NGORONGORO CONSERVATION AREA

CULTURAL HERITAGE CONSERVATION STRATEGIES

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1.0 INTRODUCTION

Since the establishment of the Cultural heritage Department in NCA (2014), management of cultural heritage resources has been given priority so as to make them sustainable, attractive, accessible for education and tourism.

This document summarizes the main conservation and management impacts and issues that may affect the cultural heritage values in NCA in the short term and long-term. The purpose is to ensure that a range of impacts and issues that may affect the significance of the resources is identified. An understanding of the key potential impacts that may affect the heritage resources now and in the future is required in order to effectively identify and apply conservation strategies to help mitigate the potential negative consequences of any site interventions or non-interventions. Potential impacts and issues that may affect the heritage values and conservation strategies are outlined below.

1.1 ENVIRONMENTAL IMPACTS

Environmental impacts are impacts that may occur because of environmental or ecological changes on the area. Environmental impacts can include climate change and natural disasters such as earthquakes.

1.2 LAND USE IMPACTS

The impacts of land use anticipate actions or issues affecting the heritage resource that may occur due to current or future site uses. They include impacts on both built features and landscapes.

1.3 IMPACTS OF AGING

The forces of aging impact heritage values through deterioration of buildings, structures and landscapes age. Condition surveys can determine the overall state of the heritage resource, which will in turn determine the best conservation approaches.

1.4 OPERATING AND MAINTENANCE BUDGETS

The Cultural heritage resources could be impacted through reduced levels of regular maintenance if operations and maintenance budgets are reduced. Maintenance is the simplest and most effective way to retain heritage value in the short term and can halt or diminish deterioration through prevention of water ingress, perimeter security and a base level of heating where appropriate.

2.0 HERITAGE CONSERVATION APPROACHES

The focus of the conservation plan and the key function of the heritage strategies is to provide approaches to ways of managing the cultural heritage values and resources.

The cultural heritage conservation is complex and multi-faceted, requiring a combination of conservation approaches at different levels and scales. After identifying and applying the appropriate conservation strategy for a particular heritage resource, decision makers can draw on an accepted array of choices and options in their approach to its conservation, while conserving its heritage value. The heritage field today is opening up to many creative possibilities, and the application of flexible and resourceful solutions to conservation challenges is encouraged and can yield superior and surprising results.

2.1 THE FOLLOWING TABLE ILLUSTRATES THE BROAD RANGE OF AVAILABLE CONSERVATION APPROACHES

CONSERVATION APPROACH	DEFINITION
Monitoring	The systematic and regular inspection or measurement of the condition of the heritage resources to determine their behaviour, performance, and rate of deterioration over time. Monitoring is undertaken to ensure that adverse impacts on archaeological sites, historical buildings and structures, historical place, Museum objects, landscapes, natural feature and biological life-forms that could not be predicted or evaluated prior to site alteration or construction activities are addressed. The monitoring is carried out by appropriate heritage professionals.
Maintenance	The most primary form of conservation is a site and building maintenance program. It is the routine, cyclical, non destructive actions necessary to slow the deterioration of a heritage site, historic place/building and objects of the museum. It entails periodic inspection; routine, cyclical, non-destructive cleaning; minor repair and refinishing operations; replacement of damaged or deteriorated materials that are impractical to save.
Stabilization	A minimum amount of work done to safeguard a heritage resource from the elements and/or destruction and to protect the public from danger. This work may involve emergency structural reinforcing, cabling (with trees), protective coverings, or hoardings of a temporary nature. In most cases, stabilization is undertaken in order to preserve that resource for future heritage conservation work.
Repair	The process of returning a heritage resource to its prior condition when it has undergone changes attributed to failure, decline, wear, normal use, or abuse. A repair action does not alter or enhance the integrity, character, performance, or design intent of the heritage feature. Repair may include patching of existing components using

	technologically compatible materials and methods; limited replacement in-kind of components; complete replacement in kind of a component when the degree of change it has undergone precludes any other type of action.
Preservation	The action or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of an archaeological site, museum objects, historic building/place, while protecting its heritage value.
Restoration	The process of accurately revealing, recovering, or representing the state of a historic place/building, museum objects as it appeared at a particular period in its history, as accurately as possible, while protecting its heritage value. Restoration is considered the primary treatment when the significance of a particular place during a particular time period significantly outweighs the loss of existing heritage resource from other periods, and if there is substantial evidence of its appearance at an earlier time
Rehabilitation	The action or process of making possible a continuing or compatible contemporary use of a historic place, building or landscape while protecting its heritage value. Rehabilitation makes possible an efficient contemporary use while retaining those portions and features which are significant to the resource's heritage values. New work is designed to be physically and visually compatible with and distinguishable from, the original historic place. With landscapes, rehabilitation is the most common intervention, since it allows for change necessary to satisfy present-day demands upon the site. In continued use rehabilitation, changes are made to a historic place that continues to be used for its original purpose. In adaptive re-use, the historic place or building is converted to a new use.
Reconstruction	A building, site feature, museum object or artifact that no longer exists is reproduced with new construction that exhibits the shape, material, and detailing of the resource as it once appeared. Authenticity is dependent on the amount of historical and pictorial

	evidence available for the original resource. Good documentary information without conjecture is essential in order to justify a reconstruction. With landscapes, planning should consider the age and arrangement of vegetation, allowing for growth and maintenance to continue an appearance that replicates the historical period.
Replication	Making an exact copy of portions of an existing structure, feature, museum object or artifact, usually to replace a missing or decayed component in order to maintain aesthetic unity and harmony. If valuable cultural property is being threatened or damaged irretrievably by its environment, it may have to be moved to a more protected environment. A replica may be substituted in order to maintain heritage integrity and the unity of a site, object or building.
Renovation	Occurs when extensive changes and/or additions are made to an existing building internally and externally in order to 'renew' the structure. Cultural heritage landscapes can also be renovated, an action often described as garden renewal. These changes are often made in response to the need for more space, repair, general improvements, or lifestyle considerations. Renovations may be made in harmony with the existing building and neighbourhood, although conservation of heritage resource is not the first priority of this intervention.
Deconstruction or salvage	The process of retaining and protecting from deterioration historic fabric or elements that have been removed from their original context. Selected parts of a building or landscape are protected for renovation or reuse, consisting of actions to carefully dismantle and reassemble building, structure, or artifact; in situ, if possible, but often ex situ on another site. This process is often undertaken out of structural necessity, for the protection of significant individual features from permanent loss, to repair deteriorated material, to observe historic construction techniques or protect materials for

	future re-use. The term also replies to natural heritage and landscape values such as plants.
Re-use	Reinstalling components of deteriorated buildings, structures or landscapes in-situ or elsewhere on the site.
Managed decline	Allows a heritage resource to remain on site and slowly degrade or deteriorate rather than be moved or demolished. Over the long-term the natural forces of nature are used to allow the site to become a historic ruin. The first phase of managed decline typically involves carefully documenting the heritage resource and then removing but storing in situ salvageable or unsafe parts of the building or structure. Documenting the process of decline is an important component of site interpretation. It is managed through measures such as temporary scaffolding or supports using appropriate historical elements, and maintenance such as removal of leaves and debris, to prolong the life of the resource and celebrate its disappearance.
Interpretation	A process of communicating messages about cultural and natural heritage, or telling stories about a place, that forges emotional and intellectual connections between the interests of the audience and meanings inherent in the resource. The presentation can relate to the way the place is now, has been, used, seen, touched, smelled and tasted, giving impact to evocative stories and meanings. The range of interpretive techniques is vast, and can include such things as interpretive signs, the retention of parts of buildings or structures, interpretive interventions designed into new construction, site furnishings or public art.

3.0 CULTURAL HERITAGE CONSERVATION STRATEGIES

The present conservation strategies will assist the heritage conservation management of NCA. These strategies flow from the heritage values of the site which are embodied in the heritage resources identified in the statement of significance. The heritage strategies offer a necessary level of conservation guidance, as the sustainable use(s) of the heritage resources. Its role is to prepare all parties to enable them to integrate heritage conservation into land-use discussions. Without knowing the content of these future discussions, the strategies anticipate how heritage values might be affected or impacted. As different land uses or development actions are considered, the conservation plan will be consulted with regard to the heritage values of impacted features and the strategies will provide guidance on the mitigation of these impacts.

Throughout the process, communication with the the stakeholders and public will be required to keep them engaged and informed about any plans or actions taking place on the resources and how the conservation plan is being implemented in order to conserve heritage value. While conservation planning considers how the core actions of preservation, rehabilitation, or restoration (and all related approaches) can impact the values of the heritage resources, many other factors related to site use, retention of significance, planning, building regulation etc. can have an impact on the heritage values of the place.

The Cultural Heritage Conservation strategies have been organized into **four** strategy tables based on the key areas for assessing the potential impacts on heritage values.

1. **Retaining significance**

Considers how the heritage value and sustainable use of the heritage resources could be affected by the continuation of its present circumstances or in the face of planned physical change.

2. User requirements

Considers the impacts of any changes that are required to allow the place to continue to serve a useful purpose or to accommodate future uses or requirements.

3. Physical circumstances

Considers the physical condition of a heritage feature, physical features that may have an impact on planning or use, and the forces of aging.

4. External factors

Considers the impacts of relevant laws including the development actions such as buildings, roads, responses to climate action, or how any other outside forces will have an impact on the heritage values of the heritage resources.

3.1 HERITAGE CONSERVATION STRATEGY TABLES

1. RETAINING SIGNIFICANCE	POTENTIAL IMPACTS ON HERITAGE RESOURCES	STRATEGIES TO MITIGATE IMPACTS
1A. Site planning and landscape designing	Olduvai Gorge site demonstrates its evolution over time, as new open spaces were developed and others used in different ways. This evolved harmony of elements in their present configuration may be impacted by site planning or landscape design that does not take into account the layered nature of the landscape and its evolution over time.	1A1. When considering new landscape design, conserve the overall existing sense and inter-relationship of landscape features, including trees, forest, water, topography, designed landscapes, built features and other landscape components. 1A2. In any future site design, incorporate site planning and landscape design that respects the

		overall character of the site, its grand landscape design and its campus-like feel. 1A3. Where new landscape design is considered, ensure that any new features acknowledge historical landscape elements and are compatible with existing landscape elements either natural or cultural. 1A4. Integrate interpretive elements and methods as part of future site planning and design.
1B. Species at risk	The Cultural Landscape contain a number of species considered at risk due to physical change which are considered an important part of the site's heritage values. Wildlife species that use the Lands may become threatened or endangered because of a combination of biological characteristics and identified threats.	1B1. Identify critical environmental elements of the physical wildlife corridor linkages and their values. 1B2. Manage the site in such a way that rare or endangered vegetation, habitat, features and endangered species are protected. 1B3. Ensure the continuance of portions of the site as a wildlife corridor link 1B4. Ensure the continuance of ground, air and light conditions for trees to thrive

2.USER REQUIREMENTS	**POTENTIAL IMPACTS ON HERITAGE RESOURCES**	**STRATEGIES TO MITIGATE IMPACTS**
2A. Current use of the site	Current uses of heritage resources are recreational, education, community and other uses. These uses are contained within the current infrastructure of the Lands and are expected to have some impacts on heritage values. The impact of minimal ongoing maintenance is considered an impact during current site uses.	2A1. Consider the way in which an ongoing maintenance program should be approached in order to avoid extensive repair or rehabilitation costs later. 2A2. Consider a maintenance regime consisting of routine, cyclical, non-destructive action as a factor in slowing the deterioration of heritage resources, and which employs corrective, emergency and planned routines. 2A3. Continue to monitor and evaluate the ways in which current uses are or might potentially compromise heritage resources 2A4. Develop protocols for specific uses (film making, recreational uses, etc.) that both mitigate damage to, and encourage enhancement of, heritage values. 2A5. As a pro-active mitigation measure, enlist community groups active on the site to help educate users about the site's heritage values.
2B Landscape uses – constructed landscape	Potential impacts on character-defining constructed landscape elements include site encroachment of vegetation, people and future land use and site design.	2B1. Prepare a maintenance / management manual to support the ongoing care of heritage resources in the landscape. 2B2. Repair and maintain deteriorated hard landscape

		features in order to ensure their longevity. 2B3. Consider the retention of the location or arrangement of character-defining constructed landscape features, and the relationship between constructed landscape features and the planted landscape, unless changes to location or arrangement are overridden by a competing conservation strategy. 2B4. Prepare a statement of significance for heritage resource constructed landscape features prior to undertaking any landscape conservation work to provide a more detailed understanding of the feature's values and specific character-defining elements. 2B5. Conserve constructed landscape features such as walls and stairs. Retain playing fields and areas of level ground important for recreational and social uses. 2B6. Repair or rejuvenate deteriorated or missing constructed landscape features where there are surviving prototypes. 2B7. Consider the integration of character-defining constructed landscape elements into future development plan.

3.PHYSICAL CIRCUMSTANCES	POTENTIAL IMPACTS ON HERITAGE RESOURCES	STRATEGIES TO MITIGATE IMPACTS
3A. The natural and cultural landscape	The natural and cultural landscape at NCA is identified as being important environmentally and recreationally, including its critical role in habitat linkages. Impacts on the natural and cultural landscape can include the spread of invasive species, continued external development pressure and encroachment and/or other regimes during site change.	3A1. Understand the site's ecological features and how they contribute to the natural and cultural heritage value of the landscape. 3A2. Balance the conservation of the historical and cultural character of the Lands with the site's naturally occurring biodiversity. 3A3. Manage invasive species by removing or reducing invasive alien species that are resulting in the loss of character defining ecological, landscape and heritage features and their components.
3B. Footprints deterioration	Exposure to environmental elements can cause the footprints at Laetoli site to deteriorate. Deterioration of footprints over time can be caused by impacts such as ultraviolet light; plants; dry rot or other physical factors.	3B1. Identify and assess the level of deterioration in all character-defining buildings. 3B2. Prior to any decision-making about a building's future, carefully balance its social, economic and environmental objectives through a feasibility evaluation process. Ensure a heritage conservation professional(s) is involved in the feasibility evaluation. 3B3. Identify and follow best-practices, such as those advocated by English Heritage in Vacant Heritage Buildings for mothballing a character-defining building to

		maintain the potential for future operation or use. 3B4. Where a building is too deteriorated to rehabilitate, consider a program of managed decline, interpreting the process of decay, collapse and disappearance. 3B5. Record each character-defining building using photography or video to provide continuity and future visual reference. Compile an inventory of any fixtures, fittings or artifacts of historic significance. 3B6. Prior to any decision-making about a deteriorated building's future, carefully consider all alternative conservation approaches that may be implemented to effectively communicate the heritage values of that building to the public.
4. EXTERNAL FACTORS AND REGULATIONS	**POTENTIAL IMPACTS ON HERITAGE RESOURCES**	**STRATEGIES TO MITIGATE IMPACTS**
4A. Archaeological sites	Udetected archaeological sites may be present at NCA. In the course of development such as road construction or any disturbance can diminish the chance of site identification, past disturbance does not eliminate the need to identify and record such sites, nor does potential disturbance diminish the inherent value of heritage sites	4A1. The Authority understands the importance of the heritage values, Cultural Heritage impact assessment (CHIA) should be conducted prior to any development 4A2. An assessment of Cultural heritage and traditional values in NCA will be undertaken through an independent process. 4A3. If and when a suspected archaeological site is identified, all the scientific procedures will be followed.

4B. Environmental forces	Changes to the environment can have significant impacts on the heritage resources. These impacts may include climate change resulting in flooding, fire or loss of habitat, erosion and earthquakes.	4B1. Understand future flood levels, changes in precipitation patterns and frequencies of extreme weather events and determine any impacts on the heritage site 4B2. Determine character-defining constructed landscape features above and below ground that may be impacted by flooding. 4B3. Identify, assess and monitor risks caused by climate change. 4B4. Restore or rehabilitate natural habitat. 4B5. Avoid disruption of the site's groundwater regime.