

CHAPTER SIX: PLAN OF STUDY FOR EIA

6.1 INTRODUCTION

In terms of Regulation 22 (a) of GN R326, upon acceptance of the Scoping Report, the competent authority must “*advise the applicant to proceed or continue with the tasks contemplated in the plan of study for environmental impact assessment*”.

Appendix 3, Section 2 of GN R326 indicates that the objectives of the Environmental Impact Assessment (EIA) Process are to:

- Assess how the proposed activity complies with the relevant policy and legislative context;
- Describe the need and desirability of the proposed activity, including in the context of the development footprint on the approved site as contemplated in the accepted scoping report;
- Identify the location of the development footprint within the approved site as contemplated in the accepted scoping report based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- Determine the--
 - Nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
 - Degree to which these impacts-
 - Can be reversed;
 - May cause irreplaceable loss of resources, and
 - Can be avoided, managed or mitigated;
- Identify the most ideal location for the activity within the development footprint of the approved site as contemplated in the accepted scoping report based on the lowest level of environmental sensitivity identified during the assessment;
- Identify, assess, and rank the impacts the activity will impose on the development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity;
- Identify suitable measures to avoid, manage or mitigate identified impacts; and
- Identify residual risks that need to be managed and monitored.

Public Participation is an essential part of the EIA process. During the EIA process, Public Participation is conducted in accordance with the Plan of Study (PoS) for EIA and may include additional requirements as opposed to the minimum requirements set out in the NEMA EIA Regulations 2014 (as amended). After the required components of the assessment have been undertaken, including any specialist studies and specialised input, an EIA report is compiled, which must contain at least the information listed in Appendix 3 of the NEMA EIA Regulations 2014 (as amended), including an Environmental Management Programme Report (EMPr).

The PoS, as contained in this section of the report, provides an overview of how the EIA for the proposed agricultural development on Portion 525 of Farm No. 42 Strathsomers Estate (Umgcambo) will proceed during the EIA Phase. This includes particulars of the Public Participation Process and specialist studies forming part of this assessment, as well as a description of the tasks that will be undertaken and the proposed method of assessing the environmental impacts that are identified. A full project description and the alternatives to be assessed for the proposed agricultural development is contained in Chapter Two and Chapter Five, respectively. The findings of the Scoping Process include input from the project proponent, technical team and specialists, as well as interested and affected parties (I&APs) and the competent authority. The above has been used to inform the approach to the EIA, as well as the scope of the specialist studies to be undertaken.

The EIA Phase consists of three overlapping processes:

- A central assessment process involving consultation with the competent authority, where inputs are integrated and presented in documents that are submitted for approval by the competent authority (described in section 6.3.1.1).
- A specialist process which provides the necessary scientific, technical and legal input (section 6.2 and 6.3.3).
- A Public Participation Process which communicates the findings of the various specialist studies undertaken to I&APs and Organs of State on the register of I&APs, and provides opportunities for I&APs to comment on all reports and plans submitted during the Public Participation Process (section 6.3.1)

6.2 OVERVIEW OF THE APPROACH TO THIS EIA

The table below provides an overview of the specialist studies that have been identified to form part of this assessment. The main objective of the specialist studies is to provide independent, scientifically sound information on issues of concern relating to the project proposal, and to adequately assess the impacts of the preferred development footprint alternative on the respective environmental aspects.

Table 6.1: Proposed list of specialist studies and specialists.

Specialist Study	Broad Scope of Assessment	Proposed Specialist
Ecological Specialist Assessment	An assessment of the potential impacts on vegetation and fauna (desktop), as well as the delineation of sensitive No-Go areas; and the determination of suitable buffer zones. To include an assessment of the impacts on aquatic features identified on the site and within a 500m radius, including wetlands and watercourses. To determine the Present Ecological State of the site and confirm the mapping of CBAs and ESAs, as included in various biodiversity planning frameworks (e.g. ECBCP and NFEPA mapping resources). To provide recommendations for management/ mitigation of residual impacts.	Deborah Vromans, Ecological Specialist Marisa Jacoby, Public Process Consultants
Phase 1 Paleontological Impact Assessment	To determine palaeontological features on site and the impact of the proposed development thereon. To provide recommendations for management/ mitigation of residual impacts.	Dr John Almond, Natura Viva
Phase 1 Archaeological Impact Assessment	To determine archaeological features on site and assess the potential impacts on these features. To provide recommendations for management/ mitigation of residual impacts.	Dr Johan Binneman, Eastern Cape Heritage Consultants
Soil Suitability Assessment	To determine the agricultural potential of the soils for citrus production and provide amelioration measures for soil limiting factors. Desktop slope analysis.	Danie Kritzinger, Agrimotion
Traffic Impact Assessment	To determine the impact of additional trip generation on the public road network, as well as the suitability and safety of the proposed access point.	Cary Hastie, Engineering Advice and Services
TECHNICAL TEAM		
Irrigation Infrastructure	To estimate the quantity of water required for irrigation, and to be stored on site in a proposed new dam. To confirm associated irrigation infrastructure (including drip/ micro irrigation) layout, including pipe diameters and length, as well as dam location, dimensions, storage capacity and design.	Jaco Kruger
Roads and Wet Services	To determine the footprint and locality of additional structures on site (i.e. offices and store; mess area, ablution facilities; loading and collection zone; manager's house and future buildings; as well as a road surrounding the facility), as well as bulk services requirements (i.e. domestic water, effluent management and stormwater management).	JJ Spies Civil Engineers

Section 6.3.3 below outlines the scope of the specialist studies and Terms of Reference (ToR). The results of the specialist studies and other relevant project information will be integrated into the Draft Environmental Impact Assessment Report (Draft EIA). The methodology utilized for the identification and ranking of impacts is outlined in Section 6.3.2 below.

The Draft EIA Report will be released for a 30-day I&AP and authority review period, outlined in section 6.3.1. All I&APs and Organs of State on the project database will be notified in writing of the release of the Draft EIA Report for review. No public meetings are proposed to be held during this period but focus group meetings may take place with key I&APs upon request. Comments submitted by I&APs and Organs of State, through written correspondence (emails, comment forms), telephonically and at meetings held, will be captured in a Comments and Responses Trail for inclusion in the Final EIA Report. Comments received will be responded to by the EAP, applicant and/ or relevant specialist which will indicate the manner in which the issue raised is incorporated in the EIA or in the EMPr. Should the comment received fall beyond the scope of this EIA, clear reasons for not including them will be provided. All comments received will be attached as an appendix to the Final EIA Report for submission to the competent authority, for their decision-making.

The Draft EIA Report will include an EMPr which will be prepared in compliance with Appendix 4 of GN R326. Impact management actions in the EMPr will be drawn primarily from the management actions in the specialist studies for the construction and operational phases of the project. The EMPr will also contain the method of monitoring the implementation of the impact management actions and a program for reporting on compliance.

If the project components are decommissioned or re-developed, this will need to be done in accordance with the relevant environmental regulations and standards and clean-up/ remediation requirements applicable at the time.

6.2.1 The NEMA EIA Regulations 2014 (as amended)

This Scoping and Environmental Impact Assessment (Scoping and EIA) Process was initiated in terms of NEMA EIA Regulations 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017. The GN R326 governs the procedural requirements of the Scoping and Scoping and EIA Process. Listed activities, for which Environmental Authorisation is being sought through this process, have been identified in terms of GN R327 (Listing Notice 1), GN R325 (Listing Notice 2) and GN R324 (Listing Notice 3) of the NEMA EIA Regulations 2014 (as amended). The potential relevant activities are contained in Chapter Four of this report.

6.3 ENVIRONMENTAL IMPACT ASSESSMENT REPORT AND EMPr

The following section of this report provides the reader with information on the EIA Phase of the Scoping and EIA Process, including Public Participation, as well as an outline of the approach to the assessment of impacts.

6.3.1 Public Participation Process

The following section outlines the various steps to be followed in the Public Participation Process for the EIA Phase of the assessment. The Public Participation Process for the Scoping Phase is outlined in detail in Chapter Four of this report.

6.3.1.1 *Compile Draft EIA Report and EMPr*

The first stage in the process will entail the compilation of the Draft EIA Report and EMPr for a legislated 30-day I&AP and authority review period. The Draft EIA Report and EMPr will be compiled based on the specialist studies conducted for the project, as outlined in the PoS for the EIA Phase and contained in the Final Scoping Report (FSR), given that the FSR and PoS for the EIA are accepted and approved by the competent authority, should such be received.

6.3.1.2 *Review of the Draft EIA Report and EMPr, as well as Ongoing Communication*

The Draft EIA Report and EMPr will be made available for a legislated 30-day I&AP and authority review period. The following indicates the Public Participation Process that will be implemented for the review of the Draft EIA Report and EMPr, in order to allow I&APs and Organs of State to submit comments on the Draft EIA Report and to facilitate access to information:

- Letter 5 to I&APs - All I&APs and Organs of State on the project database will be notified in writing of the release of the Draft EIA Report and EMPr for review. Included with this notification will be an executive summary of the Draft EIA Report and a comment form.
- Key I&APs - (Competent Authority, Councilor, and Organs of State) will be provided with either a hard copy or electronic version (CD or email) of the report, as agreed to with the respective Departments.
- Report to be placed on the project website www.publicprocess.co.za.
- Focus Group Meetings – one on one meetings with key I&APs are not planned to form part of this process, however, such will be held upon request. Notes from meetings held will be included as an appendix to the Final EIA Report, as well as be included in the Comments and Responses Trail.
- Authority Consultation – Organs of State having jurisdiction in respect of any aspect of the activity will be consulted and their input will be included in the Final EIA Report, as agreed to with the respective Departments.

6.3.1.3 *Comments and Responses Trail*

A key component of the EIA Process is documenting and responding to the comments submitted by I&APs and Organs of State during the Public Participation Process. Comments on the Draft EIA Report and EMPr will be received and documented as follows:

- Written and email comments (letters, emails and completed comment forms)
- Telephonic communication
- One on one meetings with key Organs of State and/ or I&APs (as requested)

The comments received will be compiled into a Comments and Responses Trail for inclusion in the Final EIA Report. The Comments and Responses Trail will indicate the nature of the comment, as well as when and who raised the comment. The comments received will be considered by the EIA team and appropriate responses will be provided by the relevant member of the team and/ or specialist. The response provided will indicate how the comment received has been considered in the Final EIA Report, in the project design, or in the EMPr. Where the comment received falls outside of the scope of the EIA this will, as far as possible, be clearly indicated and reasons provided. Input from the project technical team may be required in responding to some of the comments received.

6.3.1.4 *Compilation of the Final EIA Report and EMPr, as well as Submission to Authorities*

In line with Regulation 23 (1) of the NEMA/EIA Regulations 2014 (as amended), the Final EIA Report, including the Comments and Responses Trail and EMPr, will be compiled for submission to the DEDEAT for their decision-making, within 106 days from the acceptance of the Scoping Report. The

following process will be followed regarding the notification to I&APs and Organs of State of the submission of the Final EIA Report.

- Letter 6 to I&APs: Notification of submission of the Final EIA Report.
- Report Distribution
 - Relevant Organs of State and key I&APs will be provided with a hard copy or electronic version of the report (CD or email), as agreed to with the respective Departments.
 - Report to be placed on the project website www.publicprocess.co.za

The Final EIA Report will also include proof of the Public Participation Process that was undertaken to inform all registered I&APs, including Organs of State, of the availability of the Draft EIA Report for the legislated 30-day comment and review period.

6.3.1.5 *Decision on Application and Appeal Period*

The competent authority must, within 107 days of receipt of the Final EIA, reach a decision with regards to the application (Environmental Authorisation Granted or Refused), in line with Regulation 24 (1) of the NEMA EIA Regulations 2014 (as amended). All I&APs and Organs of State on the project database will be notified once the competent authority has reached a decision on the application. In terms of Regulation 4 (2) the applicant must, within 14 days of the date of the decision, notify all registered I&APs of the decision and provide them with access to the decision and reasons for the decision, as well as draw their attention to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulations. The following process will be followed for the notification of the decision:

- Letter 7 to I&APs: Notification of the Decision and Appeal Period.
- A copy of the Environmental Authorisation Granted or Refused to be placed on the project website www.publicprocess.co.za

All I&APs on the project database will be notified of the outcome of the appeal period if an appeal is lodged, this notification will be included in Letter 8 to I&APs.

6.3.1.6 *Authority Consultation during the EIA Phase*

It is proposed that the competent authority (DEDEAT) is consulted at various stages during the EIA Process. The consultation process with DEDEAT and other Organs of State during the Scoping Phase is outlined in Section 4.4.2 (Chapter Four) of this report. At this stage, the following Organs of State have been identified for the purpose of this Scoping and EIA Process (additional Organs of State which may have jurisdiction over an aspect of the project may be added to this list as the EIA Phase proceeds):

- National and Provincial Government Departments (Potential Juristic Organs of State)
 - Provincial Department of Economic Development, Environmental Affairs and Tourism (Competent Authority)
 - Provincial Department of Economic Development, Environmental Affairs and Tourism (Biodiversity Section)
 - National Department of Agriculture, Forestry and Fisheries
 - Provincial Department of Rural Development and Agrarian Reform
 - Provincial Department of Water and Sanitation
 - East Cape Department of Roads and Transport
 - East Cape Provincial Heritage Resources Agency
- Local Government Departments and Other Organs of State
 - Sundays River Valley Municipality: Local Authority
 - Lower Sundays River Water Users Association
 - Sundays River Valley Municipal Ward Councillor, Ward 7

The table below indicates the consultation process proposed with Organs of State for the EIA Phase of the assessment.

Table 6.2: Authority consultation schedule.

Stage in EIA Phase	Form of Consultation
During the EIA Phase	Site visit for Organs of State, if requested.
During preparation of EIA Reports	Communication with the DEDEAT on the outcome of specialist studies.
On submission of EIA Reports for decision-making	Meetings with dedicated Departments, if requested by the DEDEAT, with jurisdiction over particular aspects of the project (e.g. Local Authority).

As required in terms of Regulation 40 (2) (b) and (c) of GN R326, the Public Participation Process conducted in terms of the NEMA EIA Regulations 2014 (as amended), must include consultation with, amongst others, every State Department that administers a law relating to a matter affecting the environment relevant to an application, as well as all Organs of State which have jurisdiction in respect of the activity to which the application relates.

Regulation 42 of GN R326 requires that a register of I&APs must be opened and maintained and be submitted to the competent authority. The register must contain, amongst others, the contact details and addresses of all Organs of State which have jurisdiction in respect of the activity. Appendix D.2 includes the register of Juristic Organs of State and/ or State Departments with their full contact details. Organs of State will be provided with an opportunity to comment on the Draft EIA Report. All comments submitted by Organs of State during the comment period will be included in the Comments and Responses Trail and copies of the correspondence received will be included in an Appendix to the Final EIA Report, which will be submitted to DEDEAT for their decision-making.

6.3.2 Generic Terms of Reference for the Assessment of Impacts

The following section outlines the assessment methodology and legal context for specialist studies. In addition, the specialist studies to be undertaken for this assessment will comply with the requirements of Appendix 6 of the NEMA EIA Regulations 2014 (as amended). The identification of potential impacts should include impacts that may occur during the construction and operational phases of the activity. The assessment of impacts is to include direct, indirect, as well as cumulative impacts.

In order to identify potential impacts (both positive and negative) it is important that the nature of the proposed activity is well understood so that the impacts and risks on the environment, associated with the activity, can be well understood. The process of identification and assessment of impacts and risks will include:

- Determine the current environmental conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured.
- Determine future changes to the environment that will occur if the activity does not proceed.
- An understanding of the activity in sufficient detail to understand its consequences; and
- The identification of significant impacts and risks which are likely to occur if the activity is undertaken.

As per GN R 326 Appendix 2, 2. (1) (h) (i), the assessment of impacts must include the alternatives to be assessed within the preferred site, including the option of not proceeding with the activity. Alternatives that will be assessed in the EIA phase of the assessment are outlined in Chapter Five of this report. The impact assessment methodology has been aligned with the requirements for EIA

Reports as stipulated in GN R 326 Appendix 3, 3. (1) of the NEMA EIA Regulations 2014 (as amended), which states the following:

“An EIA Report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include - ...

(j) an assessment of each identified potentially significant impact and risk, including –

- (i) cumulative impacts;*
- (ii) the nature, significance and consequences of the impact and risk;*
- (iii) the extent and duration of the impact and risk;*
- (iv) the probability of the impact and risk occurring;*
- (v) the degree to which the impact and risk can be reversed;*
- (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and*
- (vii) the degree to which the impact and risk can be mitigated.”*

As per Guideline Document 5: Assessment of Alternatives and Impacts, the following methodology is to be applied to the prediction and assessment of impacts and risks. Potential impacts should be rated in terms of the direct, indirect and cumulative.

- **Direct** impacts are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
- **Indirect** impacts of an activity are indirect or induced changes that may occur as a result of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.
- **Cumulative** impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.
- **Spatial extent** – The size of the area that will be affected by the impact/risk
 - Site specific
 - Local (<2 km from site)
 - Regional (within 30 km of site)
 - National
- **Consequence/Intensity** –The anticipated severity of the impact/risk
 - Extreme (extreme alteration of natural systems, patterns or processes, i.e. where environmental functions and processes are altered such that they permanently cease)
 - High (severe alteration of natural systems, patterns or processes i.e. where environmental functions and processes are altered such that they temporarily or permanently cease)
 - Medium (notable alteration of natural systems, patterns or processes i.e. where the environment continues to function but in a modified manner)
 - Low (negligible alteration of natural systems, patterns or processes i.e. where no natural systems/environmental functions, patterns, or processes are affected)
- **Duration** –The timeframe during which the impact/risk will be experienced
 - Temporary (less than 1 year)
 - Short term (1 to 6 years)
 - Medium term (6 to 15 years)
 - Long term (the impact will cease after the operational life of the activity)
 - Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient)
- **Reversibility** – The degree to which the potential impacts/risks can be reversed
 - Reversible

- Partially Reversible
- Irreversible
- **Irreplaceable loss of Resources** - The degree to which the impact/risk may cause irreplaceable loss of resources
 - Replaceable
 - Partially Replaceable
 - Irreplaceable

Using the criteria above, the impacts will further be assessed in terms of the following:

- **Probability** –The probability of the impact/risk occurring
 - Improbable (little or no chance of occurring)
 - Probable (<50% chance of occurring)
 - Highly probable (50 – 90% chance of occurring)
 - Definite (>90% chance of occurring)
- **Significance** – Will the impact/ risk cause a notable alteration of the environment?
 - Low to very low (the impact/risk may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making)
 - Medium (the impact /risk will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated).
 - High (the impact/risk will result in major alteration to the environment even with the implementation of the appropriate mitigation measures and will have an influence on decision-making)
 - Very high (the impact/impact will result in very major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision-making i.e. the project cannot be authorised unless major changes to the engineering design are carried out to reduce the significance rating).
- **Status** - Whether the impact/risk on the overall environment will be positive, negative or neutral
 - “+” (positive - environment overall will benefit from the impact/risk).
 - “-“ (negative - environment overall will be adversely affected by the impact/risk).
 - “o” (neutral - environment overall will not be affected).
- **Confidence** – The degree of confidence in predictions based on available information and specialist knowledge
 - Low
 - Medium
 - High

Impacts, mitigatory measures and the monitoring of impacts will then be collated into the EMPr and these will include the following:

- Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.
- Identifying negative impacts and prescribing mitigation measures to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Positive impacts will be identified and mitigation measures will be identified to potentially enhance positive impacts where possible.

Management Actions and Monitoring of the Impacts:

- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, mitigatory measures will be identified to potentially enhance positive impacts.

The table below is to be used by specialists for the rating of impacts:

Table 6.3: Rating of impacts.

Nature of the Impact	This should include a description of the proposed impact to indicate if the impact is a direct, indirect or a cumulative impact.
Extent	Site specific, local, regional or national
Duration	Temporary, short term, medium term, long term or permanent
Consequence /Intensity	Extreme, High, medium or low
Probability	Improbable, probable, highly probable, definite
Degree of Confidence	Low, medium or High
Reversibility	Reversible, Partially Reversible, Irreversible
Irreplaceable Loss of Resources	Replaceable, Partially Replaceable, Irreplaceable
Status and Significance (without mitigation)	Low, medium or High indicating whether Positive (+), Negative (-) or Neutral (o)
Mitigation	Overview of mitigatory measures to mitigate potentially negative impacts or enhance potential positive impacts indicating how this mitigatory measure impacts on the significance of the impact
Status and Significance (after mitigation)	Low, medium or High indicating whether the status of the impact is Positive (+), Negative (-) or Neutral (o)

Other aspects to be taken into consideration in the assessment of impact significance are:

- Impacts will be evaluated for the construction and operational phases of the project:
 - **NOTE:** No assessment of impacts during the decommissioning phase of the project is proposed. The relevant guidelines and rehabilitation requirements applicable at that time will need to be applied.
- Impacts will be evaluated with and without mitigation in order to determine the effectiveness of mitigation measures on reducing the significance of a particular impact; and
- The impact evaluation will, where possible, take into consideration the cumulative effects associated with this and other facilities/projects which are either developed or in the process of being developed in the local area.
- The impact assessment will attempt to quantify the magnitude of potential impacts (direct and cumulative effects) and outline the rationale used. Where appropriate, national standards are to be used as a measure of the level of impact.

6.3.3 Specific Aspects to be Addressed in Specialist Studies

Specific aspects that will require further assessment have been summarised at the end of Chapter Two, Three and Four of this report. The following specialist studies (as indicated in table 6.1 above) are proposed to be undertaken.

- An Ecological (fauna and flora) Specialist Assessment, as well as an Aquatic Specialist Assessment to inform the preferred development footprint for the proposed development. Recommendations regarding stormwater and surface water runoff management.
- A Phase 1 Paleontological Impact Assessment to identify paleontologically sensitive areas on site, if any.
- A Phase 1 Archaeological Impact Assessment to identify archaeologically sensitive features on site, if any.
- A Soil Suitability Assessment in the form of a Reconnaissance Soil Survey to determine the suitability of the soil for the establishment of citrus orchards; and to inform the preferred development footprint, together with the Ecological and Aquatic Specialist Assessments.
- Traffic Impact Assessment to assess safe access and egress from the site, as well as the impact of additional trip generation on the existing road network.
- A Roads and Wet Services report to determine the footprint of the logistical services area, including offices and store; mess area, ablution facilities; loading and collection zone; manager's

house and future buildings; as well as a road surrounding the facility. Recommendations for the provision of bulk services (domestic water, stormwater, effluent management) for these facilities. Technical input from a qualified irrigation specialist to determine the size, locality and storage capacity for the proposed dam on site. To provide the size, throughput capacity and route determination for the main irrigation pipe, as well as the size and throughput capacity of various internal irrigation pipes for drip/ micro irrigation.

The preferred development footprint will be informed by the various specialist assessments and technical input proposed to take place during the EIA Phase of the assessment.

The following provides the Terms of Reference (TOR) for each of the specialist studies, as outlined in Table 6.1 above. Issues included in the specialist ToR have been identified through a specialist site visit, technical team meetings, as well as I&AP and authority consultation. Additional issues identified through I&AP and authority consultation during the Scoping Phase, as well as specialist inputs, will be included in the final ToR for specialists (i.e. in the PoS in the FSR).

6.3.3.1 *Ecological Specialist Assessment*

The following aspects will be included in the Ecological Specialist Assessment:

Vegetation

- A desktop assessment of available literature to identify and describe the mapped status of the vegetation on site, in terms of applicable local and regional conservation planning frameworks (e.g. Vegetation Map of South Africa, National Biodiversity Assessment, Eastern Cape Biodiversity Conservation Plan, Subtropical Thicket Ecosystem Project, Sundays River Valley Municipality Biodiversity Sector Plan).
 - Include the identification and evaluation of Critical Biodiversity Areas, Ecologically Sensitive Areas and Biodiversity Corridors mapped on site, if any.
- Field research to identify, map and describe the current state of the vegetation on site, supported by relevant photographs.
- Determine appropriate buffer zones for sensitive areas, as well as No-Go areas on site.
 - Identify and assess impacts on sensitive areas and No-Go areas on the site and where necessary, establish appropriate buffer areas.
 - Include the designation of areas to be set aside for conservation (biodiversity target areas), in terms of the relevant planning frameworks for the area.
 - Identify and determine the relative abundance of Species of special Concern (Vulnerable, Endangered or Critically Endangered and Protected) within the site.
 - Identify and determine the presence and distribution of alien species within the site.
 - Determine the density of alien vegetation on site, if any, and the potential for post-removal recovery of indigenous vegetation on site.
 - Provide a detailed vegetation sensitivity map of the site.
 - Provide a detailed disturbance and transformation map of the vegetation on site..
- Identify and map sensitive or specialized habitats. Identify and assess potential project related impacts (both positive and negative) for the construction and operational phases of the project, using the prescribed methodology. Where feasible, include the assessment of cumulative impacts.
- Outline mitigatory measures for the future management of potential project related impacts and include, where feasible, the individuals/ organizations responsible for implementation.
- Outline management recommendations for the construction and operational phases of the project.

Fauna

- Conduct a site visit and desktop review of available literature to determine whether the site falls wholly or partially within the distribution range of species listed as Vulnerable, Endangered or Critically Endangered and Protected.
- Identify potentially important or unique faunal habitat on site.
- Identify and assess potential project related impacts (both positive and negative) for the construction and operational phases of the project, using the prescribed methodology. Where feasible include the assessment of cumulative impacts.
- Outline mitigatory measures for the future management of potential project related impacts and include, where feasible, the individuals/ organizations responsible for implementation.
- Outline management recommendations for the construction and operational phases of the project.

Aquatic

- A desktop assessment of available literature to identify and describe the number and extent of wetlands and watercourses on the site, if any, in terms of local and regional conservation planning frameworks (e.g. National Freshwater Ecosystem Priority Areas, Eastern Cape Biodiversity Conservation Plan, Sundays River Valley Municipality Biodiversity Sector Plan).
- A site visit to confirm and delineate the presence of aquatic features, including wetlands and watercourses on site, if any.
 - Make appropriate recommendations for areas or features which may require a buffer zone.
- Include the identification and evaluation of Aquatic Critical Biodiversity Areas, as identified in the Eastern Cape Biodiversity Conservation Plan and the Sundays River Valley Municipality Biodiversity Sector Plan, mapped on the site, if any. Identify and assess potential project related impacts (both positive and negative) for the construction and operational phases of the project, using the prescribed methodology. Where feasible include the assessment of cumulative impacts.
- Outline mitigatory measures for the future management of potential project related impacts and include, where feasible, the individuals/ organizations responsible for implementation.
- Outline management recommendations for the construction and operational phases of the project.

6.3.3.2 Phase 1 Paleontological Impact Assessment

- Review the relevant scientific literature, including published geological maps, satellite images, and previous fossil heritage assessments in the broader Kirkwood-Addo-Grassridge region.
- Conduct an on-site survey of the site to determine the presence of any fossil materials.
- Identify and assess potential project related impacts, as per the prescribed methodology.
- Make appropriate management or mitigation recommendations in order to address the impacts identified.

6.3.3.3 Phase 1 Archaeological Impact Assessment

- Conduct an on-site survey of the site to identify any visible archaeological sites and features.
- Record all sites, features and material using GPS coordinates.
- Record identified site features and material, as well as the general environment, with photographs.
- Identify and assess potential project related impacts, as per the prescribed methodology.
- Make appropriate management or mitigation recommendations in order to address the impacts identified, including the need for a possible Phase 2 or 3 investigation.

6.3.3.4 Soil Suitability Assessment

- Soil analysis in the form of a Reconnaissance Soil Survey to establish the suitability of the soil for the proposed establishment of citrus orchards.
- Identify potential constraints imposed on the proposed development by the soil/ landscape characteristics of the site.

- Conduct a desktop slope analysis.
- Provide suitable soil suitability mapping for the proposed development, taking into account the soil suitability of the area and the biophysical site constraints (i.e. slope analysis).
- Provide amelioration measures for soils that are not suitable for the establishment of citrus orchards, in their current state.

6.3.3.5 *Traffic Impact Statement*

- The suitability and safety of the proposed access to and egress from the site.
- The capacity of the existing and future road network within the influence radius.
- The impact of traffic generated by the proposed development in terms of traffic safety, operations and road condition.
- Provide appropriate mitigation and management measures to impacts identified.

6.3.4 **Technical Input**

The following technical input will be provided and considered in the EIA phase of the assessment:

6.3.4.1 *Irrigation Water Requirement and Planting Plan*

- Estimate the quantity of water required to irrigate the proposed development.
- Provide specifications regarding the dam design (e.g. wall height, capacity, footprint and location), as well as irrigation infrastructure requirements (e.g. main irrigation pipeline route, throughput capacity, length and diameter of pipe, as well as pumping infrastructure). Include a layout of the proposed internal irrigation infrastructure (e.g. drip/ micro irrigation, throughput capacity, length and diameter of pipes).
- Provide a planting plan inclusive of the above information.

6.3.4.2 *Roads and Wet Services*

- In consultation with the project proponent and taking into account the recommendations of the various specialist assessments, the identification and design of additional infrastructure (~2ha footprint) on site, namely:
 - Loading and Collection Zone (6 500m²)
 - Offices and Store (3 000m²)
 - Staff facilities including ablution blocks and mess area (3 000m²)
 - Manager's House and Future Buildings (6 000m²)
 - New access road around the facility
 - Domestic water, effluent and stormwater management systems
- Estimate the domestic water consumption requirements for the proposed development and indicate the source of domestic water, including proposed water supply systems.
- Estimate the domestic effluent load to be created by the development and design an effluent treatment/ storage facility with sufficient capacity to cater for the aforementioned effluent. Provide flood control measures that prevent loss of life and significant damage to property, due to run-off from major storms, and keep excess run-off away from buildings and/ or habitable units as far as practically possible.

6.3.5 **Proposed Scheduling of EIA Phase**

Table 6.4 below outlines the proposed scheduling for the EIA phase of the assessment process.

Table 6.4: Proposed EIA schedule.

ACTIVITY	ESTIMATED TIMING
PRE-APPLICATION PHASE	
Initiate Scoping and Environmental Impact Assessment (EIA) Process	May 2018
I&AP review of the Draft Consultation Scoping Report	October 2018/ November 2018 (30 days)
APPLICATION AND SCOPING PHASE	
Submit Application form to DEDEAT	January 2019
Legislated 30 day review period for the Consultation Scoping report	January 2019/ February 2019 (30 days)
Submit Final Scoping Report and Plan of Study for EIA to DEDEAT for Approval	March 2019
DEDEAT decision making	April 2019 (43 days)
EIA PHASE	
Review of Draft EIA	June 2019/ July 2019 (30 days)
Submit Final EIA to DEDEAT for Approval	July 2019
DEDEAT decision making	October 2019 (107 days)
APPEAL PERIOD	
Appeal Period (should no appeals be received)	14 + 20 days

