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LEWA DOWNS

RHINO SANCTUARY PROJECT

This plan describes in brief a proposal for the establishment of a Rhino Sanctuary on Lewa Downs Ranch and makes recommendations for its development and management.

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Senior Warden Planning  
Wildlife Department

On behalf of: Lewa Downs Limited

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## 1. ESTABLISHMENT OF A RHINO SANCTUARY ON PRIVATE LAND

In the interests of Rhino conservation the owners of Lewa Downs Limited present a proposal for the creation of a special Rhino Sanctuary on their ranch, where Black Rhino were once common and to-day there are none. This proposal was first conveyed to the Director, Wildlife Conservation and Management Department on 17th December, 1982. They have indicated:-

- 1.1 a. Their wish to establish a breeding population of Rhino on Lewa Downs.
- b. A suitable area on the ranch would be set aside for this purpose.
- c. If reproduction is successful surplus animals would then be available for distribution to the National Parks and Reserves which require re-stocking, at the discretion of the Wildlife Department.
- d. The proposed Sanctuary would be properly fenced, using electrification.
- e. An effective security system would be implemented.
- f. The closest possible liaison would be maintained with the Wildlife Department, and for this purpose a request was made for the Senior Warden, Planning N.W., to act as an honorary adviser for the project.

## 1.2 Terms of Reference

The Director, Wildlife Conservation and Management Department, confirmed authorisation for the Senior Warden Planning, N.W., to act as an honorary adviser to the owners of Lewa Downs Limited - ref. WCMD/CONF. 29 dated 27.1.1983 (addressed to Mr. P.R.Jenkins, copied to Mr. D. Craig).

This project would be a very valuable pilot scheme for

any future Rhino Sanctuaries which might be implemented elsewhere in the country.

If southern White Rhino were to be introduced new and additional stock could be provided for the Meru Park herd at present suffering from in-breeding.

### 1.3 Black Rhino

Every country in Africa where the Black Rhino occurs has witnessed a most serious decline of the species during this century, and in all these countries it is now bordering on extinction. Kenya is no exception. In many parts of this country this large mammal was, until recently, abundant. During the last decade the country wide decline of the Rhino has reached catastrophic proportions and the species has now been brought to the brink of extermination, and in many areas where it was once common it is no longer found.

What has occurred clearly demonstrates how a large animal, whose presence was once taken for granted, can suddenly verge on extinction.

With the exception of the Aberdare National Park and 2 privately owned ranches in the Laikipia District the species is now so fragmentated and dispersed it could undoubtedly disappear to all intents and purposes, even if all poaching was to cease immediately. Numbers are no longer the prime factor - it is now distribution which will dictate its survival.

Positive management measures are now urgently required.

### 1.4 White Rhino

There are some conservation bodies who express doubt about the wisdom of introducing White Rhino to Kenya. Their reasoning is usually that the species does not occur

here. However, fossils found along the north east shores of Lake Turkana indicate that the predecessor of this species was once numerous in that area. There is also reason to believe that, in fact, the White Rhine occurred over large parts of Africa, including many parts of this country as recently as 3-4 <sup>thousand</sup> hundred years ago (pers. con. Mr. R. Leakey).

In 1966 the former Kenya National Parks introduced 6 juvenile animals from southern Africa into the Meru National Park. The group comprised 3 males and 3 females. This was intended to be a pilot scheme, as many authorities predicted that the white rhine would not survive in this country. They were proved wrong. Experience has shown that this animal is very adaptable and easily managed. The Meru Park herd is now in need of new stock as it is in-bred.

## 2. LEWA DOWNS LIMITED

### 2.1 Location

Lewa Downs is situated below the Ngare Ndare escarpment some 16 miles south west of Isiolo. Altitude varies between 5000 and 6000 feet. The ranch covers an area of approx. 40,000 acres. The ranch supports a viable agricultural economy and carries up to 4000 head of cattle and 1000 head of sheep. There is in addition an important tourist attraction on the ranch in the form of Wilderness Trails Camp. This tented camp has a capacity of 30 beds, which averages 2000 bed nights per year. It is one of the more popular tented camps and provides facilities such as walking and riding which are not available to tourists in the Parks and Reserves.

### Appendix I (Location of Lewa Downs Ranch)

### 2.2 Wildlife

The ranch also supports a wide variety of wildlife, and it has always been the policy of the owners to protect this. Recent aerial counts have revealed a resident population of over 500 reticulated giraffe, over 600 common zebra and up to 150 grevy zebra at certain times of the year. Eland fluctuate to over 500 according to the seasons, and can be seen in herds of over 100 strong. Elephant movements are also seasonal and can number over 200. Impala, grants gazelle, water buck, greater kudu, ostrich, buffale, lion and cheetah are also resident on the ranch. Up to 10 years ago rhino were common; there are none to-day due to poaching.

**2.3 Vegetation** A detailed vegetation survey is being carried out and particular emphasis will be given to the area proposed for the Rhino Sanctuary. This will enable vegetation trends to be carefully monitored.

**2.4 Rainfall** The rainfall varies from 15" to 20" per annum from figures kept over the last 10 years, with an average of 18" per annum.

**2.5 Water** The ranch has 2 permanent rivers - the Lewa and the Ngare Sergoi, and 2 seasonal rivers. Several large dams have been constructed and water is piped to cover the whole ranch.

3. SURVEY.

A survey was carried out by the Senior Warden, Planning, at the beginning of February 1983. The object of this survey was -

- i. To determine the feasibility of creating a Rhino Sanctuary on the ranch.
- ii. To select a suitable area for the Sanctuary.
- iii. To determine the size of area necessary to contain and support a reasonable Rhino population.
- iv. To attempt to give an estimated holding capacity for the selected area.
- v. To determine if the vegetation present is suitable for either Black or White Rhino, or both.
- vi. To determine that the terrain was suitable for constructing an adequate security fence.

The normal ranching requirements had to be borne in mind when selecting the proposed Sanctuary area.

As a result of this survey, an area was selected - adjacent to the southern boundary line of the ranch - as being suitable for the requirements of a Rhino Sanctuary.

#### 4. PROPOSED SANCTUARY

##### 4.1 Area (Appendix II)

The proposed Sanctuary would cover an area of approximately 1800 - 2000 acres with a boundary perimeter of some 7.08 miles (11.39 km).

A seasonal water course, with permanent pools in the dry season, runs through the area. This water course deepens into a gorge at the northern end. There are a number of sites along the water course suitable for future water development.

The area varies from open grassland to predominantly acacia thickets. The vegetation will be the subject of a detailed survey in the near future.

##### 4.2 Development (Appendix III)

- a. Fence The entire boundary of the proposed Sanctuary would be fenced. This will be constructed with maximum security in mind, and would be 7' (2.1m) in height with a 3' (0.9m) over hang on the outside. The object of the over hang is not only as an additional security measure, but to prevent the numerous elephant, which frequent the ranch, from breaking the fence.  
The entire fence would be electrified.
- b. Firebreaks These would be constructed on both sides of the fence line to a minimum width of 20' wide (6.0m).
- c. Roads A track system serving the Sanctuary area would be constructed.
- d. Water Supplies Water would be piped from a 20,000 gallon reservoir, adjacent to the proposed Sanctuary. This pipe line would run along the northern boundary of the Sanctuary from which 2 water points would be tapped, into drinking troughs. These will be made from natural stone

- d. so as to be aesthetically acceptable, and the overflows would be channelled into mud wallows.
- Additional water points would be constructed at suitable places along the dry river bed.
- e. Entrance Gate There would be one entrance gate on the southern boundary. This gate would be manned.
- f. Security Posts Two security posts would be constructed. One on the west side and one on the east. These will both be on high ground and overlook the entire area. They would be manned 24 hrs. a day. Each post would contain a monitoring unit, covering the east and west sections of the fence line as a precaution against the fence being tampered with.
- g. Base Camp A small base camp would be built at the northern end of the Sanctuary to house the supporting staff. Two electric energisers would be situated here.

#### 4.3 Management

Full time management would be exercised over the area, and the necessary staff would be employed for the purpose. Their duties would be:

- a) Daily surveillance of all rhino.
- b) Daily patrolling of the entire fence line for maintenance and security purposes.
- c) Full time manning of the entrance gate.

Other management requirements will be -

- maintenance of firebreaks around the perimeter,
- maintenance of the track system,
- maintenance of water supplies,
- monitoring of the vegetation and grazing,
- a burning policy, if necessary.

#### 4.4 Other Wildlife

Inevitably some other species of wildlife would be contained inside the proposed Sanctuary area. These would mainly be impala, grants gazelle and possibly a few zebra.

Steps would be taken to exclude all elephant, giraffe and eland, however.

#### 4.5 Livestock

The ranch owners have always practised a policy of multiple land use, and the entire ranch is utilised by livestock, on a rotational grazing system. The movement of livestock depends on the season and the individual requirements of the different herds.

The area that is proposed for this Sanctuary would not alter these existing management methods; the land useage and its status would remain the same. When grazing permits, the normal ranching practises would continue as is done now, and the enclosed area would be utilised for the fattening of selected livestock.

## 5. TYPE OF FENCE

### 5.1 Design (Appendix IV)

A relatively cheap and simple electrified fence would be adequate to contain rhino. However, the problem of a fence design for the proposed Lewa Downs project is not as simple as that.

Three different criteria have had to be considered when drawing up the configuration for this fence.

1. To contain rhino inside.
2. To prevent elephant breaking the fence from the outside.
3. To be a maximum deterrent to poachers - and the location of Lewa Downs makes this factor very relevant.

A number of different electric fences in use in the country have been looked at, and a design has been drawn up which is believed will cater for the requirements of this particular project.

### 5.2 Specifications

#### a) Posts

- i. Intermediate - treated gum or wattle

length - 10' (3.0m)-7' (2.1m)  
out of ground-concreted  
where necessary.

separation - 40' (12.1m)

- ii. Strainer

length - 11' (3.3m) 7' (2.1m) out  
of ground. Concreted.

diameter - 8" (20 cm)

separation - 320' (97.5m) or  
depending on terrain.

- iii. Corner

as for strainer.

5.2 b) Wires

- i. Plain - high tensile steel x 12½G  
breaking strain min. 500 kg.  
galvanised to BS spec. 443  
separation - 6" apart (15 cm)
- ii. Barbed - 8G
- c) Over hang 4" x 2" timber x 3' at 45° to give top wire height of 8' from ground level.
- d) Droppers every 3' - from top wire to under ground wire.
- e) Gate metal - double - each 7' x 7' (2.1m x 2.1m)
- f) Energiser Gallagher SBE x 2 units  
Solar panel  
Batteries 150 amp. hr. - low less  
Spare parts 1 module per unit
- g) Insulators
  - i. White porcelain type on strainer and corner posts.
  - ii. Black polypropylene nail on type on intermediate posts.
- h) Joining Clamps double galvanised bolts and nuts or figure of 8.
- i) Earth Spikes 2 m. galvanised 1" pipe (25 mm) with nut and bolt every 650' (198 m) approx.
- j) Warning Signs every 400 yards approx.
- k) Cut out switches where necessary
- l) Lightning Protectors as necessary
- m) Monitoring Units as necessary.

## 6. INTRODUCTION OF RHINO

### 6.1 Black Rhino

Naturally, it would be preferred to introduce black rhino but it is realised that these might not be readily available. Therefore, the second option is white rhino.

### 6.2 White Rhino

It has been suggested that consideration should be given to obtaining a breeding group of the endangered northern white rhino. This has been carefully looked into, but the logistical problems involved would be immense and rule this out. Therefore, the owners of Lewa Downs Ranch would like to import a breeding group of the southern white, and are given to understand that these could be obtained.

It is suggested that this group should consist of, initially, 10 animals - comprised of:

One breeding male

Three breeding females

Six juvenile females of between 3-6 years of age.

These animals would travel by sea freight to Mombasa and then be transported to Lewa Downs Ranch. The male would be replaced after 3 years with new stock. Early breeding could be expected and once this project is under way it is anticipated that this could be at a rate of 10% per annum.

Thus a surplus could be built up in a relatively short time and an exchange system could be arranged with Meru Park, insuring the survival and increase of that group.

### 6.3 Timing of Introduction

Subject to the necessary approval being given, the

6.3 erection of the fence would commence not later than July,  
for completion before the end of this year.  
Delivery of rhino would be arranged for early 1984.

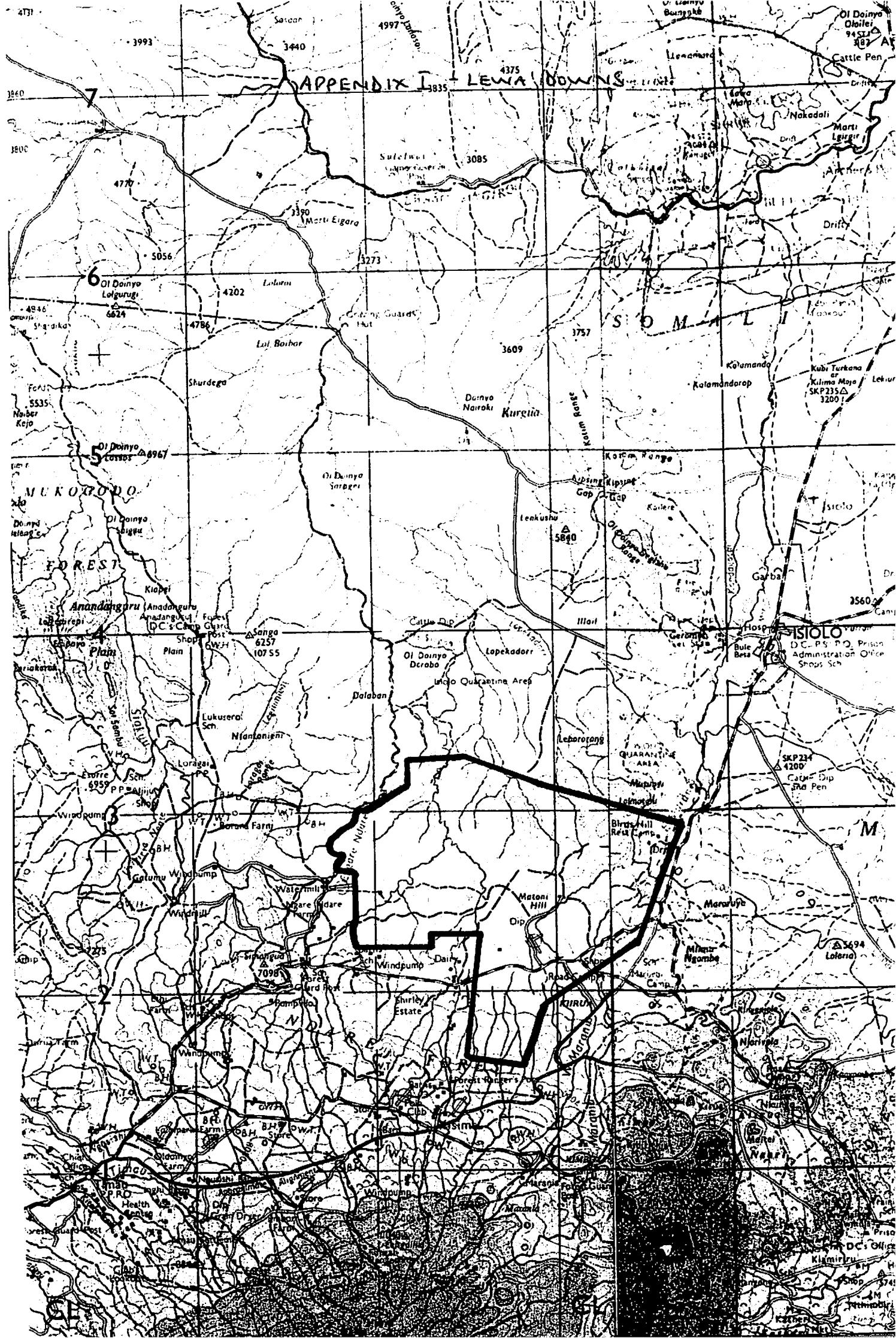
CONCLUSION

This Rhino Sanctuary proposal is intended to be a constructive contribution towards the future of rhino conservation in this country.

It could provide a valuable base line for future rhino management projects, and will be funded in total privately.

The owners of Lewa Downs Ranch would like the approval and support of the Kenya Government for this project and, in particular, the full co-operation of the Wildlife Conservation and Management Department.

APPENDIX I <sup>3375</sup> LEWIS DOWNS <sub>3835</sub>



APPENDIX II Proposed Sanction

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V13B/653

010

LAND ELEVATION

2,800 METERS

SEA LEVEL COAST

SEA LEVEL COAST

20

Canal Pen

Store a

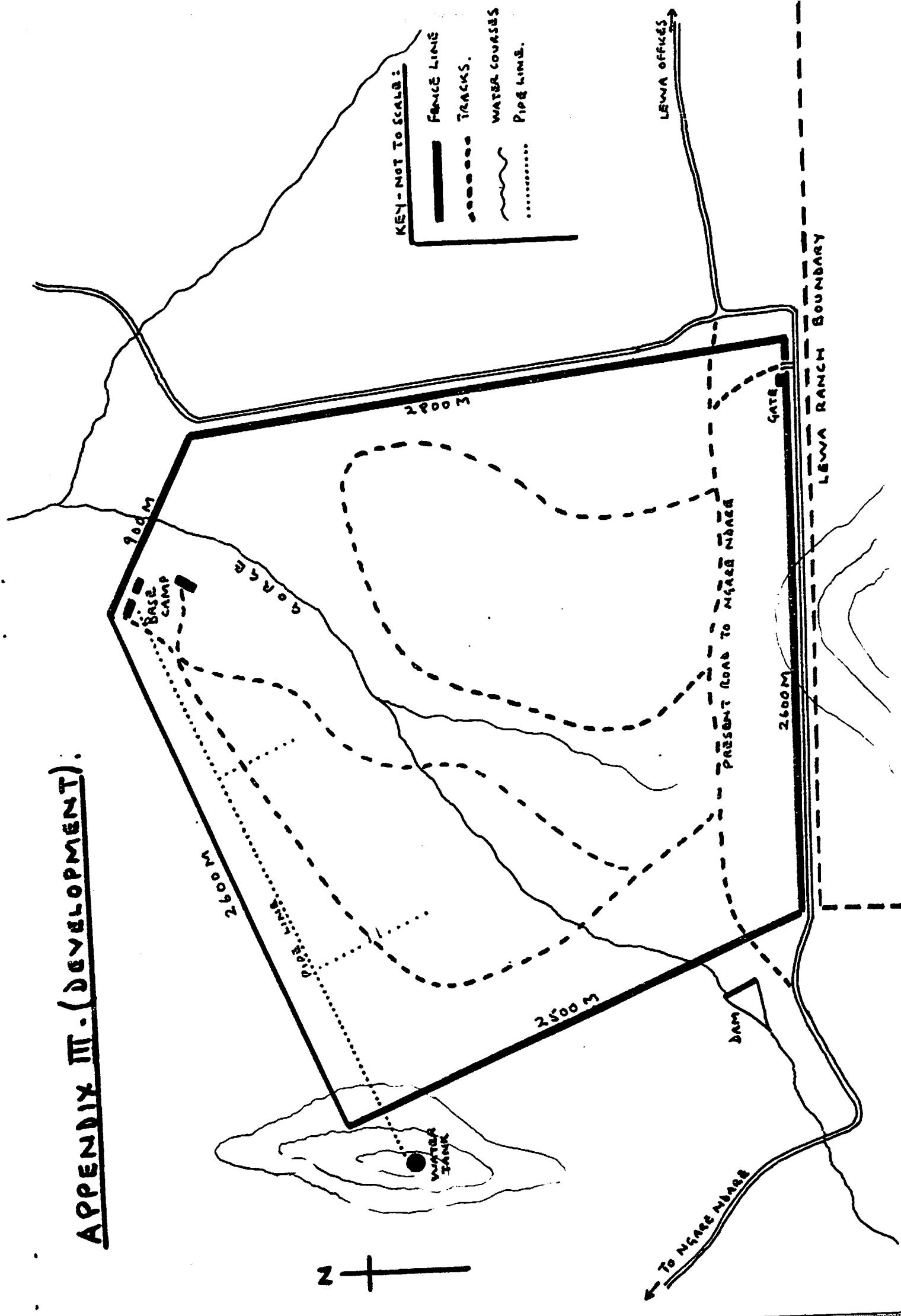
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APPENDIX III. (DEVELOPMENT).



APPENDIX IV. FENCE DESIGN - SIDE VIEW.

