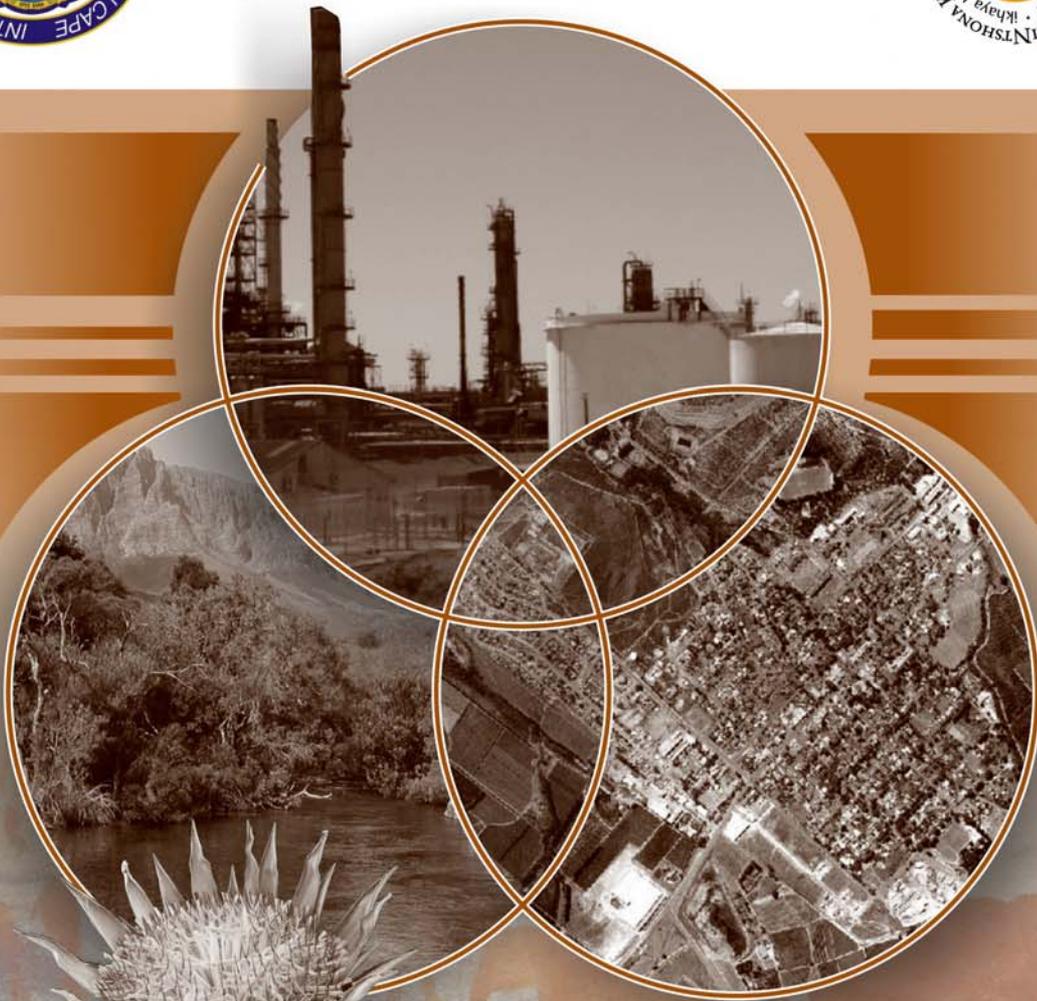


GUIDELINE FOR INVOLVING HERITAGE SPECIALISTS IN EIA PROCESSES



PROVINCIAL GOVERNMENT OF THE WESTERN CAPE:
DEPARTMENT OF ENVIRONMENTAL AFFAIRS
AND DEVELOPMENT PLANNING



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PREFACE

The purpose of an Environmental Impact Assessment (EIA) is to provide decision-makers (be they government authorities, the project proponent or financial institutions) with adequate and appropriate information about the potential positive and negative impacts of a proposed development and associated management actions in order to make an informed decision whether or not to approve, proceed with or finance the development.

For EIA processes to retain their role and usefulness in supporting decision-making, the involvement of specialists in EIA needs to be improved in order to:

- Add greater value to project planning and design;
- Adequately evaluate reasonable alternatives;
- Accurately predict and assess potential project benefits and negative impacts;
- Provide practical recommendations for avoiding or adequately managing negative impacts and enhancing benefits;
- Supply enough relevant information at the most appropriate stage of the EIA process to address adequately the key issues and concerns, and effectively inform decision-making in support of sustainable development.

It is important to note that not all EIA processes require specialist input; broadly speaking, specialist involvement is needed when the environment could be significantly affected by the proposed activity, where that environment is valued by or important to society, and/or where there is insufficient information to determine whether or not unavoidable impacts would be significant.

The purpose of this series of guidelines is to improve the efficiency, effectiveness and quality of specialist involvement in EIA processes. The guidelines aim to improve the capacity of roleplayers to anticipate, request, plan, review and discuss specialist involvement in EIA processes. Specifically, they aim to improve the capacity of EIA practitioners to draft appropriate terms of reference for specialist input and assist all roleplayers in evaluating whether or not specialist input to the EIA process was appropriate for the type of development and environmental context. Furthermore, they aim to ensure that specialist inputs support the development of effective, practical Environmental Management Plans where projects are authorised to proceed (refer to *Guideline for Environmental Management Plans*).

The guidelines draw on best practice in EIA in general, and within specialist fields of expertise in particular, to address the following issues related to the timing, scope and quality of specialist input. The terms “specialist involvement” and “input” have been used in preference to “specialist assessment” and “studies” to indicate that the scope of specialists’ contribution (if required) depends on the nature of the project, the environmental context and the amount of available information and does not always entail detailed studies or assessment of impacts.

	ISSUES
TIMING	<ul style="list-style-type: none"> ▪ When should specialists be involved in the EIA process; i.e. at what stage in the EIA process should specialists be involved (if at all) and what triggers the need for their input?
SCOPE	<ul style="list-style-type: none"> ▪ Which aspects must be addressed through specialist involvement; i.e. what is the purpose and scope of specialist involvement? ▪ What are appropriate approaches that specialists can employ? ▪ What qualifications, skills and experience are required?
QUALITY	<ul style="list-style-type: none"> ▪ What triggers the review of specialist studies by different roleplayers? ▪ What are the review criteria against which specialist inputs can be evaluated to ensure that they meet minimum requirements, are reasonable, objective and professionally sound?

The following guidelines form part of this first series of guidelines for involving specialists in EIA processes:

- Guideline for determining the scope of specialist involvement in EIA processes
- Guideline for the review of specialist input in EIA processes
- Guideline for involving biodiversity specialists in EIA processes
- Guideline for involving hydrogeologists in EIA processes
- Guideline for involving visual and aesthetic specialists in EIA processes
- Guideline for involving heritage specialists in EIA processes
- Guideline for involving economists in EIA processes

The *Guideline for determining the scope of specialist involvement in EIA processes* and the *Guideline for the review of specialist input in EIA processes* provide generic guidance applicable to any specialist input to the EIA process and clarify the roles and responsibilities of the different roleplayers involved in the scoping and review of specialist input. It is recommended that these two guidelines are read first to introduce the generic concepts underpinning the guidelines which are focused on specific specialist disciplines.

Who is the target audience for these guidelines?

The guidelines are directed at authorities, EIA practitioners, specialists, proponents, financial institutions and other interested and affected parties involved in EIA processes. Although the guidelines have been developed with specific reference to the Western Cape province of South Africa, their core elements are more widely applicable.

What type of environmental assessment processes and developments are these guidelines applicable to?

The guidelines have been developed to support project-level EIA processes regardless of whether they are used during the early project planning phase to inform planning and design decisions (i.e. during pre-application planning) or as part of a legally defined EIA process to obtain statutory approval for a proposed project (i.e. during screening, scoping and/or impact assessment). Where specialist input may be required the guidelines promote early, focused and appropriate involvement of specialists in EIA processes in order to encourage proactive consideration of potentially significant impacts, so that negative impacts may be avoided or

effectively managed and benefits enhanced through due consideration of alternatives and changes to the project.

The guidelines aim to be applicable to a range of types and scales of development, as well as different biophysical, social, economic and governance contexts.

What will these guidelines not do?

In order to retain their relevance in the context of changing legislation, the guidelines promote the principles of EIA best practice without being tied to specific legislated national or provincial EIA terms and requirements. They therefore do not clarify the specific administrative, procedural or reporting requirements and timeframes for applications to obtain statutory approval. They should, therefore, be read in conjunction with the applicable legislation, regulations and procedural guidelines to ensure that mandatory requirements are met.

It is widely recognized that no amount of theoretical information on how best to plan and coordinate specialist inputs, or to provide or review specialist input, can replace the value of practical experience of coordinating, being responsible for and/or reviewing specialist inputs. Only such experience can develop sound judgment on such issues as the level of detail needed or expected from specialists to inform decision-makers adequately. For this reason, the guidelines should not be viewed as prescriptive and inflexible documents. Their intention is to provide best practice guidance to improve the quality of specialist input.

Furthermore, the guidelines do not intend to create experts out of non-specialists. Although the guidelines outline broad approaches that are available to the specialist discipline (e.g. field survey, desktop review, consultation, modeling), specific methods (e.g. the type of model or sampling technique to be used) cannot be prescribed. The guidelines should therefore not be used indiscriminately without due consideration of the particular context and circumstances within which an EIA is undertaken, as this influences both the approach and the methods available and used by specialists.

How are these guidelines structured?

The specialist guidelines have been structured to make them user-friendly. They are divided into six parts, as follows:

- **Part A:** Background;
- **Part B:** Triggers and key issues potentially requiring specialist input;
- **Part C:** Planning and coordination of specialist inputs (drawing up terms of reference);
- **Part D:** Providing specialist input;
- **Part E:** Review of specialist input; and
- **Part F:** References.

Part A provides grounding in the specialist subject matter for all users. It is expected that authorities and peer reviewers will make most use of Parts B and E; EIA practitioners and project proponents Parts B, C and E; specialists Part C and D; and other stakeholders Parts B, D and E. Part F gives useful sources of information for those who wish to explore the specialist topic.

SUMMARY

This guideline focuses on the involvement of heritage specialists in EIA processes and addresses three basic questions:

- When is heritage specialist input required?
- Which aspects need to be addressed by heritage specialists?
- What criteria should be used to evaluate the adequacy of heritage specialist input?

The guideline stresses that heritage specialist input should occur at the earliest possible stage in the project cycle, to guide and add value to the proposed project and to identify major heritage issues or potential fatal flaws. The primary triggers for specialist heritage input are as follows:

- Statutory requirements in terms of the environmental and heritage legal framework.
- The nature and degree of significance of heritage resources likely to be impacted.
- Heritage issues emerging from the stakeholder consultation process.

The trigger for specialist heritage input is not necessarily the scale of the development but the nature and degree of significance of the heritage context. Such contexts vary from known, formally protected heritage areas (e.g. national and provincial heritage sites), to environments where heritage resources typically occur

(e.g. historical settlements, farm werfs and scenic landscapes).

Heritage specialist input can occur at different stages in the EIA process and proposal formulation process and can vary in nature and intensity at each one of these phases. Input can range from the provision of an opinion, to assisting with the scoping of heritage issues, to detailed assessment of potential heritage impacts.

Determining the scope of heritage specialist input is informed by the nature and degree of significance of the heritage resource and its context. This will determine whether the issues relate to the experiential qualities of a place, historical fabric, archaeological remains or associational values. Depending on the reliability or availability of existing information the range of approaches to heritage specialist input include fieldwork and mapping, historical research, consultation, visual character analysis and social-historical analysis.

In evaluating the adequacy of heritage specialist input, this input should be reasonable, objective and professionally defensible. It should clearly establish the nature and degree of heritage significance, canvass the range of possible heritage values attached to the heritage resource, consider the role of intangible and tangible values and provide clear recommendations including alternatives and mitigation measures to inform the decision-making process.

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HERITAGE SPECIALIST GUIDELINE

PART A : BACKGROUND

This part of the guideline introduces the field of heritage assessment; gives principles and concepts underpinning specialist input on heritage issues, impact assessment and management; contextualizes specialist input; and looks at the role and timing of specialist input in the EIA process.

1. INTRODUCTION

Heritage specialist input in Environmental Impact Assessment (EIA) processes is essential to ensure that through the management of change, development conserves our heritage.

Heritage specialist input in EIA processes can play a positive role in the development process by enriching an understanding of the past and its contribution to the present. It is also a legal requirement for certain categories of development defined in the relevant heritage legislation, which may have an impact on heritage resources.

The overall purpose of heritage specialist input is to:

- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources;
- Make recommendations for the appropriate heritage management of these impacts.

The need for a heritage specialist guideline has been prompted by the following factors:

- Heritage specialist input is a relatively undeveloped field within EIA processes. Traditionally, such involvement has been in the form of archaeological or visual specialist input. The scope of heritage specialist input thus needs to be broadened to reflect the current legal framework for heritage management in South Africa.
- There are typically areas of overlap and possible duplication between visual, archaeological and heritage specialist inputs. There is thus the need for the clear definition of spheres of expertise and responsibilities, and the sequencing and coordination of such studies.
- There are frequently problems relating to poorly defined terms of reference for and the scope of heritage specialist input.
- Problems often occur with the timing of heritage specialist input, which typically occurs at a

late stage, particularly in the EIA process when the opportunities to add value to a project proposal are limited. The management of heritage impacts thus tends to be restricted to purely mitigation measures.

- There is a need to define different levels of heritage specialist input ranging from a brief specialist opinion to detailed assessment of impacts and for it to be integrated with the various phases in the EIA process ranging from pre-application planning, screening and scoping to the impact assessment phase.
- The significance of heritage resources is often poorly defined. The elucidation of potentially diverse cultural values is often not clarified.
- There are frequently poorly defined approaches used by heritage specialist, which limit the ability of authorities to make informed decisions. Typically there is the lack of distinction between quantitative and qualitative inputs and the opportunity for a dialogue to occur regarding different interpretations of the same baseline information.
- There are often diverse disciplines involved in heritage specialist studies. The range of approaches usually associated with such multi-disciplinary approaches are frequently poorly integrated.
- Recommendations and management actions are often poorly defined. This limits the ability for heritage specialist input to enable efficient and effective decision-making by the authorities.
- There is often the lack of reference to relevant policy frameworks and the degree of congruence between such policy frameworks and the development proposal. The fatal flaws resulting from such a lack of congruence are often not identified in the early stage.
- There is often a lack of reference to other relevant and related studies including reference to previous applications and heritage attitudes expressed as part of the decision-making process.
- There is a lack consistency in terms of report structure, language, level of information, graphic presentation and scales of analysis.

For these reasons, the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) embarked on the process of developing a guideline for the involvement of heritage specialists in EIA processes.

2. PRINCIPLES AND CONCEPTS UNDERPINNING HERITAGE SPECIALIST INVOLVEMENT IN EIA PROCESSES

The term “heritage resource” is defined in the current South African legislation as places and objects of “cultural significance”, which is defined as “aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance” (National Heritage Resources Act, Act No. 25 of 1999). Cultural significance encompasses the natural and built environment, as well as the intangible components of heritage such as indigenous knowledge systems or rituals (Figure 1).

Types of heritage resources as defined in the relevant legislation may include the following:

- Places, buildings, structures and equipment of cultural significance.
- Places to which oral traditions are attached or are associated with living heritage.
- Historical settlements or townscapes.
- Landscapes and natural features of cultural significance.
- Geological sites of scientific or cultural importance.
- Archaeological and palaeontological sites.
- Graves and burial grounds.
- Sites related to the history of slavery *(NHR Act)*

The heritage legislation also makes provision for three grades of heritage resources of national (Grade 1), provincial (Grade 2) and local (Grade 3) significance respectively. As the bulk of heritage resources are Grade 3, general practice is to establish various categories within this that distinguish between Grade 3A, 3B and 3C heritage resources.

2.1 HERITAGE MANAGEMENT PRINCIPLES & CONCEPTS

The following principles and concepts are derived from an analysis of various international charters relating to heritage management (Baumann & Winter, 2004). The various charters are included in the references (Refer to Jokilehto, 1999). The following subsections summarise these principles and concepts.

- **Need to acknowledge a range of heritage values**
 - Need to acknowledge different readings of heritage significance over time, i.e. heritage significance as a dynamic concept.
 - Need to acknowledge specificity of heritage values in relation to their cultural and physical context.
- **Need for integrated, inclusive and holistic approaches**
 - Need to recognize heritage as an integral component of economic, environmental and spatial planning.
- **Respect for historical layering**
 - Need to respect all periods of history as opposed to the undue emphasis on one era

to the detriment of another.

- **Understanding of the concept of cultural landscapes**
 - Need to acknowledge the broadening of heritage to include cultural landscape.
 - Need to acknowledge both natural and cultural landscapes and their interaction and transformation over time.
 - Need to understand the importance of the context within which heritage resources are embedded.
- **Respect for vernacular/local identity and distinctiveness**
 - Need to acknowledge places which reflect a regional and local character.
- **Public consultation**
 - Need to recognize the essential role of the community in identifying and safeguarding heritage resources.
- **Authenticity & integrity**
 - Authenticity is a key concept in heritage management. It can refer to the design, material, workmanship and setting of the resource. It is thus understood to cover the aesthetic and historical aspects of the site as well as its physical, social and historical context, including use and function.
 - Integrity refers to an undivided or unbroken state, material wholeness, completeness or entirety.
- **Multi-disciplinary approach**
 - Need for the multi-faceted, multi-dimensional aspects of culture to be reflected where appropriate, in a multi-disciplinary approach to the understanding of significance and heritage management (Figure 2).
- **Respect for context and scale**
 - Definition of the study area needs to make provision for appropriate scales of analysis, e.g. national, regional, local and site-specific scales. The context of any heritage resource should always form part of the analysis.
- **Positive role of enabling development**
 - Need to recognise the positive of role of enabling development, i.e. the positive role of development in promoting heritage conservation.
- **Need for education and training**
 - Need to ensure that local communities participate in the identification of heritage values and the heritage management process.
 - Need to provide local community groups with the education and training to be able to participate and contribute to heritage management decisions.
- **Respect for intangible elements of heritage**
 - Need to acknowledge that heritage values reside also in intangible elements; in ceremonies, rituals, feelings, sights and sounds.
- **Respect for living heritage**
 - Need to acknowledge heritage as an integral part of everyday experience and life, as something which people inhabit, both physically and imaginatively.

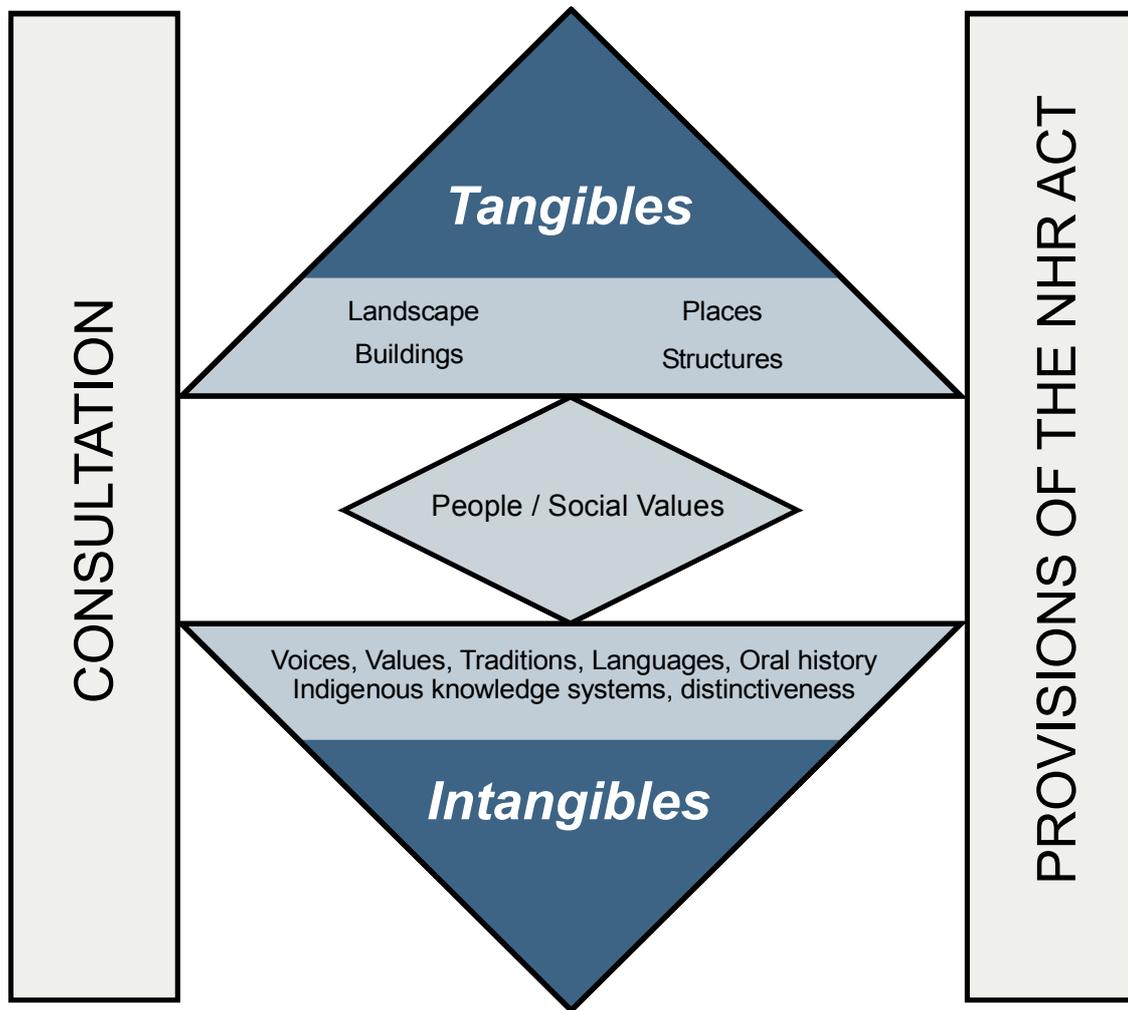


Figure 1: The concept of heritage

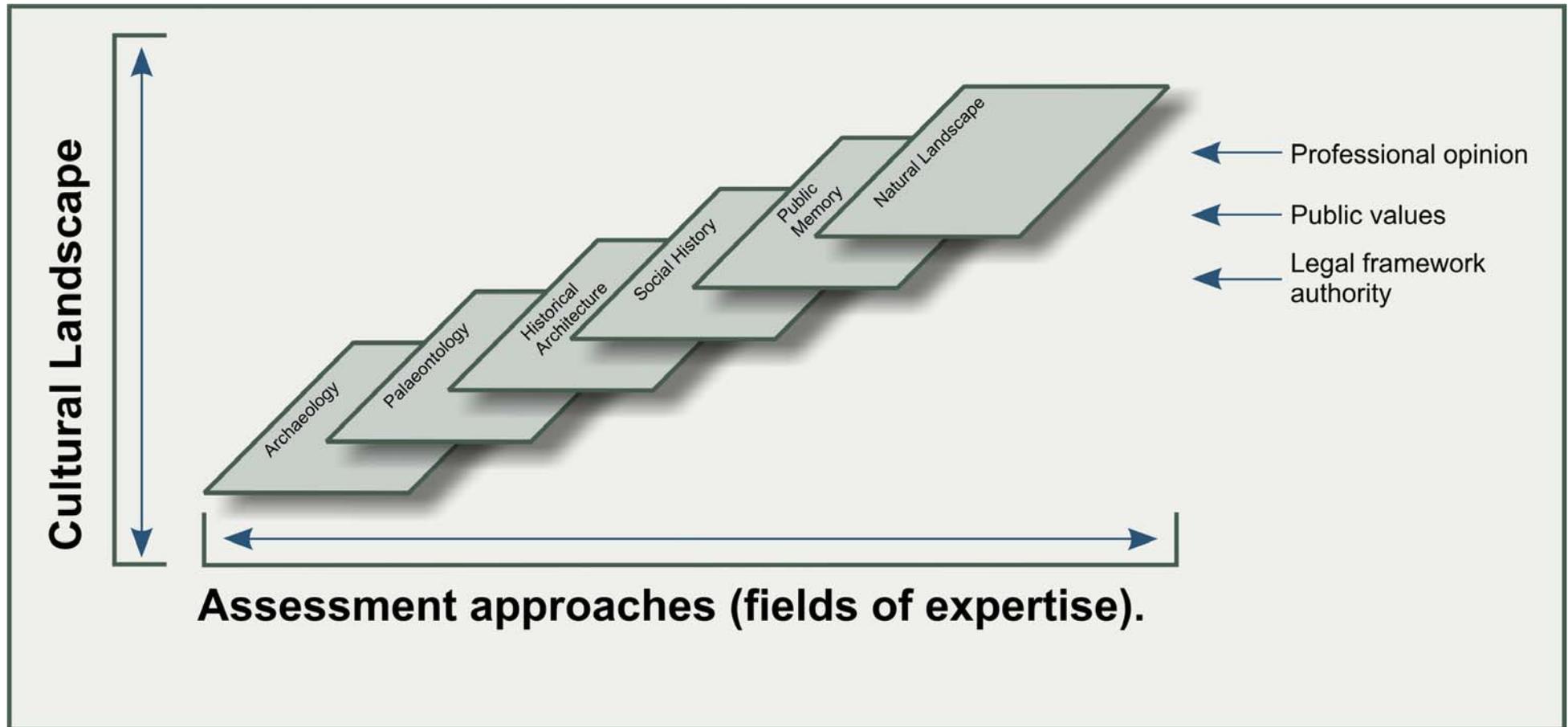


Figure 2: Multi-disciplinary approach to heritage management

2.2 PRINCIPLES AND CONCEPTS SPECIFIC TO HERITAGE SPECIALIST INPUT

The following principles and concepts relate specifically to heritage specialist input within in EIA processes:

- Eliminate unnecessary specialist involvement through proactive project planning and design to avoid or sufficiently reduce negative impacts that may otherwise require specialist assessment;
- Maximise use of existing relevant information prior to involving a specialist;
- There is no standard sequence of action for heritage specialist input. It differs according to the nature and degree of heritage significance/issues for each project. Support flexible, focused and appropriate involvement of specialists to provide adequate, relevant information to make informed decisions (i.e. the correct level of information should be supplied at the right time in the EIA process);
- Early involvement of a heritage specialist during pre-application planning phase would allow for the identification of fatal flaws from a heritage perspective and would circumvent any uncertainty or potential conflict emerging later in the process.
- Allow for greater involvement of specialists in the identification of key issues, over and above those identified through stakeholder engagement processes;
- While there is no standard sequence for heritage specialist input there is inevitably a phased approach relating to the EIA process, i.e. pre-application planning, screening, scoping and impact assessment phases. Appropriate levels of heritage specialist input should be informed by the objectives of each phase and fully integrated into the process.
- The heritage specialist input is not a linear process. It should be an iterative process of information gathering and assessment of the nature and degree of heritage significance and the implications thereof for the evolution of the development proposal.
- It is critical that heritage specialist input is not undertaken in isolation to the broader EIA process. Close interaction with the EIA practitioner and, where appropriate, other specialists involved in the EIA process is important. It should also not be seen in isolation from development and conservation objectives for an area established through policy planning and other statutory frameworks. A review of the proposals in relation to this statutory framework is therefore an important component of heritage specialist input.
- Maintain continuity of specialist involvement throughout the process (specialist involvement should add value to project planning and design);

2.3 COMMON EIA TERMS AND CONCEPTS

Common EIA terms and concepts used throughout this series of guidelines are summarised in Box 1.

Box 1: Common EIA terms and concepts

The following definitions aim to clarify common EIA terms and concepts:

- **Environmental impact assessment:** A process that is used to identify, predict and assess the potential positive and negative impacts of a proposed project (including reasonable alternatives) on the biophysical, social and economic environment and to propose appropriate management actions and monitoring programmes. The EIA process is used to inform decision-making by the project proponent, relevant authorities and financial institutions. The process includes some or all of the following components: pre-application planning, screening, scoping, impact assessment (including the identification of management actions and monitoring requirements), integration and decision-making. Suitably qualified and experienced specialists may be required to provide input at various stages of the EIA process.
- **Pre-application planning:** The process of identifying and incorporating environmental opportunities and constraints into the early stages of project planning and design, prior to the submission of an application for statutory approval. This includes the identification of potential fatal flaws and negative impacts of potentially high significance, as well as the identification of alternatives and management actions that could prevent, avoid or reduce significant impacts or enhance and secure benefits. This process is sometimes referred to as “pre-application screening”, “positive planning” or “fatal flaw assessment”.
- **Screening:** A decision-making process to determine whether or not a development proposal requires environmental assessment, and if so, what level of assessment is appropriate. Screening is usually administered by an environmental authority or financial institution. The outcome of the screening process is typically a Screening Report/Checklist.
- **Scoping:** The process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an impact assessment. The main purpose is to focus the impact assessment on a manageable number of important questions on which decision-making is expected to focus and to ensure that only key issues and reasonable alternatives are examined. The outcome of the scoping process is a Scoping Report that includes issues raised during the scoping process, appropriate responses and, where required, terms of reference for specialist involvement.
- **Impact assessment:** Issues that cannot be resolved during scoping and that require further investigation are taken forward into the impact assessment. Depending on the amount of available information, specialists may be required to assess the nature, extent, duration, intensity or magnitude, probability and significance of the potential impacts; define the level of confidence in the assessment; and propose management actions and monitoring programmes. Specialist studies/reports form the basis of the integrated Environmental Impact Report which is compiled by the EIA practitioner.
- **Trigger:** A particular characteristic of either the receiving environment or the proposed project which indicates that there is likely to be an *issue* and/or potentially significant *impact* associated with that proposed development that may require specialist input. Legal requirements of existing and future legislation may also trigger the need for specialist involvement but are not discussed in this guideline.
- **Issue:** A context-specific question that asks “what will the impact of some activity/aspect of the development be on some *element of the biophysical, social or economic environment?*” (e.g. what is the impact of atmospheric emissions on the health of surrounding communities?).
- **Impact:** A description of the effect of an aspect of the development on a specified component of the

biophysical, social or economic environment within a defined time and space (e.g. an increased risk of respiratory disease amongst people living within a 10km radius from the industry, for the duration of the life of the project, due to sulphur dioxide emissions from the industry).

- **Root cause/source of impact:** A description of the aspect of the development that will result in an impact on the biophysical, social or economic environment (e.g. atmospheric emissions from industrial stacks).
- **Risk situation:** A description of the environmental or operating circumstances that could influence the probability of a significant impact occurring.
- **Scenarios:** A description of plausible future environmental or operating conditions that could influence the nature, extent, duration, magnitude/intensity, probability and significance of the impact occurring (e.g. concentration of sulphur dioxide emissions during normal operations vs during upset conditions; dispersion of atmospheric pollutants during normal wind conditions vs during presence of an inversion layer).
- **Alternatives:** A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The “no-go” alternative constitutes the ‘without project’ option and provide a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.
- **Best practicable environmental option:** This is the alternative/option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term.
- **Impact significance:** A term used to evaluate how severe an impact would be, taking into account objective or scientific data as well as human values. A specific significance rating should not be confused with the acceptability of the impact (i.e. an impact of low significance is not automatically “acceptable”).
- **Thresholds of significance:** The level or limit at which point an impact changes from low to medium significance, or medium to high significance.
- **Management actions:** Actions – including planning and design changes - that enhance benefits associated with a proposed development, or that avoid, mitigate, restore, rehabilitate or compensate for the negative impacts.
- **Monitoring programmes:** Programmes established to observe, take samples or measure specific variables in order to track changes, measure performance of compliance, and/or detect problems.
- **Review:** The process of determining whether specialist input meets minimum requirements, is reasonable, objective and professionally sound.

3. CONTEXTUALISING SPECIALIST INPUT

This section provides a brief overview of the legal, policy and planning context for involving a visual specialist, and gives the specific Western Cape context within which that specialist would be working. Readers need to be aware that legislation, policies and plans are reviewed periodically. The guidelines therefore do not replace the need to consult the currently applicable legislation, policies and plans.

3.1 LEGAL, POLICY AND PLANNING CONTEXT FOR INVOLVING A HERITAGE SPECIALIST

3.1.1 *International and national*

In the absence of a national heritage charter, reference is made to a range of UNESCO initiated International Charters. These are outlined in detail in the references (See Jokilehtu, J. 1999).

The overarching national legal frameworks for the protection and management of the natural and cultural environment are the National Heritage Resources Act (NHR) (Act No. 25 of 1999), the Environment Conservation Act (ECA) (Act No. 73 of 1989) and associated EIA regulations and the National Environmental Management Act (NEMA) (Act No. 107 of 1998). The regulations governing the EIA process are currently being revised and will be replaced by regulations promulgated in terms of NEMA. Specialist input may therefore be required in terms of any of these Acts.

National Heritage Resources Act:

The NHR Act is the legal framework aimed specifically at the protection and management of heritage resources and for heritage specialist input in the EIA process. This Act reflects the changing and broadening concept of heritage enshrined in the above mentioned international charters and provides the enabling mechanisms for heritage management at provincial and local levels. It also reflects the spirit and intention of the Constitution of South Africa, which recognizes the need to respect the country's past and to address related issues of social identity and cultural diversity.

As discussed in Section 2 the NHR Act broadens the scope of what constitutes a heritage resource to include tangible and intangible heritage. It recognizes the increasing role of social/public values in the identification, assessment and management of heritage resources. It also recognizes the importance of the context within which heritage resources are embedded and the need to perceive them not only as isolated features and structures, but also as forming part of streetscapes, townscapes and landscapes.

The NHR Act should not be seen in isolation from other statutory frameworks, especially with regard to the following:

- The planning frameworks (e.g. Spatial Development Frameworks and Integrated Development Plans), which give guidance to the nature and form of development and influence the conservation context within which heritage resources occur.
- The legal and policy frameworks aimed specifically at redressing past imbalances and promoting social equity. A key example is the Restitution of Land Rights Act (Act No. 22 of 1994) (with amendments), which has relevance to historical settlements from where communities have previously been displaced.
- The legal and policy frameworks aimed specifically at the protection of the environment, i.e. the ECA and NEMA and their regulations.

It is important to note that conflicting positions often occur between these varying legal, policy and planning contexts. Examples include the Conservation of Agricultural Resources Act (CARA) (Act No. 43 of 1983) regulations, which regulate the removal of certain species of vegetation integral to the historical character of some settlements, e.g. oaks, pine trees, etc.

It is Section 38 of the NHR Act that makes specific reference to the requirements of heritage assessments, either as a stand-alone Heritage Impact Assessment (HIA) or as a specialist component of the EIA process. It also includes a set of minimum requirements for heritage assessment. These are listed in Section 38 (3).

It is important for heritage specialist input in the EIA process to take into account the heritage management structure set up by the NHR Act. It makes provision for a 3-tier system of management including the South Africa Heritage Resources Agency (SAHRA) at a national level, Heritage Western Cape (HWC) at a provincial Western Cape level and the local authority. The Act makes provision for two types or forms of protection of heritage resources; i.e. formally protected and generally protected sites:

Formally protected sites:

- Grade 1 or national heritage sites, which are managed by SAHRA
- Grade 2 or provincial heritage sites, which are managed by HWC.
- Grade 3 of local heritage sites, which are to be managed by the local authority, once competency has been established.

Generally protected sites:

- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 70 years.
- Structures older than 60 years.

Section 3(3) of the NHR Act provides a range of criteria for the identification and assessment of places of cultural significance. While additional criteria may be used, reference to these criteria should be included in a heritage assessment.

While heritage assessment requirements are explicitly addressed in the NHR Act, the environmental legislation, most notably NEMA, includes in the broad definition of environment the concept of cultural heritage. In instances where the NHR Act does not apply, heritage assessment input may be required in terms of the environmental legislation.

3.1.2 Western Cape

Provincial heritage regulations:

The provincial heritage authority in the Western Cape, i.e. HWC, has been established in terms of regulations under the NHR Act. It is tasked with the responsibility of managing the following heritage resources:

- Structures older than 60 years
- Archaeological and palaeontological sites
- Grade 2 or formally protected provincial heritage sites
- Sites provisionally protected by HWC.

HWC is also tasked with the responsibility of managing Section 38 of the NHR Act. HWC is a commenting authority, not a decision-making authority, when a heritage study is part of an EIA process, but is a decision-making authority when an EIA is not required.

Land Use Planning Ordinance:

At a Western Cape level the Land Use Planning Ordinance makes provision for zoning schemes, which regulate land uses in terms of mapping and land use management categories. These include overlay zones, which allow for the designation of heritage areas or special areas. Examples include the Cape Town Central City Conservation Area and Franschoek Special Area. These need to be taken into account by the heritage specialist.

3.1.3 Key new initiatives

Heritage specialists must take into account key new initiatives, which may have implications for heritage specialist inputs in the EIA process, e.g. nominations for World Heritage Site status or investigations formally protecting a specific cultural landscape.

3.2 ENVIRONMENTAL CONTEXT FOR SPECIALIST INPUT

Heritage specialist input in the EIA process needs to take into account the specific nature of the spatial, biophysical, social and economic environment within which they are undertaken. Box 2 provides a brief description of the environmental context for heritage specialist input in the Western Cape. It relates to temporal, thematic and spatial aspects.

Box 2: Environmental context for heritage specialist input in the Western Cape

The Western Cape is categorized by a temporal layering including a substantial pre-colonial, early contact and early colonial history as distinct from other regions. The following can be regarded as a useful categorization of these formative layers:

Indigenous:Palaeontological and geological:

- Precambrian (1.2 bya to late Pleistocene 20 000 ya)

Archaeological:

- Earlier Stone Age (3 mya to 300 00ya) (ESA)
- Middle Stone Age (c300 000 to 30 000 ya) (MSA)
- Later Stone Age (c 30 000 to 2000 ya) (LSA)
- Late Stone Age Herder period (after 2000 ya) (LSA - Herder period)
- Early contact (c 1500 - 1652)

Colonial:

- Dutch East India Company (1652 - 1795)
- Transition British and Dutch occupation (1796-1814)
- British colony (1814 -1910)
- Union of South Africa (1911-1961)
- Republic of South Africa (1962 – 1994)

Democratic:

- Republic of South Africa (1994 to present)

It is also useful to identify specific themes, which are relevant to the Western Cape context. These include, *inter alia*, the following:

- Role of women
- Liberation struggle
- Victims of conflict
- Slavery
- Religion
- Pandemic health crisis
- Agriculture
- Water

Specific spatial regions also reveal distinct characteristics, which are a function of the interplay between biophysical conditions and historical processes. Such broad regions include the following:

- West Coast
- Boland
- Overberg
- Karoo

A large number and concentration of formally protected Grade 1, 2 and World Heritage Sites, also characterize the Western Cape. Such sites include:

- Table Mountain National Park
- Robben Island

A key issue underpinning heritage specialist input is the need to address poverty and improve service delivery. In this regard, the relevant legislation specifically makes provision for the need for heritage impacts/issues to be balanced against potential socio-economic benefits.

A positive trend in heritage management in the Western Cape is the emergence of a range of local amenity groupings, specifically with regard to the protection of local heritage resources. However, the tendency towards preservation and an anti-development stance needs to be addressed.

4. THE ROLE AND TIMING OF SPECIALIST INPUT WITHIN THE EIA PROCESS

It is during the early phases of the EIA process, i.e. pre-application planning and screening phases that consideration is given to whether or not heritage specialist input is required and if so, at what stage in the process, and for what purpose and extent.

The role and timing of specialist input within the broader EIA process involves a number of aspects that need to be considered, i.e.:

- Whether, when and why specialist input is required – see Sections 5 and 6 and the *Guideline for determining the scope of specialist involvement in EIA processes*;
- What the scope of specialist input should be - see Section 8, 10 and 11;
- What level/intensity of specialist input is required – see Section 8.

Specialists can be involved for different purposes and at different intensities during various stages of the EIA process, regardless of whether the process is initiated before or upon submission of an application for statutory approval. Specialists can therefore provide input during pre-application planning or following the submission of an application for statutory approval of the proposed development (i.e. during screening, scoping and/or impact assessment).

- **Pre-application planning stage**, to identify environmental opportunities and constraints (e.g. vulnerable heritage resources), alternatives and potential fatal flaws to the proposed project that should be addressed incorporated into early project planning and design.
- **Screening stage**, to assist decision-makers determine whether or not a proposed project requires environmental/heritage assessment and, if so, what level of input is required.
- **Scoping stage**, to identify key issues and alternatives associated with the proposed project, to respond to issues raised by other stakeholders and, where further specialist input is required, to assist in drafting and reviewing specialist terms of reference.
- **Impact assessment stage**, to predict and assess potential impacts of the proposed development and recommend management actions and monitoring programmes.

The involvement of specialists should not be seen as an obstacle in the approval process. Specialist input, especially at the early stages of project planning, can play an important role in helping to identify potential “fatal flaws” and formulate practical design alternatives that enhance

project benefits, as well as minimise negative impacts, and possibly even project costs. Where necessary, it is important that the heritage specialist stays with the process and that minimum requirements are set in place as “benchmarks” for further involvement.

Depending on the nature of the project, the stage of project planning and the EIA process, the environmental context and the amount of available information, specialist involvement will vary in intensity (i.e. level of detail) and may include **any or all** of the following approaches:

- Provision of a specialist opinion or comment;
- Archival research and literature review;
- Detailed baseline survey (including site visit/s);
- Consultation and interviews;
- Relevant policy framework analysis;
- Mapping and recording of heritage resources;
- Assessment of impacts and their significance.

A specialist’s role in the EIA process could be to assist with any or all of the following:

- Describing the affected environment
- Describing the legal, policy and planning context
- Formulating heritage indicators
- Identifying and responding to heritage issues
- Identifying alternatives
- Identifying opportunities and constraints
- Developing specialist terms of reference (TOR)
- Predicting and assessing impacts
- Recommending management actions and monitoring programmes
- Undertaking an independent peer review of specialist input

Terms of reference for specialist involvement should, therefore, be appropriate to the purpose and intensity/scale of involvement and should be discussed and agreed between the EIA practitioner and the specialist (and the authorities where relevant).

The *Guideline for determining the scope of specialist involvement in EIA processes* provides more detailed guidance on the role and timing of specialist input and provides a generic approach that can be used to determine the need for specialist involvement. Clarification of responsibilities amongst the different roleplayers, as well as prerequisites for specialists to provide effective, efficient and quality input, is included.

PART B: TRIGGERS AND KEY ISSUES POTENTIALLY REQUIRING SPECIALIST INPUT

This part of the guideline looks at the triggers and key issues potentially requiring heritage specialist's input to the EIA process.

5. TRIGGERS FOR SPECIALIST INPUT

A 'trigger' means a characteristic of either the receiving environment or the proposed project which indicates that heritage is likely to be a 'key issue' and may require the involvement of an appropriately qualified and experienced specialist.

The primary legal trigger for identifying when heritage specialist involvement is required in the EIA process is the NHR Act. The Act identifies what is defined as a heritage resource, the criteria for establishing its significance and lists specific activities for which a heritage specialist study may be required.

Box 3: Categories of development listed in Section 38 (1) of the NHR Act

- The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- The construction of a bridge or similar structure exceeding 50m in length;
- Any development or other activity which will change the character of the site:
- Exceeding 5000 m² in extent;
- Involving three or more existing erven or subdivisions thereof;
- Involving three or more subdivisions thereof which have been consolidated within the past five years;
- Costs of which will exceed a sum set in terms of regulations by SAHRA or HWC.
- The rezoning of a site exceeding 10 000 m².
- Any other category of development provided for in regulations by SAHRA or HWC.

If the heritage authority is of the opinion that a heritage resource will be affected by a development listed in Section 38 (1) of the NHR Act, a heritage assessment is likely to be required either as a stand-alone HIA or as the heritage specialist component of an EIA.

While the NHR Act specifically makes provision for heritage assessments for certain categories of development, heritage specialist involvement can also be requested by environmental and local authorities in terms of the provisions of ECA and NEMA. This may be the case where development is within a sensitive heritage context, e.g. a designated Urban Conservation Area in terms of Section 108 (Zoning Scheme).

Over and above the formal legal triggers for heritage specialist involvement in an EIA process, the following questions need to inform whether or not heritage specialist involvement is necessary:

- Does the proposed development affect a heritage resource (both on the site or in the vicinity of the proposed development)? Consideration needs to be given to the full range of heritage resources both formally protected and unprotected, unknown and known.
- If yes, how significant is the resource? If it is significant, the need for heritage specialist involvement is triggered. Consideration needs to be given to the fact that while a site may contain heritage resources (e.g. structures older than 60 years), they may have little or no conservation value. Furthermore, a heritage resource or its context may be so severely degraded or resilient from a heritage perspective, that a substantial degree of modification could be accommodated with little or no heritage impact. In some cases, the nature and degree of heritage significance is largely unknown and will need to be subject to further investigation.

A range of useful sources of information relating to the above questions include *inter alia* the following:

- Administration records held at the various heritage institutions, including SAHRA's national database of heritage resources.
- Published or secondary source material on the overall history of the site and its context.
- Existing heritage survey information and previous studies. Consideration needs to be given to the fact that most of the existing heritage surveys undertaken in the Western Cape generally focus on historical architectural significance and on historical urban environments. A limited number deal with broader cultural landscape issues and should be consulted as early as possible in the EIA process.
- Discussions with local heritage organizations or local heritage experts.
- Discussions with the heritage authorities.

In most cases it will be necessary to at least engage the professional opinion of a heritage specialist in determining whether or not further heritage specialist input in an EIA process is required.

A range of contexts can be identified which typically have high or potential cultural significance and which would require some form of heritage specialist involvement. However under certain situations, for example extensive modification or degradation, specialist heritage input would not necessarily be required. Box 4 identifies three broad categories of significance/sensitivity, which inform whether or not heritage specialist involvement is required.

Box 4: Categories of heritage significance/sensitivity to inform whether or not heritage specialist involvement is required.

Category 1: Formally protected heritage sites

This includes formally protected heritage sites in terms of NHR Act, LUPO or other relevant legislation. This includes National Heritage Sites (Grade 1), Provincial Heritage Sites (Grade 2), Protected Areas (Grade 1 or 2), Heritage Areas, sites listed in the Provincial Register (Grade 3) and Provisionally Protected Sites, Urban Conservation Areas, Nature Reserves, proclaimed Scenic Routes, etc. It also includes World Heritage Sites, e.g. Robben Island and Cradle of Humankind (Sterkfontein)

Depending on the nature of the development within these contexts, this would more than likely require specialist heritage input at an early stage in the EIA process.

Category 2: Landscapes of recognized or potential significance or sensitivity (not yet formally protected)

The landscapes below are informed by UNESCO and NHR Act landscape typologies. They include the following:

- Scenic/historical routes or landscapes.
- Pristine natural areas, e.g. Cederberg
- Landscapes with unique geological or palaeontological history, e.g. the Great Karoo
- Landscapes characterised by rocky outcrops, shorelines, dunefield conditions where a range of archaeological sites including shell middens and fish traps could be located.
- Uncultivated landscapes of the arid areas that contain undisturbed archaeological sites.
- Relic landscapes with evidence of past now discontinued human activities,
- Historical townscapes, e.g. Arniston coastal resort, Mossel Bay harbour town.
- Mission settlements, e.g. Elim and Genadendal
- Burial grounds and grave sites; i.e. older than 60 years.
- Landscapes containing concentrations of historical structures; i.e. older than 60 years
- Landscapes with potential for archaeological and palaeontological sites; i.e. containing remains of human activity older than 100 years.
- Landscapes with maritime archaeological potential, including shipwrecks older than 70 years
- Landscapes associated with displacement/contestation, e.g. Protea Village, "Trojan Horse" site, Langa Pass Office in Cape Town.
- Landscapes associated with an historic event/person or grouping, e.g. Battle of Blaauwberg.
- Landscapes associated with living heritage, e.g. use of indigenous vegetation within the Table Mountain National Park for medicinal purposes by traditional healers
- Historical farm werfs e.g. Boschendal, Morgenster, Alphen
- Historical farmlands e.g. Winelands, Swartland, Karoolands
- Institutional landscapes, e.g. Drakenstein Prison, Valkenberg Hospital, Somerset Hospital
- Designed landscapes, e.g. planned labourers village of Lanquedoc, Company Gardens

A range of heritage resources could occur within these contexts.

Category 3: Resilient contexts with the potential to accommodate substantial modification

- Highly transformed contexts where there is some evidence of past human activity and which have potential for rehabilitation/regeneration.
- Urban environments of poor environmental quality.
- Degraded landscapes due to extensive land transformation, which has obliterated physical traces of past human occupation and which have low aesthetic value, e.g. quarries, land fill sites, utility corridors.
- Undeveloped land within a defined urban edge, e.g. an infill site or site designated for urban development purposes. This context can be contrasted with a greenfield site.

In such contexts, it is unlikely that detailed heritage specialist input would be required.

Factors influencing the sensitivity of the heritage context

There are a number of factors influencing the sensitivity of a heritage context and thus the nature and intensity of assessment. These include the following:

- Pristine/greenfield versus modified conditions
- Intact versus damaged or disturbed conditions
- Reversible versus irreversible past damage; i.e. rehabilitation/restoration potential
- Degree of contestation; i.e. wide variation in values attached to a heritage resource, potential conflict between value systems.
- Degree of significance; i.e. representivity, rarity, authenticity, intactness, etc

Uncertainty regarding some categories of resources (i.e. buried archaeological remains), may still require input from an accredited archaeologist. There are very few instances where certainty regarding the absence of archaeological remains can be established. These include sites, which have already been subject to extensive, recent development (i.e. within the last 60 years), or disturbance and excavation down to bedrock or the “B” soil horizon (e.g. working quarries and underground parking lots).

6. KEY ISSUES REQUIRING SPECIALIST INPUT

In order to focus the EIA process and avoid the generation of excessive amounts of irrelevant information, “issues-focused scoping” is commonly used in South Africa to determine the scope of the EIA and focus specialist input on a manageable number of important issues and alternatives. Generally scoping relies heavily on I&APs to raise issues and alternatives. Where stakeholders have no interest in or may be poorly informed about heritage issues, such issues may be overlooked. The involvement of a heritage specialist in scoping is therefore important, especially where there are triggers indicating that heritage may be significant.

As indicated in Section 5 triggers indicating the need for heritage specialist input relate typically to the nature and degree of significance/sensitivity of the heritage context rather than the type

and scale of development. Table 1 below shows the relationship between a diverse range of heritage contexts, the heritage resources likely to be found in such contexts and sources/root causes of heritage impacts likely to result from development within these contexts.

Similarly, the significance of a heritage impact to be expected is more often dependent on the nature and degree of significance/sensitivity of a heritage resource rather than the type and scale of development, although there is some correlation between the two. The correlation between the significance of the heritage context, the type and scale (intensity) of development and the significance of the heritage impact to be expected is shown in Table 2. It shows the possible range of heritage contexts, from the most significant/sensitive on the one axis (see Box 5), and a range of development types from the least intensive to the most intensive on the other axis (see Box 6).

CAUTIONARY NOTE: Tables 1 and 2 should not be regarded as a comprehensive list of heritage contexts and heritage impacts/issues and do not replace the need for comprehensive, systematic scoping process to identify the range of heritage issues arising from a particular development.

Table 1: Relationship between different heritage contexts, heritage resource likely to occur within these contexts and likely sources of heritage impacts.

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES/ROOT CAUSES OF HERITAGE IMPACTS
A. PALAEOLOGICAL LANDSCAPE CONTEXT	Fossil remains. Such resources are typically found in specific geographical areas, e.g. the Karoo and are embedded in ancient rock and limestone/calcrete formations.	<ul style="list-style-type: none"> ▪ Road cuttings ▪ Quarry excavation
B. ARCHAEOLOGICAL LANDSCAPE CONTEXT NOTE: Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface.	Archaeological remains dating to the following periods: <ul style="list-style-type: none"> ▪ ESA ▪ MSA ▪ LSA ▪ LSA - Herder ▪ Historical ▪ Maritime history Types of sites that could occur include: <ul style="list-style-type: none"> ▪ Shell middens ▪ Historical dumps ▪ Structural remains ▪ Objects including industrial machinery, aircraft and maritime objects ▪ Ancient campsites, kraals and villages ▪ Battle and military sites ▪ Burials over 100 years 	<ul style="list-style-type: none"> ▪ Subsurface excavations including ground levelling, landscaping, foundation preparation. ▪ In the case of maritime resources, development including land reclamation, harbor/marina/water front developments, marine mining, engineering and salvaging.

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES/ROOT CAUSES OF HERITAGE IMPACTS
	<ul style="list-style-type: none"> ▪ Stone tool making sites ▪ Fossil sites containing artifacts, animal and human remains. <p>The location of these remains across the landscape is unpredictable but signifiers of the likelihood of <i>in-situ</i> pre-colonial remains include <i>inter alia</i> the following:</p> <ul style="list-style-type: none"> ▪ Ancient river courses/springs ▪ Coastal dunefields ▪ Pristine natural landscape conditions ▪ Coastal rocky outcrops ▪ Abandoned areas of human settlement. <p>The location of archaeological remains dating to the historical period is also unpredictable. However, as a broad indicator, such remains are likely to occur where there has been human occupation/habitation for more than 60 years.</p>	
<p>C. HISTORICAL BUILT URBAN LANDSCAPE CONTEXT</p>	<ul style="list-style-type: none"> ▪ Historical townscapes/streetscapes, e.g. Bokaap, Cape Town ▪ Historical structures, i.e. older than 60 years ▪ Formal public spaces, e.g. the Company's Garden, Cape Town ▪ Formally declared urban conservation areas, e.g. Central City of Cape Town ▪ Places associated with social identity/displacement, e.g. District Six, Cape Town 	<p>A range of physical and land use changes within this context could result in the following heritage impacts:</p> <ul style="list-style-type: none"> ▪ Loss of historical fabric or layering related to demolition or alteration work. ▪ Loss of urban morphology related to changes in patterns of subdivision and incompatibility of the scale, massing and form of new development. ▪ Loss of social fabric related to processes of gentrification and urban renewal. ▪ Loss of historical patterns of public access and use related to privatisation of public spaces. ▪ Loss of historical architectural character related to

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES/ROOT CAUSES OF HERITAGE IMPACTS
		incompatibility of architectural treatment and use of materials.
D. HISTORICAL FARMLAND CONTEXT	<p>The historical farmlands of the Western Cape occur within a number of distinctive landscape zones:</p> <ul style="list-style-type: none"> ▪ Karoo ▪ Overberg ▪ Southern Cape ▪ Swartland <p>These possess distinctive patterns of settlement and historical features such as:</p> <ul style="list-style-type: none"> ▪ Historical farm werfs ▪ Historical farm workers villages/settlements ▪ Irrigation furrows ▪ Tree alignments and groupings ▪ Historical routes and pathways ▪ Distinctive types of planting ▪ Distinctive architecture of cultivation e.g. planting blocks, trellising, terracing, ornamental planting. 	<p>A range of physical and land use development within this context could result in the following heritage impacts:</p> <ul style="list-style-type: none"> ▪ Loss of historical fabric and layering related to demolition and alteration work. ▪ Loss of rural landscape character related to a new pattern of subdivision and land use, e.g. residential estates, commercial development. ▪ Loss of scenic rural landscape qualities related to intrusive new infrastructure e.g. power lines. ▪ Loss of scenic rural landscape qualities related to the inappropriate siting and massing of agro-agricultural processing and storage facilities. ▪ Incompatibility of new development with policy frameworks related to urban edge conditions, rural development and principles of bioregional planning. ▪ Displacement of historical farming communities.
E. HISTORICAL RURAL TOWN CONTEXT	<ul style="list-style-type: none"> ▪ Historical mission settlements, e.g. Genadendal, Elim ▪ Historical townscapes, e.g. Franschhoek, Stellenbosch, Paarl 	<p>A range of physical and land use development within this context could result in the following heritage impacts:</p> <ul style="list-style-type: none"> ▪ Incompatibility of new development with the urban morphology and architectural character of the settlement. ▪ Loss of important historical features/elements including historical structures, patterns of

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES/ROOT CAUSES OF HERITAGE IMPACTS
		<p>plantings, lei-water systems and open space networks related to upgrading and renewal schemes.</p> <ul style="list-style-type: none"> ▪ Social disruption of the town due to a process of gentrification. ▪ Large-scale changes in land use or expansion to the town resulting in the substantial changes to its enduring historical role and relationship with its rural and natural setting.
F. PRISTINE/NATURAL LANDSCAPE CONTEXT	<ul style="list-style-type: none"> ▪ Historical patterns of access to a natural amenity ▪ Formally proclaimed nature reserves ▪ Evidence of pre-colonial occupation ▪ Scenic resources, e.g. view corridors, viewing sites, visual edges, visual linkages ▪ Historical structures/settlements older than 60 years ▪ Precolonial or historical burial sites ▪ Geological sites of cultural significance. ▪ A typical example of this context includes Table Mountain National Park 	<p>A range of physical and land use development within this context could result in the following heritage impacts:</p> <ul style="list-style-type: none"> ▪ Potential visual impacts associated with the siting and design of recreational/visitor facilities. ▪ Loss of historical patterns of planting related to the removal of “alien” species. ▪ Potential impact on historical and precolonial remains related to the construction of new or upgrading of existing infrastructure or facilities. ▪ Potential loss of historical patterns of access related to the necessity of controlled public access.
G. RELIC LANDSCAPE CONTEXT	<ul style="list-style-type: none"> ▪ Past farming settlements, e.g. Gamkaskloof, Little Karoo ▪ Past industrial sites e.g. Silvermine, Cape Town ▪ Places of isolation related to attitudes to medical treatment e.g. Hemel-en-Aarde Leper Colony, Hemel-en-Aarde Valley ▪ Battle sites, e.g. Battle of Blaauwberg, Cape Town ▪ Sites of displacement, e.g. Protea Village, Cape Town 	<p>A range of physical and land use development within this context could result in the following heritage impacts/issues:</p> <ul style="list-style-type: none"> ▪ Potential impacts on buried structures and deposits related to new building work and infrastructure within and around the site. ▪ Loss of relationship with setting related to the

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES/ROOT CAUSES OF HERITAGE IMPACTS
		<p>inappropriate siting of new development.</p> <ul style="list-style-type: none"> ▪ Removal of relevant historical fabric and meanings related to misinterpretations of past associations and tendency to over-restore or reconstruct such sites to an earlier state. ▪ The need to balance issues of social justice (with respect to previously marginalized or displaced communities) with heritage management issues. ▪ Different values in the interpretation.
H. BURIAL GROUND & GRAVE SITE CONTEXT	<ul style="list-style-type: none"> ▪ Precolonial burials (marked or unmarked, known or unknown) ▪ Historical graves (marked or unmarked, known or unknown) ▪ Human remains (older than 100 years) ▪ Associated burial goods (older than 100 years) ▪ Burial architecture (older than 60 years) 	<p>A range of physical and land use development within this context could result in the following heritage impacts/issues:</p> <ul style="list-style-type: none"> ▪ Disturbance of human remains in unmarked locations, i.e. unpredictability of their presence ▪ Loss of human dignity associated with disturbance of human remains ▪ Loss of respect for religious affiliations and practices. ▪ Inappropriate memorialisation of exhumed remains
I. ASSOCIATED LANDSCAPE CONTEXT	<ul style="list-style-type: none"> ▪ Sites associated with living heritage e.g. initiation sites adjacent to the N2, Cape Town; harvesting of natural resources for traditional medicinal purposes ▪ Sites associated with displacement & contestation, e.g. District Six, Cape Town ▪ Sites of political conflict/struggle, e.g. Gugulethu Seven and “Trojan Horse” sites, Cape Town ▪ Sites associated with an historic event/person e.g. Muizenberg Battlefield, Nelson Mandela’s Walk to 	<p>A range of physical and land use development within this context could result in the following impacts:</p> <ul style="list-style-type: none"> ▪ Conflicting interpretations of events due to a range of value systems. ▪ Loss of historical fabric or context related to an event/person ▪ Potentially conflicting and/or incompatible new uses resulting from inadequate understanding of social values.

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES/ROOT CAUSES OF HERITAGE IMPACTS
	Freedom at Drakenstein Prison <ul style="list-style-type: none"> ▪ Sites associated with public memory, e.g. Grand Parade public gatherings 	<ul style="list-style-type: none"> ▪ Over exploitation of natural resources associated with traditional uses ▪ Inappropriate memorialisation related to the range of value systems. ▪ Lack of interpretation of alternative readings. ▪ Lack of public access due to privatisation.
J. HISTORICAL FARM WERF CONTEXT	<ul style="list-style-type: none"> ▪ Setting of werf and its context ▪ Composition of structures ▪ Historical/architectural value of individual structures ▪ Tree alignments ▪ Views to and from ▪ Axial relationships ▪ System of enclosure, e.g. werf walls ▪ Systems of water reticulation and irrigation, e.g. furrows ▪ Sites associated with slavery and farm labour ▪ Colonial period archaeology 	A range of physical and land use development within this context could result in the following heritage impacts: <ul style="list-style-type: none"> ▪ Loss of historical fabric resulting from the accommodation of new uses. ▪ Visual intrusion of new development in historical spaces and axes. ▪ Loss of historical context due to suburbanisation. ▪ Tendency to over-restore and remove later layering to reveal “original” structures. ▪ Lack of respect for the relationship between the individual components, i.e. the whole is greater than the sum of the parts. ▪ Inappropriate additions and insertions in affecting integrity of historical fabric.
K. HISTORICAL INSTITUTIONAL LANDSCAPE CONTEXT	<ul style="list-style-type: none"> ▪ Historical prisons, e.g. Drakenstein Prison ▪ Hospital sites, e.g. Somerset Hospital, Valkenberg Hospital ▪ Historical school/reformatory sites e.g. Porter Reformatory 	A range of physical and land use development within this context could result in the following heritage impacts: <ul style="list-style-type: none"> ▪ Loss of public memory due to privatization. ▪ Loss of specific architectural language associated with the particular institution ▪ Loss and erosion of historical fabric through

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES/ROOT CAUSES OF HERITAGE IMPACTS
		<p>inappropriate insertions/alterations and additions.</p> <ul style="list-style-type: none"> ▪ Loss of public access related to privatisation.
<p>L. SCENIC/VISUAL AMENITY LANDSCAPE CONTEXT</p>	<ul style="list-style-type: none"> ▪ Scenic routes ▪ Scenic corridors ▪ View sheds ▪ View points ▪ Views to and from ▪ Gateway conditions ▪ Distinctive representative landscape conditions 	<p>A range of physical and land use development within this context could result in the following heritage impacts:</p> <ul style="list-style-type: none"> ▪ Visual intrusion into view corridors ▪ Inappropriate development adjacent to scenic routes ▪ Levels of control adjacent to scenic routes (management) ▪ Inappropriate engineering infrastructure associated with scenic routes (curb and channel, crash barriers, signage) ▪ Inappropriate changes in use in contrast to regional character. ▪ Disruptions of scenic network related to severance of linkage routes.

Table 2: The relationship between the significance of a heritage context, the intensity of development and the significance of heritage impacts to be expected.

HERITAGE CONTEXT	TYPE OF DEVELOPMENT			
	CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY D
CONTEXT 1 High heritage value	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected	Very high heritage impact expected
CONTEXT 2 Medium to high heritage value	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected
CONTEXT 3 Medium to low heritage value	Little or no heritage impact expected	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected
CONTEXT 4: Low to no heritage value	Little or no heritage impact expected	Little or no heritage impact expected	Minimal heritage value expected	Moderate heritage impact expected

Box 5: Key to heritage contexts

Context 1:

Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources

Context 2:

Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources.

Context 3:

Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources

Context 4:

Of little or no intrinsic, associational or contextual heritage value due to disturbed, degraded conditions or extent of irreversible damage.

Box 6: Key to categories of development**Category A: Minimal intensity development**

- No rezoning involved; within existing use rights.
- No subdivision involved.
- Upgrading of existing infrastructure within existing envelopes
- Minor internal changes to existing structures
- New building footprints limited to less than 1000m².

Category B: Low-key intensity development

- Spot rezoning with no change to overall zoning of a site.
- Linear development less than 100m
- Building footprints between 1000m²-2000m²
- Minor changes to external envelop of existing structures (less than 25%)
- Minor changes in relation to bulk and height of immediately adjacent structures (less than 25%).

Category C: Moderate intensity development

- Rezoning of a site between 5000m²-10 000m².
- Linear development between 100m and 300m.
- Building footprints between 2000m² and 5000m²
- Substantial changes to external envelop of existing structures (more than 50%)
- Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 50%)

Category D: High intensity development

- Rezoning of a site in excess of 10 000m²
- Linear development in excess of 300m.
- Any development changing the character of a site exceeding 5000m² or involving the subdivision of a site into three or more even.
- Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 100%)

PART C: PLANNING AND COORDINATION OF HERITAGE SPECIALIST INPUT (DRAWING UP THE TERMS OF REFERENCE)

Once the need for heritage specialist input has been determined through the identification of heritage triggers, the scope of heritage specialist input needs to be clarified through discussions between the EIA practitioner, the specialist, the proponent and the decision-making authority. This part of the guideline covers the choice of an appropriate specialist, and the negotiation process leading to sound terms of reference (TOR) for that specialist. Appendix B gives generic TOR for specialist input.

7. QUALIFICATIONS, SKILLS AND EXPERIENCE REQUIRED

The appropriate qualifications, skills and experience required from a heritage specialist relate to both the heritage context and the proposed project. They also relate to various levels of heritage input and the type of approach or methodology applied.

Table 3 below outlines a set of broad criteria to assist in determining the appointment of the right heritage specialist with respect to the specific heritage issues.

The appointment of the right specialist also needs to take into account the following factors:

- Heritage issues related to a formally protected or potential Grade 1 and 2 heritage resource must be addressed by a heritage specialist who is endorsed by the heritage authority.
- In cases where a range of heritage issues are identified which would require multidisciplinary approach and a number of different heritage specialists, it would be preferable to appoint a heritage specialist who has specific skills in coordinating and collating the different inputs. (In terms of the AHAP accreditation criteria, this would be a heritage specialist who fulfils the “generalist” criteria.)

In addition to the above, the specialist should:

- Be competent at interpreting and evaluating information and answering the "so what" and “to whom” questions, not simply providing descriptive information;
- Have sufficient practical experience working in the specific affected region (or similar environments), and preferably local area, to make him/her respected by peers;
- Be able to think beyond his/her immediate discipline, able to trace impact pathways and identify indirect or cumulative impacts, and think of biodiversity/human wellbeing/economic interfaces;
- Have good knowledge relating to assessment techniques and to relevant legislation, policies and guidelines; and
- Be independent i.e. the specialist should not benefit financially from the outcome of the project decision-making.

Table 3: The appointment of the right heritage specialist

HERITAGE ISSUES	QUALIFICATIONS	SKILLS	RELATED PROFESSIONAL ACCREDITATION STATUS (Not necessarily compulsory)
PALAEONTOLOGICAL ISSUES	Masters degree in palaeontology	Experience in undertaking palaeontological assessments	<ul style="list-style-type: none"> ▪ Palaeontological Society of South Africa (PSSA) ▪ Association of Heritage Assessment Practitioners (AHAP) (Specialist)
ARCHAEOLOGICAL ISSUES <ul style="list-style-type: none"> ▪ ESA ▪ MSA ▪ LSA ▪ LSA Herder period ▪ Historical ▪ Maritime ▪ Graves & burials ▪ Relic landscapes 	Masters degree in archaeology. Specialisation in the specific type and period of archaeology is also required, e.g. stone age, historical or maritime archaeology.	Experience in undertaking archaeological assessments	<ul style="list-style-type: none"> ▪ Association of South African Professional Archaeologists (ASAPA) and its CRM Section Committee (Principal Investigator status is required to “sign off” an archaeological impact assessment). ▪ AHAP (Specialist)
REGIONAL CULTURAL LANDSCAPE ISSUES <ul style="list-style-type: none"> ▪ Historical farmlands ▪ Pristine/natural landscapes ▪ Scenic landscapes ▪ Representative settlement and landscape patterns 	Formal qualifications in one or more or a combination of the following disciplines: <ul style="list-style-type: none"> ▪ Architecture ▪ Architectural history ▪ Urban design ▪ Urban planning ▪ Historical archaeology ▪ Landscape architecture ▪ Cultural history 	Experience in undertaking heritage assessments specific to this field of expertise.	<ul style="list-style-type: none"> ▪ SAPI ▪ SAIA ▪ AHAP (specialist) ▪ South African Council for the Landscape Architecture Profession (SACLAP) ▪ ASAPA (Principal)

HERITAGE ISSUES	QUALIFICATIONS	SKILLS	RELATED PROFESSIONAL ACCREDITATION STATUS (Not necessarily compulsory)
	<ul style="list-style-type: none"> ▪ Alternatively professional standing and relevant experience within these fields. 		
SOCIAL-HISTORICAL ISSUES <ul style="list-style-type: none"> ▪ Associated landscape ▪ Public memory ▪ Social identity ▪ Social displacement ▪ Living heritage ▪ Graves & burial grounds 	Formal qualifications in one or more or a combination of the following disciplines: <ul style="list-style-type: none"> ▪ Urban planning ▪ Cultural history ▪ Social history ▪ Oral history ▪ Anthropology ▪ Historical archaeology Alternatively professional standing and relevant experience within these fields.	Experience in undertaking heritage assessments specific to this field of expertise.	<ul style="list-style-type: none"> ▪ SAPI ▪ AHAP (Specialist) ▪ ASAPA (Principal)

8. DETERMINING THE SCOPE OF SPECIALIST INPUT

The scope of the specialist input needs to be clarified through discussion between the EIA practitioner, the specialist, the proponent and, possibly, the relevant authorities. For this it is important that the participants in this discussion have a common understanding of the commonly used (and confused) EIA terms (Section 2). Sections 8.1 – 8.9 provide a brief overview of elements that should be discussed and agreed upon at the outset of the specialist's involvement in the EIA process and in drafting TOR¹. Supplementary generic guidance is provided in the *Guideline for determining the scope of specialist involvement in EIA processes*.

In complex and/or controversial projects, the draft TOR for specialists should preferably be seen by key stakeholders before they are finalized. Alternatively, the TOR for specialists should be evaluated by an independent reviewer.

8.1 IDENTIFYING AND RESPONDING TO ISSUES

The heritage specialist could be asked *either* to identify issues, *and/or* to respond to, *and/or* to investigate issues raised through the scoping process. The Scoping Report should be consulted by the specialist in order to ensure that any heritage issues raised are considered appropriately. Heritage issues raised in the scoping process will contribute to the formulation of the scope of work for the heritage specialist. The heritage specialist in consultation with the EIA practitioner will need to establish the level of assessment required, whether or not a multidisciplinary approach is required and the phasing and sequencing of inputs.

The EIA practitioner is responsible for drawing up the Scoping Report in the course of the scoping process. As the NHR Act contains very broad definitions related to heritage there might be differences of opinion as to what falls under the broad ambit of heritage. The EIA practitioner will ultimately be responsible for defining the scope and sequencing of specialist's studies (e.g. the integration between visual and heritage assessments), however, the heritage specialist should determine:

- Whether the issues raised through the scoping process are valid in the context of the proposed project, and need to be addressed further. The specialist is not necessarily required to assess each issue raised during scoping; a response or a comment on why the issue is not relevant or is not assessed further may suffice in some cases. The specialist must give sound reasons to support his/her conclusions.
- Whether there is enough information to predict reliably the likely significance of key issues and associated impacts. If not, additional information should be gathered.
- Whether or not additional key issues need to be considered (i.e. issues that were not raised by stakeholders through the scoping process). The specialist must provide clear reasons for including any additional issues in the EIA process.
- Where there is sufficient reliable information, the heritage specialist must determine:

¹ Recommended reading: DEAT, 2002

- Whether or not it can be reliably concluded that impacts could be avoided either by amending the project proposal, pursuing alternatives, and/or by appropriate management actions. *In this instance the specialist should provide sound motivation and justification for his/her conclusions. There would then not be a need to assess these issues further in the impact assessment phase and the further involvement of the economic specialist/s would be unnecessary.*
- Whether or not the issue is potentially significant, and/or the issue and associated impacts cannot be avoided. *In this instance the specialist should indicate the type of heritage expertise needed to address the issue and help draw up sound terms of reference for specialist inputs during the impact assessment phase.*

As intangible values are typically difficult to communicate, the heritage specialist should not regard the Scoping Report as the sole point of departure. While the specialist must address all the issues raised during scoping, he/she should expand the investigation of issues depending on the nature and heritage sensitivity, context and the range of values likely to be affected.

8.2 ESTABLISHING APPROPRIATE TIME AND SPACE BOUNDARIES

Due to the enduring nature of heritage resources, time boundaries are typically not a factor in determining the specialist's input. In other words, they are not affected by seasonal or diurnal changes.

The time scale for the heritage study would relate to the following:

- Availability and reliability of baseline information about the affected area. In some cases, a heritage input without such information may severely compromise its credibility given the low level of confidence in predicting impacts.
- The complexity of the heritage input in terms of the range of heritage issues that need to be addressed and the range of disciplines involved and the need to coordinate and collate the different inputs.
- The degree of contentiousness of the project from a heritage perspective and the need for targeted consultation as part of the EIA process.

With respect to the space boundary for the heritage input, the specialist should consider the following:

- The broad context of the proposed project (i.e. beyond the boundaries of the specific site and the role of the site within that context).
- The extent to which the project may have heritage impacts beyond the specific site.
- The extent to which the project may impact on linkages between the site and heritage resources off-site, i.e. when the heritage resource forms part of a network of linked heritage resources (e.g. the slave route project).

8.3 CLARIFYING APPROPRIATE DEVELOPMENT ALTERNATIVES

Alternatives considered in the EIA process can include *location* and/or *routing* alternatives, *layout* alternatives, *process* and/or *design* alternatives, *scheduling* alternatives or *input* alternatives. Any development proposal may include a range of possible alternatives from some or all of these various categories of alternatives. The “no-go” alternative in EIA provides a benchmark against which to evaluate potential impacts of the proposed project alternatives². The heritage specialist should be involved in the selection of appropriate development alternatives, which clearly respond to significance of heritage impacts.

Alternatives are best considered in the pre-application and early stages of the EIA, where the proposal has greater flexibility and opportunities to avoid or prevent significance impacts are more easily achievable.

8.4 ESTABLISHING ENVIRONMENTAL AND OPERATING SCENARIOS

Scenarios are plausible future environmental or project operating conditions that could influence the outcomes of the impact prediction and assessment. Informed decision-making needs to be based on a consideration of possible impacts under a range of scenarios, including the worst-case scenario.

There are a number of different factors to be considered in defining possible environmental and operating scenarios that could influence the nature, extent, duration, magnitude/intensity, probability and significance of possible impacts. These include *inter alia*, the following:

- Changes in the policy framework, which would affect development trends and strategies.
- Change in patterns of ownership, which may result in a change in conservation attitudes.
- Changes to existing patterns of planting, e.g. from orchard to vineyards. This would potentially influence the degree of visual exposure of a site.
- Increase in cultural tourism opportunities, which would contribute to the sustainability of a heritage place.
- Increase in public access and its influence on the need for appropriate interpretation of a heritage place.
- Increase in public access, which could lead to an increased impact on exposed archaeological and palaeontological sites.
- Changes in the heritage status of specific areas, e.g. proposed Winelands World Heritage Site.

8.5 ADDRESSING DIRECT, INDIRECT AND CUMULATIVE IMPACTS

The heritage specialist should be asked to consider potential direct, indirect and cumulative impacts giving input into or carrying out a heritage assessment³. The following is required:

² Recommended reading: DEAT, 2004a

³ Recommended reading: DEAT, 2004b

- To establish the cause-effect pathways resulting from the proposed activity, e.g. the closure of access resulting in the loss of traditional patterns of use.
- To understand the potential impacts of other plans, projects and activities likely to affect the same heritage resource, e.g. urban renewal proposals within a historical townscape.
- To be aware of other trends which could affect the heritage resource, e.g. the use of contrast as a design philosophy within a historical townscape and the cumulative impact of this approach over time.
- To understand the robustness/sensitivity of the heritage resource and its ability to accommodate change, e.g. multi-layered landscape, which could be enhanced by the addition of a new contemporary layer.
- To take into account and make explicit reference to compatibility of proposals and other similar projects and activities to the broader strategic goals and targets for heritage management and their cumulative effects.

The level of detail to which these should be considered will be influenced by the nature of the proposed project and issues raised through the scoping process. Where potentially significant cumulative effects are likely and cannot be addressed in the EIA, the specialist should alert the EIA practitioner and decision-maker/s to these effects and make explicit recommendations as to ways of addressing them (e.g. through a strategic environmental assessment or systems-based approach).

The following box provides a definition of the different interpretations and components of cumulative effects.

Box 7: Direct, indirect and cumulative effects

Direct or primary effects on heritage resources occur at the same time and in the same space as the activity, e.g. loss of historical fabric through demolition work.

Indirect effects or primary effects on heritage resources occur later in time or at a different place from the causal activity, or as a result of a complex pathway, e.g. restriction of access to a heritage resource resulting in the gradual erosion of its significance, which is dependent on ritual patterns of access.

Cumulative effects on heritage resources result from in-combination effects on heritage resources acting with a host of processes that are insignificant when seen in isolation, but which collectively have a significant effect. Cumulative effects can be:

- (1) **Additive:** the simple sum of all the effects, e.g. the total number of new buildings within a historical rural landscape
- (2) **Synergistic:** effects interact to produce a total effect greater than the sum of the individual effects, e.g. the visual effect of the increase of new buildings within a historical rural landscape.
- (3) **Time crowding:** frequent, repetitive impacts on a particular resource at the same time, e.g. the high rate of increase of new buildings within a historical rural landscape.
- (4) **Neutralizing:** where the effects may counteract each other to reduce the overall effect, e.g. the effect of changes in patterns of cultivation could reduce the overall visual impact of additional new buildings within a historical rural landscape.
- (5) **Space crowding:** high spatial density of impacts on a heritage resource, e.g. density of new buildings resulting in suburbanisation of a historical rural landscape.

Sources: Adapted from Cooper (2004)

8.6 SELECTING THE APPROPRIATE APPROACH

The appropriate approach for heritage input should be selected by determining the most reliable and efficient way of responding to heritage issues identified in the scoping process and determining whether significant heritage impacts are likely. The approach needs to be informed by the following factors:

- The nature of the heritage issue raised in the scoping process, i.e:
 - On a broad level, are the issues of a palaeontological, archaeological, built environment, regional cultural landscape or associated landscape nature?
 - On a more specific level, are the issues of a visual, architectural, urban, physical, contextual, design, planning, social, historical, scientific, tangible or intangible nature?

This will assist in determining the types of heritage inputs, the range of disciplines and the nature and degree of specialization of skills required.

- The significance of a potential heritage impact relative to the degree of significance/sensitivity of a heritage resource and the scale and intensity of the proposed development. This will assist in determining the level and approach of heritage input required.

Table 4 below provides a description of the different levels of input and when they would be most appropriate to use. Table 5 identifies the range of possible approaches to providing heritage input and when these are used.

8.7 CLARIFYING THE TIMING, SEQUENCING AND INTEGRATION OF SPECIALIST INPUT

The timing of a heritage specialist input in relation to other specialist inputs is influenced by the following factors:

- The extent to which heritage specialist input may contribute to the findings and recommendations of other specialists; e.g. visual specialist inputs.
- The extent to which heritage specialist input may require information from other specialist reports; i.e. visual and social assessments. This is discussed further in Section 9.5.
- The extent to which heritage specialist input may generate a set of additional questions that will need to be answered by other specialist studies.
- The extent to which a degree of divergence or convergence may occur between the heritage study and other specialist studies and the need to resolve issues of divergence.
- The extent to which heritage specialist input could define project alternatives that need to be considered by other specialists.

The EIA practitioner would be responsible for establishing the sequence and overlap of the various specialist inputs. Baseline information should be circulated to the relevant specialists to establish a dialogue between the different disciplines and to ensure an integrated approach.

Table 4: Selecting the appropriate level of heritage specialist input

SIGNIFICANCE OF HERITAGE IMPACT EXPECTED	LEVEL OF HERITAGE SPECIALIST INPUT	APPROACH
Little or no heritage impact expected	Level 1: Heritage opinion by an appropriate heritage specialist.	<ul style="list-style-type: none"> ▪ Screening of potential heritage issues through a site inspection, developing a broad understanding of the policy planning context, reviewing any published or survey information on the history and heritage value of the site, checking whether the site has any formal heritage status, having a discussion with key heritage contacts and scanning the project proposals. ▪ Brief statement from a heritage specialist indicating the potential heritage issues and impacts.
Low heritage impact expected	Level 2: Heritage scoping by an appropriate heritage specialist.	<ul style="list-style-type: none"> ▪ Analysis of heritage issues raised in the scoping phase. ▪ Assessment of heritage resource significance involving a site inspection, establishing a broad chronology of the site through published sources and if necessary, basic archival research, and reviewing existing survey records. ▪ Identification of the need for further or more detailed heritage specialist input, e.g. Archaeological Phase 2 survey or more detailed archival research. ▪ Significance/sensitivity or opportunities/ constraints survey and mapping. ▪ Targeted consultation with local heritage groups and experts. ▪ Review of overall compatibility of the proposals with policy planning frameworks.
Moderate heritage impact expected	Level 3: Heritage impact assessment by an appropriate heritage specialist.	<ul style="list-style-type: none"> ▪ Analysis of issues raised in the scoping phase. ▪ Documentary research to develop a fairly comprehensive understanding of the chronology of the site and its role in the broader context. This would normally involve both secondary source and archival research. ▪ Comprehensive assessment of the heritage resource significance of the receiving environment. ▪ Comprehensive understanding the nature and scale of the project proposals and the development intent for the medium and long term. ▪ Targeted consultation with local heritage groups and experts and participation

SIGNIFICANCE OF HERITAGE IMPACT EXPECTED	LEVEL OF HERITAGE SPECIALIST INPUT	APPROACH
		<p>in the broader EIA stakeholder engagement process.</p> <ul style="list-style-type: none"> ▪ Establishment of the compatibility of the proposals with the policy planning and other statutory framework. ▪ Assessment of impacts (including for alternative project proposals). ▪ Recommended management actions and monitoring programmes. ▪ Heritage Assessment Report should be “signed-off” by a heritage specialist.
High and very high heritage impact expected	Level 4: Heritage impact assessment by a highly experienced and qualified heritage specialist. Independent specialist peer review	<ul style="list-style-type: none"> ▪ As per level 3 but typically involving a more detailed level of analysis, extensive public consultation and a multi-disciplinary approach. Should also involve independent specialist peer review by an appropriately qualified and experienced heritage specialist. ▪ Heritage Assessment Report should be “signed-off” by the heritage specialist Consultant.

EXPLANATORY NOTES: It is only possible to determine expected heritage impact once there is sufficient and reliable baseline information. Where there is insufficient information to determine potentially significant heritage impacts, a further more detailed level of assessment may be necessary. This is particularly relevant to archaeological resources, where it is often not possible to predict with any confidence where buried resources are likely to occur.

Table 5: Selecting the appropriate approach

TYPE OF INPUT	POSSIBLE APPROACHES	WHEN USED
<p>PALAEONTOLOGICAL/ ARCHAEOLOGICAL</p> <p>Archaeological investigation typically follows a three phased approach:</p> <ul style="list-style-type: none"> ▪ Phase 1 (field survey and mapping) ▪ Phase 2 (Test excavation and sampling) ▪ Phase 3 (Full excavation) 	<p>Phase 1:</p> <ul style="list-style-type: none"> ▪ Desk-top and field survey ▪ Historical research in the case of historical archaeology 	<ul style="list-style-type: none"> ▪ Only in exceptional circumstances where the level of ground disturbance is very high (i.e. to bedrock level, e.g. basement parking and quarries less than 60 years) would a Phase 1 survey not be required for projects involving subsurface excavation work. ▪ In all other circumstances at least a Phase 1 archaeological survey must be undertaken. ▪ If the level of ground disturbance is high, then at least an opinion of an archaeologist should be obtained to verify the fact that no further archaeological investigation is required.
	<p>Phase 2:</p> <ul style="list-style-type: none"> ▪ Test excavation ▪ Sampling & analysis ▪ On-site monitoring 	<p>Based on the findings and recommendations of the Phase 1 survey there may be a need to:</p> <ul style="list-style-type: none"> ▪ Test for the occurrence of below surface remains and the significance thereof, i.e. age, depth, sequencing, level of disturbance, etc. ▪ Sample and analyze in-situ remains as a basic form of mitigation. ▪ Monitor construction activities.
	<p>Phase 3:</p> <ul style="list-style-type: none"> ▪ Full excavation & analysis ▪ Detailed historical research in the case of historical archaeology ▪ On-site monitoring 	<p>Based on the findings and recommendations of the Phase 2/3 investigation there may be a need to:</p> <ul style="list-style-type: none"> ▪ Undertake full excavation and analysis as a more extensive form of mitigation. ▪ Monitor construction activities.
	<p>Consultation</p>	<ul style="list-style-type: none"> ▪ In the case historical graves and burial grounds, public advertising and detailed consultation will need to be carried out prior to any exhumation process. This will need to occur as early as possible in the EIA process. Appropriate forms of memorialisation may also need to be considered.

TYPE OF INPUT	POSSIBLE APPROACHES	WHEN USED
HISTORICAL-ARCHITECTURAL/ LANDSCAPE	Documentary research	<p>There is always the need to undertake documentary research related to the potential significance of a heritage resources. More specifically when:</p> <ul style="list-style-type: none"> ▪ There is a need to establish the age and layering of historical fabric over time through available photographic evidence, historical maps, architectural drawings, etc. ▪ There is a need to establish the pattern of use, ownership, access and roles/associations over time through archival and/or secondary sources. ▪ There is a need to establish whether a building is the work of a recognized architect/builder. <p>LEVEL OF INPUT: Depending on the level of input required or existing baseline information this may involve a review of existing published/secondary sources or extensive archival research.</p>
	Built environment analysis	<p>There is always the need to survey and map existing heritage resources. More specifically when:</p> <ul style="list-style-type: none"> ▪ There is a need to record and assess the historical-architectural/landscape design significance and condition of a resource through physical inspection (and cross-referencing with documentary research) <p>LEVEL OF INPUT: Depending on the level of input required or existing baseline information this may involve sensitivity/significance mapping, grading of heritage resources, photographic recording and mapping of individual structures, features and relationships and/or more detailed investigation through measured drawings, removal or plasterwork, test excavations, etc</p>

TYPE OF INPUT	POSSIBLE APPROACHES	WHEN USED
	Vegetation analysis	<ul style="list-style-type: none"> ▪ There is a need to record and assess the nature and extent of existing vegetation patterns where these are regarded to have cultural/historical significance. <p>LEVEL OF INPUT: Depending on the potential significance of the resources this may involve grading of the resources according to established criteria, recording and mapping, sensitivity analysis and the identification of key relationships/linkages.</p>
	Visual character analysis	<ul style="list-style-type: none"> ▪ A range of visual character zones is evident revealing different patterns in the landscape, which reflect the changing interaction between human settlement and the physical landscape. ▪ The receiving environment is highly visible or adjacent to a scenic route or where the scale of the project is such that it will be highly visible. <p>LEVEL OF INPUT: Depending on the visibility and significance of the receiving environment, there would be the need to establish view catchment areas, view corridors, viewpoints and receptors possible including 3D modeling with and without mitigation.</p>
	Targeted consultation	<ul style="list-style-type: none"> ▪ There is always the need to consult local opinion regarding the potential significance of a heritage resource. More specifically when: ▪ There is a need to engage with the opinion of heritage stakeholders who have a specific interest in or knowledge about the heritage resource. <p>LEVEL OF INPUT: This would depend on the scale of the potential impact, the heritage significance of the receiving environment and the range of possibly conflicting heritage values attached to the site.</p>

TYPE OF INPUT	POSSIBLE APPROACHES	WHEN USED
SOCIAL-HISTORICAL	Oral history interviews	<ul style="list-style-type: none"> ▪ There is insufficient documented history or physical evidence about a heritage resource. ▪ The value of a heritage resource may reside in its associations with public memory and social identity. ▪ There may be evidence of the ritual or traditional use of a resource. ▪ There is evidence of a rich and diverse oral history attached to the site. <p>LEVEL OF INPUT: This would depend on the potential significance of the heritage resource and the richness and range of oral history evident.</p>
	Targeted consultation	<p>There is always a need for targeted consultation. More specifically when:</p> <ul style="list-style-type: none"> ▪ There is a need to provide heritage stakeholders the opportunity to give further input on the social-historical value of a heritage resource. ▪ There is a need to gather local, professional, traditional or indigenous knowledge. ▪ There is evidence that the consultation process to date has been dominated by a particular group or groupings and does not sufficiently reflect the range of opinions. <p>LEVEL OF INPUT: This would depend on the potential significance of the resource and the diversity of values potentially attached to the site.</p>

TYPE OF INPUT	POSSIBLE APPROACHES	WHEN USED
	Documentary research	<p>There is always the need to review the extent and reliability of existing documentary research and if necessary, undertake further research related to a heritage resource. More specifically, when:</p> <ul style="list-style-type: none"> ▪ There are a range of histories and values attached to the heritage resource. ▪ Previous documentary evidence may be unreliable or reveal bias. <p>LEVEL OF INPUT: This would depend on the potential significance of the resource and the reliability of the existing research.</p>
	Social survey	<p>There is always a need to conduct a social survey. More specifically when:</p> <ul style="list-style-type: none"> ▪ There is strong evidence of high social values attached to a heritage resource. ▪ There is evidence of a range of possible conflicting social values attached to a heritage resource. <p>LEVEL OF INPUT: This would depend on the potential significance of the resource and its degree of contestation.</p>
	Social-economic analysis	<p>There is usually the need to conduct some form of social-economic analysis, especially when there is likely to be a large discrepancy between those likely to benefit from the project and those likely to lose.</p> <p>The relevant legislation requires the potential retention or loss of a heritage resource to be balanced against the sustainable social and economic benefits to be derived from a development.</p> <p>LEVEL OF INPUT: This would depend on the scale of the development and the extent and distribution of likely social and economic benefits.</p>

8.8 ENSURING APPROPRIATE STAKEHOLDER ENGAGEMENT

Heritage specialists may need to engage with stakeholders over and above the EIA stakeholder engagement process.

Stakeholders typically consulted with during the heritage specialist study would include the following:

- Heritage authorities (e.g. HWC and SAHRA), with respect to their legal jurisdiction over certain categories of heritage resources and their role as a commenting authority in the EIA decision-making process.
- Heritage organizations with a recognized interest in a geographical area or category of heritage resource (e.g. South African Vernacular Architecture Society, Heritage South Africa, Heritage Committee of the Cape Institute of Architects).
- Organizations or individuals with historical, traditional or indigenous knowledge about the heritage value of a resource.

Any consultation with such stakeholders must be done in line with the overall stakeholder engagement process and principles establishment for the EIA, i.e. ideally working through the appointed stakeholder engagement practitioner.

8.9 CLARIFYING CONFIDENTIALITY REQUIREMENTS

In developing the terms of reference, there may be a need for discuss and agree upon issues of confidentiality. This would apply to certain categories of heritage resources, e.g. rock art sites that are typically prone to vandalism and movable heritage resources such as heritage objects/fixtures/fittings, which have a high monetary value. Information about their location or existence may need to be kept confidential. In such instances, respect for confidentiality does not imply a “lack of transparency” in the EIA process.

PART D: PROVIDING SPECIALIST INPUT

This part of the guideline provides guidance for providing specialist input, as well as identifying the information required by specialists.

9. INFORMATION REQUIRED TO PROVIDE SPECIALIST INPUT

9.1 RELEVANT PROJECT INFORMATION

Relevant project information, the supply of which should be co-coordinated by the EIA practitioner, should typically include the following:

- The precise location and boundaries of the project.
- The objectives and description of the project including:
 - The scale and nature of development.
 - The siting, orientation, height and footprint of structures.
 - The location and treatment of access roads to the site, internal roads and parking areas.
 - The intended extent of cut/fill on steeping slopes sites.
 - Cross-sections especially for steep sloping sites, sites adjacent to scenic routes or adjacent to other significance heritage resources.
 - The intended demolition of existing structures.
 - The intended removal/retention of existing vegetation.
 - The type and height of signage associated with the project.
 - The nature and height of boundary treatments.
 - The location of construction phase facilities, such as construction camps, worker's housing, storage facilities, etc. where applicable.
 - Traffic within the site, or to and from the site, where applicable.
 - Elevations (sketch) showing architectural treatment and use of materials.
 - Floor plans clearly indicating the extent of proposed demolition and new additions to existing structures.
- The phasing of the project and the nature and extent of future expansion.
- The statutory and legal context for the project, i.e. title deed restrictions, zoning conditions, etc.
- Alternatives for the project that have been proposed.
- History of the application, where applicable, especially where a similar application for the site has previously not been approved on heritage grounds.

9.2 INFORMATION DESCRIBING THE AFFECTED ENVIRONMENT

The following information is generally required by heritage specialists to describe the affected environment, as well as trends and drivers:

- Contextual maps indicating the location of the site and the nature of the surroundings.
- Topographic information indicating contours, landforms, river courses, etc.
- Aerial photographs indicating landscape patterns, vegetation cover, etc.
- Cadastral maps indicating property boundaries and existing building footprints.
- Zoning and land use maps of the area.
- Historical records (published or archival), e.g. maps, aerial photographs, architectural drawings, survey diagrams indicating the age, sequencing and patterns of construction, access, use and ownership over time and across space.
- Existing heritage surveys of the affected environment.

The involvement of specialists should be based on the need to supply information relevant to the assessment of impacts associated with the development proposal. Gaps in scientific information for geographical areas or heritage resources, especially where the information is not readily linked to development impacts, or where impacts can be avoided/mitigated without specialist input, should not be used to motivate for specialist involvement.

9.3 LEGAL, POLICY AND PLANNING CONTEXT

The heritage specialist should identify and analyse the implications of national, provincial or local legislation, policies, plans and guidelines as an integral part of the assessment. Congruence with such legal and policy frameworks is an essential component in the assessment process.

Statutory and policy frameworks, other than the overarching statutory Acts identified in Section 2, include the following:

- Policies or plans that provide a vision of the desired future state for the area within which the development is proposed in order to evaluate whether or not the proposed development contributes to, or conflicts with the achievement of this vision (e.g. as described in the Spatial Development Frameworks at Provincial and Municipal levels which, in the case of the latter, form part of the Integrated Development Plans for municipalities)
- Local Authority Zoning Schemes (including conservation areas)
- Regional/sub-regional Structure Plans
- Title Deed Restrictions, if applicable
- Policy frameworks such as Urban Edge Policy, Scenic Drive Policy

Any inconsistencies within the planning framework and the statutory context should be clearly identified by the heritage specialist and made explicit in the report.

9.4 INFORMATION GENERATED BY OTHER SPECIALISTS IN THE EIA PROCESS

It is important for the heritage specialist to engage with other specialists in order to understand the possible implications of the heritage specialist's findings for other specialist investigations and to incorporate where applicable the findings of other specialist reports into the heritage assessment. Information typically required from other specialists includes the following:

- Input from visual specialist regarding critical visual issues, and the nature and degree of visual significance/sensitivity.
- Input from the biodiversity specialist regarding the removal of alien vegetation, especially vegetation which could have heritage significance.

10. SPECIALIST INPUT TO IMPACT ASSESSMENT AND RECOMMENDING MANAGEMENT ACTIONS

This section should be read in conjunction with Section 8.5 on direct, indirect and cumulative effects and Section 8.6 on approaches.

Although this section is aimed at the impact assessment phase of the EIA, it reflects a thought process that can apply to the pre-application planning, screening and impact assessment phases of the EIA process. It can also apply to low-impact projects that do not require a full-scale heritage assessment.

As a general guide the specialist should:

- Consider the **full project cycle**;
- Answer the “**so what**” and “**to whom**” questions of probable impacts, i.e. what are the likely consequences of impacts, how severe would they be, and who would be affected by these impacts;
- Predict, assess and evaluate potentially significant **direct, indirect and cumulative impacts**, both with and without management actions. The evaluation of significance should be linked to **thresholds of significance**;
- Assess and evaluate impacts for the **different alternatives** and for **different environmental and operating scenarios**, where appropriate;
- Consider not only impacts on the **affected site**, but also impacts **beyond the site boundaries**;
- Assess and evaluate any **opportunities and constraints** posed by the receiving environment/operating context on the proposed development.

10.1 PREDICTING POTENTIAL IMPACTS

Possible impacts should be identified and assessed for the different alternatives, as well as for the range of risk situations and scenarios (including the worst case scenario), both with and without management actions (e.g. mitigation, enhancement).

Potential fatal flaws should be identified at an early stage in the assessment process and communicated to the proponent before detailed planning is initiated. Typically, this should occur in advance of the statutory EIA process, i.e. during pre-application planning. Box 8 below provides some criteria for defining a potential fatal flaw from a heritage perspective.

Box 8: Criteria for identifying fatal flaws

- Where the development is contrary to the provisions of approved statutory frameworks
- Non-compliance with conditions of existing Records of Decision
- Irreversible heritage impacts
- Heritage impacts that may be evaluated to be of high significance and that are considered by stakeholders and decision-makers to be unacceptable.
- Undue pressure on the assessment process either by the developer or political powers.

10.2 INTERPRETING IMPACT ASSESSMENT CRITERIA

The impact assessment criteria commonly used in EIA processes are “nature”, “extent”, “duration”, “intensity”, “probability”, “confidence” and “significance” of impacts. This section provides guidelines on how to interpret these criteria from the perspective of a heritage specialist study.

Factors that need to be taken into account include the following:

- The nature and degree of significance of a heritage resource, i.e. rarity, representivity, integrity, authenticity, legibility and associational values.
- The diverse, often conflicting public values associated with heritage resources.
- The dynamic nature of a heritage value system.
- The fact that the extent or intensity of an impact does not necessarily have direct relationship to the significance thereof.
- The need to establish benchmarks/thresholds, which are anchored within a specific context.
- The reversibility versus irreversibility of an impact.
- The renewability versus non-renewability of a heritage resource.
- The degraded or threatened nature of the resource and its restoration/rehabilitation/retention potential.
- The degree of resilience of a heritage resource, i.e. its ability to accommodate change.

While the significance of an impact can be informed by these criteria, significance needs to be fully explained and argued in a written statement, including the demonstration of the strong informants/constraints to the assessments. Importantly, the determination of impact significance needs to consider the predicted impact of the proposed development in light of the vision for the area, rather than in terms of the impact on the current baseline conditions.

Box 9: Criteria used for the assessment of impacts

Significance of the heritage resource - This is a statement of the nature and degree of significance of the heritage resource being affected by the activity. From a heritage management perspective it is useful to distinguish between whether the significance is embedded in the physical fabric or in associations with events or persons or in the experience of a place; i.e. its visual and non-visual qualities. This statement is a primary informant to the nature and degree of significance of an impact and thus needs to be thoroughly considered.

Consideration needs to be given to the significance of a heritage resource at different scales (i.e. site-specific, local, regional, national or international) and the relationship between the heritage resource, its setting and its associations.

Nature of the impact - This is an assessment of the nature of the impact of the activity on a heritage resource, with some indication of its positive and/or negative effect/s. It is strongly informed by the statement of resource significance. In other words, the nature of the impact may be historical, aesthetic, social, scientific, linguistic or architectural, intrinsic, associational or contextual (visual or non-visual). In many cases, the nature of the impact will include more than one value.

Extent – Here it should be indicated whether the impact will be experienced:

- On a site scale, i.e. extend only as far as the activity;
- Within the immediate context of a heritage resource;
- On a local scale, e.g. town or suburb
- On a metropolitan or regional scale; or
- On a national/international scale.

Duration – Here it should be indicated whether the lifespan of the impact will be:

- Short term, (needs to be defined in context)
- Medium term, (needs to be defined in context)
- Long term where the impact will persist indefinitely, possibly beyond the operational life of the activity, either because of natural processes or by human intervention; or
- Permanent where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.

Of relevance to the duration of an impact are the following considerations:

- Reversibility of the impact; and
- Renewability of the heritage resource.

Intensity - Here it should be established whether the impact should be indicated as:

- Low, where the impact affects the resource in such a way that its heritage value is not affected;
- Medium, where the affected resource is altered but its heritage value continues to exist albeit in a modified way; and
- High, where heritage value is altered to the extent that it will temporarily or permanently be damaged or destroyed.

Probability – This should describe the likelihood of the impact actually occurring indicated as:

- Improbable, where the possibility of the impact to materialize is very low either because of design or historic experience;
- Probable, where there is a distinct possibility that the impact will occur;
- Highly probable, where it is most likely that the impact will occur; or
- Definite, where the impact will definitely occur regardless of any mitigation measures.

Confidence - This should relate to the level of confidence that the specialist has in establishing the nature and degree of impacts. It relates to the level and reliability of information, the nature and degree of consultation with I&AP's and the dynamic of the broader socio-political context.

- High, where the information is comprehensive and accurate, where there has been a high degree of consultation and the socio-political context is relatively stable.
- Medium, where the information is sufficient but is based mainly on secondary sources, where there has been a limited targeted consultation and socio-political context is fluid.
- Low, where the information is poor, a high degree of contestation is evident and there is a state of socio-political flux.

Impact Significance – The significance of impacts can be determined through a synthesis of the aspects produced in terms of the nature and degree of heritage significance and the nature, duration, intensity, extent, probability and confidence of impacts and can be described as:

- Low; where it would have a negligible effect on heritage and on the decision
- Medium, where it would have a moderate effect on heritage and should influence the decision.
- High, where it would have, or there would be a high risk of, a big effect on heritage. Impacts of high significance should have a major influence on the decision;
- Very high, where it would have, or there would be high risk of, an irreversible and possibly irreplaceable negative impact on heritage. Impacts of very high significance should be a central factor in decision-making.

Source: Adapted from the Department of Environmental Affairs and Tourism, 1998

10.3 ESTABLISHING THRESHOLDS OF SIGNIFICANCE

Thresholds of significance define the level or limit at which point an impact changes from low to medium significance, or medium to high significance. These thresholds are often determined by current societal values which define what would be acceptable or unacceptable to society and may be expressed in the form of legislated standards, guidelines or objectives.

The heritage specialist needs to take into account thresholds of significance. Thresholds for heritage cannot be easily quantified as it tends to relate to subjective, normative values. Heritage value systems and contexts are also dynamic.

Some indicators of thresholds of significance would include the following:

- The principles of long-term sustainable development. Heritage resources are generally non-renewable and once lost or degraded, are lost forever.
- The principles for heritage management outlined in Section 2, which are informed by the principles of the current heritage legal framework and internationally accepted protocols for heritage management.
- The principles contained in policy planning frameworks aimed at addressing a range of development and conservation objectives.

10.4 DESCRIBING THE DISTRIBUTION OF IMPACTS – BENEFICIARIES AND LOSERS

Heritage specialists should assist, where relevant, in the identification of those parties who would benefit or lose as a result of a proposed project, based on their dependence on the heritage context and focusing on vulnerable or risk prone systems or communities.

Examples of beneficiaries and losers from a heritage perspective include the following:

- The location of a water treatment works in a historical recreational site may benefit the local community in terms of lower water costs and improved water quality. Losers would include users of the recreational site and those affected by the potential visual impact of the proposed development.
- The closure of traditional access to a gravesite may benefit adjacent landowners in terms of increased property values. The losers would be the local community to whom the gravesite has heritage value.

10.5 IDENTIFYING KEY UNCERTAINTIES AND RISKS

It is important for the heritage specialist to inform the EIA practitioner and decision-maker about any major uncertainties and risks, which may influence accuracy and confidence in the heritage assessment. These may include *inter alia* the following:

- Uncertainties posed by inadequate data.
- Evidence of a range of contesting value systems
- Unpredictability of buried archaeological/palaeontological remains. (The absence of evidence does not mean evidence of absence)
- Difficulties in establishing the nature and degree of significance of intangible heritage values.

10.6 JUSTIFYING UNDERLYING ASSUMPTIONS

Assumptions should be clearly stated. They should be reasonable and realistic. The reason or justification for the assumption should also be given.

Any assumptions that are made should be confirmed with the EIA practitioner and proponent before completing the heritage input or assessment. Assumptions typically have to be made where information is inadequate or is not known.

10.7 DEFINING CONFIDENCE LEVELS AND CONSTRAINTS TO INPUT

The confidence of the heritage specialist in the identification and significance of potential impacts and benefits should be clearly stated. The level of confidence should be indicated on the scale of high to low, together with reasons for the rating. Any constraints or limitations to the

heritage specialist input should be given and implications for the reliability of that input should be explicitly stated.

10.8 RECOMMENDING MANAGEMENT ACTIONS

The project proponent should include a comment in the specialist report on their ability to implement the management actions recommended by the heritage study. Preferably management actions should be jointly formulated with the project proponent, e.g. the heritage specialist is unlikely to be familiar with engineering options that may constitute a mitigation option. Recommended management actions may include the following:

Avoidance

This is appropriate where any type of development occurs within a formally protected or significant or sensitive heritage context and is likely to have a high negative impact. Mitigation is not acceptable or not possible.

Mitigation

This is appropriate where development occurs in a context of heritage significance and where the impact is such that it can be mitigated to a degree of medium to low significance, e.g. the high to medium impact of a development on an archaeological site could be mitigated through sampling/excavation of the remains. Not all negative impacts can be mitigated.

Compensation

Compensation is generally not an appropriate heritage management action. The main function of management actions should be to conserve the resource for the benefit of future generations. Once lost it cannot be renewed. The circumstances around the potential public or heritage benefits would need to be exceptional to warrant this type of action, especially in the case of where the impact was high.

Rehabilitation

Rehabilitation is considered in heritage management terms as an intervention typically involving the adding of a new heritage layer to enable a new sustainable use. It is not appropriate when the process necessitates the removal of previous historical layers, i.e. restoration of a building or place to the previous state/period. It is an appropriate heritage management action in the following cases:

- The heritage resource is degraded or in the process of degradation and would benefit from rehabilitation.
- Where rehabilitation implies appropriate conservation interventions, i.e. adaptive reuse, repair and maintenance, consolidation and minimal loss of historical fabric.
- Where the rehabilitation process will not result in a negative impact on the intrinsic value of the resource.

Enhancement

Enhancement is appropriate where the overall heritage significance and its public appreciation value are improved. It does not imply creation of a condition that might never have occurred during the evolution of a place, e.g. the tendency to sanitize the past.

This management action might result from the removal of previous layers where these layers are culturally of low significance and detract from the significance of the resource. It would be appropriate in a range of heritage contexts and applicable to a range of resources.

In the case of formally protected or significant resources, appropriate enhancement action should be encouraged. Care should, however, be taken to ensure that the process does not have a negative impact on the character and context of the resource. It would thus have to be carefully monitored.

Interpretation

Interpretation can be regarded as a form of enhancement. It is an appropriate management action when the significance of a heritage resource is difficult to understand by the public. In a culturally diverse context care must be taken to ensure that one interpretation does not exclude other possible interpretations. It should never replace other conservation actions, i.e. when different forms of interpretation are used to justify the removal of a heritage resource

10.9 IDENTIFYING THE BEST PRACTICABLE ENVIRONMENTAL OPTION

The heritage specialist should clearly indicate the implications for heritage of each alternative and indicate which alternative would be optimum from a heritage perspective. Factors that need to be considered by the heritage specialist in selecting the Best Practicable Environmental Option (BPEO) relate to the principles outlined in Section 2 and include inter alia the following:

- Retention and enhancement of the historical fabric and layering of a heritage resource.
- Retention and enhancement of the association values of a heritage resource.
- Responsiveness to the setting or context of a heritage resource.

It is the responsibility of the EIA practitioner to evaluate the recommendations within the various specialist reports and provide an overall recommendation for the Best Practical Environmental Option (BPEO), which takes into account the outcomes of the various specialist studies. In the event that there are differences in opinion between specialists regarding the BPEO, the Environmental Impact Report should highlight these reasons and explain why these have arisen (e.g. the pursuance of different management or environmental objectives).

10.10 COMMUNICATING THE FINDINGS OF THE SPECIALIST INPUT

Specialist assessment reports should be concise and, as far as possible, avoid the use of technical terminology. Where this is unavoidable, brief explanations should be provided in order to ensure that the reader is able to understand the approach to, and findings of, the specialist study.

In order to answer the “so what” question, specialist assessment must include a:

- Summary impact assessment table using the defined impact assessment and significance rating criteria;
- Clear indication of whether impacts are irreversible or result in an irreplaceable loss to the environment and/or society.
- A statement as to whether or not the proposed project would comply or be consistent with international conventions, treaties or protocols and with national, provincial and local legislation, policies and plans as applicable;
- The need, where relevant, for higher order assessment to address potentially significant cumulative effects, or issues which fall outside the scope of the EIA process;
- Statement of impact significance for each issue and alternative, before and after management, specifying whether thresholds of significance have been exceeded;
- Identification of beneficiaries and losers from the proposed development;
- Specification of key risks and uncertainties that may influence the impact assessment findings, including a clear statement of limitations and/or gaps in knowledge or information;
- The specialist’s assumptions and degree of confidence in the impact assessment prediction;
- Summary of key management actions that fundamentally affect impact significance;
- Identification of the best practicable environmental option, providing reasons;
- Identification of viable development alternatives not previously considered;
- References for all sources of information and/or data used.

The heritage specialist should be given the opportunity to review and “sign off” on the draft integrated report prepared by the EIA practitioner prior to it being made public, to ensure that findings and recommendations provided by the specialist are accurately reflected in the report.

11. SPECIALIST INPUT TO MONITORING PROGRAMMES

Monitoring means to observe, take samples or measure specific variables in order to track changes, measure performance or compliance and/or detect problems. Monitoring is generally only considered appropriate where changes are probable or likely, and where these changes could be significant and would require remedial or specific management measures.

Monitoring can be carried out ***prior to the construction phase*** (to establish a reliable benchmark), or during the ***construction, operational*** and/or ***decommissioning*** phases of a project, depending on the particular risks of significant impacts during these phases and/or the need to monitor compliance with requirements.

Heritage specialist assessments may need to include a system of monitoring that addresses the following questions:

- What heritage resource or activity is to be monitored?
- What specific questions are to be answered by monitoring?
- How frequently and over what time span should such monitoring occur?
- What indicators should be used in monitoring? (The choice of indicators would depend on the particular impacts predicted and the receiving environment. Since monitoring often has to consider natural fluxes as well as human-induced effects, complementary indicators may be appropriate in monitoring. Indicators should be specific, measurable, achievable, relevant and timely. Where possible, the choice of indicators should be aligned with key national and provincial indicators).
- What are the significance thresholds or thresholds of probable concern (Section 10.3), which would trigger remedial action or other intervention?
- Who carries the responsibility for undertaking the monitoring, analysing and evaluating the results of monitoring, and for implementing adaptive management in response;
- What skills and expertise are required to undertake the monitoring?
- What happens to the monitoring data?
- What are the reporting requirements?

Monitoring must be tied in to an effective decision-support system which triggers appropriate management changes depending on the results of monitoring, and clearly identifies who would be responsible for implementing that management.

This program will need to be discussed with the EIA practitioner, the project proponent, the relevant authorities and Environmental Monitoring Committees (where these exist).

Pre-construction baseline monitoring

The heritage specialist should provide as part of the assessment a baseline study indicating the siting and location of heritage resources, the nature and degree of significance and the present physical condition.

Monitoring of developments affecting Grade 1, 2 and 3A structures should be preceded by relevant drawings of floor plans, elevations and cross sections at an appropriate scale. Photographs should be included.

These should be presented in such a format as to guide the monitoring process. Depending on the nature and the grading of the heritage resource, the relevant authority will need to be informed of those heritage resources, which fall within their jurisdiction

Construction phase monitoring

Construction phase monitoring may encompass the following specialist monitoring activities:

- Archaeological monitoring as recommended by the specialist archaeologist. This could relate to both above and below surface remains.
- The removal of significant historical fabric prior to demolition as may be established by a

condition of approval for the demolition. The securing of the resource either through recycling or donation would be the responsibility of a designated agent e.g. site architect.

- Architectural interventions on Grade 1 or 2 heritage resources may need to be monitored by an appropriate conservation architect.
- DEA&DP and the relevant heritage authority are responsible for ensuring adherence to conditions of approval: DEA&DP with respect to its ROD; HWC with respect to permits issued for provincial heritage resources, buildings older than 60 years and archaeological sites; and SAHRA with respect to Grade 1 or national heritage sites, shipwrecks and burials older than 60 years.

Operational monitoring

Any substantial deviation from the approved set of plans which form part of the heritage assessment should automatically have to be subject to resubmission of an application, either on a rezoning, site planning or building plan submission stage.

PART E: REVIEW OF HERITAGE SPECIALIST STUDIES

This part of the guideline identifies specific review criteria that can be used as a quality check.

12. SPECIFIC EVALUATION CRITERIA

Reference should be made to the *Guideline for the review of specialist input in EIA processes* for the generic review criteria that can be applied to any specialist input. This section only provides specific guidance on reviewing heritage input.

The specialist study must meet minimum requirements, be reasonable and scientific, be logically sound and objective and be appropriate to the nature and scale of the proposed development and the associated impacts and consequences. It should achieve the following:

- Clearly establish the terms of reference for the specialist input and the linkages with other specialist studies, e.g. visual specialist input where appropriate.
- Reveal clarity and conciseness in report writing.
- Clearly establish the nature and degree of significance of the heritage resource.
- Reveal a clear understanding of the statutory framework and policy frameworks as related to heritage issues.
- Include inputs from relevant disciplines appropriate to the heritage issues.
- Indicate integration with other relevant specialist studies.
- Be clearly referenced.
- Identify and analyze cumulative impacts.
- Reveal an integrated approach to the data gathering process, including documentary evidence, site analysis and public inputs.
- Clearly indicate the consultation process including the identification and resolution (or not) of heritage related issues.
- Analysis of past development proposals and applications and statutory decisions taken.
- Indicate appropriate scales of analysis relevant to the nature of the development and the significance of the resource.
- Distinguish between qualitative and quantitative statements related to heritage significance and impacts.
- Reveal a defensible, recognizable approach.
- Reveal a causal link between the approach, analysis and the recommendations.
- Clearly identify the recommendations including management actions.
- Include clear locational, descriptive and analytical graphics.
- Identify assumptions, limitations and potential gaps in the heritage input.
- Explain the heritage assessment criteria related to a specific context.

PART F: REFERENCES

- Association of Heritage Assessment Practitioners in collaboration with Heritage Western Cape. 2004. *Heritage Impact Assessment Guidelines* (Draft) (unpublished)
- Baumann, N. and Winter, S. 2004. *Criteria for Assessing Heritage Significance* (unpublished)
- Cooper, L.M. 2004. *Guidelines for Cumulative Environmental Assessment in SEA of plans*. EMPG Occasional Paper, May 2004. <http://www.env.ic.ac.uk/research/empg>
- Department of Environmental Affairs and Tourism. 1998. *Guideline Document: EIA Regulations – Implementation of Sections 21, 22 and 26 of the Environmental Conservation Act*. Department of Environmental Affairs & Tourism, Pretoria.
- Fransen, H. 2005. *Old Buildings of the Cape*. Jonathon Ball Publishers, Cape Town
- Jokilehto, J. 1999. *History of Architectural Conservation*. Butterworth Heinemann.
- Weaver, A., Rossouw, N. & Grobler, D. 1999. Scoping and “Issues Focused” Environmental Impact Assessment in South Africa. *African Journal of Environmental Assessment and Management*, Vol. 1 (1): 1-11

13. RECOMMENDED READING

- City of Cape Town. 2004. *Cultural Heritage Strategy for the City of Cape Town: Final Draft*, October 2004. City of Cape Town, Environmental Management Branch, Heritage Resources Section.
- Coombes, A.E. 2005. *History After Apartheid – Visual Culture and Public Memory in a Democratic South Africa*. Wits University Press, Johannesburg
- Department of Environmental Affairs & Tourism (DEAT). 2002. *Specialist Studies, Integrated Environmental Management Information Series 4*. Department of Environmental Affairs and Tourism, Pretoria
- Department of Environmental Affairs & Tourism (DEAT). 2004a. *Criteria for Determining Alternatives in EIA, Integrated Environmental Management Information Series 4*. Department of Environmental Affairs and Tourism, Pretoria.
- Department of Environmental Affairs & Tourism (DEAT). 2004b. *Cumulative Effects Assessment, Integrated Environmental Management Information Series 4*. Department of Environmental Affairs and Tourism, Pretoria.
- Kerr, J. 2000. *Conservation Plan*. Fifth Edition. National Trust – Australia

- Lennon, J. 1997. *Case Studies of the Cultural Landscapes of the Central Victorian Goldfields*. State of the Environment Australia, Technical Paper Series: Natural and Cultural Heritage.
- South African National Parks. 1998. *Voices, Values and Identities*. Department of Social Ecology, Symposium proceedings
- South African National Parks (SANParks). 2004. *Table Mountain National Park Heritage Resources Management Plan*. South African National Parks.
- Walker, M and Marquis K.P. 2004. *The Illustrated Burra Charter: Good Practice for Heritage places*. Australia Icomos Inc., Burwood

APPENDIX A: DEFINITIONS AND ACRONYMS

DEFINITIONS

<i>Archaeological resources</i>	<p>This includes:</p> <ul style="list-style-type: none"> ▪ material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures; ▪ rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loss rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation; ▪ wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the terretorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; ▪ features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found. <p style="text-align: right;"><i>(NHR Act)</i></p>
<i>Cultural significance</i>	<p>This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance (NHR Act)</p>
<i>Development</i>	<p>This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in the change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:</p> <ul style="list-style-type: none"> • construction, alteration, demolition, removal or change in use of a place or a structure at a place; • carrying out any works on or over or under a place; • subdivision or consolidation of land comprising a place, including the structures or airspace of a place; • constructing or putting up for display signs or hoardings; • any change to the natural or existing condition or topography of land; • any removal or destruction of trees, or removal or vegetation or topsoil <p style="text-align: right;"><i>(NHR Act)</i></p>
<i>Heritage resouces</i>	<p>This means any place or object of cultural significance (<i>NHR Act</i>)</p>

<i>Stakeholders</i>	A subgroup of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term includes the proponent, authorities and all interested and affected parties.
<i>Werf</i>	The Afrikaans word for 'farmyard', and a more correct one in the local context as it includes the buildings on it, more than just the space itself. It is the roughly level, uncultivated but close-cropped open space on which the buildings of a farm complex are arranged. (Fransen 2004)

ACRONYMS

<i>AHAP</i>	Association of Heritage Assessment Practitioners
<i>ASAPA</i>	Association of South African Professional Archaeologists
<i>BPEO</i>	Best Practicable Environmental Option
<i>DEA&DP</i>	Department of Environmental Affairs and Development Planning
<i>DEAT</i>	Department of Environmental Affairs and Tourism
<i>DWAF</i>	Department of Water Affairs and Forestry
<i>EIA practitioner</i>	Environmental Impact Assessment Practitioner
<i>EIA</i>	Environmental Impact Assessment
<i>ESA</i>	Early Stone Age
<i>GPS</i>	Global Positioning System
<i>HIA</i>	Heritage Impact Assessment
<i>HWC</i>	Heritage Western Cape
<i>I&AP</i>	Interested & Affected Party
<i>IDP</i>	Integrated Development Plan
<i>LSA</i>	Late Stone Age
<i>MSA</i>	Middle Stone Age
<i>NEMA</i>	National Environmental Management Act
<i>NHR Act</i>	National Heritage Resources Act
<i>PHRA</i>	Provincial Heritage Resources Agency
<i>PSSA</i>	Palaeontological Society of South Africa
<i>ROD</i>	Record of Decision
<i>SACLAP</i>	South African Council for the Landscape Architect Profession
<i>SAHRA</i>	South African Heritage Resources Agency
<i>SAIA</i>	South African Institute of Architects
<i>SAPI</i>	South African Planning Institute
<i>SDF</i>	Spatial Development Framework

UNITS

M^2	Square metres
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APPENDIX B: MODEL TERMS OF REFERENCE FOR SPECIALIST INPUT

Terms of reference for specialist input should include the following elements:

- 1) Project description
- 2) Overview of EIA process and timeframes
- 3) Specific issues and information requirements to be addressed by the specialist
- 4) Key sources of information
- 5) Assumptions, limitations and uncertainties
- 6) Approach to be used
- 7) Requirements to attend meetings and workshops
- 8) Requirements to liaise and exchange information with other specialists
- 9) Protocol for stakeholder engagement
- 10) Report template providing structure of contents, formatting styles and standard terminology (including impact assessment criteria if applicable)
- 11) Clarification of review and integration process
- 12) Requirements for specialist sign off on the specialist report and inputs to integrated reports
- 13) Summary of tasks, deliverables and due dates
- 14) Budget and payment schedule, including penalty clause for late delivery
- 15) Confidentiality agreement
- 16) Protocol for communication with outside parties during the project