impact
9	Cumulative	Incremental disturbance within agricultural landscape; Low–Medium (Neg)	Higher cumulative risk due to new transformation area; Medium (Neg)	Ongoing fallow degradation risk if unmanaged; Low (Neg)

DECOMMISSIONING / CLOSURE PHASE – SUMMARY				
No.	Aspect / Impact	Alternative 1 (Preferred)	Alternative 2 (Relocate)	No-Go
1	Geographical / Topographical	Short-term disturbance if orchard removed; Low–Medium (Neg)	Low–Medium (Neg)	Not applicable
2	Aquatic / Freshwater (indirect)	Short-term sediment risk if soils exposed; Low–Medium (Neg)	Medium (Neg)	Not applicable
3	Terrestrial Biodiversity	Opportunity for rehabilitation; Low (Neg/Pos)	Low–Medium (Neg)	Not applicable
4	Visual	Temporary disturbance; Low (Neg)	Low (Neg)	Not applicable
5	Socio-economic	Loss of production/jobs if closed; Low–Medium (Neg)	Low–Medium (Neg)	Not applicable
6	Heritage	Chance finds possible during earthworks; Very Low (Neg)	Low (Neg)	Not applicable
7	Noise & Dust	Temporary; Low (Neg)	Low (Neg)	Not applicable
8	Waste	Removal of irrigation materials; Low (Neg)	Low–Medium (Neg)	Not applicable
9	Cumulative	Low; depends on rehabilitation success; Low (Neg)	Low–Medium (Neg)	Not applicable
7	Noise & Dust	Typical farming operations; Low (Neg)	Low–Medium (Neg)	No impact
8	Waste	Routine low volumes; Low (Neg)	Low (Neg)	No impact
9	Cumulative	Improved land stewardship; Low (Pos/Neutral)	Low (Neg/Neutral)	Potential ongoing weed/alien spread if unmanaged; Low–Medium (Neg)

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

ESTABLISHMENT PHASE – DETAILED IMPACT ASSESSMENT (ALTERNATIVE 1: PREFERRED)

No.	Aspect	Impact description	P	E	D	M	RE	Score	Significance	Key mitigation/management measures	P	E	D	M	RE	Score	Significance
1	Geographical / Topographical	Soil disturbance and micro-topographic change due to clearing, ripping and soil preparation within the 2.21 ha footprint.	3	2	2	2	4	13	Medium-Low	Demarcate footprint; stage works; implement erosion controls before clearing; stabilise soils/groundcover promptly.	2	1	2	1	4	10	Low
2	Aquatic / Freshwater (indirect)	Potential indirect sediment/runoff mobilisation during rainfall events from exposed soils (no aquatic features within/adjacent to footprint).	3	2	2	2	5	14	Medium	Install/maintain erosion and stormwater controls; manage stockpiles; maintain groundcover; inspect after rainfall and repair.	2	1	2	1	5	11	Medium-Low
3	Terrestrial Biodiversity (Botanical & Faunal)	Loss of degraded secondary vegetation within the footprint and temporary disturbance to generalist fauna during establishment.	4	2	3	2	4	15	Medium	Limit clearing strictly to the footprint; retain buffers outside the footprint; implement alien control; maintain groundcover between rows.	4	2	3	1	4	14	Medium
4	Visual	Temporary visual disturbance from clearing, exposed soils and machinery during establishment.	3	2	2	2	4	13	Medium-Low	Keep footprint small and tidy; progressive stabilisation; remove waste; dust suppression where needed.	2	1	2	1	4	10	Low
5	Socio-economic (nuisance)	Temporary disturbance from machinery, dust and vehicle movement to nearby receptors within the farming area.	3	2	2	2	4	13	Medium-Low	Daytime working hours; speed control; dust suppression; communication/complaints procedure if required.	2	1	2	1	4	10	Low
6	Heritage	Low likelihood of chance finds during soil preparation/ripping.	2	1	2	1	4	10	Low	Implement the chance finds procedure; stop work and notify the authority if resources are encountered; toolbox talk prior to work.	1	1	1	1	4	8	Low
7	Noise & Dust	Temporary increase in noise and dust during clearing and land preparation.	4	2	2	2	4	14	Medium	Dust suppression; maintain machinery; restrict to daytime; minimise	2	1	2	1	4	10	Low

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

										unnecessary trips; stabilise soils promptly.							
8	Waste	Generation of limited general waste (packaging, plastics) and vegetation waste during establishment.	3	1	2	2	4	12	Medium-Low	Waste separation and lawful disposal; no burning/burying; reuse/mulch vegetation material where appropriate; housekeeping.	1	1	1	1	4	8	Low
9	Cumulative	Incremental contribution to localised disturbance within an agricultural landscape.	3	2	2	2	4	13	Medium-Low	Confine works to footprint; maintain groundcover; alien control; erosion control and monitoring.	2	1	2	1	4	10	Low

ESTABLISHMENT PHASE – DETAILED IMPACT ASSESSMENT (ALTERNATIVE 2: RELOCATE)

No.	Aspect	Impact description	P	E	D	M	RE	Score	Significance	Key mitigation/management measures	P	E	D	M	RE	Score	Significance
1	Geographical / Topographical	Soil disturbance and micro-topographic change due to clearing and preparation in a new area outside the verified footprint.	3	2	2	3	3	13	Medium-Low	Select the least sensitive transformed area; demarcate footprint; stage works; erosion controls and rapid stabilisation.	2	1	2	1	3	9	Low
2	Aquatic / Freshwater (indirect)	Higher risk of indirect sediment/runoff impacts if the relocated site is closer to drainage features.	3	3	2	3	3	14	Medium	Avoid low-lying drainage features; maintain buffers; erosion/stormwater controls; and monitoring after rainfall.	2	2	2	1	3	10	Low
3	Terrestrial Biodiversity (Botanical & Faunal)	Potential loss of higher-value vegetation or habitat if relocation encroaches into less disturbed areas.	4	3	3	3	3	16	Medium	Pre-clear site walkover; avoid intact vegetation; strict footprint demarcation; alien control and groundcover.	4	2	3	2	3	14	Medium
4	Visual	Temporary visual disturbance potentially affecting a wider area depending on the alternative location.	3	3	2	2	3	13	Medium-Low	Select less visible area; progressive stabilisation; housekeeping and dust suppression.	2	2	2	1	3	10	Low
5	Socio-economic (nuisance)	Temporary disturbance potentially affecting additional receptors	3	3	2	2	3	13	Medium-Low	Daytime working hours; speed control; dust	2	2	2	1	3	10	Low

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

		depending on the relocated site position.								suppression; manage access and safety.							
6	Heritage	Slightly increased chance of finding risk due to disturbance of a new area.	2	2	2	1	3	10	Low	Chance finds procedure; stop work and notify if required.	1	1	1	1	3	7	Very Low
7	Noise & Dust	Temporary increase in noise and dust; potentially higher due to longer travel distances and additional works.	4	3	2	2	3	14	Medium	Dust suppression; restrict hours; maintain equipment; stabilise soils.	2	2	2	1	3	10	Low
8	Waste	Higher volumes of packaging and materials waste due to additional irrigation tie-ins/longer runs.	3	2	2	2	3	12	Medium-Low	Waste separation; reuse of off-cuts; lawful disposal; housekeeping.	1	1	1	1	3	7	Very Low
9	Cumulative	Greater cumulative risk due to an additional transformation area within the farm unit.	3	3	2	3	3	14	Medium	Prefer disturbed areas only; strict footprint; rehabilitation and alien control.	2	2	2	1	3	10	Low

NO-GO OPTION – SUMMARY (NO DEVELOPMENT)

Under the No-Go option, no establishment, operational or decommissioning activities occur. The primary environmental outcomes are the avoidance of development-related impacts, offset by the potential for ongoing land degradation risks (e.g., erosion, weed/alien infestation) if the fallow area is not actively managed.

OPERATIONAL PHASE – DETAILED IMPACT ASSESSMENT (ALTERNATIVE 1: PREFERRED)

No.	Aspect	Impact description	P	E	D	M	RE	Score	Significance	Key mitigation/management measures	P	E	D	M	RE	Score	Significance
1	Geographical / Topographical	Long-term soil stability and erosion risk associated with orchard management (rows/vehicle tracks).	2	2	4	2	4	14	Medium	Maintain groundcover; repair erosion promptly; manage traffic; maintain drainage/berms.	1	1	4	1	4	11	Medium-Low

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

2	Aquatic / Freshwater (indirect)	Indirect risk of sediment/nutrient runoff during extreme rainfall if irrigation and soil management are poor.	2	2	4	2	4	14	Medium	Drip irrigation; avoid over-irrigation; nutrient management; maintain buffers and erosion controls.	1	1	4	1	4	11	Medium-Low
3	Terrestrial Biodiversity	Long-term habitat simplification within the orchard footprint (already disturbed baseline).	2	2	4	1	4	13	Medium-Low	Maintain groundcover; alien control; avoid disturbance beyond footprint.	1	1	4	1	4	11	Medium-Low
4	Waste (maintenance)	Routine waste generation (packaging, pruning residues) during operations.	2	1	4	1	4	12	Medium-Low	Mulch/compost pruning residues where feasible; waste separation; lawful disposal.	1	1	4	1	4	11	Medium-Low
5	Noise & Dust	Intermittent operational noise/dust from farm vehicles and maintenance activities.	2	2	4	1	4	13	Medium-Low	Speed control; maintain tracks; schedule activities during the daytime.	1	1	4	1	4	11	Medium-Low

OPERATIONAL PHASE – DETAILED IMPACT ASSESSMENT (ALTERNATIVE 2: RELOCATE)

No.	Aspect	Impact description	P	E	D	M	RE	Score	Significance	Key mitigation/management measures	P	E	D	M	RE	Score	Significance
1	Geographical / Topographical	Potentially higher long-term erosion risk if the relocated site has steeper slopes or less stable soils.	3	2	4	2	3	14	Medium	Maintain groundcover; erosion repairs; traffic management; drainage controls.	1	1	4	1	3	10	Low
2	Aquatic / Freshwater (indirect)	Higher indirect runoff risk if relocated closer to drainage features.	3	2	4	2	3	14	Medium	Drip irrigation; nutrient management; buffers and erosion controls; monitoring.	1	1	4	1	3	10	Low
3	Terrestrial Biodiversity	Potential for greater edge effects depending on proximity to natural vegetation patches.	3	2	4	2	3	14	Medium	Alien control; buffers; avoid expansion; maintain groundcover.	1	1	4	1	3	10	Low

APPENDIX J – IMPACT ASSESSMENT AND SCORING MATRIX

DECOMMISSIONING / CLOSURE PHASE – DETAILED IMPACT ASSESSMENT (ALTERNATIVE 1: PREFERRED)

No.	Aspect	Impact description	P	E	D	M	RE	Score	Significance	Key mitigation/management measures	P	E	D	M	RE	Score	Significance
1	Geographical / Topographical	Soil exposure and erosion risk if the orchard is removed and soils are left bare.	2	2	2	2	4	12	Medium-Low	Closure plan; staged removal; immediate stabilisation with cover crops/reseeding; erosion controls.	1	1	2	1	4	9	Low
2	Waste	Waste from the removal of irrigation lines and materials.	2	1	2	2	4	11	Medium-Low	Waste separation; recycle plastics/metals; lawful disposal; no burning/burying.	1	1	1	1	4	8	Low
3	Heritage	Chance-find risk during any closure of earthworks.	2	1	2	1	4	10	Low	Apply the chance finds procedure; stop work if required.	1	1	1	1	4	8	Low

DECOMMISSIONING / CLOSURE PHASE – DETAILED IMPACT ASSESSMENT (ALTERNATIVE 2: RELOCATE)

No.	Aspect	Impact description	P	E	D	M	RE	Score	Significance	Key mitigation/management measures	P	E	D	M	RE	Score	Significance
1	Geographical / Topographical	Potentially higher erosion risk if the relocated site is more erosion-prone.	2	2	2	3	3	12	Medium-Low	Closure plan; staged works; stabilise soils immediately; erosion controls.	1	1	2	1	3	8	Low
2	Waste	Potentially higher waste volumes due to longer irrigation runs.	2	2	2	2	3	11	Medium-Low	Recycle and lawful disposal; no burning/burying.	1	1	1	1	3	7	Very Low