

Geographical and Physical

1. Soil erosion and dust

Vegetation Clearing: Layout Alternative 1 [LA 1] (PREFERRED) Drainage Line Crossing: Alternative 1 - Upper Crossing (PREFERRED)	Geographical and Physical Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Soil erosion and dust
Nature of impact:	Disturbance to soil which is caused during the construction of the drainage line crossing and establishment of new orchards may lead to erosion of the site and surrounds.
Extent and duration of impact:	Extent 1 (footprint) & Duration 5 (permanent)
Consequence of impact or risk:	Clearing and excavation activities can result in erosion and dust.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Disturbance to surface area can result in erosion and dust generation
Cumulative impact prior to mitigation:	Exposing soil may lead to erosion and dust generation if not mitigated.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	<ul style="list-style-type: none"> • The riparian and wetland vegetation cover should be disturbed as little as possible during the construction of the drainage line crossing and may not be disturbed at all within the proposed no-go areas. • Access to roads and other areas must be controlled to avoid disturbance of areas outside the development footprint. Personnel should be restricted to the immediate construction areas only. • Monitor construction areas frequently for signs of erosion and if signs of erosion are detected implement repair and preventative measures immediately.
Residual impacts:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
OPERATIONAL PHASE	
Potential impact and risk:	Soil erosion and dust
Nature of impact:	Operational activities should not cause a disturbance to the soil and the vegetation cover on the site.
Extent and duration of impact:	Soil erosion can occur due to wind (wind erosion cause dust pollution). Extent 1 (footprint) & Duration 5 (permanent)

Consequence of impact or risk:	Erosion and dust.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	1-Resource will not be lost (R)
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Disturbance to surface area can result in erosion and dust generation.
Cumulative impact prior to mitigation:	Exposing soil may lead to erosion and dust generation if not mitigated.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	<ul style="list-style-type: none"> • Only use one existing access road to the sites for operational purposes and avoid disturbance of “new” areas outside the existing access road and infrastructure footprint. • Rehabilitate or stabilise eroded areas immediately to prevent increase in erosion.
Residual impacts:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Soil erosion and dust
Nature of impact:	<p>Decommissioning activities will cause a disturbance to the soil and the vegetation cover on the site. This disturbance, unless carefully managed, could spread as a result.</p> <p>Soil erosion can occur due to wind (wind erosion cause dust pollution); and due to overland storm water flow should rains fall during construction. Due to the sloping nature of the terrain, it is unlikely that a shallow perched water table will develop on site. Residual soils are also expected to have a very low permeability and due to low infiltration rates and the sloping terrain, water will tend to runoff from surface in a downslope direction.</p> <p>Soil erosion can occur due to wind (wind erosion causes dust pollution).</p>
Extent and duration of impact:	Extent 1 (footprint) & Duration 5 (permanent)
Consequence of impact or risk:	Decommissioning and excavation activities can result in erosion and dust.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	1-Resource will not be lost (R)
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Disturbance to surface area can result in erosion and dust generation
Cumulative impact prior to mitigation:	Exposing soil may lead to erosion and dust generation if not mitigated.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 - Low

Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	Control access to roads and other areas to avoid disturbance of areas outside the development footprint. Undertake dust suppression as needed. Personnel should be restricted to the camp site and immediate construction areas only. Rehabilitate or stabilise eroded areas immediately to prevent increase in erosion.
Residual impacts:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low

Vegetation Clearing: Layout Alternative 2 [LA 2] Drainage Line Crossing: Alternative 2 - Lower Crossing	Geographical and Physical Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Soil erosion and dust
Nature of impact:	Disturbance to soil which is caused during the construction of the drainage line crossing and establishment of new orchards may lead to erosion of the site and surrounds.
Extent and duration of impact:	Extent 1 (footprint) & Duration 5 (permanent)
Consequence of impact or risk:	Clearing and excavation activities can result in erosion and dust.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Disturbance to surface area can result in erosion and dust generation
Cumulative impact prior to mitigation:	Exposing soil may lead to erosion and dust generation if not mitigated.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	<ul style="list-style-type: none"> • The riparian and wetland vegetation cover should be disturbed as little as possible during the construction of the drainage line crossing. • Access to roads and other areas must be controlled to avoid disturbance of areas outside the development footprint. Personnel should be restricted to the immediate construction areas only. • Monitor construction areas frequently for signs of erosion and if signs of erosion are detected implement repair and preventative measures immediately.
Residual impacts:	It is anticipated that the impact will remain the same regardless if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is anticipated that the impact will remain the same regardless if the mitigation measures are adhered to.

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 - Low
OPERATIONAL PHASE	
Potential impact and risk:	Soil erosion and dust
Nature of impact:	Operational activities should not cause a disturbance to the soil and the vegetation cover on the site. Soil erosion can occur due to wind (wind erosion cause dust pollution).
Extent and duration of impact:	Extent 1 (footprint) & Duration 5 (permanent)
Consequence of impact or risk:	Erosion and dust.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	1-Resource will not be lost (R)
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Disturbance to surface area can result in erosion and dust generation.
Cumulative impact prior to mitigation:	Exposing soil may lead to erosion and dust generation if not mitigated.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	<ul style="list-style-type: none"> • Only use one existing access road to the sites for operational purposes and avoid disturbance of "new" areas outside the existing access road and infrastructure footprint. • Rehabilitate or stabilise eroded areas immediately to prevent increase in erosion.
Residual impacts:	It is anticipated that the impact will remain the same regardless if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is anticipated that the impact will remain the same regardless if the mitigation measures are adhered to.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Soil erosion and dust
Nature of impact:	Decommissioning activities will cause a disturbance to the soil and the vegetation cover on the site. This disturbance, unless carefully managed, could spread as a result. Soil erosion can occur due to wind (wind erosion cause dust pollution); and due to overland storm water flow should rains fall during construction. Due to the sloping nature of the terrain, it is unlikely that a shallow perched water table will develop on site. Residual soils are also expected to have a very low permeability and due to low infiltration rates and the sloping terrain, water will tend to runoff from surface in a downslope direction. Soil erosion can occur due to wind (wind erosion causes dust pollution).
Extent and duration of impact:	Extent 1 (footprint) & Duration 5 (permanent)
Consequence of impact or risk:	Decommissioning and excavation activities can result in erosion and dust.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)

Degree to which the impact may cause irreplaceable loss of resources:	1-Resource will not be lost (R)
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Disturbance to surface area can result in erosion and dust generation
Cumulative impact prior to mitigation:	Exposing soil may lead to erosion and dust generation if not mitigated.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	Control access to roads and other areas to avoid disturbance of areas outside the development footprint. Undertake dust suppression as needed. Personnel should be restricted to the camp site and immediate construction areas only. Rehabilitate or stabilise eroded areas immediately to prevent increase in erosion.
Residual impacts:	It is anticipated that the impact will remain the same regardless if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is anticipated that the impact will remain the same regardless if the mitigation measures are adhered to.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 - Low

2. Increase in Storm Water Runoff

Vegetation Clearing: Layout Alternative 1 [LA 1] (PREFERRED)	Geographical and Physical Impacts
Vegetation Clearing: Layout Alternative 2 [LA 2]	
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Increased in storm water runoff
Nature of impact:	The clearing of vegetation will result in the reduction of water infiltration during rain events. This may lead to increased volumes of storm water run-off. The additional storm water runoff may lead to erosion in other areas of the farm. Storm water needs to be carefully planned to ensure that drainage of excess water is effectively managed.
Extent and duration of impact:	Extent 2 (on site within 100 m of the site) & Duration 2 (short to medium)
Consequence of impact or risk:	Additional storm water runoff may lead to erosion in adjacent cultivated areas of the farm. The additional storm water may also lead to the flooding of adjacent cultivated areas.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR) storm water run-off may cause partial loss of other resources
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Additional storm water runoff may lead to erosion in adjacent cultivated areas of the farm. The additional storm water may also lead to the flooding of adjacent cultivated areas.
Cumulative impact prior to mitigation:	Additional storm water runoff may lead to erosion in adjacent cultivated areas of the farm. The additional storm water may also lead to the flooding of adjacent cultivated areas.
Significance rating of impact prior to mitigation	16 - Low

(e.g. Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	<ul style="list-style-type: none"> • Installation of a drainage system / plan • Cleared areas should be exposed for the minimum time possible before planting
Residual impacts:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
OPERATIONAL PHASE	
Potential impact and risk:	Increased in storm water runoff
Nature of impact:	Operational activities should not cause significant increase in storm water runoff.
Extent and duration of impact:	Extent 1 (footprint) & Duration 5 (permanent)
Consequence of impact or risk:	Additional storm water runoff.
Probability of occurrence:	2 (Improbable: some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	1-Resource will not be lost (R)
Degree to which the impact can be reversed:	Completely reversible (R)
Indirect impacts:	Uncultivated cleared areas.
Cumulative impact prior to mitigation:	Uncultivated cleared areas left exposed for long periods allowing for increased runoff in certain areas could lead to localised flooding of adjacent crops and loss of resources.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1-Completely mitigatable (CM)
Proposed mitigation:	Installation and maintenance of a drainage system / plan
Residual impacts:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Cumulative impact post mitigation:	It is not anticipated that the impact will be high if the mitigation measures are adhered to.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 - Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Increased in storm water runoff
Nature of impact:	Not Applicable

Ecological and Biological

3. Loss of indigenous vegetation / Habitat and ecosystem loss/fragmentation

Vegetation Clearing: Layout Alternative 1 [LA 1] (PREFERRED) Drainage Line Crossing: Alternative 1 - Upper Crossing (PREFERRED)	Biological Aspect Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Loss of threatened plant populations.
Nature of impact:	Only the margins of the proposed development areas A & B intersects sensitive botanical and wetland areas. No sensitive areas are intersected by the proposed development areas C & D. Despite being located immediately to a World Heritage site, there is no indication that the proposed establishment of additional apple orchards holds an immediate threat to the adjacent nature reserve. The current apple orchards bordering the nature reserve seems to have minimal effect on the vegetation of the adjacent nature reserve.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of threatened plant populations.
Probability of occurrence:	3 (Probable)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Completely Reversible (R)
Indirect impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon indigenous vegetation and habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	33 - Medium
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2 - Partly mitigatable (PM)
Proposed mitigation:	Ensure that the sensitive areas indicated negatively affected during the construction.
Residual impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact post mitigation:	Possible impact on indigenous vegetation and habitats.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	12 - Low
OPERATIONAL PHASE	
Potential impact and risk:	Loss of threatened plant populations.
Nature of impact:	Only the margins of the proposed development areas A & B intersects sensitive botanical and wetland areas. No sensitive areas are intersected by the proposed development areas C & D. Despite being located immediately to a World Heritage site, there is no indication that the proposed establishment of additional apple orchards holds an immediate threat to the adjacent nature reserve. The current apple orchards bordering the nature reserve seems to have minimal effect on the vegetation of the adjacent nature reserve.

Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of threatened plant populations.
Probability of occurrence:	3 (Probable)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Completely Reversible (R)
Indirect impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon indigenous vegetation and habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	33 - Medium
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2 - Partly mitigatable (PM)
Proposed mitigation:	Ensure that the sensitive areas indicated negatively affected during the construction.
Residual impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact post mitigation:	Possible impact on indigenous vegetation and habitats.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	12 - Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Loss of threatened plant populations.
Nature of impact:	Only the margins of the proposed development areas A & B intersects sensitive botanical and wetland areas. No sensitive areas are intersected by the proposed development areas C & D. Despite being located immediately to a World Heritage site, there is no indication that the proposed establishment of additional apple orchards holds an immediate threat to the adjacent nature reserve. The current apple orchards bordering the nature reserve seems to have minimal effect on the vegetation of the adjacent nature reserve.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of threatened plant populations.
Probability of occurrence:	3 (Probable)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Completely Reversible (R)
Indirect impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon indigenous vegetation and habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	33 - Medium
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2 - Partly mitigatable (PM)

Proposed mitigation:	Ensure that the sensitive areas indicated negatively affected during the construction.
Residual impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact post mitigation:	Possible impact on indigenous vegetation and habitats.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	12 - Low

Vegetation Clearing: Layout Alternative 2 [LA 2] Drainage Line Crossing: Alternative 2 - Lower Crossing	Biological Aspect Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Loss of threatened plant populations.
Nature of impact:	Only the margins of the proposed development areas A & B intersects sensitive botanical and wetland areas. No sensitive areas are intersected by the proposed development areas C & D. Despite being located immediately to a World Heritage site, there is no indication that the proposed establishment of additional apple orchards holds an immediate threat to the adjacent nature reserve. The current apple orchards bordering the nature reserve seems to have minimal effect on the vegetation of the adjacent nature reserve.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of threatened plant populations.
Probability of occurrence:	5 (Definite)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Irreversible (IR)
Indirect impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon indigenous vegetation and habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	55 - Medium
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2-Partly mitigatable (PM)
Proposed mitigation:	Ensure that the sensitive areas indicated negatively affected during the construction.
Residual impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact post mitigation:	Possible impact on indigenous vegetation and habitats.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	27 - Low
OPERATIONAL PHASE	
Potential impact and risk:	Loss of threatened plant populations.
Nature of impact:	Only the margins of the proposed development areas A & B intersects sensitive botanical and wetland areas. No sensitive areas are intersected by the proposed development areas C & D. Despite being located immediately to a World Heritage site, there is no indication that the proposed establishment of additional apple orchards holds an immediate threat to the

	adjacent nature reserve. The current apple orchards bordering the nature reserve seems to have minimal effect on the vegetation of the adjacent nature reserve.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of threatened plant populations.
Probability of occurrence:	5 (Definite)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Irreversible (IR)
Indirect impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon indigenous vegetation and habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	55 - Medium
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2-Partly mitigatable (PM)
Proposed mitigation:	Work within site boundaries with no construction activities outside the boundary of the proposed development.
Residual impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact post mitigation:	Possible impact on indigenous vegetation and habitats.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	27 - Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Loss of threatened plant populations.
Nature of impact:	Only the margins of the proposed development areas A & B intersects sensitive botanical and wetland areas. No sensitive areas are intersected by the proposed development areas C & D. Despite being located immediately to a World Heritage site, there is no indication that the proposed establishment of additional apple orchards holds an immediate threat to the adjacent nature reserve. The current apple orchards bordering the nature reserve seems to have minimal effect on the vegetation of the adjacent nature reserve.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of threatened plant populations.
Probability of occurrence:	5 (Definite)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Irreversible (IR)
Indirect impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon indigenous vegetation and habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	55 - Medium
Degree to which the impact can be avoided:	High

Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2-Partly mitigatable (PM)
Proposed mitigation:	Work within site boundaries with no construction activities outside the boundary of the proposed development.
Residual impacts:	Loss of significantly impacted upon indigenous vegetation and habitat.
Cumulative impact post mitigation:	Possible impact on indigenous vegetation and habitats.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	27 - Low

4. Impact on sensitive environments (rivers, wetlands etc.)

Vegetation Clearing: Layout Alternative 1 [LA 1] (PREFERRED) Drainage Line Crossing: Alternative 1 - Upper Crossing (PREFERRED)	Biological Aspect Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Impact on sensitive environments (rivers, wetlands etc.)
Nature of impact:	Disturbance of an ESA2 wetland area.
Extent and duration of impact:	Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)
Consequence of impact or risk:	Degradation of ecological support area (watercourse). A low localised negative impact with localised loss of aquatic habitat integrity and vegetation as well as bed/bank modification could be expected during the construction phase.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of riparian and/or wetland habitat and bed/bank modification.
Probability of occurrence:	5 (Definite)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Irreversible (IR)
Indirect impacts:	Loss of significantly impacted upon habitat and bed/bank modification.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon habitat and bed/bank modification.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	55 - Medium
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1- Completely mitigatable (CM)
Proposed mitigation:	<ul style="list-style-type: none"> • Construction activities must be controlled and restricted to the development footprint only. • The proposed drainage line crossing must be located on the existing crossing footprint as far as possible. • The construction area and all proposed no-go areas must be demarcated before construction starts and remain demarcated throughout construction phase. • The construction activities must be monitored by an Environmental Control Officer.

	<ul style="list-style-type: none"> • Work within the stream channel during construction of the crossing should be limited as far as possible and rehabilitated immediately afterwards, where the banks are reshaped as according to surrounding contours and rubble is removed from the stream and banks. • All disturbed areas should receive ongoing monitoring and management of erosion and invasive plant growth.
Residual impacts:	Loss of significantly impacted upon habitat and bed/bank modification.
Cumulative impact post mitigation:	The significance of the impact on the aquatic ecosystems with mitigation is expected to be low.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	27 - Low
OPERATIONAL PHASE	
Potential impact and risk:	Impact on sensitive environments (rivers, wetlands etc.)
Nature of impact:	Disturbance of an ESA2 wetland area.
Extent and duration of impact:	Extent 3 Local (Within a 20 km radius of the centre of the site) & Duration 5 Permanent(P) (Will not cease)
Consequence of impact or risk:	Degradation of ESA watercourse and wetland (due to poor quality effluent.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of riparian and/or wetland habitat and bed/bank modification.
Probability of occurrence:	2 - Improbable (I)
Degree to which the impact may cause irreplaceable loss of resources:	2 - Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Partly reversible (PR)
Indirect impacts:	Loss of habitat and ecological support areas.
Cumulative impact prior to mitigation:	Loss of habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	14 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1 - Completely mitigatable (CM)
Proposed mitigation:	<ul style="list-style-type: none"> • All no-go areas must remain demarcated throughout the operational phase. Demarcation must be by means of basic fence i.e. standard wooden droppers with 1 to 2 wire strands. • Should any disturbance i.e. erosion occur within the no-go areas the affected areas should immediately be rehabilitated and prevention measures must be put in place to ensure that the disturbance does not happen again. • All alien invasive plant species must be removed and managed on an ongoing basis from the no-go areas. Removal of alien invasive plant species must take place according to CapeNature approved methods, having the least negative impact on the environment.
Residual impacts:	Loss of habitat.
Cumulative impact post mitigation:	None.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	6 - Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Impact on sensitive environments (rivers, wetlands etc.)

Nature of impact:	Disturbance of an ESA2 wetland area.
Extent and duration of impact:	Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)
Consequence of impact or risk:	Degradation of ecological support area (watercourse).
Probability of occurrence:	1 (Very improbable (VP))
Degree to which the impact may cause irreplaceable loss of resources:	1-Resource will not be lost (R)
Degree to which the impact can be reversed:	Partly reversible (PR)
Indirect impacts:	Loss of significantly impacted upon habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	7 – Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1- Completely mitigatable (CM)
Proposed mitigation:	Work within site boundaries with no decommissioning activities outside the boundary of the proposed development.
Residual impacts:	Loss of significantly impacted upon habitat.
Cumulative impact post mitigation:	Possible impact on habitats.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	3 - Low

Vegetation Clearing: Layout Alternative 2 [LA 2] Drainage Line Crossing: Alternative 2 - Lower Crossing	Biological Aspect Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Impact on sensitive environments (rivers, wetlands etc.)
Nature of impact:	Disturbance of an ESA2 wetland area.
Extent and duration of impact:	Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)
Consequence of impact or risk:	Degradation of ecological support area (watercourse). A low localised negative impact with localised loss of aquatic habitat integrity and vegetation as well as bed/bank modification could be expected during the construction phase.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of riparian and/or wetland habitat and bed/bank modification.
Probability of occurrence:	5 (Definite)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Irreversible (IR)
Indirect impacts:	Loss of significantly impacted upon habitat and bed/bank modification.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon habitat and bed/bank modification.

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	55 - Medium
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2- Partly mitigatable (PM)
Proposed mitigation:	<ul style="list-style-type: none"> • Construction activities must be controlled and restricted to the development footprint only. • The proposed drainage line crossing must be located on the existing crossing footprint as far as possible. • The construction area and all proposed no-go areas must be demarcated before construction starts and remain demarcated throughout construction phase. • The construction activities must be monitored by an Environmental Control Officer. • Work within the stream channel during construction of the crossing should be limited as far as possible and rehabilitated immediately afterwards, where the banks are reshaped as according to surrounding contours and rubble is removed from the stream and banks. • All disturbed areas should receive ongoing monitoring and management of erosion and invasive plant growth.
Residual impacts:	Loss of significantly impacted upon habitat and bed/bank modification.
Cumulative impact post mitigation:	The significance of the impact on the aquatic ecosystems with mitigation is expected to be low.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	55 - Medium
OPERATIONAL PHASE	
Potential impact and risk:	Impact on sensitive environments (rivers, wetlands etc.)
Nature of impact:	Disturbance of an ESA2 wetland area.
Extent and duration of impact:	Extent 3 Local (Within a 20 km radius of the centre of the site) & Duration 5 Permanent(P) (Will not cease)
Consequence of impact or risk:	Degradation of ESA watercourse and wetland (due to poor quality effluent.
Extent and duration of impact:	Extent 3 (local) & Duration 4 (long term)
Consequence of impact or risk:	Loss of riparian and/or wetland habitat and bed/bank modification.
Probability of occurrence:	2 - Improbable (I)
Degree to which the impact may cause irreplaceable loss of resources:	2 - Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Partly reversible (PR)
Indirect impacts:	Loss of habitat and ecological support areas.
Cumulative impact prior to mitigation:	Loss of habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	14 - Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2- Partly mitigatable (PM)
Proposed mitigation:	Operational activities must be controlled and restricted to the development footprint only
Residual impacts:	Loss of habitat.
Cumulative impact post mitigation:	The impact will be the same as it was prior to mitigation.

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	14 - Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Impact on sensitive environments (rivers, wetlands etc.)
Nature of impact:	Disturbance of an ESA2 wetland area.
Extent and duration of impact:	Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)
Consequence of impact or risk:	Loss of riparian and/or wetland habitat and bed/bank modification.
Probability of occurrence:	1 (Very improbable (VP))
Degree to which the impact may cause irreplaceable loss of resources:	1-Resource will not be lost (R)
Degree to which the impact can be reversed:	Partly reversible (PR)
Indirect impacts:	Loss of significantly impacted upon habitat.
Cumulative impact prior to mitigation:	Loss of significantly impacted upon habitat.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	7 – Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	1- Completely mitigatable (CM)
Proposed mitigation:	Work within site boundaries with no decommissioning activities outside the boundary of the proposed development.
Residual impacts:	Loss of significantly impacted upon habitat.
Cumulative impact post mitigation:	The impact will be the same as it was prior to mitigation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	7 - Low

Socio-economic

5. Increase in jobs

Vegetation Clearing: Layout Alternative 1 [LA 1] (PREFERRED) Vegetation Clearing: Layout Alternative 2 [LA 2] Drainage Line Crossing: Alternative 1 - Upper Crossing (PREFERRED) Drainage Line Crossing: Alternative 2 - Lower Crossing	Socio-Economic Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Increased jobs
Nature of impact:	Temporary jobs will be created for the establishment of apple orchards and the upgrading of the drainage line crossing.
Extent and duration of impact:	Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)
Consequence of impact or risk:	Influx of contract workers due to lack of skills. Influx of job seekers due to jobs created. Littering.
Probability of occurrence:	4 (most likely)
Degree to which the impact may cause irreplaceable loss of resources:	NA – Positive
Degree to which the impact can be reversed:	NA – Positive
Indirect impacts:	NA – Positive
Cumulative impact prior to mitigation:	NA – Positive
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low (positive)
Degree to which the impact can be avoided:	NA – Positive
Degree to which the impact can be managed:	NA – Positive
Degree to which the impact can be mitigated:	NA – Positive
Proposed mitigation:	Local contractors, employing or seeking to employ local (historically disadvantaged individuals (HDIs) from the region who are suitably qualified, should get preference. The municipality, local community and local community organizations should be informed of the project and potential job opportunities by the developer.
Residual impacts:	NA – Positive
Cumulative impact post mitigation:	NA – Positive
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low (positive)
OPERATIONAL PHASE	
Potential impact and risk:	Increased jobs
Nature of impact:	Jobs will be created. The locals may not have sufficient skills to utilize the employment opportunities and “others (work force

	and job seekers)" may be employed from outside the community.
Extent and duration of impact:	Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)
Consequence of impact or risk:	Influx of contract workers due to lack of skills. Influx of job seekers due to jobs created. Littering.
Probability of occurrence:	4 (most likely)
Degree to which the impact may cause irreplaceable loss of resources:	NA – Positive
Degree to which the impact can be reversed:	NA – Positive
Indirect impacts:	NA – Positive
Cumulative impact prior to mitigation:	NA – Positive
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low (positive)
Degree to which the impact can be avoided:	NA – Positive
Degree to which the impact can be managed:	NA – Positive
Degree to which the impact can be mitigated:	NA – Positive
Proposed mitigation:	Local contractors, employing or seeking to employ local (historically disadvantaged individuals (HDIs) from the region who are suitably qualified, should get preference. The municipality, local community and local community organizations should be informed of the project and potential job opportunities by the developer.
Residual impacts:	NA – Positive
Cumulative impact post mitigation:	NA – Positive
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low (positive)
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Increased jobs
Nature of impact:	The apple orchard will have the capacity to provide 1.25 primary and 0.83 downstream jobs per hectare.
Extent and duration of impact:	Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)
Consequence of impact or risk:	Influx of contract workers due to lack of skills. Influx of job seekers due to jobs created. Littering.
Probability of occurrence:	4 (most likely)
Degree to which the impact may cause irreplaceable loss of resources:	NA – Positive
Degree to which the impact can be reversed:	NA – Positive
Indirect impacts:	NA – Positive
Cumulative impact prior to mitigation:	NA – Positive
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low (positive)
Degree to which the impact can be avoided:	NA – Positive

Degree to which the impact can be managed:	NA – Positive
Degree to which the impact can be mitigated:	NA – Positive
Proposed mitigation:	Local contractors, employing or seeking to employ local (historically disadvantaged individuals (HDIs) from the region who are suitably qualified, should get preference. The municipality, local community and local community organizations should be informed of the project and potential job opportunities by the developer.
Residual impacts:	NA – Positive
Cumulative impact post mitigation:	NA – Positive
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low (positive)

Heritage and cultural historic

6. Impact on archaeological etc.

Vegetation Clearing: Layout Alternative 1 [LA 1] (PREFERRED) Vegetation Clearing: Layout Alternative 2 [LA 2] Drainage Line Crossing: Alternative 1 - Upper Crossing (PREFERRED) Drainage Line Crossing: Alternative 2 - Lower Crossing	Cultural-Historical Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	The potential impact of the proposed development on archaeological, paleontological and heritage remains.
Nature of impact:	The potential impact of the proposed development on archaeological, paleontological and heritage remains
Extent and duration of impact:	Extent 1 (Footprint) & Duration 5 (Will not cease)
Consequence of impact or risk:	The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.
Probability of occurrence:	2 (some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Partly reversible (PR)
Indirect impacts:	The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.
Cumulative impact prior to mitigation:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 – Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2-Partly mitigatable (PM)
Proposed mitigation:	Should any burials, fossils or other historical material be encountered during construction, work must cease immediately and HWC must be contacted.

Residual impacts:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Cumulative impact post mitigation:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low
OPERATIONAL PHASE	
Potential impact and risk:	The potential impact of the proposed development on archaeological, paleontological and heritage remains.
Nature of impact:	The potential impact of the proposed development on archaeological, paleontological and heritage remains
Extent and duration of impact:	Extent 1 (Footprint) & Duration 5 (Will not cease)
Consequence of impact or risk:	The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.
Probability of occurrence:	2 (some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Partly reversible (PR)
Indirect impacts:	The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.
Cumulative impact prior to mitigation:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2-Partly mitigatable (PM)
Proposed mitigation:	Should any burials, fossils or other historical material be encountered during construction, work must cease immediately and HWC must be contacted.
Residual impacts:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Cumulative impact post mitigation:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	The potential impact of the proposed development on archaeological, paleontological and heritage remains.
Nature of impact:	The potential impact of the proposed development on archaeological, paleontological and heritage remains
Extent and duration of impact:	Extent 1 (Footprint) & Duration 5 (Will not cease)
Consequence of impact or risk:	The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.
Probability of occurrence:	2 (some possibility, but low likelihood)
Degree to which the impact may cause irreplaceable loss of resources:	2-Resource may be partly destroyed (PR)
Degree to which the impact can be reversed:	Partly reversible (PR)

Indirect impacts:	The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.
Cumulative impact prior to mitigation:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	16 – Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	2-Partly mitigatable (PM)
Proposed mitigation:	Should any burials, fossils or other historical material be encountered during construction, work must cease immediately and HWC must be contacted.
Residual impacts:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Cumulative impact post mitigation:	Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	8 – Low