IMPACT AND RISK ASSESSMENT OF ALTERNATIVES

1. IDENTIFIED IMPACTS AND RISKS FOR EACH ALTERNATIVE

The following potential impacts and risks have been identified for the proposed development and its alternatives:

1.1. Proposed Layout Alternative 1 AND Proposed Layout Alternative 2

Please note that while both proposed layout alternatives have the same identified impacts the ratings and measure of mitigation may differ.

Proposed Layout Alternative 1 AND Proposed Layout Alternative 2	Impacts that may result from the Development Phase (Planning, Design and Development): 1) Intensification of agriculture and more hardened surfaces in the landscape. 2) Adverse impacts on nearby freshwater systems (incl. water quality impacts) 3) Temporary job creation during construction. 4) Generation of construction waste. 5) Dust emissions during construction activities. 6) Noise from construction activities. 7) Increased visual intrusion in the agricultural landscape. 8) Faunal Impacts Please note: No impacts are anticipated on cultural or historic aspects as confirmed by HWC. Impacts that may result from the Operational phase: 9) Increased use of access roads. 10) Generation of operational waste. 11) Odour related impacts. 12) Vector related impacts. 13) Adverse impacts on nearby freshwater systems (incl. water quality impacts) 14) Potential soil and groundwater pollution. 15) Risk of infectious mortalities during operations (hazardous waste) 16) Ongoing employment opportunities from agricultural operations. 17) Noise and dust from site activities. 18) Increased visual intrusion in the agricultural landscape. 19) Faunal Impacts Please note: No impacts are anticipated on cultural or historic aspects as confirmed by HWC. Impacts that may result from the decommissioning and closure phase:

	No decommissioning-related impacts have been identified, as it is not anticipated that the development will be decommissioned should it proceed. Impacts that may result from associated infrastructure: No significant impacts associated with the installation or operation of supporting infrastructure have been identified, as all components have been routed to avoid environmental sensitivities and fall below relevant regulatory thresholds. - Electricity Supply: A 3.3 kV underground cable will connect the facility, following the periphery of existing agricultural fields along Minor Road 4123. The proposed route (Appendix B3) does not coincide with environmental sensitivities. No biophysical impacts are anticipated. - Water Supply: A 0.2 m underground pipeline with a peak throughput of 1.16 L/s will connect the facility, following the periphery of existing agricultural fields along Minor Road 4123. The proposed route (Appendix B3) does not coincide with environmental sensitivities. No biophysical impacts are anticipated. - Access Road Widening: Selected sections of the existing access road may be widened by up to 4 m (maximum total width 8 m) at safe-passing points. This is below NEMA thresholds, occurs within the existing road corridor, avoids environmental sensitivities, and no biophysical impacts are anticipated.

1.2. No-Go Alternative

The 'No-Go' option, where the development of the new onsite poultry rearing facility is not pursued, was evaluated and the following potential impacts identified:

No-Go Alternative	Impacts that may result from the No-Go Alternative: 1) No new employment opportunities for the local community. 2) No increase in poultry supply to support food availability and price stability. 3) Land remains underutilized. 4) No additional demand for local suppliers and service providers.

2. IMPACTS ASSOCIATED WITH THE PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact 1: Intensification of agriculture and more hardened surfaces in the landscape.		
	Proposed Development Layout 1	**Proposed Development Layout 2 (Preferred)**
Nature of impact:	Intensification of agriculture and more hardened surfaces in the landscape.	Intensification of agriculture and more hardened surfaces in the landscape.
Extent and duration of impact:	Local; medium term	Local; medium term
Consequence of impact or risk:	Visual impacts, reduced infiltration, increased runoff.	Visual impacts, reduced infiltration, increased runoff.
Probability of occurrence:	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely	Unlikely
Degree to which the impact can be reversed:	Possible	Possible
Indirect Impacts:	Environmental degradation	Environmental degradation
Cumulative impact prior to mitigation:	Higher intensity agriculture, visual impacts, increased runoff and potential erosion and sedimentation	Higher intensity agriculture, visual impacts increased runoff and potential erosion and sedimentation
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (-ve)	MEDIUM (-ve)
Degree to which the impact can be avoided:	Low	Low
Degree to which the impact can be managed:	Moderate	Moderate
Degree to which the impact can be mitigated:	Moderate	Moderate
Proposed mitigation:	- Prevent unnecessary exposure of bare ground (vulnerable to erosion) by minimising the area to be cleared around each unit and clearing land areas in phases as required for construction. - Establish pastureland, site landscaping and tree screenings as soon as possible after clearing. - Colours on panels of units to be natural colours.	Already Implemented: - Minimized development footprint compared to Layout 1 To be implemented: - Prevent unnecessary exposure of bare ground (vulnerable to erosion) by minimising the area to be cleared around each unit and clearing land areas in phases as required for construction. - Establish pastureland, site landscaping and tree screenings as soon as possible after clearing. - Colours on panels of units to be natural colours.

Residual impacts	None anticipated	None anticipated
Cumulative impact post mitigation:	Low - Slight increase in site runoff and potential erosion during construction and while pasture and landscaping is still establishing. Screening vegetation may be higher than the surrounding vegetation, however units will be less noticeable.	Low - Slight increase in site runoff and potential erosion during construction and while pasture and landscaping is still establishing. Screening vegetation may be higher than the surrounding vegetation, however units will be less noticeable.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW-MEDIUM (-ve)	LOW (-ve)

Impact 2: Adverse impacts on nearby freshwater systems (incl. water quality impacts)		
	Proposed Development Layout 1	**Proposed Development Layout 2 (Preferred)**
Nature of impact:	Potential impacts on the CVB wetland through increased sedimentation, altered surface water flow patterns, and impaired water quality resulting from vegetation clearance, soil disturbance, compaction, creation of hardened surfaces, and contaminated runoff during construction activities.	Potential impacts on the CVB wetland through increased sedimentation, altered surface water flow patterns, and impaired water quality resulting from vegetation clearance, soil disturbance, compaction, creation of hardened surfaces, and contaminated runoff during construction activities.
Extent and duration of impact:	Local; short term	Local; short term
Consequence of impact or risk:	Water pollution and altered hydrological regime in downstream wetland.	Water pollution and altered hydrological regime in downstream wetland.
Probability of occurrence:	Not likely	Not likely
Degree to which the impact may cause irreplaceable loss of resources:	Not likely	Not likely
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Surface water pollution in downstream freshwater systems potentially also affecting downstream users	Surface water pollution in downstream freshwater systems potentially also affecting downstream users
Cumulative impact prior to mitigation:	Water quality, hydrology and geomorphology of nearby watercourses (>32m) potentially affected (localised)	Water quality, hydrology and geomorphology of nearby watercourses (>32m) potentially affected (localised)
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High

Degree to which the impact can be mitigated:	Likely	Likely
Proposed mitigation:	- The CVB wetland and buffer area should be demarcated as a No-Go area for the development. - No polluted stormwater should discharge into the CVB wetland during both the construction and operational phase of the development. - Stormwater management must ensure that no runoff or treated wastewater (WW), which will impair the water quality and lead to increased sedimentation, may enter the onsite wetland. - As far as possible, areas cleared during construction should be revegetated. - Bunded, impervious areas must be designated by an ECO for temporary toilets, stockpiles, vehicle parking / servicing areas, and for pouring / mixing of concrete / cement, paint, and chemicals (as applicable). These areas should be more than 32 m away from any delineated watercourse. - Clean up any spillages immediately with the use of a chemical spill kit and dispose of contaminated material at an appropriately registered facility. - Inspect all facilities, vehicles, and machinery daily for the early detection of deterioration or leaks and strictly prohibit the use of any vehicles or machinery from which leakage has been detected. - Construction/maintenance vehicles should be regularly serviced. - Mixing and transferring of chemicals or hazardous substances must take place outside of the No Go area, and must take place on drip trays, shutter boards or other impermeable surfaces. - Drip trays must be utilised at all fuel dispensing areas, as applicable. - Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas outside of the watercourse and	Already Implemented: - Development footprint set-back from the freshwater system compared to layout 1 To be implemented: - The CVB wetland and buffer area should be demarcated as a No-Go area for the development. - No polluted stormwater should discharge into the CVB wetland during both the construction and operational phase of the development. - Stormwater management must ensure that no runoff or treated wastewater (WW), which will impair the water quality and lead to increased sedimentation, may enter the onsite wetland. - As far as possible, areas cleared during construction should be revegetated. - Bunded, impervious areas must be designated by an ECO for temporary toilets, stockpiles, vehicle parking / servicing areas, and for pouring / mixing of concrete / cement, paint, and chemicals (as applicable). These areas should be more than 32 m away from any delineated watercourse. Clean up any spillages immediately with the use of a chemical spill kit and dispose of contaminated material at an appropriately registered facility. - Inspect all facilities, vehicles, and machinery daily for the early detection of deterioration or leaks and strictly prohibit the use of any vehicles or machinery from which leakage has been detected. - Construction/maintenance vehicles should be regularly serviced. - Mixing and transferring of chemicals or hazardous substances must take place outside of the No Go area, and must take place on drip trays, shutter boards or other impermeable surfaces. - Drip trays must be utilised at all fuel dispensing areas, as applicable. - Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas

	its associated buffer area and should only occur on bunded areas with a water/oil/grease separator. - Dispose of used oils, wash water from cement and other pollutants at an appropriate licensed landfill site. - Concrete should preferably be imported as "ready-mix" concrete from a local supplier. Should onsite concrete mixing be required it must not be done on exposed soils. Concrete must be mixed on an impermeable surface in an area of low environmental sensitivity identified by the ECO / EAP outside of the no-go areas. Surplus or waste concrete must be sent back to the supplier who will dispose of it. - Construct temporary bunds around areas where cement is to be cast in situ. - Dispose of concrete and cement-related mortars in an environmental sensitive manner (can be toxic to aquatic life). Disposal of any of these waste materials into the No Go areas is strictly prohibited. - Washout must not be discharged into the no-go area. A washout area should be designated, and wash water should be treated on-site. Alternatively, contaminated water must be collected in suitable containers and removed from site for suitable disposal. - Clear and remove any rubble or litter that may have been accidentally deposited into the watercourse and associated buffer area as a result of construction activities and dispose of at an appropriate registered facility. - Undertake construction related activities during the dry season when flow within the watercourse is at its lowest. - Implement appropriate erosion control measures in susceptible areas, such as using geotextiles, brush packing, straw bales, mulch, sandbags, and silt fences or traps to prevent sediment runoff.	outside of the watercourse and its associated buffer area and should only occur on bunded areas with a water/oil/grease separator. - Dispose of used oils, wash water from cement and other pollutants at an appropriate licensed landfill site. - Concrete should preferably be imported as "ready-mix" concrete from a local supplier. Should onsite concrete mixing be required it must not be done on exposed soils. Concrete must be mixed on an impermeable surface in an area of low environmental sensitivity identified by the ECO / EAP outside of the no-go areas. Surplus or waste concrete must be sent back to the supplier who will dispose of it. - Construct temporary bunds around areas where cement is to be cast in situ. - Dispose of concrete and cement-related mortars in an environmental sensitive manner (can be toxic to aquatic life). Disposal of any of these waste materials into the No Go areas is strictly prohibited. - Washout must not be discharged into the no-go area. A washout area should be designated, and wash water should be treated on-site. Alternatively, contaminated water must be collected in suitable containers and removed from site for suitable disposal. - Clear and remove any rubble or litter that may have been accidentally deposited into the watercourse and associated buffer area as a result of construction activities and dispose of at an appropriate registered facility. - Undertake construction related activities during the dry season when flow within the watercourse is at its lowest. - Implement appropriate erosion control measures in susceptible areas, such as using geotextiles, brush packing, straw bales, mulch, sandbags, and silt fences or traps to prevent sediment runoff.
Residual impacts:	None anticipated post mitigation	None anticipated post mitigation
Cumulative impact post mitigation:	Low post mitigation	Low post mitigation

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	VERY LOW (-ve)

Impact 3: Temporary job creation during construction.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Employment opportunities during the construction phase – The proposed expansion will lead to temporary employment opportunities during construction.	Employment opportunities during the construction phase – The proposed expansion will lead to temporary employment opportunities during construction.
Extent and duration of impact:	Local; short term	Local; short term
Consequence of impact or risk:	Temporary employment opportunities and economic upliftment	Temporary employment opportunities and economic upliftment
Probability of occurrence:	Highly probable	Highly probable
Degree to which the impact may cause irreplaceable loss of resources:	Not likely	Not likely
Degree to which the impact can be reversed:	Not required	Not required
Indirect impacts:	Economic upliftment in local community	Economic upliftment in local community
Cumulative impact prior to mitigation:	Job creation amongst low-income families	Job creation amongst low-income families
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (+ve)	MEDIUM (+ve)
Degree to which the impact can be avoided:	No required	Not required
Degree to which the impact can be manged:	Not required	Not required
Degree to which the impact can be mitigated:	Not required	Not required
Proposed mitigation:	Not required	Not required
Residual impacts:	Job creation & social upliftment	Job creation & social upliftment
Cumulative impact post mitigation:	Moderate - Social upliftment in local community	Moderate - Social upliftment in local community
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (+ve)	MEDIUM (+ve)

Impact 4: Generation of construction waste.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Waste generation from construction activities – general construction waste.	Waste generation from construction activities – general construction waste.
Extent and duration of impact:	Local short term (during construction phase)	Local short term (during construction phase)
Consequence of impact:	Accumulation of waste and potential pollution of local environment	Accumulation of waste and potential pollution of local environment
Probability of occurrence:	Probable	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Improper waste management practices could result in surface water, and groundwater pollution.	Improper waste management practices could result in surface water, and groundwater pollution.
Cumulative impact prior to mitigation:	Less space at landfill due to increased disposal	Less space at landfill due to increased disposal
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	Possible	Possible
Proposed mitigation:	- Minimise new materials brought on site. - Reuse existing materials where possible. - No burning of waste on site - Maximise recycling of waste from construction activities. - Provide portable toilets where work is being undertaken (1 toilet per 10 workers). These toilets must be located within an area designated by the ECO outside of the no-go area and should preferably be located on level ground. Portable toilets must be regularly serviced and maintained. - Provide an adequate number of bins on site and encourage	- Minimise new materials brought on site. - Reuse existing materials where possible. - No burning of waste on site - Maximise recycling of waste from construction activities. - Provide portable toilets where work is being undertaken (1 toilet per 10 workers). These toilets must be located within an area designated by the ECO outside of the no-go area and should preferably be located on level ground. Portable toilets must be regularly serviced and maintained. - Provide an adequate number of bins on site and encourage construction

	construction personnel to dispose of their waste responsibly. - All waste materials are to be stored within the fenced boundaries of the unit area during construction. - Where required, waste should be stored in closed containers to prevent dispersal by wind. - Waste generated by construction personnel must be removed from the development area and disposed of at a registered waste disposal facility on a weekly basis. - No material (incl. excavated material, building materials or removed vegetation) may be stockpiled, temporarily stored, or dumped within 32m of the delineated CVB wetland and no waste material may be disposed of within 32m of this wetland. - Spoil material must be appropriately disposed of at a registered waste disposal facility. - The Contractor must ensure that no building rubble or waste is left behind in the area designated as pasture or any other area. - All construction waste must be disposed of at an appropriate registered facility.	personnel to dispose of their waste responsibly. - All waste materials are to be stored within the fenced boundaries of the unit area during construction. - Where required, waste should be stored in closed containers to prevent dispersal by wind. - Waste generated by construction personnel must be removed from the development area and disposed of at a registered waste disposal facility on a weekly basis. - No material (incl. excavated material, building materials or removed vegetation) may be stockpiled, temporarily stored, or dumped within 32m of the delineated CVB wetland and no waste material may be disposed of within 32m of this wetland. - Spoil material must be appropriately disposed of at a registered waste disposal facility. - The Contractor must ensure that no building rubble or waste is left behind in the area designated as pasture or any other area. - All construction waste must be disposed of at an appropriate registered facility.
Residual impacts:	None anticipated post mitigation	None anticipated post mitigation
Cumulative impact post mitigation:	Low - Waste volumes remain manageable with proper disposal	Low - Waste volumes remain manageable with proper disposal
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 5: Dust emissions during construction activities.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	A degree of dust will be generated during construction of the proposed expansion.	A degree of dust will be generated during construction of the proposed expansion.
Extent and duration of impact:	Local; short term	Local; short term
Consequence of impact or risk:	Increased dust within the local agricultural landscape	Increased dust within the local agricultural landscape
Probability of occurrence:	Probable	Probable
Degree to which the impact may cause	Low	Low

irreplaceable loss of resources:		
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Nuisance impacts to local land users	Nuisance impacts to local land users
Cumulative impact prior to mitigation:	Nuisance to surrounding land users during the construction phase	Nuisance to surrounding land users during the construction phase
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	Possible	Possible
Proposed mitigation:	- Minimise area to be cleared around each unit to prevent unnecessary exposure of bare ground. - Clear land areas in phases as required for construction purpose to minimize unnecessary exposure of bare ground. - Establish planted pastures between units. - Ensure intervening areas between buildings, poultry houses, and roads are appropriately vegetated. - Establish boundary landscaping for screening purposes. - Shield dust blowing onto adjacent roads and adjacent land users. - Dissipate dust with water if needed. - A suitable speed limit of 20-40km/h must be enforced on all private access roads. - Development on large farm limited to no direct receptors.	Already Implemented: - Minimized development footprint compared to Layout 1 To be implemented: - Minimise area to be cleared around each unit to prevent unnecessary exposure of bare ground. - Clear land areas in phases as required for construction purpose to minimize unnecessary exposure of bare ground. - Establish planted pastures between units. - Ensure intervening areas between buildings, poultry houses, and roads are appropriately vegetated. - Establish boundary landscaping for screening purposes. - Shield dust blowing onto adjacent roads and adjacent land users. - Dissipate dust with water if needed. - A suitable speed limit 20-40km/h must be enforced on all private access roads. - Development on large farm limited to no direct receptors.
Residual impacts:	Negligible post mitigation	Negligible post mitigation
Cumulative impact post mitigation:	Low – Short term and effective mitigation is available	Low – Short term and effective mitigation is available
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	VERY LOW (-ve)	VERY LOW (-ve)

Impact 6: Noise from construction activities		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	A degree of noise will be generated during the construction of the proposed expansion.	A degree of noise will be generated during the construction of the proposed expansion.
Extent and duration of impact:	Local; short term	Local; short term
Consequence of impact or risk:	Increased noise within the local agricultural landscape	Increased noise within the local agricultural landscape
Probability of occurrence:	Probable	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Nuisance impacts to local land users	Nuisance impacts to local land users
Cumulative impact prior to mitigation:	Nuisance on land users in the immediate vicinity during the construction phase	Nuisance on land users in the immediate vicinity during the construction phase
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	Possible	Possible
Proposed mitigation:	- Restrict working hours to day-time hours during weekdays and half day Saturday. No work on Sundays and public holidays. - Awareness on site of workers to keep noise levels down outside of working hours. - All transport vehicles and machinery/equipment used onsite must be regularly maintained and kept in good working order to prevent excessive noise. - Development on large farm limited to no direct receptors.	- Restrict working hours to day-time hours during weekdays and half day Saturday. No work on Sundays and public holidays. - Awareness on site of workers to keep noise levels down outside of working hours. - All transport vehicles and machinery/equipment used onsite must be regularly maintained and kept in good working order to prevent excessive noise. - Development on large farm limited to no direct receptors.
Residual impacts:	Minimal with mitigation	Minimal with mitigation
Cumulative impact post mitigation:	Low – Temporary	Low – Temporary

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	VERY LOW (-ve)	VERY LOW (-ve)

Impact 7: Increased visual intrusion in the agricultural landscape.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Possible increase in visual intrusion within the agricultural landscape	Possible increase in visual intrusion within the agricultural landscape
Extent and duration of impact:	Local; long term (extends into operational phase)	Local; long term (extends into operational phase)
Consequence of impact or risk:	Construction site visible from internal farm roads	Construction site visible from internal farm roads
Probability of occurrence:	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely	Unlikely
Degree to which the impact can be reversed:	Low	Low
Indirect impacts:	Sense of place impact in surrounding agricultural landscape	Sense of place impact in surrounding agricultural landscape
Cumulative impact prior to mitigation:	Units visible from internal farm roads.	Units visible from internal farm roads.
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (-ve)	LOW-MEDIUM (-ve)
Degree to which the impact can be avoided:	Moderate	Moderate
Degree to which the impact can be managed:	Moderate	Moderate
Degree to which the impact can be mitigated:	Possible	Possible
Proposed mitigation:	Already Implemented: - The development will take place on a large farm with limited to no direct receptors. To be implemented: - Minimise area to be cleared around each unit to prevent cleared areas being noticeable. - Clear land areas in phases as required for construction purposes to prevent	Already Implemented: - Minimized development footprint compared to Layout 1 - The development will take place on a large farm with limited to no direct receptors. To be implemented: - Minimise area to be cleared around each unit to prevent cleared areas being noticeable. - Clear land areas in phases as required for construction purposes to prevent unnecessary

	unnecessary exposure of large portions of bare ground. - Plant trees for screening and visual absorption in the landscape.	exposure of large portions of bare ground. - Plant trees for screening visual absorption in the landscape.
Residual impacts:	Temporary visual intrusion for land users that make use of the farm's internal access roads.	Temporary visual intrusion for land users that make use of the farm's internal access roads.
Cumulative impact post mitigation:	Low-Moderate – Addition of several structures within agricultural landscape	Low – Addition of several structures within agricultural landscape, however visual can be mitigated.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW-MEDIUM (-ve)	LOW (-ve)

Impact 8: Faunal Impacts		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Potential impact on grasshopper SCC and blue cranes in the region.	Potential impact on grasshopper SCC and blue cranes in the region.
Extent and duration of impact:	Local; long term (extends into operational phase)	Local; long term (extends into operational phase)
Consequence of impact or risk:	Habitat disturbance and impact on breeding sites.	Habitat disturbance and impact on breeding sites.
Probability of occurrence:	Unlikely	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely	Unlikely
Degree to which the impact can be reversed:	Likely	Likely
Indirect impacts:	Habitat disturbance	Habitat disturbance
Cumulative impact prior to mitigation:	Slight disturbance to identified SCC's	Slight disturbance to identified SCC's
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	Not required	Not required
Degree to which the impact can be managed:	Not required	Not required
Degree to which the impact can be mitigated:	Not required	Not required
Proposed mitigation:	No mitigation required	No mitigation required
Residual impacts:	n/a	n/a

Cumulative impact post mitigation:	n/a	n/a
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

3. IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE

Impact 9: Increased use of access roads		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Intensified use of access roads potential resulting in congestion, road degradation and safety concerns.	Intensified use of access roads potential resulting in congestion, road degradation and safety concerns.
Extent and duration of impact:	Local; long term	Local; long term
Consequence of impact or risk:	Degraded and unsafe access roads and nuisance to existing road users	Degraded and unsafe access roads and nuisance to existing road users
Probability of occurrence:	Probable	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely	Unlikely
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Erosion, sedimentation & safety impacts	Erosion, sedimentation & safety impacts
Cumulative impact prior to mitigation:	Degradation of access roads and local environment	Degradation of access roads and local environment
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW-MEDIUM (-ve)	LOW-MEDIUM (-ve)
Degree to which the impact can be avoided:	Low	Low
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	High	High
Proposed mitigation:	- Minimize the number of vehicles accessing the site to what is strictly necessary for operations. - Vehicles and machinery accessing the site must be kept in a good working order. - A speed limit of 20-40 km/h should be enforced on all private roads.	- Minimize the number of vehicles accessing the site to what is strictly necessary for operations. - Vehicles and machinery accessing the site must be kept in a good working order. - A speed limit of 20-40 km/h should be enforced on all private roads.

	- Vehicles transporting materials to and from the site must be secured to prevent spillage of manure, litter fuel, or other materials. In the event of spillage, the site manager is responsible for ensuring that affected public or private roads are promptly and thoroughly cleaned. - Maintain roads in a good condition (in conjunction with other road users and owners) - Regularly monitor roads for damage or erosion. - Should damage or erosion be noted it must be addressed immediately. - Undertake strategic road widening at key points along private roads to allow for safe passing - Install warning signs before blind rises on private roads.	- Vehicles transporting materials to and from the site must be secured to prevent spillage of manure, fuel, or other materials. In the event of spillage, the site manager is responsible for ensuring that affected public or private roads are promptly and thoroughly cleaned. - Maintain roads in a good condition (in conjunction with other road users and owners) - Regularly monitor roads for damage or erosion. - Should damage or erosion be noted it must be addressed immediately. - Undertake strategic road widening at key points along private roads to allow for safe passing - Install warning signs before blind rises on private roads.
Residual impacts post mitigation:	Increased traffic volumes	Increased traffic volumes
Cumulative impact post mitigation:	Low – The local road network will experience modest increase in heavy vehicle traffic within its design capacity	Low - The local road network will experience modest increase in heavy vehicle traffic within its design capacity
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 10: Generation of operational waste		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Improper management of waste generated from the operational phase (manure, litter, litter, etc.) resulting in environmental contamination.	Improper management of waste generated from the operational phase (manure, litter, litter, etc.) resulting in environmental contamination.
Extent and duration of impact:	Local; long term	Local; long term
Consequence of impact or risk:	Accumulation of domestic and organic waste and potential pollution of local environment	Accumulation of domestic and organic waste and potential pollution of local environment
Probability of occurrence:	Probable	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Moderate	Moderate
Degree to which the impact can be reversed:	Possible	Possible

Indirect impacts:	Improper waste management practices could result in surface water, groundwater and air pollution. It could also attract vectors and result in health and biosecurity risks.	Improper waste management practices could result in surface water, groundwater and air pollution. It could also attract vectors and result in health and biosecurity risks.
Cumulative impact prior to mitigation:	Degradation of overall local and downstream environment and nuisance to surrounding land users	Degradation of overall local and downstream environment and nuisance to surrounding land users
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW-MEDIUM (-ve)	LOW-MEDIUM (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	High	High

Proposed mitigation:	- All manure on the hard-stand areas where chickens move in and out of the houses must be swept back into the chicken houses regularly to maintain overall cleanliness.
	- At the end of each production cycle, manure must immediately be removed from the poultry houses and directed to one of the following:
	  - The onsite registered composting facility,
	  - A pre-determined onsite agricultural use location, or
	  - Collection by neighbouring farmers or local buyers, as per existing operations.
	- If manure / litter is disposed of, it must be via a licensed waste disposal facility.
	- No manure may be stored outside prior to removal to composting facility or use locations.
	- A strict cleaning schedule must be maintained to ensure ongoing cleanliness and to prevent the accumulation of organic waste
	- Chicken pens must be dry-swept after each production cycle,
		- All manure on the hard-stand areas where chickens move in and out of the houses must be swept back into the chicken houses regularly to maintain overall cleanliness.
		- At the end of each production cycle, manure must be removed from the poultry houses and directed to one of the following:
		  - The onsite registered composting facility,
		  - A pre-determined onsite agricultural use location, or
		  - Collection by neighbouring farmers or local buyers, as per existing operations.
		- If manure / litter is disposed of, it must be via a licensed waste disposal facility.
		- No manure may be stored outside prior to removal to composting facility or use locations.
		- A strict cleaning schedule must be maintained to ensure ongoing cleanliness and to prevent the accumulation of organic waste
		- Chicken pens must be dry-swept after each production cycle, ensuring that all manure, litter, and feed are removed before high-pressure washing.

	ensuring that all manure, litter, and feed are removed before high-pressure washing. - High-pressure washing is only permitted once dry matter has been cleared, and the use of wash water inside units must be limited such that residual moisture can evaporate naturally - Where manure is re-used onsite, practices must comply with the provisions of the National Environmental Management: Waste Act (NEM:WA). - All sweepings are to be contained and disposed of at the onsite composting facility or another approved reuse location. - Wash water generated within units must not leave the developed area and must not be re-used onsite. - Stormwater ingress into units must be strictly prevented to protect runoff quality. - Contain all wash water within the developed area and ensure no uncontrolled runoff occurs. - Compost all biodegradable domestic waste generated onsite and recycle all plastic containers. - Minimise new materials brought on site. - Maximise recycling and waste separation onsite. - Reuse existing materials where possible. - No burning of waste on site. - Provide an adequate number of bins on site and encourage personnel to dispose of their waste responsibly. - Refuse must be removed weekly from the facility and disposed of at a suitable licensed waste disposal site. - A conservancy tank will be installed onsite for wastewater management and must be regularly emptied by a qualified service provider as ranged by the applicant.	- High-pressure washing is only permitted once dry matter has been cleared, and the use of wash water inside units must be limited such that residual moisture can evaporate naturally - Where manure is re-used onsite, practices must comply with the provisions of the National Environmental Management: Waste Act (NEM:WA). - All sweepings are to be contained and disposed of at the onsite composting facility or another approved reuse location. - Wash water generated within units must not leave the developed area and must not be re-used onsite. - Stormwater ingress into units must be strictly prevented to protect runoff quality. - Contain all wash water within the developed area and ensure no uncontrolled runoff occurs. - Compost all biodegradable domestic waste generated onsite and recycle all plastic containers. - Minimise new materials brought on site. - Maximise recycling and waste separation onsite. - Reuse existing materials where possible. - No burning of waste on site. - Provide an adequate number of bins on site and encourage personnel to dispose of their waste responsibly. - Refuse must be removed weekly from the facility and disposed of at a suitable licensed waste disposal site. A conservancy tank will be installed onsite for wastewater management and must be regularly emptied by a qualified service provider as arranged by the applicant.
Residual impacts	None anticipated post mitigation	None anticipated post mitigation

Cumulative impact post mitigation:	Low – Suitable waste disposal processes in place.	Low – Suitable waste disposal processes in place.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 11: Odour related impacts		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Odour generated from chicken pens	Odour generated from chicken pens
Extent and duration of impact:	Local; short term	Local; short term
Consequence of impact or risk:	Air pollution and nuisance to nearby land users	Air pollution and nuisance to nearby land users
Probability of occurrence:	Improbable	Improbable
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Nuisance to nearby land users	Nuisance to nearby land users
Cumulative impact prior to mitigation:	Nuisance to nearby land users during removal of manure/mortalities	Nuisance to nearby land users during removal of manure/mortalities
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	Moderate	Moderate
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	High	High
Proposed mitigation:	- Manure must as far as possible be maintained within the poultry houses through the production cycle. - All manure on the hard-stand areas where chickens move in and out of the houses must be swept back into the chicken houses regularly to maintain overall cleanliness. - At the end of each production cycle manure must immediately by removed to the onsite composting facility, pre-determined onsite use	- Manure must as far as possible be maintained within the poultry houses throughout the production cycle. - All manure on the hard-stand areas where chickens move in and out of the houses must be swept back into the chicken houses regularly to maintain overall cleanliness. - At the end of each production cycle manure must be removed to the onsite composting facility, pre-determined onsite use location or collected by local buyers.

	location or collected by local buyers. - Manure must be covered during transport - No composting or outside storage of manure within the development footprint - Mortalities (not infectious) must be transported in sealed containers. - Removal as per strict cleaning schedule to ensure clean environment. - Vehicles transporting materials to and from the site must be secured to prevent spillage of manure, fuel, or other materials. In the event of spillage, the site manager is responsible for ensuring that affected public or private roads are promptly and thoroughly cleaned.	- Manure must be covered during transport - No composting or outside storage of manure within the development footprint - Mortalities (not infectious) must be transported in sealed containers. - Removal as per strict cleaning schedule to ensure clean environment. - Vehicles transporting materials to and from the site must be secured to prevent spillage of manure, fuel, or other materials. In the event of spillage, the site manager is responsible for ensuring that affected public or private roads are promptly and thoroughly cleaned.
Residual impacts:	None anticipated (post mitigation)	None anticipated (post mitigation)
Cumulative impact post mitigation:	Low – Localised impact during cleaning	Low – Localised impact during cleaning
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 12: Vector related impacts		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Without proper management the facility may attract disease vectors such as flies and rodents.	Without proper management the facility may attract disease vectors such as flies and rodents.
Extent and duration of impact:	Local; long term	Local; long term
Consequence of impact or risk:	Biosecurity and health risks	Biosecurity and health
Probability of occurrence:	Possible	Possible
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely	Unlikely
Degree to which the impact can be reversed:	Improbable	Improbable
Indirect impacts:	Biosecurity and health risks and nuisance to nearby land users	Biosecurity and health risks and nuisance to nearby land users
Cumulative impact prior to mitigation:	Potential attraction of vectors potentially resulting in biosecurity and health risks and nuisance to nearby land users	Potential attraction of vectors potentially resulting in biosecurity and health risks and nuisance to nearby land users

Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	High	High
Proposed mitigation:	- Implement strict waste management measures as per impact 9 - Maintain good general housekeeping, including prompt removal of manure, spilled feed, and litter. - Store feed in sealed, rodent-proof containers and secure water sources. - Birdproof poultry houses to prevent wild birds gaining access - No feeding of wild animals - Feral cats and dogs should be removed - Use only biologically friendly pesticides and fertilisers - No waste left out to attract scavengers - No pets on site - Mortalities removed to onsite composting facility are to be fully integrated into and covered by composting material to deter scavengers - Remove debris and clutter that could harbour pests	- Implement strict waste management measures as per impact 9 - Maintain good general housekeeping, including prompt removal of manure, spilled feed, and litter. - Store feed in sealed, rodent-proof containers and secure water sources. - Birdproof poultry houses to prevent wild birds gaining access - No feeding of wild animals - Feral cats and dogs should be removed - Use only biologically friendly pesticides and fertilisers - No waste left out to attract scavengers - No pets on site - Mortalities removed to onsite composting facility are to be fully integrated into and covered by composting material to deter scavengers - Remove debris and clutter that could harbour pests
Residual impacts:	Negligible post mitigation	Negligible post mitigation
Cumulative impact post mitigation:	Low – Increased poultry in landscape may attract more vectors, however can be avoided with suitable waste management.	Low – Increased poultry in landscape may attract more vectors, however can be avoided with suitable waste management.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 13: Adverse impacts on nearby freshwater systems.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)

Nature of impact:	Water quality impairment and changes to the hydrological regime within the nearby, downstream, CVB wetland resulting from contaminated stormwater and increased runoff from the development site.	Water quality impairment and changes to the hydrological regime within the nearby, downstream, CVB wetland resulting from contaminated stormwater and increased runoff from the development site.
Extent and duration of impact:	Local; long term	Local; long term
Probability of occurrence:	Probable	Probable
Consequence of impact or risk:	Water pollution and altered hydrological regime in downstream wetland.	Water pollution and altered hydrological regime in downstream wetland.
Degree to which the impact may cause irreplaceable loss of resources:	Not likely	Not likely
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Surface water pollution in downstream freshwater systems potentially also affecting downstream users	Surface water pollution in downstream freshwater systems potentially also affecting downstream users
Cumulative impact prior to mitigation:	Environmental contamination and degradation	Environmental contamination and degradation
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (-ve)	MEDIUM (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	High	High
Proposed mitigation:	- The CVB wetland and buffer area should be demarcated as a No-Go area for the development. - Implement strict stormwater management: o Water use onsite must be minimized wherever possible, including irrigation practices. o Chicken pens must be dry-swept after each production cycle, ensuring that all manure, litter, and feed are removed before high-pressure washing. o High-pressure washing is only permitted once dry	Already Implemented: - Development footprint setback from freshwater system compared to layout 1 Still to be Implemented: - The CVB wetland and buffer area should be demarcated as a No-Go area for the development. - Implement strict stormwater management: o Water use onsite must be minimized wherever possible, including irrigation practices. o Chicken pens must be dry-swept after each production cycle, ensuring that all manure, litter,

	matter has been cleared, and the use of wash water inside units must be limited such that residual moisture can evaporate naturally. o All sweepings are to be contained and disposed of at the onsite composting facility or another approved reuse location. o Wash water generated within units must not leave the developed area and must not be re-used onsite. o Stormwater ingress into units must be strictly prevented to protect runoff quality. o Contain all wash water within the developed area and ensure no uncontrolled runoff occurs. o A stormwater collection channel must be constructed around the perimeter of the developed chicken houses to capture any potentially nutrient-enriched stormwater. o Collected stormwater is to be directed to a designated vegetated ingress area, allowing natural settling and infiltration. - Refuelling or maintenance of vehicles may only take place on designated, bunded surfaces. - All intervening areas between buildings, poultry houses, and roads must be maintained in a stable, vegetated condition using locally appropriate grass or groundcover species - Maintain vegetation around the facility to enhance soil stability, minimize erosion, and provide natural filtration of any runoff. - Inspect all facilities, vehicles, and machinery daily for the early detection of deterioration or leaks and strictly prohibit the use of any	and feed are removed before high-pressure washing. o High-pressure washing is only permitted once dry matter has been cleared, and the use of wash water inside units must be limited such that residual moisture can evaporate naturally. o All sweepings are to be contained and disposed of at the onsite composting facility or another approved reuse location. o Wash water generated within units must not leave the developed area and must not be re-used onsite. o Stormwater ingress into units must be strictly prevented to protect runoff quality. o Contain all wash water within the developed area and ensure no uncontrolled runoff occurs. o A stormwater collection channel must be constructed around the perimeter of the developed chicken houses to capture any potentially nutrient-enriched stormwater. o Collected stormwater is to be directed to a designated vegetated ingress area, allowing natural settling and infiltration. - Refuelling or maintenance of vehicles may only take place on designated, bunded surfaces. - All intervening areas between buildings, poultry houses, and roads must be maintained in a stable, vegetated condition using locally appropriate grass or groundcover species - Maintain vegetation around the facility to enhance soil stability, minimize erosion, and provide natural filtration of any runoff. - Inspect all facilities, vehicles, and machinery daily for the early detection of deterioration or leaks and strictly prohibit the use of any vehicles or machinery from which leakage has been detected.

	vehicles or machinery from which leakage has been detected. - Any vehicles accessing the site should be regularly serviced. - Prohibit the use of any vehicles or machinery from which leakage has been detected. - Mixing and transferring of chemicals or hazardous substances must take place outside of the No Go area, and must take place on drip trays, shutter boards or other impermeable surfaces. - Drip trays must be utilised at all fuel dispensing areas, as applicable. - Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas outside of the watercourse and its associated buffer area and should only occur on bunded areas with a water/oil/grease separator. - Implement appropriate erosion control measures in susceptible areas, such as using geotextiles, brush packing, straw bales, mulch, sandbags, and silt fences or traps to prevent sediment runoff.	- Any vehicles accessing the site should be regularly serviced. - Prohibit the use of any vehicles or machinery from which leakage has been detected. - Mixing and transferring of chemicals or hazardous substances must take place outside of the No Go area, and must take place on drip trays, shutter boards or other impermeable surfaces. - Drip trays must be utilised at all fuel dispensing areas, as applicable. - Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas outside of the watercourse and its associated buffer area and should only occur on bunded areas with a water/oil/grease separator. - Implement appropriate erosion control measures in susceptible areas, such as using geotextiles, brush packing, straw bales, mulch, sandbags, and silt fences or traps to prevent sediment runoff.
Residual impacts:	None anticipated post mitigation	None anticipated post mitigation
Cumulative impact post mitigation:	Low – localised catchment however can be avoided with suitable waste and water management.	Low – localised catchment however can be avoided with suitable waste and water management
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 14: Potential soil and groundwater pollution.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Potential soil and groundwater pollution	Potential soil and groundwater pollution
Extent and duration of impact:	Local; long term	Local; long term
Consequence of impact or risk:	Degradation of soil and groundwater	Degradation of soil and groundwater
Probability of occurrence:	Unlikely	Unlikely
Degree to which the impact may cause	Not likely	Not likely

irreplaceable loss of resources:		
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Potential degradation of soil and groundwater	Potential degradation of soil and groundwater
Cumulative impact prior to mitigation:	Potential degradation of soil and groundwater	Potential degradation of soil and groundwater
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	High	High
Proposed mitigation:	- Implement strict waste management measures as per impact 9 - Implemented strict freshwater impact mitigation and stormwater management measures as per impact 12 - Manure must not be stored in open or outside areas under any circumstances - No composting or storage of manure may occur within the development footprint; all composting must take place at the registered facility on bunded or impervious surfaces to prevent infiltration.	Already implemented: - Development footprint setback from the downstream freshwater system compared to layout 1 Still to be implemented: - Implement strict waste management measures as per impact 9 - Implemented strict freshwater impact mitigation and stormwater management measures as per impact 12 - Manure must not be stored in open or outside areas under any circumstances - No composting or outside storage of manure may occur within the development footprint; all composting must take place at the registered facility on bunded or impervious surfaces to prevent infiltration.
Residual impacts:	None anticipated post mitigation	None anticipated post mitigation
Cumulative impact post mitigation:	Low – can be avoided with suitable waste and water management.	Low – can be avoided with suitable waste and water management.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 15: Risk of infectious mortalities during operations (hazardous waste)		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)

Nature of impact:	Infectious mortalities may occur during the operational phase	Infectious mortalities may occur during the operational phase
Extent and duration of impact:	Local; short term	Local; short term
Consequence of impact or risk:	Biosecurity risks and potential contamination of wild birds	Biosecurity risks and potential contamination of wild birds
Probability of occurrence:	Improbable	Improbable
Degree to which the impact may cause irreplaceable loss of resources:	High	High
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Health risks	Health risks
Cumulative impact prior to mitigation:	Biosecurity and health risk within and outside the farm	Biosecurity and health risk within and outside the farm
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (-ve)	MEDIUM (-ve)
Degree to which the impact can be avoided:	High	High
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	Possible	Possible
Proposed mitigation:	- Infected mortalities arising from the onsite poultry rearing facilities must be managed and disposed of under strict guidance of the state veterinarian. - Safe disposal certificates for hazardous waste removed from the facility must be kept on record for a minimum period of 5 years.	- Infected mortalities arising from the onsite poultry rearing facilities must be managed and disposed of under strict guidance of the state veterinarian. - Safe disposal certificates for hazardous waste removed from the facility must be kept on record for a minimum period of 5 years.
Residual impacts:	None anticipated post mitigation	None anticipated post mitigation
Cumulative impact post mitigation:	Low – can be avoided with implementation of strict biosecurity measures.	Low – can be avoided with implementation of strict biosecurity measures.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 16: Ongoing employment opportunities from agricultural operations.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Employment opportunities from expanded onsite agricultural operations	Employment opportunities from expanded onsite agricultural operations
Extent and duration of impact:	Local; long term	Local; long term
Consequence of impact or risk:	Permanent employment opportunities and economic upliftment	Permanent employment opportunities and economic upliftment
Probability of occurrence:	Highly probable	Highly probable
Degree to which the impact may cause irreplaceable loss of resources:	Not likely	Not likely
Degree to which the impact can be reversed:	Not required	Not required
Indirect impacts:	Economic and social upliftment in local families	Economic and social upliftment in local families
Cumulative impact prior to mitigation:	Job creation within low-income families and social upliftment	Job creation within low-income families and social upliftment
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM - HIGH (+ve)	MEDIUM - HIGH (+ve)
Degree to which the impact can be avoided:	Not required	Not required
Degree to which the impact can be managed:	Not required	Not required
Degree to which the impact can be mitigated:	Not required	Not required
Proposed mitigation:	Not required	Not required
Residual impacts:	Job creation & social upliftment	Job creation & social upliftment
Cumulative impact post mitigation:	Job creation within low-income families and social upliftment within the local community	Job creation within low-income families and social upliftment within the local community
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM - HIGH (+ve)	MEDIUM - HIGH (+ve)

Impact 17: Noise and dust from site activities.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Noise and dust generated from operational activities on site. Some vehicle movements associated with the facility typically occur during the early morning hours.	Noise and dust generated from operational activities on site. Some vehicle movements associated with the facility typically occur during the early morning hours.

Extent and duration of impact:	Local; short term	Local; short term
Consequence of impact or risk:	Increased noise and dust within the local agricultural landscape	Increased noise and dust within the local agricultural landscape
Probability of occurrence:	Possible	Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low
Degree to which the impact can be reversed:	Possible	Possible
Indirect impacts:	Nuisance impacts to nearby land users	Nuisance impacts to nearby land users
Cumulative impact prior to mitigation:	Increased noise, dust and overall nuisance impact	Increased noise, dust and overall nuisance impact
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	Moderate	Moderate
Degree to which the impact can be managed:	High	High
Degree to which the impact can be mitigated:	High	High
Proposed mitigation:	Already implemented: - The operation is part of a large farm with neighbours a considerable distance away. To be implemented: - As far as possible, restrict working hours to weekdays and half day Saturday and no work (except for vital tasks) on Sundays and public holidays. - Awareness on site of workers to keep noise levels down outside of working hours. - Establish suitable vegetation within any bare areas onsite. - Plant trees along the site boundary to screen noise and dust. Dissipate dust with water if needed. Vehicles and machinery will be kept in good working order to reduce unnecessary noise. - A speed limit of 20-40 km/h will be enforced on all private roads.	Already implemented: - The operation is part of a large farm with neighbours a considerable distance away. To be implemented: - As far as possible, restrict working hours to weekdays and half day Saturday and no work (except for vital tasks) on Sundays and public holidays. - Awareness on site of workers to keep noise levels down outside of working hours. - Establish suitable vegetation within any bare areas onsite. - Plant trees along the site boundary to screen noise and dust. - Dissipate dust with water if needed. - Vehicles and machinery will be kept in good working order to reduce unnecessary noise. - A speed limit of 20-40 km/h will be enforced on all private roads. - Idling will be restricted, and loading activities managed efficiently to limit noise generation.

	- Idling must be restricted, and loading activities managed efficiently to limit noise generation. - Transport routes will remain within agricultural areas of low population density, reducing exposure to residents. - The site manager will be responsible for monitoring and addressing any unreasonable noise impacts from operations.	- Transport routes will remain within agricultural areas of low population density, reducing exposure to residents. - The site manager will be responsible for monitoring and addressing any unreasonable noise impacts from operations.
Residual impacts:	Negligible post mitigation	Negligible post mitigation
Cumulative impact post mitigation:	Low - Day-to-day operations may add to local background levels but remain within agricultural norms.	Low - Day-to-day operations may add to local background levels but remain within agricultural norms.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

Impact 18: Increased visual intrusion in the agricultural landscape.		
	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Increase in visual intrusion within the agricultural landscape	Increase in visual intrusion within the agricultural landscape
Extent and duration of impact:	Local; long term	Local; long term
Consequence of impact or risk:	Units visible from internal farm roads	Units visible from internal farm roads
Probability of occurrence:	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely	Unlikely
Degree to which the impact can be reversed:	Low	Low
Indirect impact:	Sense of place impact in surrounding agricultural landscape	Sense of place impact in surrounding agricultural landscape
Cumulative impact prior to mitigation:	Visual impacts in the local agricultural landscape	Visual impacts in the local agricultural landscape
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (-ve)	LOW - MEDIUM (-ve)
Degree to which the impact can be avoided:	Moderate	Moderate
Degree to which the impact can be managed:	Moderate	Moderate

Degree to which the impact can be mitigated:	Possible	Possible
Proposed mitigation:	Already implemented: - The operation is part of a large farm with neighbours a considerable distance away. Still to be implemented: - Implement visual screening by planting trees along the site boundaries - All intervening areas between buildings, poultry houses, and roads must be maintained in a stable, vegetated condition using locally appropriate grass or groundcover species. - Bare or eroded areas must be rehabilitated as soon as possible to prevent stormwater runoff, sedimentation, and nutrient migration toward the wetland or any watercourse. - Vegetated zones must be monitored and maintained throughout the operational life of the facility. - Each unit is to be uniform and similar in design to the existing units onsite - Make use of earth-tone paints on buildings and charcoal-coloured roofs to facilitate visual absorption in the landscape	Already implemented: - The operation is part of a large farm with neighbours a considerable distance away. - Minimised development footprint compared to Layout 1 Still to be implemented: - Implement visual screening by planting trees along the site boundaries - Make use of earth-toned paints on buildings and charcoal-coloured roofs to increase visual absorption. - All intervening areas between buildings, poultry houses, and roads must be maintained in a stable, vegetated condition using locally appropriate grass or groundcover species. - Bare or eroded areas must be rehabilitated as soon as possible to prevent stormwater runoff, sedimentation, and nutrient migration toward the wetland or any watercourse. - Vegetated zones must be monitored and maintained throughout the operational life of the facility - Each unit is to be uniform and similar in design to the existing units onsite - Make use of earth-tone paints on buildings and charcoal-coloured roofs to facilitate visual absorption in the landscape
Residual impacts:	Minimal visual intrusion, in-line with existing sense of place	Minimal visual intrusion, in-line with existing sense of place
Cumulative impact post mitigation:	Low-Moderate- Potential visual intrusion for land users that make use of the farm's internal access roads.	Low – Moderate - Potential visual intrusion for land users that make use of the farm's internal access roads however suitable mitigation measures will be implemented to minimize the impact.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW - MEDIUM (-ve)	LOW (-ve)

<u>Impact 19: Faunal Impacts</u>

	Proposed Development Layout 1	Proposed Development Layout 2 (Preferred)
Nature of impact:	Potential impact on grasshopper SCC and blue cranes in the region.	Potential impact on grasshopper SCC and blue cranes in the region.
Extent and duration of impact:	Local; long term (extends into operational phase)	Local; long term (extends into operational phase)
Consequence of impact or risk:	Habitat disturbance and impact on breeding sites.	Habitat disturbance and impact on breeding sites.
Probability of occurrence:	Unlikely	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely	Unlikely
Degree to which the impact can be reversed:	Likely	Likely
Indirect impacts:	Habitat disturbance	Habitat disturbance
Cumulative impact prior to mitigation:	Slight disturbance to identified SCC's	Slight disturbance to identified SCC's
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)
Degree to which the impact can be avoided:	Not required	Not required
Degree to which the impact can be managed:	Not required	Not required
Degree to which the impact can be mitigated:	Not required	Not required
Proposed mitigation:	No mitigation required	No mitigation required
Residual impacts:	n/a	n/a
Cumulative impact post mitigation:	n/a	n/a
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)	LOW (-ve)

4. IMPACTS ASSOCIATED WITH THE NO-GO ALTERNATIVE

Impact 1: No new employment opportunities for the local community.	
Nature of impact:	Loss of economic opportunities - No new jobs will be created onsite, limiting onsite employment opportunities for the local community.
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	No new employment opportunities
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Degree to which the impact can be reversed:	Unlikely
Indirect impacts:	Reduced local economic stimulation
Cumulative impact prior to mitigation:	Social degradation of local labour force
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (-ve)
Degree to which the impact can be avoided:	Unlikely
Degree to which the impact can be managed:	Unlikely
Degree to which the impact can be mitigated:	Unlikely
Proposed mitigation:	No onsite mitigation available
Residual impacts:	Reduced local economic stimulation
Cumulative impact post mitigation:	Social degradation of local labour force
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	MEDIUM (-ve)

Impact 2: No increase in poultry supply to support food availability and price stability.	
Nature of impact:	The local or regional poultry supply may not expand as anticipated, potentially affecting food availability and price stability.
Extent and duration of impact:	Local; medium term
Probability of occurrence:	Probable
Consequence of impact or risk:	Limits increased in local poultry supply
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Degree to which the impact can be reversed:	Possible
Indirect impacts:	Increased poultry prices
Cumulative impact prior to mitigation:	Unmet need for affordable protein
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)
Degree to which the impact can be avoided:	Possible
Degree to which the impact can be managed:	Possible
Degree to which the impact can be mitigated:	Unlikely
Proposed mitigation:	No onsite mitigation available
Residual impacts:	Limits increase in local poultry supply

Cumulative impact post mitigation:	Unmet need for affordable protein
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)

Impact 3: Land remains underutilized	
Nature of impact:	Underutilization of agricultural land: Land designated for the facility may remain unproductive and continue to degrade
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Potentially productive land remains underutilised
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Degree to which the impact can be reversed:	Possible
Indirect impact:	Degradation of land
Cumulative impact prior to mitigation:	Degradation of unproductive agricultural land
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)
Degree to which the impact can be avoided:	Unlikely
Degree to which the impact can be managed:	Unlikely
Degree to which the impact can be mitigated:	Unlikely
Proposed mitigation:	Soil rehabilitation or alternative land use
Residual impacts:	None anticipated
Cumulative impact post mitigation:	Improved productivity or profitability
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW(+ve)

Impact 4: No additional demand for local suppliers and service providers	
Nature of impact:	Suppliers and service providers who would have benefited from increased demand for materials, feed, and other resources will miss out on these economic opportunities.
Extent and duration of impact:	Local; medium term
Consequence of impact or risk:	Reduced support for local suppliers
Probability of occurrence:	Possible
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Degree to which the impact can be reversed:	Possible
Indirect impacts:	Missed opportunity for local economic stimulus
Cumulative impact prior to mitigation:	Missed opportunity for local economic growth
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)
Degree to which the impact can be avoided:	Unlikely
Degree to which the impact can be managed:	Unlikely
Degree to which the impact can be mitigated:	Unlikely
Proposed mitigation:	No onsite mitigation available

Residual impact:	Missed opportunity cost.
Cumulative impact post mitigation:	Missed opportunity for local economic growth
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	LOW (-ve)

Impacts Assessment Summary:

Impacts	Layout 1	Layout 2 (Preferred)
IMPACTS DURING PLANNING, DESIGN & CONSTRUCTION PHASES		
Impact 1: Intensification of agriculture and more hardened surfaces in the landscape.	LOW-MEDIUM (-ve)	LOW (-ve)
Impact 2: Adverse impacts on nearby freshwater systems (incl. water quality impacts)	LOW (-ve)	VERY LOW (-ve)
Impact 3: Temporary job creation during construction.	MEDIUM (+ve)	MEDIUM (+ve)
Impact 4: Generation of construction waste.	LOW (-ve)	LOW (-ve)
Impact 5: Dust emissions during construction activities.	VERY LOW (-ve)	VERY LOW (-ve)
Impact 6: Noise from construction activities	VERY LOW (-ve)	VERY LOW (-ve)
Impact 7: Increased visual intrusion in the agricultural landscape.	LOW-MEDIUM (-ve)	LOW (-ve)
Impact 8: Faunal Impacts	LOW (-ve)	LOW (-ve)
IMPACTS DURING OPERATIONAL PHASE		
Impact 9: Increased use of access roads	LOW (-ve)	LOW (-ve)
Impact 10: Generation of operational waste	LOW (-ve)	LOW (-ve)
Impact 11: Odour related impacts	LOW (-ve)	LOW (-ve)
Impact 12: Vector related impacts	LOW (-ve)	LOW (-ve)
Impact 13: Adverse impacts on nearby freshwater systems.	LOW (-ve)	LOW (-ve)
Impact 14: Potential soil and groundwater pollution.	LOW (-ve)	LOW (-ve)
Impact 15: Risk of infectious mortalities during operations (hazardous waste)	LOW (-ve)	LOW (-ve)
Impact 16: Ongoing employment opportunities from agricultural operations.	MEDIUM - HIGH (+ve)	MEDIUM - HIGH (+ve)
Impact 17: Noise and dust from site activities.	LOW (-ve)	LOW (-ve)
Impact 18: Increased visual intrusion in the agricultural landscape.	LOW - MEDIUM (-ve)	LOW (-ve)
Impact 19: Faunal Impacts	LOW (-ve)	LOW (-ve)

IMPACTS ASSOCIATED WITH THE NO-GO ALTERNATIVE	
Impact 1: No new employment opportunities for the local community.	MEDIUM (-ve)
Impact 2: No increase in poultry supply to support food availability and price stability.	LOW (-ve)
Impact 3: Land remains underutilized	LOW (-ve)
Impact 4: No additional demand for local suppliers and service providers	LOW (-ve)