

APPENDIX 2. EUPHORBIA PERPLEXA VAR. KASAMANA, MWELA ROCK HERITAGE SITE



Rock outcrops with Cactus in the proposed wayleave



Rocky terrain in the proposed wayleave

Introduction

The detailed analysis during the Zambia Tanzania Interconnector Project (ZTIP) Environmental and Social Impact Assessment (ESIA) update led to the identification of a critical habitat for the *Euphorbia perplexa* var. *Kasamana*, an endangered Cactus species. This critical habitat is located in the Mwela Rock Art Site, which is part of the Kasama Forest Reserve, and a heritage site under the charge of the National Heritage Conservation Commission (NHCC). The transmission line is proposed to traverse this critical habitat for a distance of 2.3km as depicted in Figure 1.

Description of the Critical Habitat

The presence of flora species *Euphorbia perplexa* var. *Kasamana* (Cactus) triggers Environmental and Social Standard (ESS) - 6 of the World Bank Environmental and Social Framework. This small shrub, of up to 1m height, is characterized by spines and is found on the rock outcrops of the Mwela Rock Art site (Figure 1). This species is sparsely distributed on the rock outcrops within the projects Area of Influence. The geographical spread of the rock outcrops and Cactus spp. does not provide feasible options for line routing in the 2.3km stretch, save for employing engineering solutions to mitigate the anticipated impact. This could include among others, adopting a construction Method Statement, informed by the Biodiversity Management Plan.



Figure 1: Proposed Routing of the ZTIP Transmission Line in the Mwela Rock Art Site



Figure 1 shows that the rock outcrops in the Mwela Rock Art site extend south and north of the transmission line. Southwards, exiting the Mwela Rock site, is the D18 Road, beyond which are settlements (Appendix 1).

The major concern associated with the project implementation in the Mwela Rocks Art site is the anticipated impact on the critical habitat hosting the Cactus spp.

In view of the above, it is ZESCO's considered view to maintain the proposed 2.3km line routing and adopt engineering solutions, as may be determined, to mitigate the anticipated impacts on the critical habitat. The details to augment this position are stated below.

Observations and Noteworthy Aspects

- The Cactus species found on the outcrops have a characteristic height of not more than 1m and are sparsely distributed on the rocky outcrops that are spread across the site. (Appendix 3).
- The closest Rock Art Site is 150m away from the centre of the proposed 330kV line (Appendix 2).
- The rocky terrain in that section of the proposed 2.3km, 50m wayleave in the critical habitat has limited vegetation (Appendix 3).
- The Project Affected Persons (PAPs) on the current proposed wayleave were already compensated. Finding an alternative corridor would entail, among other aspects, identifying a new route, with new PAPs, acquiring wayleave, processing compensation, and would require more time for detailed related activities (e.g. LidAr Surveys, Geotechnical Surveys).
- The proposed routing was subjected to an Environmental and Social Impact Assessment (ESIA) and approved by the Zambia Environmental Management Agency (ZEMA), through issuance of a Decision Letter. Additionally, the NHCC conducted a Heritage Impact Assessment (HIA), that affirmed that the routing was viable with the institution of appropriate mitigation measures.

PROPOSED ZTIP KASAMA–NAKONDE WAYLEAVE TRAVERSING THE ROCK OUTCROP (EUPHORBIA PERPLEXA) AREA IN KASAMA DISTRICT



THE MAP DEPICTS THE PROPOSED ZAMBIA–TANZANIA INTERCONNECTOR PROJECT (ZTIP) WAYLEAVE ALONG THE KASAMA–NAKONDE CORRIDOR TRAVERSING TWO (2) ROCK OUTCROPS ROCK 5 AND ROCK 9.

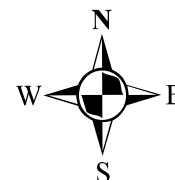
TO REDUCE THE TOWER FOOTPRINT WITHIN BOTH ROCK OUTCROPS, ROCK 9 WILL HAVE (1) TOWER WHILE ROCK 5 WILL HAVE (3) TOWER LOCATIONS



Powering The Nation

Legend

- Towers Within Rock Outcrops
- Towers Outside Rock Outcrops
- ZTIP_Wayleave
- +— Tanzania-Zambia Railway Line (TAZARA)
- RDA Roads



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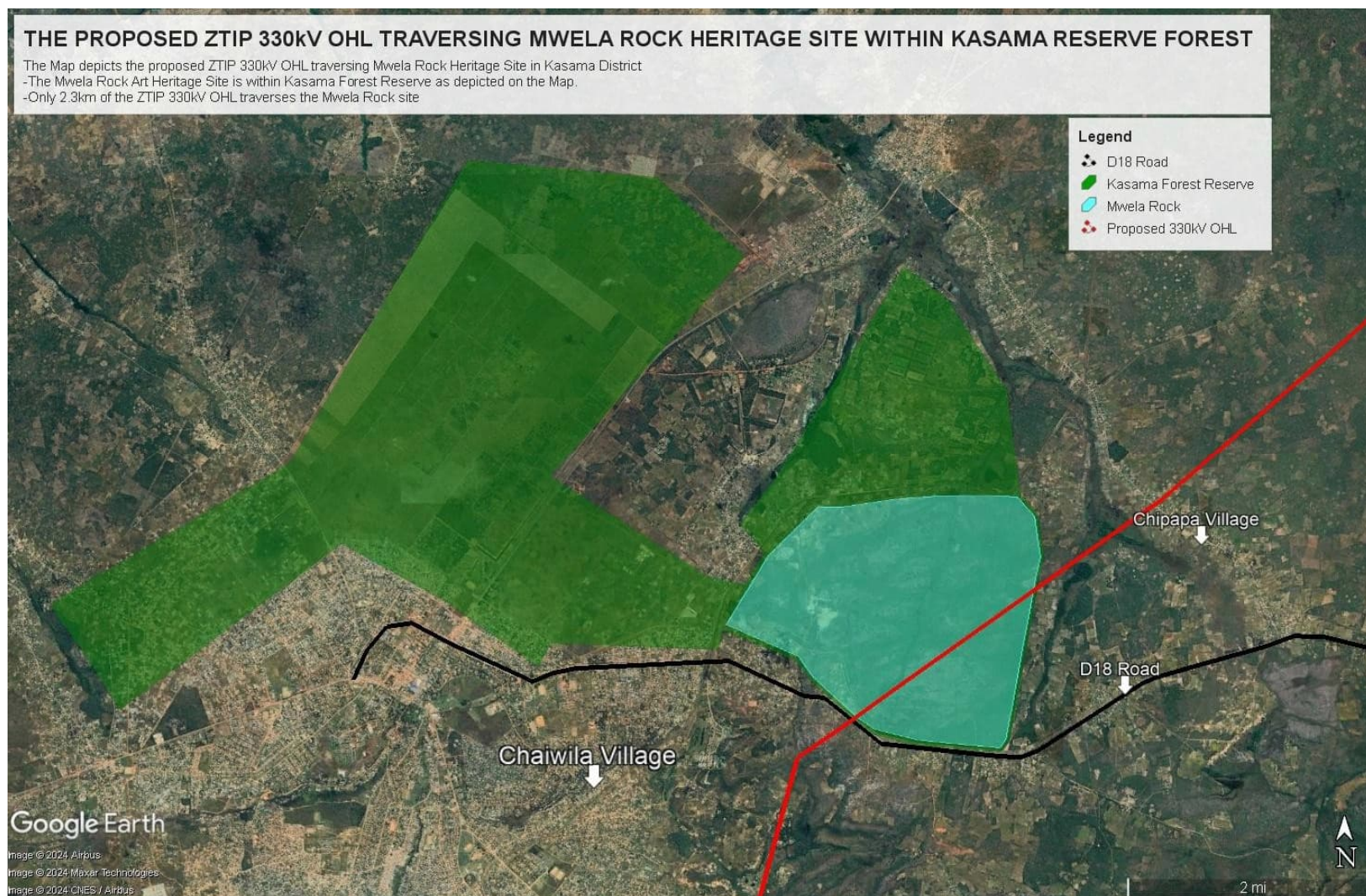
Conclusion

The observations in and around the Mwela Rock Art Site, and proposed measures to avoid and/or mitigate any potential impact on the identified Cactus species through the adoption of engineering solutions.

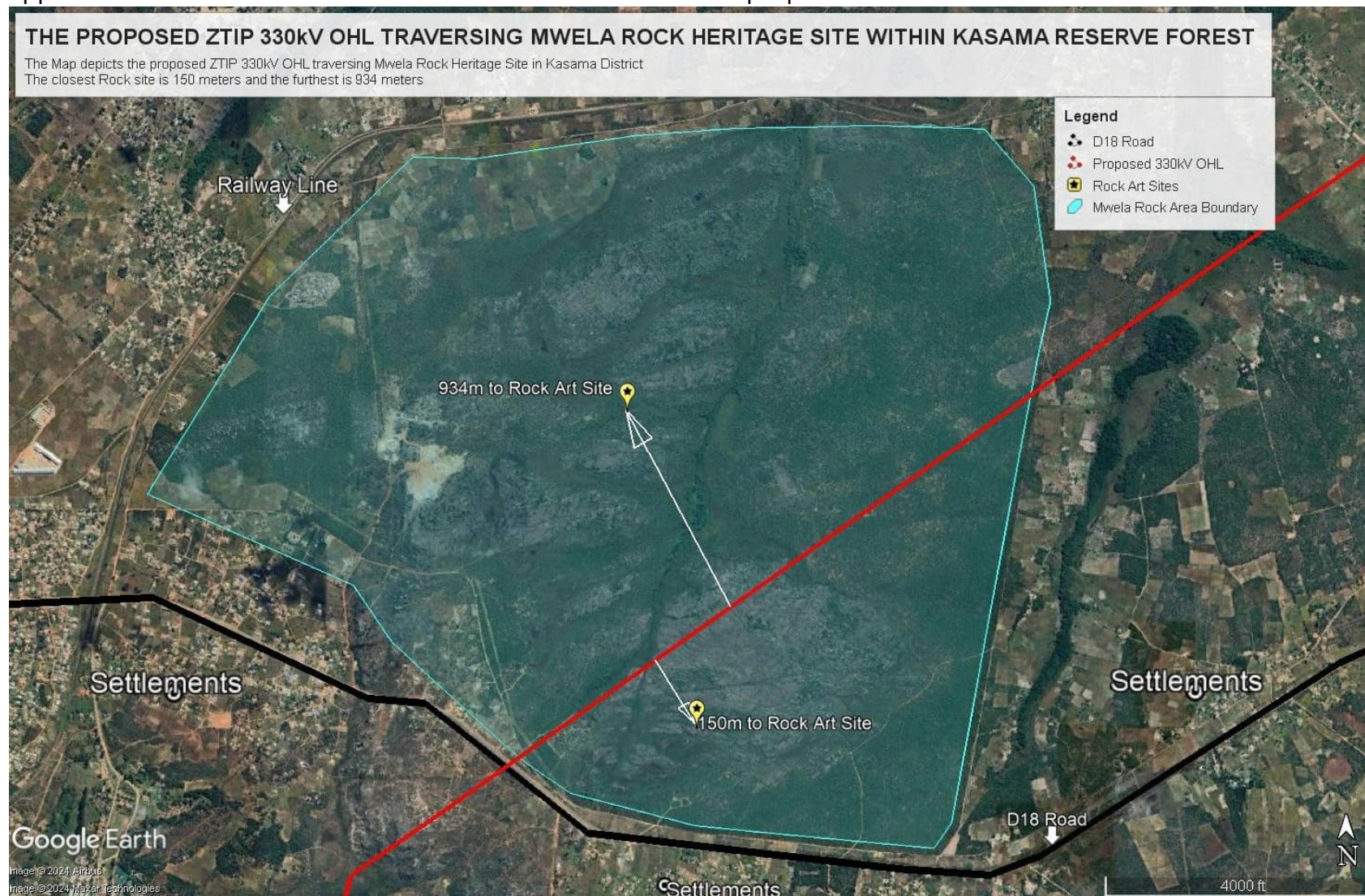
Ensure that the transportation of materials to tower foundation locations in the impacted area is manpower based other than machinery based. Naturally, manpower transportation is preferred as establishment of an access road is not tenable due to the rocky terrain in the impacted area.

- The specific workplan and methodology for the impacted area shall ensure that the interaction with the cactus is avoided.
- Due to the rocky terrain of the area, and limited vegetation, there will be limited clearance of vegetation during construction and operation.

Appendix 1: Location of the Mwela Rock Art Site around the Kasama Forest



Appendix 2: Distance of Mwela Rock Art Site in relation to the proposed Transmission Line



Appendix 3: Photos depicting the Mwela Rock Art Site and existing Cactus Species



Sparsely Distributed Euphorbia in the Proposed Wayleave



Rocky Terrain in the proposed wayleave



Depiction of average height of Euphorbia within the proposed wayleave



Euphorbia on rock outcrop in the proposed wayleave



Rocky terrain in the proposed wayleave



Rock outcrops with Euphorbia in the proposed wayleave



Rocky terrain in the proposed wayleave