

APPENDIX F

ENVIRONMENTAL IMPACT STATEMENT

The following potential impacts were identified for this activity and alternatives as discussed in the Basic Assessment Report. The significance rating was determined using the methodology as explained at the end of this statement. The impact rating listed below was determined for each impact prior to, and after, bringing the mitigation measures (where applicable) into consideration. The degree of mitigation indicates the possibility of partial, full or no mitigation of the identified impact.

ACTIVITY 1

- ⊖ **SITE ALTERNATIVE 1 (S1):** Expansion of the existing layer facility within the established farmyard footprint (±0.76 ha).
- ⊖ **LAYOUT ALTERNATIVE 1 (L1):** Compact east-west aligned layout of two parallel layer houses within a consolidated footprint.
- ⊖ **TECHNOLOGY ALTERNATIVE 1 (T1):** Use of automated feeding, watering, ventilation, manure removal and egg collection systems.

DESIGN, PLANNING AND CONSTRUCTION PHASE

The planning, design and construction phase of the layer facility expansion was completed prior to submission of this Section 24G Rectification Application. The additional layer house and associated supporting infrastructure have already been constructed and the development footprint has been established. As a result, mitigation measures typically applicable to the planning, design and construction phase — such as controls relating to vegetation clearance, earthworks management, construction waste handling, erosion control during site preparation, dust suppression, and construction-related noise management — cannot be retroactively implemented. Given that the construction phase has been concluded and no ongoing construction activities are taking place, additional mitigation measures for this phase are not applicable. The focus of environmental management moving forward is therefore directed at operational-phase mitigation and ongoing compliance measures to ensure that potential impacts associated with the functioning of the facility are appropriately managed.

Direct Impact: Disturbance and compaction of soil within the existing farmyard footprint

Severity	Duration	Extent	Consequence		Likelihood		Significance
			Probability	Frequency			
Rating: Low-Medium			S1, L1, T1			Mitigation: Construction completed	
1	2	1	1.3	5	5	5	6.5

Direct Impact: Temporary increase in dust generation due to earthworks and vehicle movement.

Severity	Duration	Extent	Consequence		Likelihood		Significance
			Probability	Frequency			
Rating: Low-Medium			S1, L1, T1			Mitigation: Construction completed	
1	2	1	1.3	5	5	5	6.5

Direct Impact: Generation of construction waste including rubble, packaging and scrap material.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1		Mitigation: Construction completed	
1	2	1	1.3	5	5	6.5

Direct Impact: Temporary noise from construction machinery and delivery vehicles.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1		Mitigation: Construction completed	
1	2	1	1.3	5	5	6.5

Indirect Impact: Temporary increase in local traffic associated with delivery of materials.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1		Mitigation: Construction completed	
1	2	1	1.3	5	5	6.5

Indirect Impact: Potential risk of soil or groundwater contamination if construction materials are mismanaged.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1		Mitigation: Construction completed	
2	3	1	2	3	1	4

Indirect Impact: Short-term visual intrusion during construction activities.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1		Mitigation: Construction completed	
1	2	1	1.3	5	5	6.5

Cumulative Impact: Incremental expansion of agricultural infrastructure within the existing operational node (**Positive Impact**).

Severity	Duration	Extent	Consequence		Likelihood	Significance (+)
			Probability	Frequency		
Rating: Medium-High (+)			S1, L1, T1		Mitigation: Construction completed	
1	5	4	3.3	5	5	16.5

Cumulative Impact: Minor cumulative dust and noise contributions within the rural landscape.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1		Mitigation: Construction completed	
1	2	1	1.3	2	3	3.3

OPERATIONAL PHASE

Direct Impact: Increased water demand associated with poultry production.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
1	5	1	2.3	5	5	11.5

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
1	5	1	2.3	5	5	11.5

Direct Impact: Generation of manure requiring management and disposal or reuse.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium			S1, L1, T1			Degree of Mitigation: Full
1	5	1	2.3	5	5	11.5

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium			S1, L1, T1			Degree of Mitigation: Full
1	5	1	2.3	5	5	11.5

Direct Impact: Potential odour emissions from poultry houses and manure storage areas.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Full
2	2	1	1.6	4	4	6.4

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full
1	1	1	1	2	2	2

Direct Impact: Operational noise from ventilation fans, generator and loading activities.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Partial
2	2	1	1.6	3	3	4.8

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Partial
1	1	1	1	3	3	3

Direct Impact: Generation of general operational waste (feed bags, packaging, mortalities).

			Consequence			Likelihood	Significance Current Status
Severity	Duration	Extent		Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Full	
1	1	1	1	5	5	5	5

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Full	
1	1	1	1	5	5	5	5

Direct Impact: Risk to poultry health during power outages if ventilation fails.

			Consequence			Likelihood	Significance Current Status
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full	
3	1	1	1.6	2	1	1.5	2.4

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full	
3	1	1	1.6	2	1	1.5	2.4

Direct Impact: Job creation and improved employment stability (**Positive Impact**).

			Consequence			Likelihood	Significance Current Status
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium-High (+)			S1, L1, T1			Degree of Mitigation: N/A	
1	5	5	3.6	5	5	5	18

Indirect Impact: Potential attraction of pests such as rodents, flies and scavenger birds.

			Consequence			Likelihood	Significance Current Status
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full	
1	2	1	1.3	3	2	2.5	3.3

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full	
1	1	1	1	2	2	2	2

Indirect Impact: Risk of soil or groundwater contamination if manure or wastewater is mismanaged.

			Consequence			Likelihood	Significance Current Status
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full	
2	1	2	1.6	2	2	2	3.2

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full	
1	1	1	1	2	2	2	2

Indirect Impact: Increased local traffic associated with feed delivery and egg distribution.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
1	4	2	2.3	5	5	11.5

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
1	4	2	2.3	5	5	11.5

Indirect Impact: Potential spread of alien invasive plant species in denuded areas.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full
1	2	1	1.3	4	2	3.9

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full
1	1	1	1	3	2	2.5

Indirect Impact: Night-time lighting effects, if unmanaged.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	3	3	3.9

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Partial
1	1	1	1	3	2	2.5

Indirect Impact: Potential spread of disease if hygiene and biosecurity measures are not maintained.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full
4	1	1	2	3	1	4

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low			S1, L1, T1			Degree of Mitigation: Full
3	1	1	1.6	2	1	2.4

Indirect Impact: Strengthening of local agricultural value chains (feed, transport, egg supply) **(Positive Impact)**.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High (+)			S1, L1, T1			Degree of Mitigation: N/A
1	5	4	3.3	5	5	16.5

Cumulative Impact: Cumulative odour and traffic impacts in combination with other agricultural activities in the area.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
2	4	2	2.6	5	5	13

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
1	4	2	2.3	5	5	11.5

Cumulative Impact: Incremental pressure on local water resources.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
1	5	2	2.6	5	5	13

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S1, L1, T1			Degree of Mitigation: Partial
1	4	2	2.3	5	5	11.5

Cumulative Impact: Contribution to local food security (**Positive Impact**).

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium-High (+)			S1, L1, T1			Degree of Mitigation: N/A
1	5	5	3.6	5	5	18

Cumulative Impact: Increased productivity and economic activity (**Positive Impact**).

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium-High (+)			S1, L1, T1			Degree of Mitigation: N/A
1	5	5	3.6	5	5	18

DECOMMISSIONING PHASE

Direct Impact: Temporary disturbance of soil during dismantling of structures.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Direct Impact: Generation of demolition waste.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Direct Impact: Noise and dust associated with removal activities.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Indirect Impact: Temporary increase in heavy vehicle movement during removal of infrastructure.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Low-Medium			S1, L1, T1			Degree of Mitigation: Partial
1	2	1	1.3	5	5	6.5

Cumulative Impact: Loss of employment opportunities.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: High			S1, L1, T1			Degree of Mitigation: Partial	
3	5	5	4.3	5	5	5	21.5

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Post-Mitigation
Rating: High			S1, L1, T1			Degree of Mitigation: Partial	
2	5	5	4	5	5	5	20

Cumulative Impact: Reduction of operational impacts post-closure (**Positive Impact**).

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: Medium (+)			S1, L1, T1			Degree of Mitigation: N/A	
1	5	1	2.6	5	5	5	13

ACTIVITY 2

- ⊖ **SITE ALTERNATIVE 2 (S2):** Greenfield development of two new layer houses within previously cultivated grazing land.

DESIGN, PLANNING AND CONSTRUCTION PHASE

Direct Impact: Clearance of agricultural crop from cultivated land.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: Low-Medium			S2		Degree of Mitigation: None		
1	5	1	2.3	5	1	3	6.9

Direct Impact: Greater earthworks associated with establishment of new infrastructure.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: Medium			S2		Degree of Mitigation: None		
2	5	1	2.6	5	5	5	13

Direct Impact: Generation of construction waste.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
2	2	1	1.6	5	5	5	8

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Post-Mitigation
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Indirect Impact: Potential spread of alien invasive species in disturbed areas.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: Low-Medium			S2		Degree of Mitigation: Full		
2	5	2	3	4	2	3	9

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S2		Degree of Mitigation: Full		
1	1	1	1	3	2	2.5	2.5

Indirect Impact: Increased dust and noise relative to S1.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Partial		
3	3	2	2.6	5	5	5	13

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Partial		
2	3	2	2.3	5	5	5	11.5

Indirect Impact: Installation of new bulk services infrastructure.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Partial		
2	5	1	2.6	5	5	5	13

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Partial		
1	5	1	2.3	5	5	5	11.5

Cumulative Impact: Expansion of agricultural footprint into previously undeveloped area.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: None		
2	5	1	2.6	5	5	5	13

Cumulative Impact: Expansion of agricultural footprint into previously undeveloped area.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: None		
2	5	1	2.6	5	5	5	13

OPERATIONAL PHASE

Direct Impact: Permanent loss of high-potential agricultural land.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: None	
2	5	1	2.6	5	5	13

Direct Impact: Increased water demand associated with poultry production.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Partial	
1	5	1	2.3	5	5	11.5

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Partial	
1	5	1	2.3	5	5	11.5

Direct Impact: Generation of manure requiring management and disposal or reuse.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Full	
1	5	1	2.3	5	5	11.5

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Full	
1	5	1	2.3	5	5	11.5

Direct Impact: Potential odour emissions from poultry houses and manure storage areas.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Full	
2	3	2	2.3	4	5	10.4

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Low			S2		Degree of Mitigation: Full	
1	1	1	1	2	2	2

Direct Impact: Operational noise from ventilation fans, generator and loading activities.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Low-Medium			S2		Degree of Mitigation: Partial	
2	5	1	2.6	3	3	7.8

Severity	Duration	Extent	Consequence	Likelihood		Significance Post-Mitigation
				Probability	Frequency	
Rating: Low			S2		Degree of Mitigation: Partial	
1	1	1	1	3	3	3

Direct Impact: Generation of general operational waste (feed bags, packaging, mortalities).

Severity	Duration	Extent	Consequence	Likelihood		Significance Pre-Mitigation
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Full	
2	4	2	2.6	5	5	13

Severity	Duration	Extent	Consequence	Likelihood		Significance Post-Mitigation
				Probability	Frequency	
Rating: Low-Medium			S2		Degree of Mitigation: Full	
1	1	1	1	5	5	5

Direct Impact: Risk to poultry health during power outages if ventilation fails.

Severity	Duration	Extent	Consequence	Likelihood		Significance Pre-Mitigation
				Probability	Frequency	
Rating: Low-Medium			S2		Degree of Mitigation: Full	
4	1	1	2	4	1	5

Severity	Duration	Extent	Consequence	Likelihood		Significance Post-Mitigation
				Probability	Frequency	
Rating: Low			S2		Degree of Mitigation: Full	
3	1	1	1.6	2	1	2.4

Direct Impact: Job creation and improved employment stability (**Positive Impact**).

Severity	Duration	Extent	Consequence	Likelihood		Significance Pre-Mitigation
				Probability	Frequency	
Rating: Medium-High (+)			S2		Degree of Mitigation: N/A	
1	5	5	3.6	5	5	18

Indirect Impact: Potential attraction of pests such as rodents, flies and scavenger birds.

Severity	Duration	Extent	Consequence	Likelihood		Significance Pre-Mitigation
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Full	
3	5	3	3.6	4	5	16.2

Severity	Duration	Extent	Consequence	Likelihood		Significance Post-Mitigation
				Probability	Frequency	
Rating: Low			S2		Degree of Mitigation: Full	
1	1	1	1	2	2	2

Indirect Impact: Risk of soil or groundwater contamination if manure or wastewater is mismanaged.

Severity	Duration	Extent	Consequence	Likelihood		Significance Pre-Mitigation
				Probability	Frequency	
Rating: Medium-High			S2		Degree of Mitigation: Full	
4	5	4	4.3	4	5	19.4

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S2		Degree of Mitigation: Full		
1	1	1	1	2	2	2	2

Indirect Impact: Increased local traffic associated with feed delivery and egg distribution.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Partial		
1	4	2	2.3	5	5	5	11.5

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Partial		
1	4	2	2.3	5	5	5	11.5

Indirect Impact: Potential spread of alien invasive plant species in denuded areas.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Full		
3	5	2	3.3	4	5	4.5	14.9

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S2		Degree of Mitigation: Full		
1	1	1	1	3	2	2.5	2.5

Indirect Impact: Night-time lighting effects, if unmanaged.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Partial		
2	5	2	3	4	5	4.5	13.5

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S2		Degree of Mitigation: Partial		
1	1	1	1	3	2	2.5	2.5

Indirect Impact: Potential spread of disease if hygiene and biosecurity measures are not maintained.

			Consequence			Likelihood	Significance Pre-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			S2		Degree of Mitigation: Full		
4	4	5	4.3	4	2	3	12.9

			Consequence			Likelihood	Significance Post-Mitigation
Severity	Duration	Extent		Probability	Frequency		
Rating: Low			S2		Degree of Mitigation: Full		
3	1	1	1.6	2	1	1.5	2.4

Indirect Impact: Fragmentation of operations leading to increased internal traffic.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: None	
2	5	1	2.6	5	5	13

Indirect Impact: Potential increased biosecurity risks due to spatial separation.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium-High			S2		Degree of Mitigation: Partial	
4	5	2	3.6	5	5	18

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Low-Medium			S2		Degree of Mitigation: Partial	
2	5	1	2.6	3	2	6.5

Cumulative Impact: Cumulative odour and traffic impacts in combination with other agricultural activities in the area.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium-High			S2		Degree of Mitigation: Partial	
3	4	2	3	5	5	15

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Partial	
1	4	2	2.3	5	5	11.5

Cumulative Impact: Incremental pressure on local water resources.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Partial	
1	5	2	2.6	5	5	13

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			S2		Degree of Mitigation: Partial	
1	4	2	2.3	5	5	11.5

DECOMMISSIONING PHASE

Direct Impact: Temporary disturbance of soil during dismantling of structures.

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Pre-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Post-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Direct Impact: Generation of demolition waste.

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Pre-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Post-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Direct Impact: Noise and dust associated with removal activities.

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Pre-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Post-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Indirect Impact: Temporary increase in heavy vehicle movement during removal of infrastructure.

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Pre-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Severity	Duration	Extent	Consequence	Likelihood		Likelihood	Significance Post-Mitigation
				Probability	Frequency		
Rating: Low-Medium			S2		Degree of Mitigation: Partial		
1	2	1	1.3	5	5	5	6.5

Cumulative Impact: Loss of employment opportunities.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: High			S2		Degree of Mitigation: Partial		
3	5	5	4.3	5	5	5	21.5

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Post-Mitigation
Rating: High			S2		Degree of Mitigation: Partial		
2	5	5	4	5	5	5	20

Cumulative Impact: Reduction of operational impacts post-closure (**Positive Impact**).

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		Pre-Mitigation
Rating: Medium (+)			S2		Degree of Mitigation: N/A		
1	5	1	2.6	5	5	5	13

ACTIVITY 3

- ⊖ **LAYOUT ALTERNATIVE 2 (L2):** Dispersed or reconfigured layout with spatially separated poultry houses and support infrastructure.

DESIGN, PLANNING AND CONSTRUCTION PHASE

Direct Impact: Increased area of disturbance due to dispersed structures.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			L2			Degree of Mitigation: None	
2	5	1	2.6	5	5	5	13

Direct Impact: Additional trenching for extended service infrastructure.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			L2			Degree of Mitigation: None	
2	5	1	2.6	5	5	5	13

Indirect Impact: Higher soil compaction from extended access routes.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			L2			Degree of Mitigation: None	
2	5	1	2.6	5	5	5	13

Indirect Impact: Greater vegetation clearance.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			L2			Degree of Mitigation: None	
2	5	1	2.6	5	5	5	13

Cumulative Impact: Expanded operational footprint beyond consolidated node.

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
Rating: Medium			L2			Degree of Mitigation: None	
2	5	1	2.6	5	5	5	13

OPERATIONAL PHASE

Direct Impact: Increased internal travel between separated buildings.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			L2		Degree of Mitigation: None	
2	5	1	2.6	5	5	13

Direct Impact: Greater surface runoff from expanded hard surfaces.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			L2		Degree of Mitigation: None	
2	5	1	2.6	5	5	13

Indirect Impact: Higher biosecurity risk due to movement between dispersed structures.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			L2		Degree of Mitigation: None	
2	5	1	2.6	5	5	13

Cumulative Impact: Greater long-term disturbance footprint.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			L2		Degree of Mitigation: None	
2	5	1	2.6	5	5	13

DECOMMISSIONING PHASE

Direct Impact: Removal of multiple dispersed infrastructure elements.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			L2		Degree of Mitigation: None	
2	4	1	2.3	5	5	11.5

Indirect Impact: Increased rehabilitation area.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			L2		Degree of Mitigation: None	
2	4	1	2.3	5	5	11.5

ACTIVITY 4

⊖ **TECHNOLOGY ALTERNATIVE 2 (T2):** Predominantly manual poultry production system with limited utilisation.

DESIGN, PLANNING AND CONSTRUCTION PHASE

Direct Impact: Reduced infrastructure complexity but increased manual handling areas.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			T2		Degree of Mitigation: None	
3	5	1	3	5	5	15

Indirect Impact: Potential need for additional labour facilities.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			T2		Degree of Mitigation: None	
2	5	2	3	5	5	15

OPERATIONAL PHASE

Direct Impact: Increased water and feed wastage.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			T2		Degree of Mitigation: None	
3	5	2	3.3	5	5	16.5

Direct Impact: Greater risk of litter moisture and odour build-up.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			T2		Degree of Mitigation: None	
3	5	1	3	5	5	15

Direct Impact: Higher manual waste handling requirements.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			T2		Degree of Mitigation: None	
3	5	1	3	5	5	15

Indirect Impact: Increased human traffic within poultry houses.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium			T2		Degree of Mitigation: None	
2	5	1	2.6	5	5	13

Indirect Impact: Higher potential disease transmission risk.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			T2		Degree of Mitigation: None	
3	5	1	3	5	5	15

Cumulative Impact: Potential increase in nuisance impacts relative to automated system.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
				T2			
Rating: Medium-High			T2			Degree of Mitigation: None	
3	5	1	3	5	5	5	15

DECOMMISSIONING PHASE

Direct Impact: Removal of smaller-scale infrastructure (**Positive Impact**).

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
				T2			
Rating: Low (+)			T2			Degree of Mitigation: None	
1	1	1	1	5	1	3	3

ACTIVITY 5

⊖ **No-Go Alternative:** No expansion of the existing layer facility.

Direct Impact: Continuation of existing smaller-scale poultry operation only.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: High			NO-GO		Degree of Mitigation: None	
3	5	4	4	5	5	20

Indirect Impact: Foregone opportunity to utilise existing infrastructure optimally.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			NO-GO		Degree of Mitigation: None	
3	5	1	3	5	5	15

Indirect Impact: Reduced economic activity and employment generation.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: High			NO-GO		Degree of Mitigation: None	
3	5	4	4	5	5	20

Cumulative Impact: No incremental agricultural intensification.

Severity	Duration	Extent	Consequence		Likelihood	Significance
			Probability	Frequency		
Rating: Medium-High			NO-GO		Degree of Mitigation: None	
3	5	3	3.6	5	5	18

METHODOLOGY FOR THE ASSESSMENT OF THE POTENTIAL ENVIRONMENTAL, SOCIAL AND CULTURAL IMPACTS

DEFINITIONS AND CONCEPTS

Environmental significance

The concept of significance is at the core of impact identification, evaluation and decision-making. The concept remains largely undefined and there is no international consensus on a single definition. The following common elements are recognised from the various interpretations:

- ❖ Environmental significance is a value judgement
- ❖ The degree of environmental significance depends on the nature of the impact
- ❖ The importance is rated in terms of both biophysical and socio-economic values
- ❖ Determining significance involves the amount of change to the environment perceived to be acceptable to affected communities.

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of acceptability) (DEAT (2002) Impact Significance, Integrated Environmental Management, Information Series 5).

The concept of risk has two dimensions, namely the consequence of an event or set of circumstances, and the likelihood of particular consequences being realised (Environment Australia (1999) Environmental Risk Management).

Impact

The positive or negative effects on human well-being and / or the environment.

Consequence

The intermediate or final outcome of an event or situation OR it is the result, on the environment, of an event.

Likelihood

A qualitative term covering both probability and frequency.

Frequency

The number of occurrences of a defined event in a given time or rate.

Probability

The likelihood of a specific outcome measured by the ratio of a specific outcome to the total number of possible outcomes.

Environment

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation (ISO 14004, 1996).

Methodology that will be used

The environmental significance assessment methodology is based on the following determination:

$$\text{Environmental Significance} = \text{Overall Consequence} \times \text{Overall Likelihood}$$

Determination of Overall Consequence

Consequence analysis is a mixture of quantitative and qualitative information and the outcome can be positive or negative. Several factors can be used to determine consequence. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen: **Severity/Intensity, Duration and Extent/Spatial Scale**. Each factor is assigned a rating of 1 to 5, as described in the tables below.

Determination of Severity / Intensity

Severity relates to the nature of the event, aspect or impact to the environment and describes how severe the aspects impact on the biophysical and socio-economic environment.

The table below will be used to obtain an overall rating for severity, taking into consideration the various criteria.

Table 1: Table to be used to obtain an overall rating of severity, taking into consideration the various criteria.

TYPE OF CRITERIA	RATING				
	1	2	3	4	5
Quantitative	0-20%	21-40%	41-60%	61-80%	81-100%
Qualitative	Insignificant / Non-harmful	Small / Potentially harmful	Significant/ Harmful	Great/ Very harmful	Disastrous / Extremely harmful
Social/ Community response	Acceptable / I&AP satisfied	Slightly tolerable / Possible objections	Intolerable/ Sporadic complaints	Unacceptable / Widespread complaints	Totally unacceptable / Possible legal action
Irreversibility	Very low cost to mitigate/ High potential to mitigate impacts to level of insignificance/ Easily reversible	Low cost to mitigate	Substantial cost to mitigate/ Potential to mitigate impacts/ Potential to reverse impact	High cost to mitigate	Prohibitive cost to mitigate/ Little or no mechanism to mitigate impact Irreversible
Biophysical (Air quality, water quantity and quality, waste production, fauna and flora)	Insignificant change / deterioration or disturbance	Moderate change / deterioration or disturbance	Significant change / deterioration or disturbance	Very significant change / deterioration or disturbance	Disastrous change / deterioration or disturbance

Determination of Duration

Duration refers to the amount of time that the environment will be affected by the event, risk or impact, if no intervention e.g. remedial action takes place.

Table 2: Criteria for the rating of duration

RATING	DESCRIPTION
1	Up to ONE MONTH
2	ONE MONTH to THREE MONTHS (QUARTER)
3	THREE MONTHS to ONE YEAR
4	ONE to TEN YEARS
5	Beyond TEN YEARS

Determination of Extent/Spatial Scale

Extent or spatial scale is the area affected by the event, aspect or impact.

Table 3: Criteria for the rating of extent / spatial scale.

RATING	DESCRIPTION
1	Immediate, fully contained area
2	Surrounding area
3	Within Business Unit area of responsibility
4	Within the farm/neighbouring farm area
5	Regional, National, International

Determination of Overall Consequence

Overall consequence is determined by adding the factors determined above and summarized below, and then dividing the sum by 3.

Table 4: Example of calculating overall consequence.

CONSEQUENCE	RATING
Severity	Example 4
Duration	Example 2
Extent	Example 4
SUBTOTAL	10
TOTAL CONSEQUENCE: (Subtotal divided by 3)	3.3

Determination of Likelihood

The determination of likelihood is a combination of Frequency and Probability. Each factor is assigned a rating of 1 to 5, as described in the tables below.

Determination of Frequency

Frequency refers to how often the specific activity, related to the event, aspect, or impact, is undertaken.

Table 5: Criteria for the rating of frequency.

RATING	DESCRIPTION
1	Once a year or once/more during operation
2	Once/more in 6 Months
3	Once/more a Month
4	Once/more a Week
5	Daily

Determination of Probability

Probability refers to how often the activity or aspect has an impact on the environment.

Table 6: Criteria for the rating of probability.

RATING	DESCRIPTION
1	Almost never / almost impossible
2	Very seldom / highly unlikely
3	Infrequent / unlikely / seldom
4	Often / regularly / likely / possible
5	Daily / highly likely / definitely

Overall Likelihood

Overall likelihood is calculated by adding the factors determined above and summarised below and then dividing the sum by 2.

Table 7: Example of calculating overall likelihood.

CONSEQUENCE	RATING
Frequency	Example 4
Probability	Example 2
SUBTOTAL	6
TOTAL LIKELIHOOD (Subtotal divided by 2)	3

Determination of Overall Environmental Significance

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will then fall into a range of **LOW**, **LOW-MEDIUM**, **MEDIUM**, **MEDIUM-HIGH** or **HIGH**, as shown in the table below.

Table 8: Determination of overall environmental significance.

SIGNIFICANCE OR RISK	LOW	LOW-MEDIUM	MEDIUM	MEDIUM-HIGH	HIGH
Overall Consequence X Overall Likelihood	1 – 4.9	5 – 9.9	10 – 14.9	15 – 19.9	20 – 25

Qualitative description or magnitude of Environmental Significance

This description is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritisations and decision making process associated with this event, aspect or impact.

Table 9: Description of environmental significance and related action required.

SIGNIFICANCE	LOW	LOW-MEDIUM	MEDIUM	MEDIUM-HIGH	HIGH
Impact Magnitude	Impact is of very low order and therefore likely to have very little real effect. Acceptable.	Impact is of low order and therefore likely to have little real effect. Acceptable.	Impact is real, and potentially substantial in relation to other impacts. Can pose a risk to company	Impact is real and substantial in relation to other impacts. Pose a risk to the company. Unacceptable	Impact is of the highest order possible. Unacceptable. Fatal flaw.
Action Required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve	Implement monitoring. Investigate mitigation measures and improve management measures to reduce risk, where possible.	Improve management measures to reduce risk.	Implement significant mitigation measures or implement alternatives.

Based on the above, the significance rating scale has been determined as follows:

High	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and / or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.
Medium-High	Impacts of a substantial order. In the case of negative impacts, mitigation and / or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.
Medium	Impact would be real but not substantial within the bounds of those, which could occur. In the case of negative impacts, mitigation and / or remedial activity would be both feasible and fairly easily possible, In case of positive impacts; other means of achieving these benefits would be about equal in time, cost and effort.
Low-Medium	Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and / or remedial activity would be either easily achieved or little would be required, or both. In case of positive impacts alternative means for achieving this benefit would likely be easier, cheaper, more effective, less time-consuming, or some combination of these.
Low	Impact would be negligible. In the case of negative impacts, almost no mitigation and or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap and simple. In the case of positive impacts, alternative means would almost all likely be better, in one or a number of ways, than this means of achieving the benefit
Insignificant	There would be a no impact at all – not even a very low impact on the system or any of its parts.

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