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CHAPTER 2

ARCHAEOLOGICAL STUDY AND MANAGEMENT PLAN

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EXECUTIVE SUMMARY

According to the national inventory of the National Department of Monuments, one Iron Age site has been recorded in the Chibuto Area. The location of this site is not known, but is unlikely to be within the study area.

The test pit excavated in the western block of the study area was investigated for sub-surface archaeological artefacts. A relatively large number of primarily Middle Stone Age tools were found. More than 72% of these comprised of chips, chunks and flakes. The balance being made up of utilised pieces.

Potsherds and other more recent items were found in many of the small, cultivated fields. These, however, were not considered to be historically significant.

The Stone Age finds are considered to be of MEDIUM to LOW significance and suggested mitigation measures include:

1. The National Department of Monuments in Maputo and heritage specialists in Mozambique should be informed about the presence of archaeological remains in the test pit; and
2. Heritage specialists should be invited to inspect future dry mining pits, with a view to collecting any archaeological material that may be encountered during earthworks.

The recent, undecorated potsherds found are of LOW significance and no mitigation is required.

The overall significance of the impact that mining will have on the archaeological remains is LOW, as the environment in the study area is not considered to be archaeologically sensitive, vulnerable or threatened.

Other recommendations include:

1. Communities living close to/in the study area, should be consulted as to the whereabouts, origins and ownership of existing graves, as well as the possible location of more ancient burial sites, prior to implementation of the project.
2. A full-time Environmental Control Officer (ECO) is required in the study area during vegetation clearing and implementation of the project. The ECO need not be a qualified archaeologist or heritage resource specialist. However, the ECO must be briefed by a professional archaeologist about what to look out for, particularly during vegetation clearing operations.
3. Contractors, staff and plant operators should also be briefed about what to look out for, particularly during vegetation clearing operations and the construction phase of the project.
4. Heritage remains uncovered or disturbed during vegetation clearing and earthworks should not be further disturbed until inspected by the ECO and, if necessary, a professional archaeologist.
5. Corridor Sands Limitada, in consultation with the Chibuto Municipality and the National Department of Monuments, could consider the further development of the small museum building in the public gardens adjacent the municipal offices, for the town of Chibuto.

2. ARCHAEOLOGICAL STUDY AND MANAGEMENT PLAN

2.1 BACKGROUND AND TERMS OF REFERENCE

Coastal & Environmental Services commissioned the Agency for Cultural Resource Management to undertake an archaeological reconnaissance of the Corridor Sands project area near Chibuto and rail link between Chibuto and Barragem, Gaza Province, southern Mozambique.

The aim of the study was to locate, identify and map archaeological sites that may be negatively impacted by the planning, construction and implementation of the proposed project, to propose mitigation measures, and to guide the development process. The specific terms of reference for the archaeological study were as follows:

1. To determine whether there are likely to be any archaeological sites of significance within the study area;
2. To identify and map any sites of archaeological significance within the above area;
3. To assess the sensitivity and conservation significance of archaeological sites potentially affected by mining;
4. To assess the significance of any impacts resulting from the planned development; and
5. To identify measures to protect and maintain any valuable archaeological sites that may exist in the study area.

2.2 METHODOLOGY AND EVALUATION CRITERIA

2.2.1 METHODOLOGY

The archaeological reconnaissance survey entailed a vehicle and foot survey of the study area. The study area is defined as the 10 000ha mining area north-east of the town of Chibuto, and the rail link from Chibuto to Barragem.

All archaeological sites located during the reconnaissance survey were recorded and were plotted using a Global Positioning System (GPS). Sites were also photographed and given a conservation-significance rating using the criteria listed below.

2.2.2 CRITERIA USED IN THE EVALUATION OF ARCHAEOLOGICAL SITES

The criteria used in evaluating the importance of archaeological sites in the study area include the following:

- The state of preservation of the site;
- The range and density of cultural material present on the site;
- The type of site (for example village site, open-air site, grave/burials);
- The approximate age of the site;
- Rarity of occurrence; and
- Regional, national and international importance.

2.3 RESULTS OF THE FIELD ASSESSMENT

2.3.1 INTRODUCTION

According to the National Department of Monuments National Inventory of Archaeological Sites in Mozambique, one Iron Age site has been recorded in Chibuto. The location of the site is likely to be located outside of the study area in the town of Chibuto.

2.3.2 THE STUDY AREA

Only one excavation site, where sub-surface archaeological artefacts could be investigated was located during the archaeological reconnaissance survey of the study area. However, poishers were located in many of the small cultivated fields in the study area. The undecorated sherds¹, along with more modern material such as plastic and glass, are very recent and are not considered to be historically significant.

Relatively large numbers of Middle Stone Age² (MSA) tools were located from the test pit in the western block of the study area (UTM 0554584 7272334). The material, found along a major unconformity about 8 m below surface, comprises mainly flakes (i.e. pieces of stone with no sign of damage or retouch) and chunks (i.e. pieces of stone with a minimum diameter of 10 mm), but also some utilised tools (i.e. flakes with a sharp cutting edge), points (i.e. spear point, or some type of projectile, usually hafted (attached) to a wooden spear) and cores (i.e. original nodule of stone from which flakes are detached and selected to make into tools) (Plate 2.3a). However, some Later Stone Age³ (LSA) tools may also be present in the collection.

Plate 2.3a: Stone tools from the test pit site.

More than 72% of the artefacts from the test pit comprise chips, chunks and flakes, while 18% of the tools comprise utilised pieces (Table 2.3). Seven cores, including three single platform in quartz were also found, as were three miscellaneous retouched pieces (i.e. tools which have secondary retouch, but do not conform to any standardized shape) and one broken point. 53% of the artefacts were in quartzite, 40% are in quartz and 7% comprise siltcrete, shale and cryptocrystalline silicate. The artefacts recovered from the test pit are clearly associated with the unconformity, as no tools were located in the overlying red sandy deposit, nor in the underlying indurated layer. These finds are of medium to low significance. Suggested mitigation includes the following:

¹ A term referring to small fragments of archaeological artefacts.

² A term referring to the period of between 200 000 and 20 000 years ago in southern Africa.

³ A term referring to the last 20 000 years of precolonial history in southern Africa.

1. The National Department of Monuments in Maputo and heritage specialists in Mozambique should be informed about the presence of archaeological remains in the test pit; and
2. Heritage specialists should be invited to inspect future dry mining pits, with a view to collecting any archaeological material that may be encountered during earthworks.

Table 2.3: Archaeological reconnaissance, Corridor Sands Project. Stone artefact and raw material frequencies from test pit.

	Quartz	Quartzite	Other
Chips, chunks & flakes	24	49	7
Irregular cores	1	3	-
Single platform cores	3	-	-
Utilised flakes	15	5	-
Miscellaneous retouched pieces	1	1	1
Points	-	1	-
TOTAL	44	59	8

A handful of recent, undecorated potsherds were found near the surface of the test pit, while a number of sherds were also found among the spoil dumps surrounding the pit. Two small pieces of decorated pottery were found on the spoil dumps (Plate 2.3b). Both pieces are probably of Early Iron Age⁴ (EIA) origin (Gavin Whiteleaw, Natal Museum, South Africa, pers. comm.). These are of low significance and no mitigation is required.

Plate 2.3b: Decorated potsherds from the test pit spoil dumps.

2.3.3 IMPACT STATEMENT

Mining will definitely have an impact on archaeological sites/remains at a *study area level*. This will **probably** result in a permanent *slightly severe* impact. The overall impact of the proposed project on archaeological sites/remains is considered to be of LOW significance.

⁴ A term referring to early (circa AD 2000) farming communities in southern Africa.
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2.4 CONCLUSIONS AND RECOMMENDATIONS

2.4.1 CONCLUDING STATEMENT

Stone Age sites may potentially be affected by mining. The probability of locating Middle Stone Age artefacts during mining operations is considered to be HIGH. Sites relating to early farming communities in the region may also occur in the study area. However, the probability of locating these types of sites intact, during implementation of the project is considered to be LOW. Ancient burials, as well as more recent gravesites, may be encountered during implementation of the project.

In general, the receiving environment is not considered to be archaeologically sensitive, vulnerable or threatened.

2.4.2 RECOMMENDATIONS

The following heritage management recommendations are made. The recommendations made below are subject to the approval by the National Department of Monuments, Mozambique.

1. The National Department of Monuments and Mozambique heritage specialists must form part of the multi-departmental government steering committee, which has been established by Corridor Sands Limitada (CSL), to ensure close co-operation with Mozambican authorities throughout the planning phase of the Corridor Sands project.
2. Heritage authorities/specialists in Mozambique should be invited to inspect the mine, with a view to collecting any archaeological material that may be encountered during implementation of the project.
3. Communities living close to/in the study area, should be consulted as to the whereabouts, origins and ownership of existing graves, as well as the possible location of more ancient burial sites, prior to implementation of the project.
4. A full-time Environmental Control Officer (ECO) is required in the study area during vegetation clearing and implementation of the project. The ECO need not be a qualified archaeologist or heritage resource specialist. However, the ECO must be briefed by a professional archaeologist about what to look out for, particularly during vegetation clearing operations.
5. Contractors, staff and plant operators should also be briefed about what to look out for, particularly during vegetation clearing operations and the construction phase of the project.
6. Heritage remains uncovered or disturbed during vegetation clearing and earthworks should not be further disturbed until inspected by the ECO and, if necessary, a professional archaeologist.
7. CSL, in consultation with the Chibuto Municipality and the National Department of Monuments, could consider the further development of the small museum building in the public gardens adjacent the municipal offices, for the town of Chibuto.