CHAPTER FIVE: IDENTIFICATION AND ASSESSMENT OF ALTERNATIVES

5.1 APROACH TO THE ASSESSMENT OF ALTERNATIVES

Chapter One of the EIA Regulations 2014 (as amended), GN R326, provides the context for the "*Interpretation and Purpose of Regulations*", and with regards to "*alternatives*" (page 217), the following is provided:

*""**alternatives**", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which **may** include alternatives to the –*

(a) property on which or location where the activity is proposed to be undertaken;
(b) type of activity to be undertaken;
(c) design or layout of the activity;
(d) technology to be used in the activity; or
*(e) operational aspects of the activity; **and** includes the option of not implementing the activity*;"

In line with the above and as a baseline, the assessment of alternatives must include the assessment of the No-Go alternative (not implementing the activity).

The objectives of the Scoping Process are provided in GN R326, Appendix 2, Section 1. In relation to the assessment of alternatives the following, amongst others, are provided (page 260):

"*(c) identify and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks;*
(d) identify and confirm the preferred site, through a detailed site selection process, which includes an identification of impacts and risks inclusive of identification of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;"

The content requirements for a Scoping Report is given in GN R326, Appendix 2, Section 2. In relation to the assessment of alternatives the following, amongst others, are provided (page 260):

"(1) (g) a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including-
- *(i) details of the alternatives considered; …*
- *(ix) the outcome of the site selection matrix;*
- *(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such;*
- *(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;"*

The Scoping Report must, therefore, at a minimum provide a description of the process followed to reach an alternative and if no location alternatives were investigated, the reason for not considering such. On the 19 December 2018, acceptance of the Final Scoping Report (FSR) and approval of the Plan of Study (PoS) for EIA was received from DEDEAT, which included as Chapter Five, the identification and assessment of alternatives, as well as the approach to the assessment of alternatives for the EIA phase of the assessment. Included in this correspondence was the following regarding the assessment of alternatives:

"Maintaining a buffer between the orchards and the boundary of the property must be considered as an alternative layout during the EIR Phase."

The NEMA (as amended) requires an Environmental Impact Assessment (EIA) Report to include the investigation and assessment of impacts associated with alternatives to the proposed project, including the option of not implementing the activity (Sections 24 (4)(b)(i) and 24(4A)).

GN R326, Appendix 3, 1 (h); (l); and (n), provides the scope of the assessment and content of EIA reports, which with regards to the assessment of alternatives includes the following, amongst others:

"(h) (i) details of the development footprint alternatives considered;
(h) (iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
(h) (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
(h) (ix) if no alternative development footprints for the activity were investigated, the motivation for not considering such; and
(h) (x) a concluding statement indicating the location of the preferred alternative development footprint within the approved site, as contemplated in the accepted scoping report;
(l) (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;
(n) the final proposed alternatives which respond to the impact management measures, avoidance and mitigation measures identified through the assessment;"

Section 24O (1)(b)(iv) of the NEMA (as amended), requires that the competent authority, when considering an application for Environmental Authorisation, considers: "*where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment*".

Within the legislative context outlined above, the assessment of alternatives should at a minimum include the following:

- The assessment of the No-Go alternative as a baseline scenario;
- The reasoning/ motivation for the elimination of an alternative; and
- The assessment of reasonable and feasible alternatives.

As is outlined below the following alternatives are being considered in this assessment process:

- No-Go alternative
- Property/ Location alternatives
- Land-Use alternatives
  - Grazing/ game
  - Crop cultivation and citrus orchard establishment
- Layout alternatives (development footprints)
- Alternatives as Raised by I&APs and Authorities
  - Tourism
  - Access Alternative
  - Buffers

5.2 NO-GO ALTERNATIVE

The option of not implementing the activity, the No-Go option, must be assessed as a baseline. Based on observations made during site visits to Scheepers Vlakte Farm and specialist input (refer

to Chapter Six of this report), the dominant vegetation type on the Farm is natural to near-natural Sundays Spekboom Thicket. A degraded grassy Asteraceae shrubland Thicket mosaic occurred in the valley slope areas, above the Scheepersvlakte Dam (not part of this assessment) and along the main north-south 1:50 000 undefined drainage line. This is likely to represent Sundays Doringveld in a modified and severely degraded state.

Past clearing for cultivation and livestock grazing has resulted in severe degradation and modification in the valley areas (north of the Scheepersvlakte Dam and along the main north-south drainage line). The overflow from the Scheepersvlakte Dam has also resulted in the formation of artificial wetland habitat, not evident in the historical imagery.

Opuntia ficus-indica and *Opuntia aurantiaca* are present on the farm, particularly where access tracks occur and past clearing took place, and thus their distribution is not uniform. The level of infestation is not considered high (>60% cover) relative to indigenous vegetation cover, however it has resulted in degradation, with localized patches. According to Kruger and Sykes (Unknown), low to moderate densities encompass (a) more than 2 canopy diameters apart (<25% coverage) or (b) 0.1 to 2 canopy diameters apart (25% - 75%). The natural to near-natural areas therefore include these alien invasive plants.

Current land use is un-used. The land is 'un-used' from an agricultural or residential land use perspective, although indigenous fauna were introduced by the current landowner, e.g. Kudu.

The No-Go option would entail not clearing the site for the cultivation of annual crops (e.g. maize) and the establishment of a variety of citrus, whilst retaining the Sundays Spekboom Thicket and Sundays Doringveld. However, this will include the continued encroachment of exotic and invasive vegetation, if not actively controlled through an Alien Plant Management Plan, and the potential continued degradation of the vegetation over time. Conversely, the No-Go option would result in several temporary construction, permanent, as well as seasonal employment phase opportunities not being realized. In addition, given that this proposed agricultural development is an empowerment project, the benefits to the potential beneficiaries will not be realized.

In summary, while the No-Go option will have no significant negative biophysical environmental impacts, it will result in the loss of positive social and economic benefits which are associated with the Go option. Finally, the No-Go option will result in the Farm not being optimally utilized for agriculture, for which it is zoned. Therefore, the **No-Go option is not a preferred alternative**.

5.3 PROPERTY/ LOCATION ALTERNATIVES

Regarding the content of the Scoping Report, Appendix 2, Section 2 (1) (g) (x) requires that, if an alternative is not considered, the reasoning/ motivation for such is provided. In line with this regulation the following reasoning was provided for not including the assessment of property alternatives in the approved Scoping Report, however, layout development footprints have been considered, as contained in section 5.5 below.

5.3.1 Reasoning/ Motivation for the Elimination of an Alternative

As indicated in the first paragraph of this chapter, Chapter One of the EIA Regulations 2014 (as amended), provides for the interpretation and purpose of the regulations, including, amongst others the assessment of alternatives, which may include the property or location upon which an activity is proposed to take place. This should not be confused with layout/ development footprint alternatives

within a specific site, which will be included in this assessment process (see section 5.5 below). As a baseline, the No-Go alternative will be assessed.

The Remainder of Portion 7 of Farm 98, known as Scheepers Vlakte Farm, is owned by the applicant, Scheepersvlakte Farms (Pty) Ltd and is currently zoned Agriculture I. The majority of properties surrounding the Farm are currently engaged in some form of commercial agricultural activity including citrus orchards, commercial chicken production and livestock/ game grazing (see Map 3.2). The Farm has not been previously modified for commercial agriculture. Approximately 0.5% of the Farm has been modified by quarrying, as well as the existing structures on site. Therefore, ~99% (~848ha) of the Farm is currently in a near-natural state. The area assessed includes the quarried site, as well as the location of the existing farm structures, and measures ~852ha in extent. The area to be cleared has been informed by the various specialist assessments through the assessment process.

Prior to commencing with the Scoping and EIA Process the project applicant, Scheepersvlakte Farms (Pty) Ltd, applied for and was granted a Water Use Licence from DWS for the taking of water from a water resource in terms of section 21 (a) of the National Water Act which entitles them to utilise 650ha (5 850 000m^3 per annum) of water from the LSRWUA canal system. The aforementioned licence is issued in respect of a particular property (i.e. Remainder of Portion 7 of Farm 98). Since water is a crucial requirement for the proposed agricultural development, it is not deemed feasible to assess other property alternatives.

Based on the experience of the EAP, land available for cultivation, which is situated adjacent to existing agricultural areas and which is zoned for agricultural use, have existing water use rights, suitable soils, and is near the LSRWUA canal system, is becoming increasingly scarce in the Sundays River Valley. Scheepers Vlakte Farm meets the abovementioned requirements and thus **no other reasonable or feasible property/ location alternatives are proposed to be assessed.** Layout/ development footprint alternatives within the Farm, however, have been assessed (see section 5.5 below).

5.4 LAND USE/ ACTIVITY ALTERNATIVES

5.4.1 Grazing (not preferred)

The dominant vegetation type on the Farm is natural to near-natural Sundays Spekboom Thicket. A degraded grassy Asteraceae shrubland Thicket mosaic occurred in the valley slope areas, above the Scheepersvlakte Dam (not part of this assessment) and along the main north-south 1:50 000 undefined drainage area. This is likely to represent Sundays Doringveld in a modified and severely degraded state.

Due to the species composition of Sundays Spekboom Thicket, the vegetation type is not conducive for the sustainable grazing of domestic cattle. Savannah type ecosystems are predominantly used for grazing purposes. Any sustainable grazing of cattle on this property would require that, in addition to the forage available on the Farm, cattle fodder would need to be supplemented. Further, and in order to maintain a sustainable livestock enterprise, the Farm would have to be divided into camps, to allow for resting periods for the veldt to recover. Alternatively, a portion of the site would be required to be cleared and irrigated to provide cattle fodder. The negative biophysical environmental impacts that could potentially arise from the grazing of cattle on the site are; decreased species composition of the Sundays Thicket vegetation type, soil erosion, continued alien invasion and modification of the vegetation on the site.

Regarding grazing capacity for domestic stock and carrying capacity for game, PCV du Toit of the Grootfontein Agricultural Development Institute notes the following:

"*However, there is a need to distinguish between domestic grazers and game animals. It has been advocated for some time that the term grazing capacity should be reserved to instances where the stocking rate grazing capacity relation of domestic stock is described. This relation is a simple question of the number of animals which can be accommodated sustainably on a given area without the deterioration of the natural resources.*

The capacity of the land to carry game, should be referred to as carrying capacity. This stocking rate carrying capacity relation, should be reserved for the use of the land area to game relation. This carrying capacity is much more complex than the simple domestic stock: land area relation. Game, carrying capacity involves such factors as, inter alia*: area of suitable habitat, sufficient foraging area, appropriate cover and a large enough area to cater for social needs (Furstenburg 2002). However, on account of the animal population growth rate, of the different species occupying the land at the same time, this capacity of the land to carry game often becomes overstocked, resulting in the eventual over-grazing of the vegetation. When the area can no longer support the animal population, it crashes, leading to the inevitable, massive die-off of large numbers of game animals. The remainder starts to recover slowly at first on account of the poor vegetative cover and low available plant production resulting in the extremely low carrying capacity. Once the vegetation has recovered to such an extent that it attains its previous carrying capacity, animal numbers start building up again. The whole cycle of animal number build-up and the consequent overgrazing resumes. In order to combat over-grazing of the veld by game, expensive animal control measures have been instituted and such operations as culling and relocation of game are required, however, these practices seldom prove popular."*

In addition to the above, it is important to note that the applicant's core business is citrus production, not cattle or wildlife production/ game farming. The applicant, not having sufficient expertise in this regard, could potentially face the problems outlined in the reference above i.e. overgrazing, deterioration of the natural resources etc., if this activity were to be undertaken on the Farm. The applicant's experience in citrus production, however, will positively benefit the sustainable and optimal use of the Farm, as it is zoned Agriculture I. Thus, for the reasons outlined above, utilization of the Farm for grazing by cattle and game is **not considered a feasible alternative and is, therefore, not the preferred land-use alternative** and has not been assessed further in this assessment process.

5.4.2 Crop Cultivation and Citrus Orchard Establishment (preferred)

As outlined in Chapter One of this report, the area under assessment is located in the SRVM and is zoned Agriculture I. In terms of the Section 8 Zoning Scheme Regulations this "*means the cultivation of land for crops and plants or the breeding of animals, or the operation of a game farm on an extensive basis on the natural veld or land, and includes only such activities and buildings as are reasonably connected with the main farming activities of the farm, but does not include the consent uses applicable to agriculture zone 1."*

Scheepers Vlakte Farm is not currently under cultivation. However, the applicant has been allocated 650ha of water rights by the Department of Water and Sanitation (5 850 000m^3 per annum) and water for the proposed development will be sourced from the Lower Sundays River Water Users Association (LSRWUA) canal system. Pivot irrigation is proposed to supply water to the crops (e.g. maize), whilst micro/ drip irrigation is proposed to supply water to the citrus orchards.

Scheepers Vlakte Farm is located in a predominantly agricultural area, as indicated by the surrounding land uses adjacent to the Farm (See Map 3.2 in Chapter Three). The majority of properties surrounding the Farm are currently engaged in some form of commercial agricultural activity, including citrus orchards, commercial chicken production and livestock/ game grazing. However, some properties adjacent to the north, east and western boundaries indicate the presence of near-natural vegetation. The northern boundary of the Farm is adjacent to the Enon Mission Station communal land, showing signs of livestock grazing. Based on the surrounding land uses, the proposed agricultural development on Scheepers Vlakte Farm is not likely to cause a significant change in character within the surrounding landscape, as the surrounding area is currently predominantly agricultural in nature.

Some of the key elements contributing to the sustainability of the agricultural potential of the Farm is access to arable land, suitable soils, the topography of the site and the availability of water. Based on the experience of the independent EAP in the area, access to such land in the Sundays River Valley, which meet the abovementioned requirements, is becoming increasingly scarce. The reason being that, suitable land with sufficient access to water is already being utilized for commercial citrus and crop production. Potentially suitable land parcels do not always have ready access to canal water from the LSRWUA. As a result of the distance to water, development often requires a larger capital investment, to ensure a reliable irrigation water supply. At present, Scheepers Vlakte Farm meets the abovementioned criteria and is, therefore, considered to have a high agricultural potential and is potentially suitable for the proposed development.

The proposed agricultural development on the Farm will create several temporary construction phase, as well as permanent, operational and seasonal employment opportunities. In addition to the direct employment opportunities related to the farming operations, a number of indirect jobs will also be created by the proposed development, particularly within the packaging and logistics industries, amongst others. In addition, given that this agricultural development is an empowerment project there will be additional benefits to be realized for beneficiaries associated with the project, which is required be maintained at a minimum of 26% in terms of the Water Use License.

It is proposed that for Phase 1 of the project, only ~150ha of citrus (lemons and late mandarins) be planted along with ~100ha maize (total 250ha). Thereafter, citrus will only be planted once maize has first been cultivated for ~1–2 years. This process will continue for ~2–5 years, until ultimately the entire farm is planted with citrus. The planting of maize will be done in order to prepare the soil for the establishment of citrus, whilst simultaneously eliminating a potentially harmful root system fungus which is prone to attacking a specific citrus variety. The maize produced during the ~5-year period will be for the local market (e.g. cattle fodder and human consumption). The citrus to be produced will be for both local and international markets, as well as for juicing. International markets generate income from foreign currency, thus, contributing to local economic growth. Some of the citrus produced will, also be sold locally to vendors or juicing factories which will assist in stimulating local markets.

For the reasons outlined above **this is the preferred alternative**, which has been assessed in detail during the EIA phase of the assessment, and which includes preferred layout/ development footprint alternatives within the preferred site. Chapter Four of this report provides an overview of the methodology for the identification, rating and assessment of impacts (both positive and negative) and the specialist studies undertaken during the EIA phase of the assessment.

5.5 LAYOUT ALTERNATIVES

The EIA phase of the assessment has assessed layout/ development footprint, alternatives on Scheepers Vlakte Farm, based on the detailed specialist studies, as well as technical input.

Specialist studies which formed part of this assessment are:

- Soil Suitability – potential of soils for the establishment of citrus orchards and annual crops (maize)
- Slope Analysis – slopes in excess of 25% are not suitable
- Vegetation – species of special concern, ecological corridors, conservation targets
- Aquatic – aquatic sensitivity and associated buffer zones
- Irrigation efficiency and requirements – drip and pivot irrigation
- Heritage features – including Archaeological and Paleontological features on the farm
- Traffic Impact – additional trip generation and access to the farm
- Visual – impact on sensitive receptors in the immediate landscape
- Roads and Wet Services – recommendations regarding domestic water, effluent management, and stormwater management for the logistical services area

The final layout (preferred development footprint within the site) for the project has been determined by the specialists and technical input in the EIA phase of the assessment as well as public consultation. **Layout/ development footprint alternatives are feasible and are discussed in detail below.**

5.5.1 Layout Alternative 1 (not preferred)

The Alternative 1 layout was prepared as part of a previous assessment undertaken on this property. It proposed the clearance of ~650ha of vegetation for the establishment of citrus orchards. This layout alternative also included the establishment of a balancing dam with a storage capacity of ~150 000m³ within the drainage line which bisects the farm in a north-south direction. The layout further included preliminary input (not very detailed) from the Department of Agriculture, Forestry and Fisheries on the soil characteristics on the site as well as a preliminary report from a consulting engineering firm. This alternative did not consider slope or biodiversity constraints (drainage lines/ conservation of vegetation types) on the site and the impact on a potential layout. This was therefore not considered a feasible alternative. Subsequent to the development of Alternative 1, a number of additional specialist studies were conducted. Based on the outcome of the specialist assessments, public participation, as well as technical input, the Alternative 1 layout was amended.

This alternative is, therefore, **not the preferred layout alternative.**

Map 5.1: Alternative 1 proposed to clear ~650ha of indigenous vegetation for the establishment of citrus orchards, including associated infrastructure.

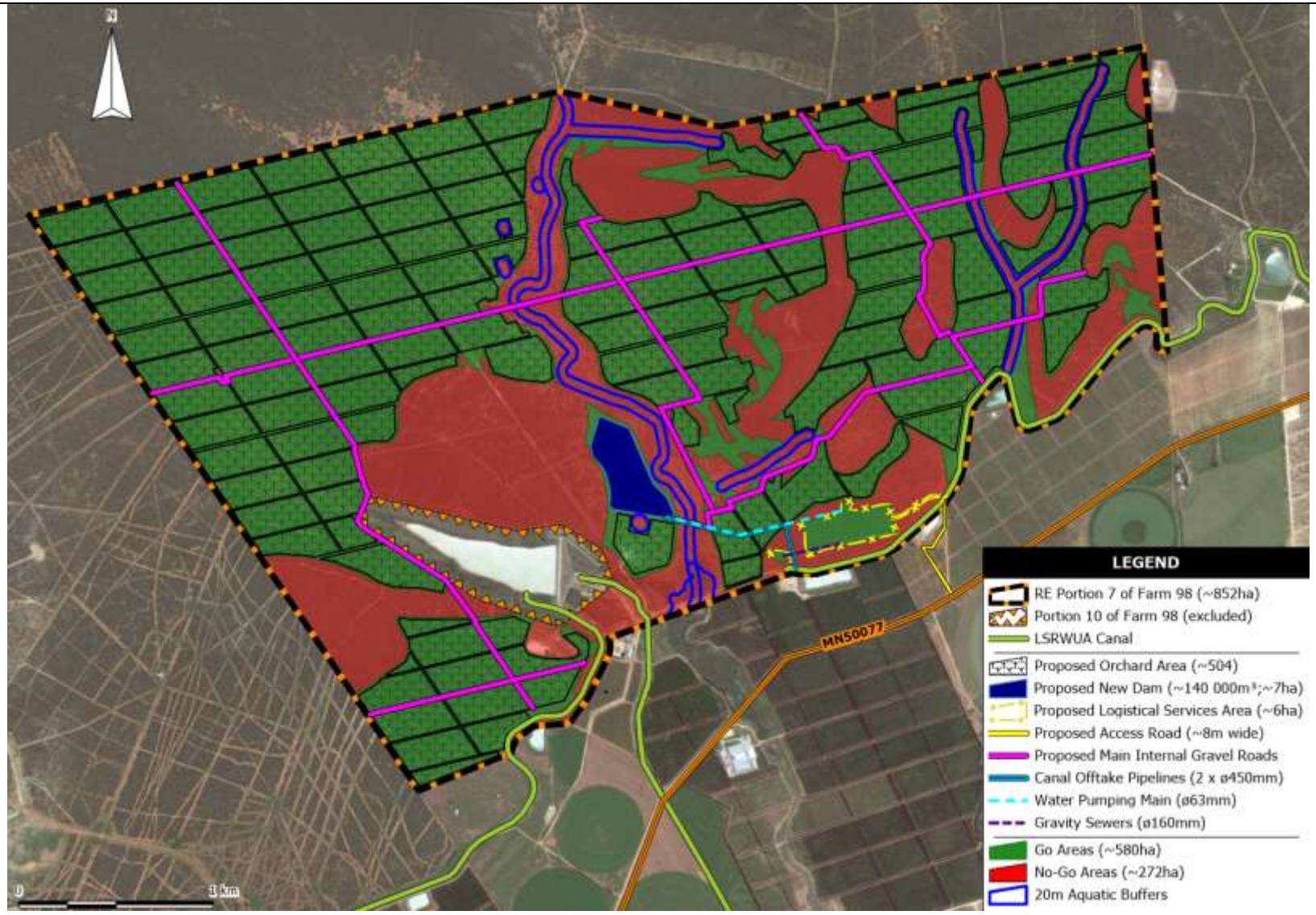
5.5.2 Layout Alternative 2 (preferred)

The Alternative 2 layout is based on the specialist input which has been provided through the Environmental Assessment Process, in particular, soil suitability, slope analysis and ecological constraints. The preferred layout as indicated below proposes to clear a total of ~516ha to accommodate the proposed agricultural development, including associated infrastructure. The preferred layout has identified an area of ~272ha (No-Go) which is unsuitable for the proposed development. These areas are therefore proposed to be set aside for conservation and will facilitate the maintenance of ecological patterns and processes within the site and with intact natural areas on adjacent farms.

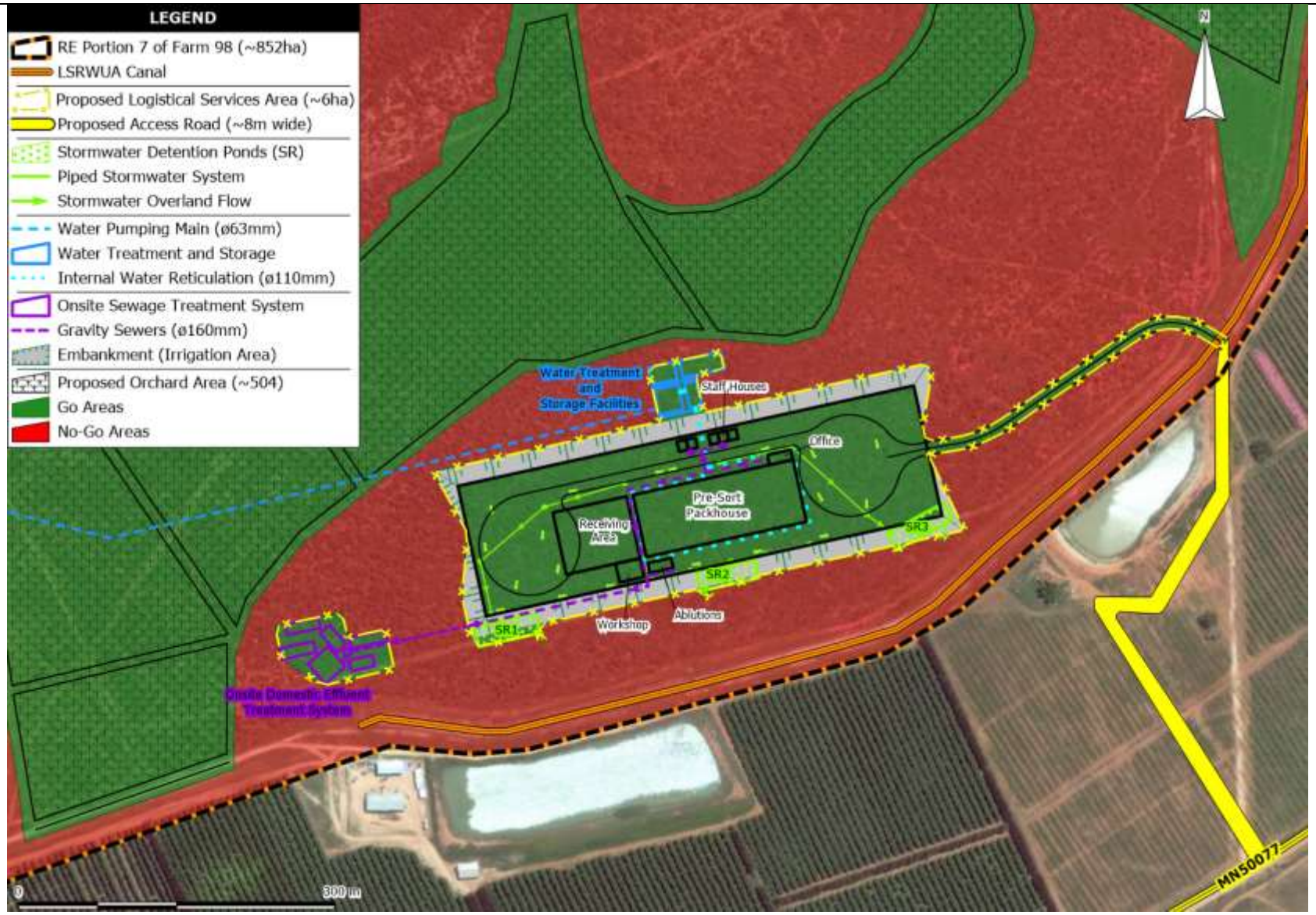
In addition, the proposed balancing dam (~140 000m^3) has been resized, due to the reduction of the development size and has been located outside of the drainage line and associated buffer area so as to not interrupt the hydrology of the water resources on the farm. The proposed access point has been moved eastwards from where it was originally proposed, based on issues raised through the public consultation process, and thus the logistical services area has also been relocated to adjacent to the southern boundary of the farm to be closer to the proposed access point.

A full description of the preferred layout alternative which was assessed in full in this report has been included in Chapter Two.

Based on the EIA phase of the assessment, **Alternative 2 is the preferred layout alternative**.



Map 5.2: Alternative 2 proposes to clear ~516ha of indigenous vegetation for the establishment of citrus orchards and maize, including associated infrastructure. This preferred alternative is based on specialist and technical input, as well as public participation.



Map 5.3: The proposed logistical services area layout, located near the southern boundary on Scheepers Vlakte Farm, also indicating the preferred access road.

5.6 ALTERNATIVES RAISED BY I&APS

An important element of the Assessment Process is to identify issues for inclusion in the EIA phase of the assessment. These issues provide input towards the assessment of alternatives, as well as the scope and Terms of Reference for the specialist assessments.

During the Scoping Process, it is important to evaluate and prioritise the issues raised through the interactions with authorities, I&APs, specialists on the EIA team, and the project applicant. In accordance with the philosophy of Integrated Environmental Management, it is necessary to focus the EIA on the key issues raised.

To assist in the identification of key issues, a decision-making process is applied to the issues raised, based on the following criteria:

- Whether the issue falls within the scope and responsibility of this EIA.
- Whether sufficient information is available to respond to the issue raised without further specialist investigation.

Where an issue is considered to fall beyond the scope of this assessment process, sufficient reasoning needs to be provided.

5.6.1 Tourism

SANParks, through their comment submitted during the Scoping Phase of the assessment process, on the 9 July 2018, have noted the following, amongst others:

"*SANParks could support sustainable grazing/ game farming or **tourism** infrastructure development on the property but agricultural development/ irreversible transformation of 507 ha cannot be supported in a CBA 2 of national importance."* A copy of the full comment is included in Appendix F of the Scoping Report. The proposed alternative land use of utilizing the property for sustainable grazing/ game farming and the elimination thereof is discussed in section 5.4.1 above.

The applicant's core business is not Tourism. The area under assessment is zoned Agriculture I and is located in the Sundays River Valley Municipality, an area which is known for its tourism potential, as well as being an important agriculture hub. The proposed development supports the Economic Development Objective of the Sundays River Valley Local Economic Strategy, as outlined in the SDF (April 2013), which indicates agriculture as a Local Economic Development Priority and identifies the need to "…*expand the agricultural section in the region*."

Although the vegetation is largely untransformed on the property under assessment, directly adjacent to the northern, eastern and western boundaries, surrounding properties are currently engaged in commercial agricultural activities including citrus orchards, commercial chicken production and livestock/ game grazing. A portion of Farm 713 (neighbouring farm), adjacent to the eastern boundary of the property under assessment, has been zoned to Open Space III. The southern boundary of the property under assessment abuts existing agricultural lands including citrus orchards and cultivated fields (e.g. lucerne). The northern boundary of the property under assessment is adjacent to the Enon Mission Station communal land, showing signs of livestock grazing. Based on the experience of the EAP, land available for cultivation, which is situated adjacent to existing agricultural areas, is zoned for agricultural use, has existing water use rights, suitable soils, and is near the LSRWUA canal system, is becoming scarce in the Sundays River Valley.

"The National Strategy for Sustainable Development and Action Plan 2011 – 2014 (NSSD 1) (2011) states the following*:*

Although the concept of sustainable development has been on the international agenda since the United Nations Conference on the Human Environment in Stockholm in 1972, the terms 'sustainability' and 'sustainable development' have been used and interpreted in widely different ways. In developing this strategy for sustainable development, a fixed definition of these terms has been accepted in a South African context.

Sustainability *(or a sustainable society) is seen as the overall goal of the NSSD 1. Sustainability in this context implies* ***ecological sustainability****. In the first instance, it recognises that the maintenance of healthy ecosystems and natural resources are preconditions for human wellbeing. In the second instance, it recognises that there are limits to the goods and services that can be provided. In other words, ecological sustainability acknowledges that human beings are part of nature and not a separate entity.*

Sustainable development *is the process that is followed to achieve the goal of sustainability. Sustainable development implies the selection and implementation of a development option, which allows for appropriate and justifiable social and economic goals to be achieved, based on the meeting of basic needs and equity, without compromising the natural system on which it is based."* Based on the above, the utilization of the area under assessment for Tourism, which is, amongst others, not the applicant's core business is not deemed reasonable or feasible and will not be assessed further in this assessment process.

5.6.2 Alternative Access

Sunriver Citrus cc, an adjacent landowner has brought to the attention of the EAP, through the Public Participation Process, that the access route which was initially proposed is a servitude registered in favour of the Department of Water Affairs. In addition, that road has not been designed to handle the traffic anticipated to be create by the development. Based on the input from this I&AP and in consultation with the proposed traffic specialist, an alternative access route to the site has been identified and has been assessed in the EIA Phase of this assessment. The Traffic Specialist has indicated that this existing access road is suitably placed to allow sufficient shoulder site distances and that the surrounding road network will be able to handle the additional trip generation as a result of the development. However, in order to provide access to heavy vehicles this existing access road is proposed to be upgraded and widened (~8m wide). In addition, a right of way servitude will need to be registered over the adjacent property in order to ensure access to the development in perpetuity.

5.6.3 Buffers

Included in the Acceptance of the FSR from DEDEAT (Dated 19 December 2018) was the following regarding the assessment of alternatives:

"Maintaining a buffer between the orchards and the boundary of the property must be considered as an alternative layout during the EIR Phase."

Buffers on a property can serve, inter alia, the following purposes:

- To maintain a visual barrier (sense of place) between the property under development and adjacent landowners
- To maintain a visual barrier for sensitive visual receptors (National Parks) further afield

- To maintain ecological corridors (patterns and processes) with intact vegetation types on adjacent properties

Based on the findings of the Visual Impact Assessment (Chapter Thirteen) buffers to provide visual screening is not deemed necessary for the proposed development. This is because the proposed development is not visible from any of the sensitive visual receptors within close proximity to the Farm. Further away from the farm the proposed development is anticipated to blend into the surrounding agricultural landscape. In addition, due to the scale of the development and the topography of the site, visual screening, for example by vegetation, is not deemed to provide a suitable visual barrier from individuals in the immediate vicinity. Buffers are therefore not considered suitable alternatives to visual intrusion of the development.

The Lower Sundays River Water Users Association (LSRWUA) canal is situated along the southern boundary of Scheepers Vlakte Farm. In addition, the farms adjacent to this southern boundary have been completely transformed for agriculture (citrus and commercial livestock grazing). The Thicket (assumed based on Google Earth aerial imagery) on the farm adjacent to the western boundary has been severely degraded due to numerous cutlines and paths that have been made into the indigenous vegetation. This has potentially reduced the conservation value of this farm, given this and the fact that it is surrounded by existing agricultural development as well as its close proximity to the canal, this farm has the potential for a change in land use to agriculture. Therefore, buffers between the proposed orchards and the southern and western boundaries of the farm are not likely to provide any biodiversity value or contribute significantly towards connectivity within the broader landscape.

The current proposed layout has excluded the majority of the indigenous Thicket vegetation, adjacent to the eastern boundary of the site, from the proposed development footprint. This excluded “buffer” area varies in widths ranging from ~15m to 340m. These retained areas of natural vegetation will ensure connectivity and conservation of ecological patterns, processes and corridors with the indigenous vegetation which has been retained on the farm adjacent to the eastern boundary of Scheepers Vlakte Farm (Hopefield, Farm 713)[1]. These “buffer”, or No-Go areas, have been determined based on specialist input, including ecological and aquatic constraints, soil suitability and slope.

The drainage line which bisects the farm in a north-south direction and associated Sundays Doringveld vegetation has been excluded from the proposed development footprint. In addition, two other drainage lines located in the eastern portion of the farm, and also following a north-south direction have been provided with buffers (20m) and excluded from the proposed development footprint. These No-Go areas, along with portions of the farm that have been excluded due to steep slopes and unsuitable soils have provided a comprehensive network of corridors for the maintenance of ecological patterns and processes within the farm and with intact natural areas on adjacent farms. The buffers proposed on the preferred layout alternative are considered reasonable and feasible in order to maintain ecological links within the property and surrounding landscape versus a buffer between the orchards and the boundary of the property. However, as indicated above buffers are proposed on portions of the northern, eastern, southern and western boundaries of the property as per the various specialist recommendations.

[1] Please note that this portion of Farm 713 (Hopefield) has been rezoned as Open Space III as per a condition in an Environmental Authorisation issued to the landowner (DEDEAT Authorisation No: EC06/C/LN1&3/M/21-2013) and is therefore anticipated to remain in its present state in perpetuity.

5.7 CONCLUDING REMARKS

GN R326, Appendix 3, 3 (1) (h) (x) states the following: *"a concluding statement indicating the location of the preferred alternative development footprint within the approved site as contemplated in the accepted scoping report;"*

The preferred activity alternative to be undertaken on the property is the cultivation of annual crops (e.g. maize) and the establishment of a variety of citrus, which was assessed in full in the EIA phase of the assessment. As a baseline, the No-Go alternative has been assessed in full.

Two layout / development footprint alternatives have been assessed in the EIA phase of the assessment. Based on specialist and technical input as well as public participation, Layout Alternative 2, which entails the clearance of ~516ha, is the preferred layout/ development footprint alternative. An existing access road has been identified as suitable to provide access to the proposed development, however this road will be required to be widened to ~8m and a right of way servitude registered to ensure access to the development in perpetuity.

A number of No-Go areas have been identified within the farm, totaling ~272ha, including buffers from aquatic resources, which are anticipated to facilitate the maintenance of ecological patterns and processes within the farm and with intact natural areas on adjacent farms.