



Government of Malawi
Ministry of Transport & Public Works

**ENVIRONMENTAL AND SOCIAL MITIGATION AND MONITORING PLAN
(ESMMP) FOR THE PROPOSED REHABILITATION OF SENZANI TO DOVIKO
(T394/S125) ROAD, NTCHEU DISTRICT**



**Ministry of Transport and Public Works
Southern Africa Trade and Connectivity Project
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18 JUNE 2026

EXECUTIVE SUMMARY

1.0 Project Background

This Environmental and Social Mitigation and Monitoring Plan (ESMMP) has been prepared for the proposed rehabilitation of the Senzani–Doviko Road in Ntcheu District under the World Bank–funded Southern Africa Trade and Connectivity Project (SATCP).

The road is a critical link for agricultural production and trade, particularly for Doviko, a major Irish potato-producing area. Currently, poor road conditions, especially during the rainy season, severely restrict access. Rehabilitation of the road is therefore expected to improve market connectivity, support agricultural livelihoods, and enhance access to health, education, and other socio-economic services within the district.

Construction activities are expected to last approximately 6–9 months. Labour will be largely sourced locally, including opportunities for women and youth, while routine maintenance during operation will be undertaken by the Roads Authority under existing arrangements.

2.0 Nature and Scope of the Proposed Project

The proposed project involves the rehabilitation and upgrading of the existing Senzani to Doviko Road in Ntcheu district in order to improve accessibility, safety, and all-weather reliability. Key components of the project include:

- Improvement of the road formation and running surface;
- Construction and rehabilitation of drainage structures, including side drains, mitre drains, culverts, and flood-relief structures;
- Localised realignment and shaping to improve road safety and drainage;
- Rehabilitation of existing structures and installation of road safety features, including signage and traffic calming measures near settlements and schools;
- Sourcing of construction materials such as gravel, laterite, sand, and aggregates from approved sites;
- Rehabilitation of borrow pits and material sources after use.

3.0 Rationale of the Proposed Project

The Senzani to Doviko Road is a critical access route for predominantly rural communities whose livelihoods depend on agriculture, petty trading, and casual labour. Poor road condition, particularly during the rainy season, constrain access to markets, health facilities, schools, and emergency services, and increase transport costs for farmers and traders. As such, rehabilitation of the road is essential to:

- Improve year-round connectivity and resilience to seasonal flooding;
- Reduce travel time and vehicle operating costs;
- Strengthen agricultural value chains and rural market participation;
- Enhance access to social services and economic opportunities.

4.0 Justification of the Study

Preparation of the Environmental and Social Mitigation and Monitoring Plan (ESMMP) is a requirement under the Environment Management Act (2017), the MEPA Guidelines for Environmental Assessment (2025) and the World Bank requirement for Environmental Assessment (OP 4.01). The road rehabilitation project is expected to generate localised, temporary, and reversible impacts that can be effectively managed through an ESMMP, without requiring a full Environmental and Social Impact Assessment (ESIA). In line with national procedures, the ESMMP serves as a binding instrument to ensure that environmental and social (e.g. occupational, health and safety; and gender-related risks) are identified, mitigated, and monitored throughout the project life cycle.

5.0 Objectives of the ESMMP

The objectives of the ESMMP are to:

- Identify potential environmental and social impacts and risks associated with the project;
- Define practical mitigation and enhancement measures for all project phases;
- Ensure compliance with national legislation, MEPA requirements, and World Bank safeguards;
- Protect the health and safety of workers and local communities;
- Establish monitoring, reporting, and corrective action mechanisms;
- Promote stakeholder engagement, transparency, and accountability.

6.0 Methodology Used to Prepare the ESMMP

The ESMMP was prepared using a structured approach consistent with MEPA requirements and international good practice. The methodology included:

- Desk review of relevant national policies, legislation, MEPA guidelines, project design documents, and World Bank safeguard requirements;
- Field assessments along the Senzani to Doviko Road to document baseline biophysical and socio-economic conditions;
- Stakeholder consultations with District Council officials, traditional leaders, community representatives, and institutional stakeholders;
- Identification and analysis of key environmental and social risks related to drainage sensitivity, material sourcing, road safety, labour, and community health;
- Development of mitigation, enhancement, and monitoring measures tailored to site-specific conditions.

7.0 Summary of Key Positive Impacts and Enhancement Measures

7.1 Improved design responsiveness

Enhancement Measure

- Incorporate environmental and social recommendations into the design.

- Regularly consult communities, regulatory authorities, and other stakeholders to obtain feedback for incorporating into the designs.
- Allow room for design adjustments based on monitoring results, emerging risks, and changing environmental or social conditions.
- Encourage close coordination among environmental specialists, engineers, social experts, and planners to ensure project designs adequately address environmental protection, safety, and social wellbeing.

7.2 Creation of employment

Enhancement Measure

- Include local labour and gender clauses in bidding documents.
- Develop and implement a local employment and recruitment policy
- Provide skills training and capacity building programmes
- Ensure transparent and inclusive recruitment processes
- Collaborate with local institutions and authorities

7.4 Creation of market for local materials

Enhancement Measure

- Procure materials from licensed and environmentally compliant suppliers
- Promote use of locally available and sustainable materials
- Implement material efficiency and waste minimization practices
- Conduct supplier screening and monitoring
- Identify and approve borrow pits, quarries, and sand sources.

7.5 Increased Local income circulation

Enhancement Measure

- Prioritise procurement of goods and services from local businesses
- Promote local contractor and supplier participation
- Encourage establishment of community-based enterprises
- Implement fair and timely payment systems.

8.0 Summary of Key Negative Impacts and Mitigation Measures

8.1 Inadequate consideration of local sensitivities

Mitigation Measures

- Undertake targeted stakeholder consultations
- Revise project activities and schedules
- Implement cultural awareness training for project workers
- Operationalise a responsive grievance redress mechanism
- Site-specific design screening and refinement

8.2 Increased Dust, noise, traffic risks

Mitigation Measures

- Implement dust suppression measures
- Put speed humps every 100 meters distance
- Put signage for speed limit and people working a head 100 meters before approaching active work sites
- Control noise levels and working hours
- Develop and implement a traffic management plan
- Enhance community and worker safety awareness

8.3 Increased Labour and social risks

Mitigation Measures

- Implement and enforce mitigation and monitoring measures proposed in this ESMMP
- Provide safe and healthy working conditions
- Establish a worker grievance redress mechanism
- Prevent social conflicts and misconduct

8.4 Increased soil erosion and water pollution

Mitigation Measures

- Install silt fences, sediment traps, contour drains, and gabions in exposed areas, and stabilise disturbed soils through mulching, terracing, or vegetation planting.
- Design and maintain proper stormwater drainage systems to channel runoff away from construction areas and prevent sediment or pollutants from entering nearby water bodies.
- Store fuels, oils, and chemicals in designated, bunded areas and ensure proper handling.
- Progressive restoration of affected land through re-vegetation, landscaping, and soil stabilisation immediately after construction activities.

8.5 Increased road safety risks

Mitigation Measures

- Design safe construction traffic routes, use clear signage, install speed bumps, and employ traffic marshals to manage the flow of vehicles.
- Ensure all project vehicles are regularly maintained, drivers are trained in defensive driving, and enforce strict adherence to speed limits and safety protocols.
- Conduct road safety campaigns for local communities, especially near schools and residential areas.
- Use barriers, fencing, warning lights, reflective clothing, and temporary pedestrian walkways to protect workers and the public from traffic hazards during construction.

9.0 Conclusion and Recommendations

9.1 Conclusion

The rehabilitation of the Senzani to Doviko Road under the SATCP will deliver substantial socio-economic benefits through improved rural connectivity, enhanced access to markets and services, and short-term employment opportunities. While the project presents identifiable

environmental and social risks, these risks are clearly defined, site-specific, and manageable through the implementation of the ESMMP. All the identified impacts, both positive and negative are addressed using clearly articulated enhancement and mitigation measures, supported by measurable performance indicators and institutional responsibilities. With effective implementation, supervision, and monitoring, the project is assessed as environmentally and socially sound.

9.2 Recommendations

- Ensure full implementation of all ESMMP measures as presented in Table 6-1, without deviation in scope or terminology.
- Integrate all enhancement and mitigation measures into construction contracts and supervision arrangements.
- Provide and ring-fence adequate financial resources for ESMMP implementation and monitoring, including costs for environmental and social mitigation measures, occupational health and safety provisions, GBV/SEA/SH prevention actions, stakeholder engagement, capacity building, and routine compliance monitoring by supervising engineers and district authorities.
- Maintain regular monitoring using the defined performance indicators and reporting frequencies.
- Strengthen coordination between the Roads Authority, Ntcheu District Council, and MEPA to support enforcement and adaptive management.
- Ensure that no works commence prior to approval of the ESMMP and associated site-specific management plans.

LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
DED	Detailed Engineering Design
DESC	District Environment Sub-Committee
EHS	Environmental, Health and Safety
EMA	Environment Management Act
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Mitigation and Monitoring Plan
ESMMP	Environmental and Social Mitigation and Monitoring Plan
FGD	Focus Group Discussion
GBV	Gender-Based Violence
GIIP	Good International Industry Practice
GRM	Grievance Redress Mechanism
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
IUCN	International Union for Conservation of Nature
LC	Local Council
LMI	Last Mile Infrastructure
MEPA	Malawi Environment Protection Authority
OHS	Occupational Health and Safety
OP/BP	Operational Policy / Bank Procedure (World Bank)
PPE	Personal Protective Equipment
RA	Roads Authority
RHS	Right-Hand Side
SATCP	Southern Africa Trade and Connectivity Project
SEA	Sexual Exploitation and Abuse
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
STA	Sub-Traditional Authority
WMP	Waste Management Plan

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1. CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction

This Environmental and Social Mitigation and Monitoring Plan (ESMMP) has been prepared for the proposed rehabilitation of the Senzani to Doviko (S133/T381) Road in Ntcheu District under the World Bank-funded Southern Africa Trade and Connectivity Project (SATCP).

The road follows an existing alignment that has deteriorated due to inadequate drainage, undersized or damaged culverts, embankment erosion, and recurrent flooding, particularly in low-lying and water-crossing sections. These conditions result in reduced passability, temporary isolation of communities, increased vehicle operating costs, and safety risks. Rehabilitation will involve targeted upgrading of the existing road within the current road reserve, including culvert replacement, embankment formation, and flood protection measures. No land acquisition or physical displacement is anticipated. Construction is expected to last 6–9 months, with peak labour demand during earthworks, drainage, and surfacing. Labour will be predominantly locally sourced, including opportunities for women and youth. No permanent employment is expected during operation, as maintenance will be undertaken by the Roads Authority under existing arrangements.

1.2 Developer

Name of Developer:	Ministry of Transport and Public Works
Physical Address:	The Project Manager Southern Africa Trade and Connectivity Project Private Bag 322 Lilongwe 3
Contact Person:	The Project Manager Southern Africa Trade and Connectivity Project Ministry of Transport and Public Works Private Bag 322 Lilongwe 3. Cell: 0999088044 Email: hastingsngoma@gmail.com

1.3 Nature and Scope of the Project

Based on the Detailed Engineering Design, the scope of the project comprises the following key interventions:

- Drainage rehabilitation and improvement, including cleaning, reshaping, and repair of existing roadside drains, construction of earth drains, and installation of mitre drains to safely discharge runoff away from the road formation;
- Culvert upgrading and replacement, involving:
 - replacement of undersized or damaged pipe culverts with box culverts of appropriate hydraulic capacity;

- repair and raising of existing culvert headwalls;
- inlet and outlet protection works, including aprons, scour checks, and erosion control measures;
- Embankment formation and stabilisation, particularly in low-lying and flood-prone sections, to improve road profile, reduce overtopping during high rainfall events, and enhance structural integrity;
- Concrete pads in selected sections particularly on sleepy sections
- Reshaping of the road formation to improve surface drainage and riding quality, including reinstatement of shoulders and side slopes;
- Ancillary works, such as temporary traffic management during construction, reinstatement of disturbed areas, and protection of adjacent properties and access points.

The interventions are distributed along the road alignment at defined chainages, as detailed in the Detailed Engineering Design (DED) report. Construction activities will be undertaken within the existing road reserve and immediate areas of influence, and no permanent land acquisition or realignment is anticipated.

1.4 Project Objectives

The overall objective of the Senzani to Doviko (S133/T381) Road Rehabilitation Project is to restore and improve the functionality, safety, and resilience of the existing road infrastructure in Ntcheu District in order to enhance access, connectivity, and socio-economic development within the project area and its wider hinterland.

Specifically, the project seeks to achieve the following objectives:

- Improve all-weather access and road passability along the Senzani to Doviko road by rehabilitating deteriorated sections, upgrading drainage structures, and addressing flood-prone areas that currently limit mobility during the rainy season;
- Enhance connectivity to strategic transport routes, including links to higher-order roads serving the Nacala Development Corridor, thereby facilitating efficient movement of agricultural produce, goods, and services to local, national, and regional markets;
- Reduce transport costs and travel time for road users by improving road condition, drainage performance, and overall safety, particularly for pedestrians, cyclists, and local transport operators;
- Increase climate resilience of the road infrastructure through the incorporation of improved drainage, embankment protection, and flood mitigation measures designed to withstand increased rainfall intensity and extreme weather events associated with climate variability and change;
- Support local economic development and livelihoods by improving access to trading centres, agricultural areas, schools, health facilities, and other essential services for communities along the road;

- Enhance road safety and community wellbeing by reducing accident risks associated with poor road condition, waterlogging, and unsafe crossings, and by ensuring safer access during construction and operation phases;
- Ensure environmentally and socially responsible project implementation by integrating appropriate Environmental and Social Mitigation and Monitoring measures into the design, construction, and operation of the road in compliance with national legislation and World Bank safeguard requirements.

1.5 Justification of the Project

The rehabilitation of the Senzani to Doviko (S133/T381) Road is justified on technical, socio-economic, environmental, and strategic grounds, reflecting its importance within Ntcheu District and its contribution to national and regional development objectives.

Strategically, the road functions as a last-mile link to higher-order transport networks connected to the Nacala Development Corridor, a key regional trade route linking Malawi to the Port of Nacala in Mozambique. Improving feeder roads such as Senzani to Doviko strengthens Malawi's participation in regional trade, reduces transport bottlenecks, and enhances the competitiveness of agricultural value chains.

1.6 Objectives of the ESMMP

The primary objective of this Environmental and Social Mitigation and Monitoring Mitigation and Monitoring Plan (ESMMP) is to provide a practical, site-specific framework for identifying, avoiding, minimising, mitigating, and monitoring the environmental and social risks and impacts associated with the rehabilitation of the Senzani to Doviko (S133/T381) Road in Ntcheu District.

Specifically, the ESMMP has been prepared to achieve the following objectives:

- Identify and assess potential environmental and social impacts arising from the proposed rehabilitation works during the construction and operation phases, with particular attention to drainage works, culvert upgrades, embankment formation, and flood protection measures;
- Define appropriate mitigation measures to prevent or minimise adverse impacts on the physical environment, biological resources, and surrounding communities, in accordance with the mitigation hierarchy of avoidance, minimisation, restoration, and compensation where applicable;
- Establish clear roles and responsibilities for the implementation of Environmental and Social Mitigation and Monitoring measures among the Developer, Contractors, Supervising Engineers, and relevant government authorities;
- Provide a monitoring plan with measurable indicators to track compliance with environmental and social requirements and to verify the effectiveness of mitigation measures throughout project implementation;
- Ensure compliance with applicable legal and policy frameworks, including the Environment Management Act (2017), MEPA Guidelines for Environmental Assessment (2025), and the World Bank safeguard policies, particularly OP/BP 4.01;

- Integrate occupational health and safety, community health and safety, and labour management considerations into project implementation to protect workers, road users, and affected communities;
- Address social risks, including land access, temporary disruptions to livelihoods, gender and social inclusion, and risks related to gender-based violence and sexual exploitation and abuse (GBV/SEA), through preventive and responsive measures;
- Facilitate effective communication and engagement with stakeholders, including local authorities and communities, by outlining grievance redress mechanisms and consultation processes.

1.7 Environmental and Social Mitigation and Monitoring Plan Methodology

The Environmental and Social Mitigation and Monitoring Plan (ESMMP) for the Proposed Rehabilitation of the Senzani to Doviko (S133/T381) Road was prepared using a structured and systematic methodology consistent with the Environment Management Act (2017), the MEPA Guidelines for Environmental Assessment (2025), and the World Bank Operational Policy OP/BP 4.01 on Environmental Assessment. The approach combined desk-based reviews, field-based assessments, and stakeholder consultations to ensure that environmental and social risks and impacts associated with the rehabilitation of the existing road are adequately identified, assessed, and managed. This integrated methodology enabled triangulation of information from technical sources, field observations, and stakeholder perspectives, thereby strengthening the relevance and robustness of the ESMMP.

1.7.1 Literature Review

The preparation of the ESMMP involved a comprehensive review of relevant national policies, legal and regulatory frameworks, and project-specific documentation. Key documents reviewed included the Detailed Engineering Design for the Senzani to Doviko road, design drawings, schedules of proposed interventions, and the Terms of Reference issued in line with MEPA requirements. The review also covered applicable World Bank safeguard policies, particularly OP/BP 4.01, as well as relevant sectoral policies and guidelines related to transport, environment, land, and social management. This literature review provided the contextual foundation for understanding the regulatory requirements, identifying potential environmental and social sensitivities, and guiding the scope of field investigations and stakeholder engagement.

1.7.2 Field Visits

Field visits were undertaken on 16 January 2026 to establish and verify the baseline environmental and social conditions along the Senzani to Doviko road. The fieldwork commenced with a reconnaissance survey conducted jointly with the Project Team, followed by a more detailed assessment of the biophysical and socio-economic environment within the project area of influence. The field assessment focused on observing existing road conditions, drainage structures, culverts, embankments, and flood-prone sections, as well as surrounding land uses, settlements, agricultural activities, and access routes. Environmental features such as watercourses, drainage lines, vegetation cover, and erosion-prone areas were also noted. The

field observations provided critical site-specific information that informed impact identification and the formulation of practical mitigation and management measures.

1.7.3 Stakeholder Consultation

Stakeholder consultations were conducted on 16th January 2026 as an integral part of the ESMMP preparation process, in accordance with MEPA guidelines and World Bank requirements for stakeholder engagement. Consultations were held with the Ntcheu District Environment Sub-Committee (DESC), comprising representatives from relevant district technical departments, to obtain institutional perspectives on environmental and social issues associated with the project. In addition, community consultations were undertaken with representative community members at Doviko Trading Centre, which serves as a central hub for communities along the project corridor. The consultations aimed to inform stakeholders about the proposed rehabilitation works, identify local environmental and social concerns, and gather community inputs on issues such as drainage and flooding, access during construction, road safety, livelihoods, and employment opportunities. ESMMP



Figure 1-1. Consultation with Ntcheu DESC and Doviko Community representatives

1.8 Project Location

The Senzani to Doviko (S133/T381) Road is located in Ntcheu District, Southern Region of Malawi, and forms part of the district's secondary road network that provides critical connectivity between Ntcheu Town and surrounding rural trading centres and settlements. The project road starts from Ntcheu Town (locally referred to as pa Chintengo) at Chainage 0+000 m and extends to Doviko Trading Centre at approximately Chainage 14+000 m.

Geographically, the road alignment lies between approximate coordinates Longitude 34.965282° E, Latitude –14.980292° S at the Ntcheu Town end and Longitude 35.051903° E, Latitude –14.914235° S at the Doviko Trading Centre end. The road traverses predominantly rural landscapes characterised by mixed land uses, including smallholder agricultural fields, dispersed settlements, and trading centres that serve as local economic hubs.

The location of the road within settled and productive rural areas underscores the importance of carefully managing environmental and social interactions, particularly in relation to drainage lines, road safety at trading centres, access to farmland, and community livelihoods. Detailed

maps showing the project location, road alignment, and key spatial features are provided in the relevant annexes of this ESMMP.

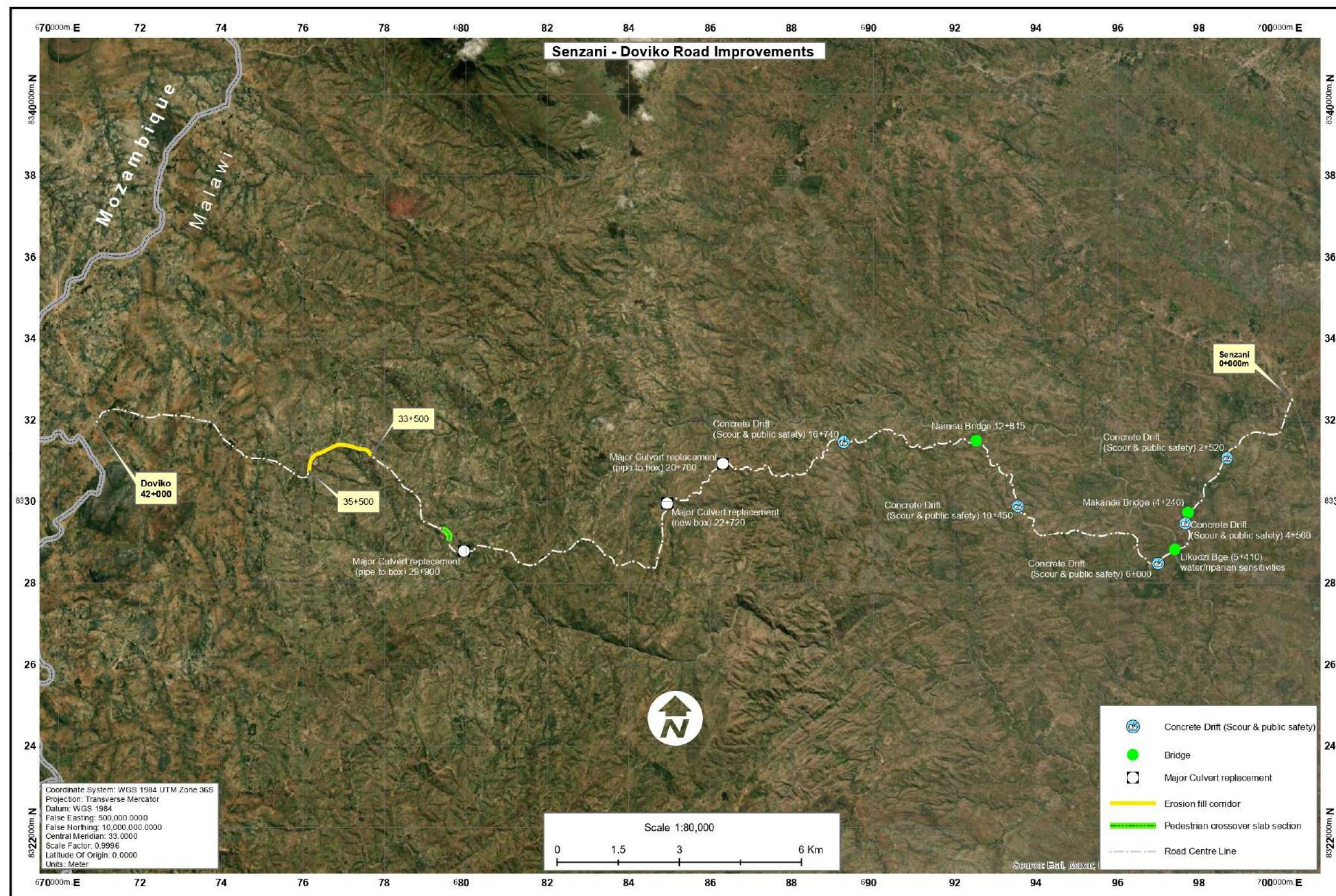


Figure 1-3. Aerial view of the location of the proposed Senzani – Doviko Road Project¹

¹ The road reserve and road centre line shown in this figure are indicative only and may not be spatially accurate due to the map scale, basemap limitations, and coordinate system/projection used. They are included for illustrative purposes only and must not be relied upon for surveying, land demarcation, or construction setting out

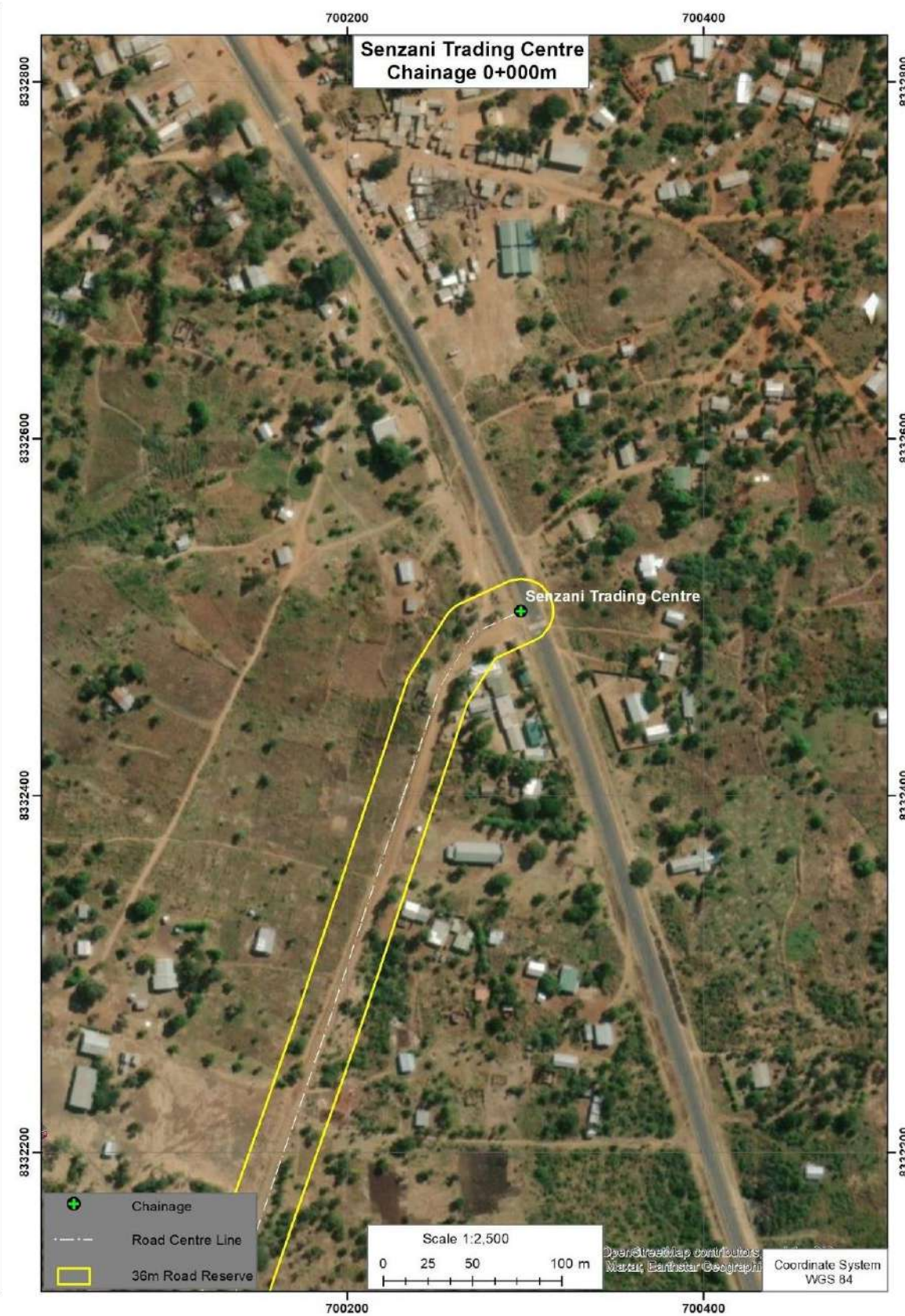
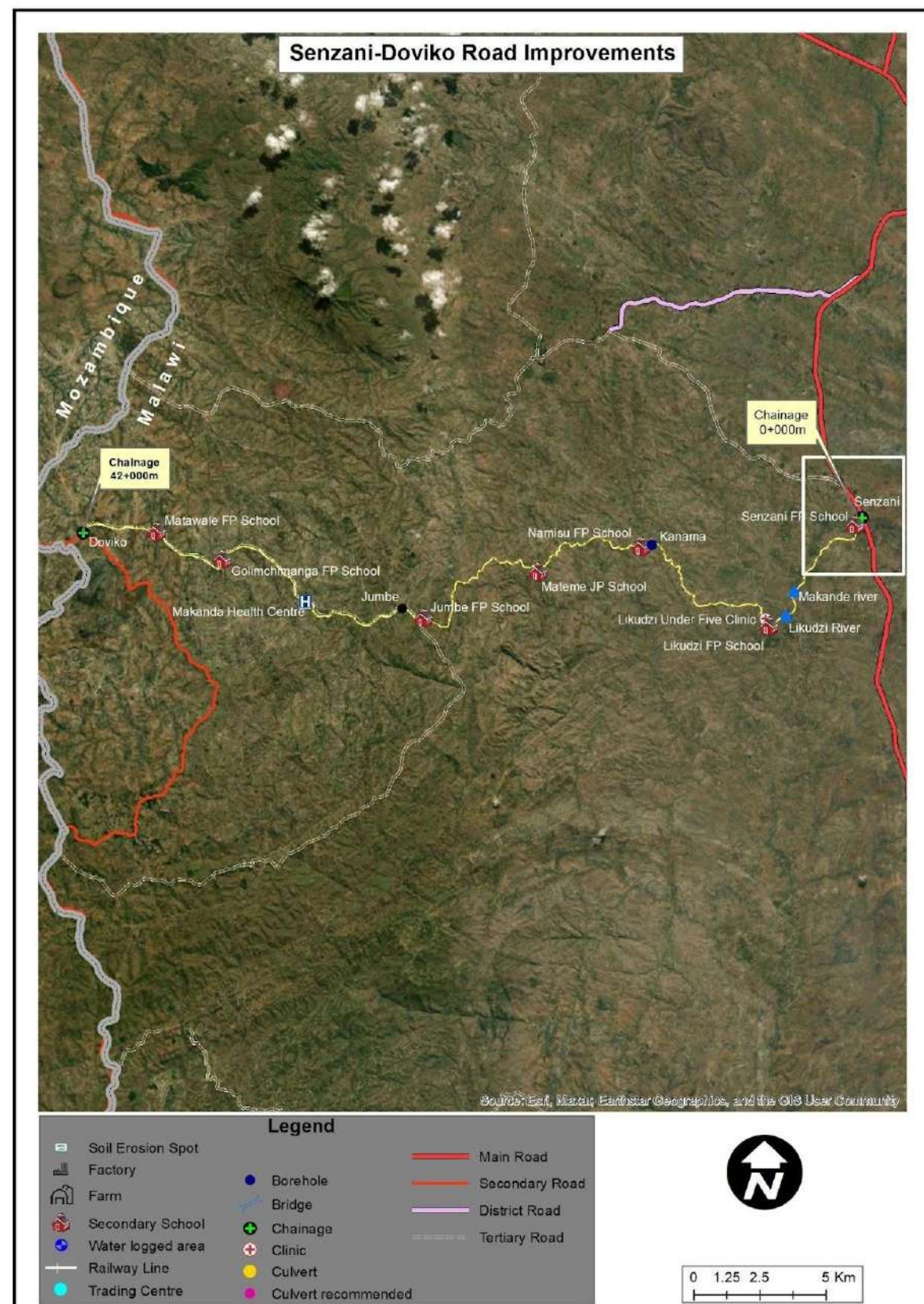


Figure 1-4. Senzani – Doviko Road at Chainage 0+000 m at the junction with M 1 Road

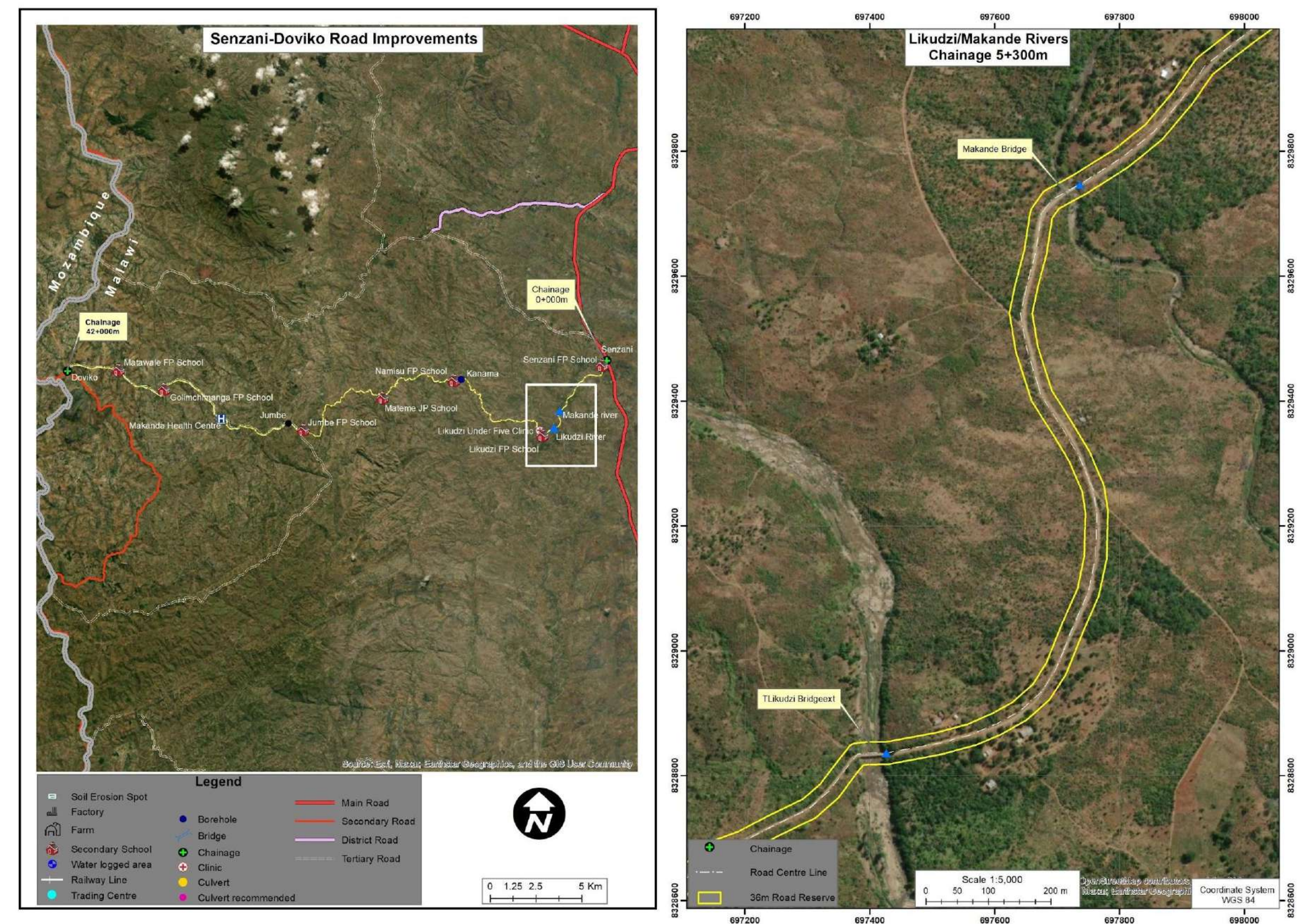


Figure 1-5: Aerial view of the mid-section (Likudzi and Makande) of the Senzani-Doviko Road section

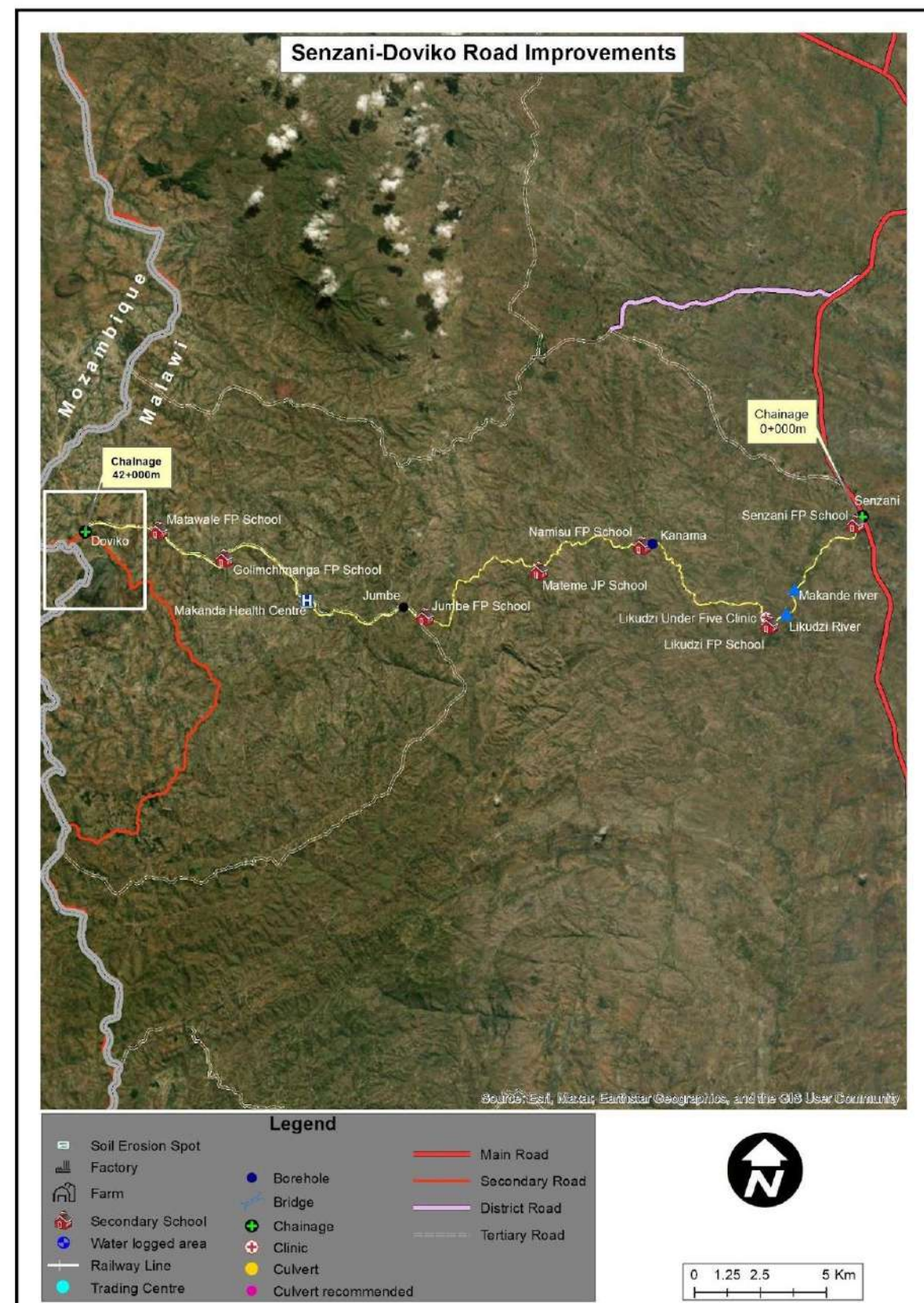


Figure 1-6. Tail end (Doviko Trading Centre) of the Senzani – Doviko Road Section

1.9 Land Tenure and Land Requirement for the Project

The Senzani to Doviko (S133/T381) Road is an existing public road administered under the Public Roads Act (1969) and forms part of the established public road network in Ntcheu District. The road is therefore legally designated as public land under government custody and management. Land adjacent to the road is predominantly held under customary tenure, with surrounding communities exercising traditional land use and occupancy rights for residential, agricultural, and small-scale commercial purposes. The rehabilitation works will not expand beyond the existing boundary.

1.10 Potential Users of the ESMMP

This Environmental and Social Mitigation and Monitoring Plan (ESMMP) for the Proposed Rehabilitation of the Senzani to Doviko (S133/T381) Road is intended to serve as a practical management and compliance tool for a range of stakeholders involved in the planning, implementation, supervision, and monitoring of the project. The ESMMP provides guidance on environmental and social risk management measures to be applied throughout the project lifecycle.

The potential users of this ESMMP include, but are not limited to, the following:

- **Government and Regulatory Authorities**, including:
 - Malawi Environmental Protection Authority (MEPA);
 - Roads Authority (RA);
 - Ministry of Transport and Public Works;
 - Ntcheu District Council, including the District Environment Sub-Committee (DESC);
 - Ministry of Labour; and
 - National Construction Industry Council (NCIC).
 - Department of Industry (DoI)
- **Project Planners, Engineers, and Supervising Consultants**, who will use the ESMMP to integrate Environmental and Social Mitigation and Monitoring measures into detailed design, construction supervision, and quality assurance processes.
- **Contractors and Subcontractors** engaged in the rehabilitation works, who will be required to implement the mitigation, monitoring, occupational health and safety, and community protection measures outlined in the ESMMP as part of their contractual obligations.
- **Local Communities and Road-Corridor Users** living and operating along the Senzani to Doviko road, for awareness of potential impacts, proposed mitigation measures, codes of conduct, and available grievance redress mechanisms.

2. CHAPTER 2: PROJECT DESCRIPTION

2.1 Introduction

This chapter describes the technical scope of the proposed rehabilitation of the Senzani–Doviko Road, including the main engineering works, project components, and implementation activities associated with rehabilitation of the existing road alignment. It focuses on priority sections where drainage, formation, and structural defects have been identified and where targeted interventions are required to restore functionality and improve safety.

The chapter outlines key activities to be undertaken during the pre-construction and design phase, construction phase, contractor demobilisation phase, and operation and maintenance phase. These activities include embankment formation and reshaping, gravelling, drainage improvement, culvert and box-culvert works, concrete drifts and pads, erosion and scour protection, material sourcing, labour mobilisation, waste management, and reinstatement of disturbed areas, all within the existing road reserve.

2.2 Project Components and Activities

The Senzani–Doviko Road Rehabilitation Project comprises a series of interrelated activities implemented across the project lifecycle. The project is designed to restore the functionality and resilience of the existing road, reduce erosion and flood-related disruptions, and enhance access and safety for road users and surrounding communities, while minimizing environmental and social risks. The main components and activities associated with each phase are summarised in Table 2-1.

Table 2-1. Project Components and Activities

Phase	Description of activities
Pre-construction / Design phase	Preparation and finalisation of Detailed Engineering Designs (DED) based on field investigations, engineering surveys, and hydrological analysis. Verification of existing culverts, concrete drifts, bridges (including Likudzi and Makande bridges), and drainage structures along the Senzani–Doviko corridor. Identification of flood-prone sections, erosion corridors, and drainage deficiencies, particularly near major stream crossings and steep gradients. Incorporation of improvements to road geometry, including realignment of vertical curves at selected chainages (such as 12+145–12+190, 16+870–17+025, and 19+200–19+400), embankment stabilisation, rehabilitation and replacement of culverts and box culverts, provision of lined drains and concrete pads, and scour protection works. Assessment of hydraulic adequacy of proposed culvert sizes, new box culverts (for example at 14+200 and 18+500), and drainage openings to ensure conveyance of design storm flows within the existing road corridor.
Construction phase	Implementation of rehabilitation works in accordance with the approved DED and technical specifications. Activities include site establishment, limited vegetation clearing within the road reserve, and earthworks for reshaping, embankment formation, and correction of vertical curves. Drainage works comprise cleaning, repair, and replacement of existing concrete pipe culverts; installation of new box culverts at key locations (e.g. chainages 14+200 and 18+500); excavation and reshaping of inlet and outlet drains; construction of lined drains and concrete pads in steep or erosion-prone sections (e.g. 4+300–4+405 and 22+090–22+248); and installation of mitre drains and earth drains along multiple chainages to disperse runoff. Additional works include erosion and scour protection at existing concrete drifts and bridges (such as Likudzi Bridge and other critical crossings) and provision of service ducts where required (e.g. around chainage 12+853). Construction will use a combination of machinery and labour-based methods, maintaining local access as far as practicable and implementing environmental and social mitigation measures in accordance with the ESMMP.
Contractor demobilisation phase	Removal of construction machinery, temporary facilities, and surplus materials upon completion of the works. Clearance and reinstatement of temporary access tracks, stockpile areas, and other temporary material handling sites to a stable, safe condition. Rehabilitation of any borrow areas opened for the project in line with approved Borrow Pit Rehabilitation Plans, including re-profiling, drainage, and erosion control. Collection, transport, and disposal of construction waste at approved sites in coordination with the District Council. Removal of temporary drainage diversions and restoration of flows to natural or designed channels, ensuring that no residual environmental or safety risks remain.
Operation and maintenance phase	Opening of the rehabilitated Senzani–Doviko sections to traffic and handover to the responsible road authority for routine operation and maintenance. Ongoing activities include periodic grading of reshaped and gravelled sections, regular cleaning of culverts, box culverts, and side drains, inspection and repair of erosion protection works and concrete pads, and maintenance of safety-related features at drifts and bridges. Environmental and social risks during this phase are expected to be limited and will mainly relate to road safety, erosion control, and drainage maintenance, managed through standard Roads Authority maintenance procedures and district-level oversight.

2.3 Spatial Distribution of Works by Chainage

Rehabilitation works along the Senzani–Doviko road are not continuous; instead, they are concentrated at specific chainage sections where drainage, formation, and structural defects require intervention. The chainage references define where direct construction activities—such as gravelling, embankment formation, reshaping, culvert and box-culvert installation, concrete drift and pad works, earth drains, mitre drains, and scour checks—will occur, and where environmental and social receptors (households, cultivated fields, watercourses, and community facilities) are most likely to be affected.

The detailed spatial distribution of works is provided in Annex 14: Spatial Description of Works, which lists interventions from chainage 0+000 at Senzani to chainage 24+000 near Doviko. The annex identifies, among others, sections requiring embankment formation and lined drains near the start of the corridor (e.g. 0+010–0+810), extensive reshaping and gravelling sections interspersed with mitre and earth drains, re-alignment of vertical curves (e.g. 12+145–12+190, 16+870–17+025, 19+200–19+400), new or upgraded box culverts at chainages 14+200 and 18+500, and multiple locations where scour checks, concrete pads, and lined drains are needed to stabilise steep or erosion-prone segments.

These works are further illustrated in Figure 1-3 (Senzani–Doviko Road Improvements), which presents the overall corridor together with major culvert replacement locations, erosion-sensitive reaches, concrete drifts and bridges, and key environmental and social hotspot areas. The road reserve and road centreline depicted in the figure are indicative and may not be spatially precise due to scale and basemap constraints; they are provided solely for visual orientation and must not be used for surveying, land boundary definition, or construction setting-out, which shall instead rely on the Detailed Engineering Design drawings and site survey control.

These works are further illustrated in Figure 1-3 (Senzani–Doviko Road Improvements), which shows the corridor, major culvert replacement sites, erosion-sensitive reaches, concrete drifts and bridges, and key environmental and social hotspot locations.

2.1 Labour Requirement

The rehabilitation works for the Senzani to Doviko (S133/T381) Road will be implemented by a contracted construction firm employing a combination of temporary skilled and unskilled labour, with a strong emphasis on local recruitment. At peak construction period, the contractor is expected to employ approximately 80 workers comprising 40/60% gender balance. This figure represents the maximum workforce at any one time and is anticipated to occur during intensive activities such as drainage construction, culvert installation, and embankment reshaping. Outside these peak periods, the number of workers on site is expected to be significantly lower, depending on the construction programme and sequencing of activities.

Employment opportunities will cover a range of categories including civil works supervision, surveying, drainage and culvert construction, earthworks, masonry, equipment operation, traffic management, environmental and occupational health and safety compliance, and site security. In line with national labour legislation and gender policies, the contractor will be required to promote gender inclusion, with a target of engaging at least 40% of either gender category, where feasible, particularly within unskilled and semi-skilled roles.

Table 2-2. Expected Number of People to be Employed (Peak Workforce)

SN	Employee Category	Local	External*	Total
1	Civil Engineering and Supervision	3	2	5
2	Surveying and Setting Out	3	1	4
3	Masonry and Concrete Works	8	0	8
4	Carpentry and Formwork	5	0	5
5	Electrical Works (minor/temporary)	3	1	4
6	Mechanical / Equipment Operators	6	2	8
7	Drainage Construction	10	0	10
8	Excavation and Earthworks	12	0	12
9	Manual Material Handling	10	0	10
10	Site Clearing and Preparation	8	0	8
11	Traffic Control and Safety	5	0	5
12	General Site Maintenance	5	0	5
13	Catering and Welfare Services	1	0	1
14	Security Services	4	0	4
15	Health and Safety Compliance	2	0	2
16	Environmental & Social Management	3	0	3
	Sub-Total (Peak Workforce)	78	6	84

*External staff refers to specialised non-local personnel engaged on a short-term or intermittent basis.

2.2 Land Requirement

The Senzani to Doviko (S133/T381) Road Rehabilitation Project will be implemented entirely within the existing road alignment and road reserve, and therefore does not require new land acquisition. All planned activities, including drainage improvements, culvert rehabilitation and installation, embankment reshaping, and formation works, will be confined to the established footprint of the road. Where informal temporary structures such as vending booths or groceries placed by their occupants occur within the road reserve along the alignment, the corresponding sections have been deliberately excluded from the spot-based rehabilitation scheme during design, so that construction works avoid them altogether; any residual coordination needs around the immediate working area will be handled under the stakeholder engagement and GRM provisions of this ESMMP.

2.3 Material Requirements and Sources

The rehabilitation of the Senzani to Doviko (S133/T381) Road will require a range of construction materials to support earthworks, drainage improvements, culvert works, and minor structural interventions. Material requirements have been carefully considered to ensure that sourcing is technically appropriate, environmentally sustainable, and socially acceptable. Wherever feasible, materials will be sourced locally to reduce transportation distances, minimise costs, and enhance local economic benefits. Material sourcing will be undertaken in compliance with national environmental regulations, including obtaining necessary permits and approvals where required. Borrow areas, quarries, and water abstraction points will be

selected to avoid environmentally sensitive areas and minimise impacts on surrounding communities and livelihoods.

2.3.2 *Water sources*

Water will be required primarily for construction activities such as concrete works, compaction, dust suppression, and general site use. Water is expected to be sourced from approved and licensed sources, including existing public water supply points, authorised boreholes, or surface water sources where permitted. Abstraction of water from rivers, streams, or other surface water bodies will only be undertaken with the necessary approvals from relevant authorities and in a manner that does not compromise downstream users or ecological flows. Water use will be managed efficiently, and wastage will be minimised through good construction practices.

Table 2-3. Water Requirements and Sources

SN	Intended Use	Estimated Demand	Potential Source	Management Measures
1	Concrete works	Moderate	Approved boreholes / licensed suppliers	Controlled abstraction; no pollution
2	Compaction and curing	Moderate	Approved water points	Efficient use; reuse where feasible
3	Dust suppression	Low–Moderate	Licensed water bowsers	Sprinkling limited to dry periods
4	General site use	Low	Public water supply	Avoid wastage

2.3.3 *Sand, aggregate and boulders*

Sand, aggregates, boulders and selected fill material will be required for culvert construction, drainage works, concrete structures and embankment formation along the Senzani–Doviko (T394/S125) Road.

According to the Detailed Engineering Design (DED) Report, the Kanama Borrow Pit (Chainage 10+000, Ntcheu District) has been identified as the approved source of selected fill material for the project (RHS/LHS to be confirmed during site verification). Geotechnical investigations confirm the material is quartz-type with non-plastic characteristics (PI: NP) and suitable strength parameters, including:

- MDD: 2129–2249 kg/m³
- OMC: 10.7–13.2%
- CBR (93/95/98%): up to 40.0–48.5

These results confirm technical suitability for embankment and selected fill works, subject to proper compaction control.

Sand, aggregates and boulders will be sourced from licensed quarries, approved borrow pits, or authorized suppliers. Unregulated extraction from riverbeds or environmentally sensitive areas will not be permitted.

Borrow pit utilization will follow PIU-approved extraction and rehabilitation protocols, including defined limits of excavation, topsoil management, progressive restoration, and post-use site stabilization in line with MEPA requirements.

Table 2-4. Sand, Aggregate, and Boulder Requirements

SN	Material	Intended Use	Potential Source	Key Environmental Controls
1	Sand	Concrete and mortar works	Licensed river sand suppliers	No in-stream excavation
2	Aggregates	Concrete, culverts, drainage	Approved quarries	Dust and noise control
3	Boulders/Rock	Erosion protection, drainage	Licensed quarries / approved sources	Avoid habitat disturbance
4	Selected fill material	Embankment formation	Approved borrow pits	Site restoration after use

2.3.4 Energy sources

Energy will be required to operate construction machinery, vehicles, and temporary site facilities. The primary energy sources will include diesel and petrol for construction equipment and vehicles, and electricity or solar power for site offices where available. Vehicles to be used during construction will be refilled directly at the pump stations at Chiingeni turnoff.

Table 2-5. Energy Sources and Management Measures

SN	Energy Source	Intended Use	Management Measures
1	Diesel	Construction machinery and vehicles	Fuel stations
2	Petrol	Light vehicles and equipment	Controlled refueling
3	Electricity / Solar	Site offices and welfare facilities	Energy-efficient use
4	Gas	Cooking meals	Controlled refueling

2.4 Worker Accommodation and Facilities

The rehabilitation works for the Senzani to Doviko (S133/T381) Road are not expected to require the establishment of large or permanent worker camps. Given the moderate peak workforce, short construction duration, and proximity of the project area to existing settlements and trading centres, the majority of workers—particularly unskilled and semi-skilled labour—will be locally recruited and commute daily from their places of residence.

A small number of skilled or specialized personnel who may not be locally based may be accommodated in existing lodging facilities within Ntcheu and Balaka Towns or nearby trading centres.

2.5 Waste and Waste Management

The rehabilitation of the Senzani–Doviko (S133/T381) Road will generate limited quantities of both non-hazardous and hazardous waste, mainly during the construction phase. Given the

modest scope of works, short construction duration, and absence of large worker camps or asphalt plants, overall waste volumes are expected to be low to moderate. The contractor will implement a site-specific Waste Management Plan (WMP) based on the hierarchy of avoidance, reduction, reuse, recycling, and safe disposal, consistent with MEPA requirements and World Bank good practice. Waste will be segregated at source, stored in designated areas, and transported under a clear chain-of-custody to District-approved or licensed facilities.

Table 2-6. Waste streams and proposed management measures

Waste stream	Possible sources	Estimated quantity (indicative)	Proposed waste management measures
Excavated soil and spoil	Drainage works, culvert installation, earthworks	Low–Moderate	Reuse on site for backfilling, embankment formation, and shaping; locate stockpiles away from drains and watercourses; dispose surplus at council-approved sites.
Construction rubble	Culvert rehabilitation, minor concrete works	Low	Reuse as fill or hardcore where suitable; collect remaining rubble and dispose at council-approved disposal sites.
Concrete waste	Minor concrete works	Very low	Minimise wastage; allow excess concrete to cure and reuse as hardcore or dispose at approved locations; prevent wash-water discharge to natural drains.
Scrap metal	Equipment maintenance, minor fabrication	Low	Collect in a secure area; keep separate from general waste; sell or hand over to licensed scrap recyclers.
Packaging waste (cement bags, plastics)	Construction material deliveries	Low	Segregate by type; reuse where possible; compact and transport residual packaging via licensed waste handlers or municipal services.
Used oils and lubricants	Plant and vehicle maintenance	Low	Collect in sealed, clearly labelled containers on bunded, impermeable surfaces; keep spill kits on site; hand over to licensed hazardous waste or oil recyclers; no disposal, burning, or burial on site.
Used batteries	Construction equipment, vehicles	Very low	Store in secure, weather-proof containers; return to suppliers or licensed recyclers; prohibit on-site disposal.
Domestic solid waste	Site offices, temporary shelters, welfare facilities	Low	Provide covered bins; segregate organic and recyclable waste; collect daily and transport to approved municipal disposal sites; prohibit littering and open dumping.
Sewage and sanitary wastewater	Temporary welfare facilities	Very low	Use portable toilets or lined pit latrines located away from watercourses; arrange regular emptying by licensed operators or safe closure on completion; prevent direct discharge to land or surface water.

The WMP will ensure that organic and domestic waste from welfare facilities is regularly collected and removed to authorised municipal sites, while limited liquid waste (sanitary wastewater and concrete wash water) is contained and managed to avoid soil, surface water, or groundwater contamination. Small quantities of hazardous waste (oils, lubricants, oily rags, and batteries) will be stored separately from general waste in labelled, secure containers and

removed from site only by licensed hazardous waste handlers; on-site burial, burning, or uncontrolled disposal of hazardous waste will not be permitted.

2.6 Rehabilitation of Temporary Sites

Temporary sites such as stockpile areas, equipment parking zones, shelters, and temporary access points will be used only during construction, within the road reserve or on land obtained through short-term agreements. After construction and demobilisation, the contractor must remove all temporary structures, materials, and waste, restore drainage, regrade and stabilise disturbed surfaces, and allow or assist vegetation to recover so that sites blend with surrounding land and are safe for future use. No temporary site or borrow/stockpile area will be left without inspection and approval by the supervising engineer and authorities, ensuring there are no residual environmental or safety risks and that land users are not disadvantaged once works are complete.

3 CHAPTER 3: POLICY AND LEGAL FRAMEWORK

3.1 National Policies and Strategies

3.1.1 Policy Framework

Table 3-1 presents key national policies and strategies that provide the strategic and regulatory framework for planning, implementation, and monitoring of the proposed project. These policies reflect Malawi's development priorities and establish obligations relating to environmental protection, land administration, water resources management, climate resilience, gender inclusion, labour standards, waste management, and transport sector governance.

Table 3-1. Policies Guiding the Project

Policy / Strategy	Brief Description	Implications for the Project
Malawi 2063 (MW2063) and First 10-Year Implementation Plan (MIP-1, 2021–2030)	Malawi's long-term national vision and medium-term implementation plan prioritising economic infrastructure, rural connectivity, trade facilitation, and climate resilience.	The road rehabilitation supports MW2063/MIP-1 by improving local connectivity, access to markets and services, and strengthening climate-resilient infrastructure within the existing corridor.
National Environmental Policy (2004)	Framework for integrating environmental sustainability into development planning, including safeguards, pollution prevention, and conservation.	Requires application of environmental management measures, pollution control, and adherence to MEPA requirements throughout implementation.
National Land Policy (2002)	Promotes orderly land administration, secure tenure, and safeguards in land-based development.	Requires respect for public road reserve status and surrounding customary land rights; land requirement considerations are addressed under Section 2.4.
National Water Policy (2005)	Promotes sustainable water resources management, protection of water bodies, and equitable water access.	Requires safeguarding of rivers/streams and responsible water abstraction for construction, with prevention of erosion and siltation from earthworks and drainage activities.
National Gender Policy (2015)	Promotes gender equality and equitable participation in development, including addressing GBV risks and barriers to inclusion.	Requires gender-inclusive consultations, fair access to employment opportunities, and integration of GBV/SEA risk prevention measures in contractor management.

Policy / Strategy	Brief Description	Implications for the Project
National Climate Change Management Policy (2016)	Provides guidance for climate adaptation and mitigation across sectors; promotes climate-resilient infrastructure.	Requires climate-resilient drainage and erosion control measures, and integration of climate risk considerations in design and construction practices.
National Sanitation Policy (2008)	Provides a framework to improve sanitation and hygiene standards, including safe management of waste.	Requires proper solid and liquid waste management (including segregation, safe storage, and disposal) in line with the waste hierarchy.
National HIV and AIDS Policy (2022–2027)	Aims to reduce new infections and strengthen workplace systems and non-discrimination protections.	Requires workplace HIV and AIDS awareness measures and non-discriminatory practices for workers and communities.
National Transport Policy (2015)	Aims to develop a safe, efficient, sustainable transport system, emphasizing rural access, safety, and resilience.	Requires incorporation of road safety measures, access management during construction, and maintenance of connectivity for local communities and services.
National Labour and Employment Policy (2017)	Promotes decent work, fair labour practices, and inclusive access to employment.	Requires fair recruitment, decent working conditions, prevention of child labour, and promotion of local employment consistent with labour laws and OHS standards.
National Forest Policy (2016)	Promotes sustainable forest management and restoration.	Requires minimising vegetation clearing within the road reserve and applying erosion control/rehabilitation measures for disturbed areas.
National Decentralisation Policy (1998)	Devolves planning and service delivery responsibilities to district councils and local structures.	Requires structured engagement with Ntcheu District Council and DESC for oversight, monitoring, and alignment with district priorities and by-laws.

3.1.2 Legislative Framework

Table 3-2 outlines the principal national legislation governing the implementation of the Proposed Rehabilitation of the Senzani to Doviko (S133/T381) Road. These statutes provide the legal basis for environmental protection, land administration, labour standards, occupational health and safety, public health, water resources management, and road infrastructure development in Malawi. Compliance with these laws is mandatory and informs the design, construction, and operation of the project, as well as the mitigation and monitoring measures set out in this ESMMP.

Table 3-2. *Legislation Applied in the sub- Project*

Act	Brief Description	Implications for the Project
Constitution of the Republic of Malawi (1995)	Supreme law guaranteeing environmental protection, human rights, gender equality, and sustainable development (Sections 5, 12(e), 13(d)).	Requires environmentally sound project implementation and adherence to constitutional principles through application of approved safeguards instruments.
Environment Management Act (2017)	Principal legislation for environmental protection and sustainable resource use; mandates environmental assessment and compliance monitoring.	Requires preparation and implementation of an approved ESMMP and compliance with conditions set by MEPA prior to and during construction.
Public Roads Act (2023)	Provides for classification, construction, maintenance, and management of public roads, including stormwater management, access control, and safety.	Requires adherence to road reserve management, drainage standards, safety provisions, and lawful execution of rehabilitation works within the public road.
Land Act (2016) and Customary Land Act (2016)	Establish the legal framework for land tenure, acquisition, and compensation across public, private, and customary land.	Confirms public road reserve status and safeguards surrounding customary land rights; no new land acquisition is required for this project (see Section 2.4).
Water Resources Act (2013)	Regulates water abstraction, pollution control, and protection of water resources.	Requires permits for water abstraction where applicable and implementation of measures to prevent pollution, siltation, and alteration of drainage patterns.
Occupational Safety, Health and Welfare Act (1997)	Provides for safe and healthy workplaces, registration of workplaces, and regulation of plant and machinery.	Requires registration of construction sites, implementation of OHS measures, provision of PPE, and safe working conditions for all workers.
Employment Act (2000)	Establishes minimum employment standards and prohibits forced labour, discrimination, and child labour.	Requires fair recruitment, prohibition of child labour, non-discrimination, and compliance with national employment standards.
Gender Equality Act (2013)	Promotes gender equality and prohibits discrimination and sexual harassment in workplaces.	Requires gender-inclusive employment practices and enforcement of workplace measures to prevent GBV/SEA/SH.
Data Protection Act (2024)	Regulates the collection, processing, storage, use, and protection of personal data in Malawi, including obligations relating to confidentiality, lawful processing, and protection of personal information.	Requires that stakeholder information collected through consultations, attendance registers, interviews, grievance redress, and project monitoring activities be used strictly for project purposes, securely stored, and handled in a manner that protects confidentiality and privacy.
HIV and AIDS (Prevention and Management) Act (2018)	Protects rights of persons living with or affected by HIV and AIDS and guides workplace responses.	Requires non-discriminatory practices, workplace sensitisation, and adherence to national HIV and AIDS guidelines.
Public Health Act (1948)	Provides for public and environmental health, including sanitation, waste management, and drainage.	Requires provision of adequate sanitation, waste disposal facilities, and control of health risks during construction.

Act	Brief Description	Implications for the Project
Environment Management (Waste Management and Sanitation) Regulations (2008)	Governs solid and liquid waste management, including hazardous waste handling.	Requires waste segregation, safe storage, and disposal through licensed facilities in line with the waste hierarchy.
Environment Management (Chemicals and Toxic Substances) Regulations (2008)	Regulates handling, storage, transport, and disposal of chemicals and toxic substances.	Requires controlled storage and disposal of fuels, oils, and chemicals using approved methods and licensed handlers.
Forestry Act (2020)	Provides for conservation and sustainable management of forest resources.	Requires minimisation of vegetation clearing within the road reserve and implementation of erosion control and site rehabilitation measures.
National Parks and Wildlife Act (2017)	Provides for protection of wildlife and biodiversity and regulates activities affecting habitats.	Requires avoidance of habitat disturbance and prohibition of hunting or wildlife exploitation by project workers.
Local Government Act (1998)	Empowers local councils to manage development, environment, sanitation, and community engagement.	Requires coordination with Ntcheu District Council and DESC for consultations, monitoring, and alignment with local by-laws.
Physical Planning Act (2016) and Physical Planning (Amendment) Act (2022)	Regulates orderly land development and requires development permission from local authorities.	Requires obtaining Development Permission from the relevant local authority prior to commencement of works.
National Construction Industry Act (1996)	Regulates the construction sector and mandates contractor registration and compliance with standards.	Requires contractor registration with NCIC and adherence to safety, quality, and environmental standards.
Liquid Fuels and Gas (Production and Supply) Act (2004) and Regulations	Regulates storage and handling of liquid fuels and gas.	Requires licensing of any on-site fuel storage exceeding regulatory thresholds and compliance with MERA requirements.
Construction Industry Act No. 28 of 2025 (CIRA Act)	Establishes the Construction Industry Regulatory Authority (CIRA) to regulate, develop, and promote the construction industry in Malawi. The Authority oversees registration and licensing of contractors, consultants, material manufacturers and suppliers, enforces professional and ethical standards, promotes training and capacity development, and standardizes construction practices and procedures across the industry.	Requires that all contractors, consultants, and suppliers engaged in the proposed Road rehabilitation project be registered and licensed by CIRA, and that construction activities comply with approved industry standards, codes of ethics, and professional conduct requirements. The project must therefore ensure engagement of CIRA-registered entities, adherence to quality and safety standards, and compliance with regulatory oversight for construction works.

The contractor will develop specific plans to be in line with the frameworks in annexes 4,5,6,7,8,9 and 13.

3.2 World Bank Safeguard Policies and Procedures

3.2.1 World Bank Operational Policy OP/BP 4.01: Environmental Assessment

In accordance with OP/BP 4.01, a stand-alone ESMMP has been prepared to guide environmental and social risk management.

Table 3-3. World Bank Environmental and Social Operational Policies Triggered by the Project

Safeguard Policy	Key Requirements and Application to the Project
Environmental Assessment (OP/BP 4.01)	This policy requires an environmental assessment of projects proposed for Bank financing to ensure environmental sustainability and informed decision-making. The assessment considers impacts on the natural environment (air, water, land), human health and safety, and social aspects. For this project, an Environmental and Social Mitigation and Monitoring Plan (ESMMP) has been prepared to identify potential impacts associated with road rehabilitation works and to define appropriate mitigation, monitoring, and institutional measures.
Physical Cultural Resources (OP/BP 4.11)	This policy addresses the protection of cultural heritage, including archaeological, historical, and religious sites. No known physical cultural resources were identified within the project footprint during consultations and field assessments. A Chance Finds Procedure has nonetheless been incorporated into the ESMMP to guide appropriate action should any cultural resources be encountered during construction.

3.3 Institutional Framework

Implementation of the ESMMP for the Proposed Rehabilitation of the Senzani–Doviko (S133/T381) Road requires coordinated action among national and local institutions responsible for environmental regulation, land administration, spatial planning, transport infrastructure, and local governance. These institutions provide policy direction, regulatory oversight, technical guidance, and enforcement to ensure that the project complies with national legislation, MEPA guidelines, and applicable World Bank safeguard requirements.

Table 3-4. Institutional mandates on environmental and social safeguards related to the project

SN	Institution	Mandate in E&S safeguards related to the project
1	Malawi Environment Protection Authority (MEPA)	Principal environmental regulator established under the Environment Management Act (2017); reviews and approves ESMPs/ESMMPs, issues environmental clearances where required, undertakes compliance monitoring through inspections, and enforces corrective actions in cases of non-compliance.
2	Ministry of Lands and Urban Planning	Provides national policy oversight on land administration, spatial planning, and land-use regulation; ensures that road works are consistent with approved land-use plans, protects the existing road reserve, and advises on permissible land uses and management of encroachment within the corridor.

SN	Institution	Mandate in E&S safeguards related to the project
3	Ministry of Local Government and Rural Development (through Ntcheu District Council and DESC)	Oversees decentralised development and local governance; through the District Council and District Environment Sub-Committee (DESC) facilitates stakeholder engagement and community consultations, monitors construction activities against district by-laws and environmental health standards, supports local waste management and traffic safety oversight, and participates in grievance management.
4	Ministry of Transport and Public Works (MoTPW) / Roads Authority	Sector lead for road transport infrastructure; integrates environmental and social safeguards into road design and contracts, supervises implementation through the Roads Authority and supervising consultants, and reports on safeguard performance to MEPA and development partners.
5	Traditional Authorities and Area/Group Village Development Committees	Provide local customary leadership and community interface; support mobilisation for consultations, provide guidance on local land use and access issues along the road, and help in early identification and resolution of community concerns related to construction activities.

Together, these institutions ensure that the ESMMP for the Senzani–Doviko Road is effectively reviewed, implemented, monitored, and enforced, with MEPA providing regulatory oversight, MoTPW and the Roads Authority leading sector implementation, and Ntcheu District Council and traditional structures supporting local planning, compliance, and community-level monitoring.

3.4 Summary of Main Statutory Approvals/Licenses to be obtained for the project

The implementation of the Senzani to Doviko road Rehabilitation Project requires compliance with several statutory approval and licensing requirements to ensure adherence to Malawi’s environmental, labour, land use, and safety regulations. These approvals must be obtained prior to, or during, project implementation as applicable.

Table 3-5. Summary of Statutory Approvals and Licences Required

SN	Approval / Licence Required	Applicable Legal / Regulatory Framework	Issuing Institution	Responsible Party	Indicative Timeframe
1	ESMMP Approval / Environmental Clearance	Environment Management Act (2017)	Malawi Environment Protection Authority (MEPA)	MoTPW	Cleared Already
2	Approval for Waste Disposal	Environment Management Act (2017); Local Government Act (1998)	MEPA; Ntcheu District Council	Contractor	~2 weeks
3	Approval for Sand Extraction (where applicable)	Local Government Act (1998)	Ntcheu District Council	Contractor	~2 weeks
4	Quarrying / Borrow Pit Approval (if required)	Mines and Minerals Act (2018)	Department of Mines	Contractor	Up to 3 months
5	Workplace Registration Certificate	Occupational Safety, Health and Welfare Act (1997)	Ministry of Labour	Contractor	~2 weeks
6	Water Abstraction Permit (if required)	Water Resources Act (2013)	National Water Resources Authority	Contractor	~2 weeks
7	Development Permission (where applicable)	Physical Planning Act (2016, as amended 2022); Local Government Act (1998)	Ntcheu District Council	MoTPW	~2 weeks
8	Fuel Storage Registration / Licence (for on-site storage capacity > 400 litres)	Liquid Fuels and Gas (Production and Supply) Act (2004) and subsidiary Regulations; MERA Notice on mandatory registration and	Malawi Energy Regulatory Authority (MERA)	Contractor	Up to 3 months

SN	Approval Licence Required	/ Applicable Legal / Regulatory Framework	Issuing Institution	Responsible Party	Indicative Timeframe
		licensing of private storage exceeding 400 litres			

4 CHAPTER 4: ENVIRONMENTAL AND SOCIAL SETTING

4.1 Introduction

This chapter presents the Environmental and Social Setting of the proposed rehabilitation of the Senzani–Doviko (T394/S125) Road, a designated road of approximately 42 km located in Ntcheu District. It provides a baseline description of the biophysical, biological, and socio-economic conditions within the project area of influence, forming the basis for identifying and managing potential environmental and social risks associated with the proposed rehabilitation works. The rehabilitation works will be done in selected sections covering a combined distance of 10 kilometers only.

4.2 Biophysical Environment

4.2.1 Topography

The Senzani–Doviko (T394/S125) Road traverses a predominantly undulating to gently rolling landscape characteristic of the central highland–rift transition zone of Ntcheu District. The alignment generally runs east–west, commencing at Senzani (Chainage 0+000) near the junction with the M1 Road and extending westwards to Doviko (approximately Chainage 42+000) close to the Malawi–Mozambique border. The road passes through a mosaic of smallholder agricultural land, dispersed rural settlements, trading nodes, and localized woodland patches.

Review of topographic maps, DED drawings, and site reconnaissance indicates that the terrain along the road exhibits moderate elevation variation, with gently rising and falling ground interspersed with shallow valleys and drainage lines. Unlike extensive floodplains, the alignment crosses a series of minor ridges, shallow depressions, and seasonal watercourses, resulting in alternating sections of relatively well-drained ground and locally water-accumulating low points.

Overall, the topography of the Senzani–Doviko Road is best described as gently undulating with localized drainage-sensitive sections associated with seasonal watercourses and shallow valleys. These conditions highlight the importance of robust drainage design, including well-defined road camber, side drains, mitre drains, culverts, and protection works at stream crossings, to ensure effective surface water management, erosion control, and long-term performance of the rehabilitated road under varying climatic conditions.

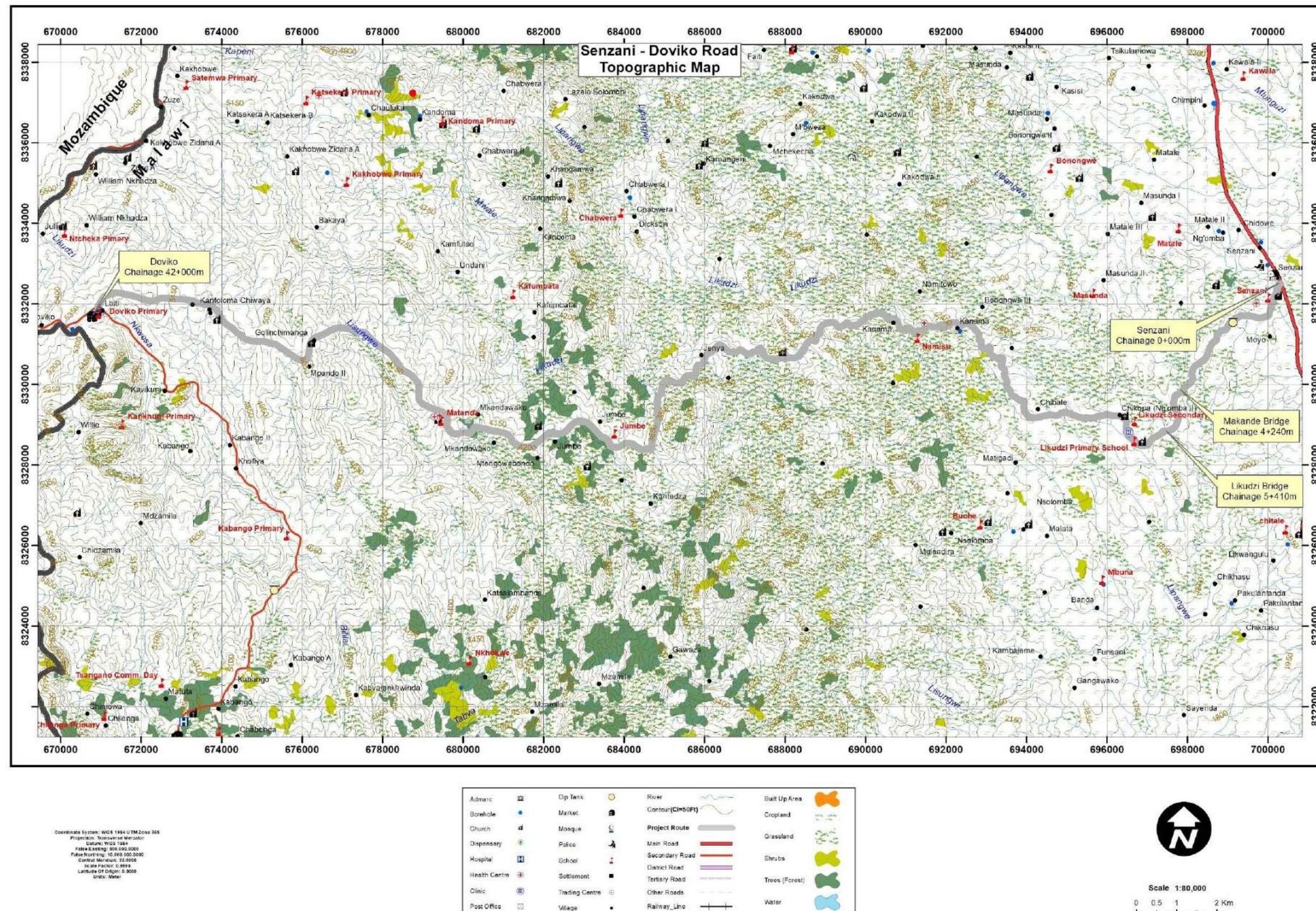


Figure 4-1. Topographic Map of the Senzani - Doviko Road

4.2.2 Geology

The Senzani–Doviko Road lies within the southern Malawi Precambrian Basement Complex (Mozambique Belt), underlain predominantly by gneissic and granulite crystalline rocks. These high-grade metamorphic rocks are structurally competent at depth but are largely overlain by thick residual soils due to prolonged tropical weathering; fresh bedrock is rarely exposed along the alignment.

Between Chainage 0+000 m (Senzani) and approximately 42+000 m (Doviko), the corridor is mainly mantled by reddish-brown residual soils derived from weathered gneiss. These materials can serve as subgrade under controlled conditions but are moisture-sensitive and prone to erosion and reduced bearing capacity if inadequately drained.

In low-lying sections and drainage crossings, the geology transitions to Quaternary alluvial and colluvial deposits (silts, sands and clays), which exhibit lower shear strength and higher moisture susceptibility, increasing risks of soft spots and rutting during the rainy season.

No significant rock outcrops, mineral resources, major faults, or seismic hazards intersect the alignment. The area is tectonically stable and not associated with landslide or rock fall risks.

Overall, geological conditions are favourable for rehabilitation, provided that design measures emphasize adequate drainage, proper material selection and compaction, and stabilization of weak subgrade sections at valley crossings and low-lying areas.

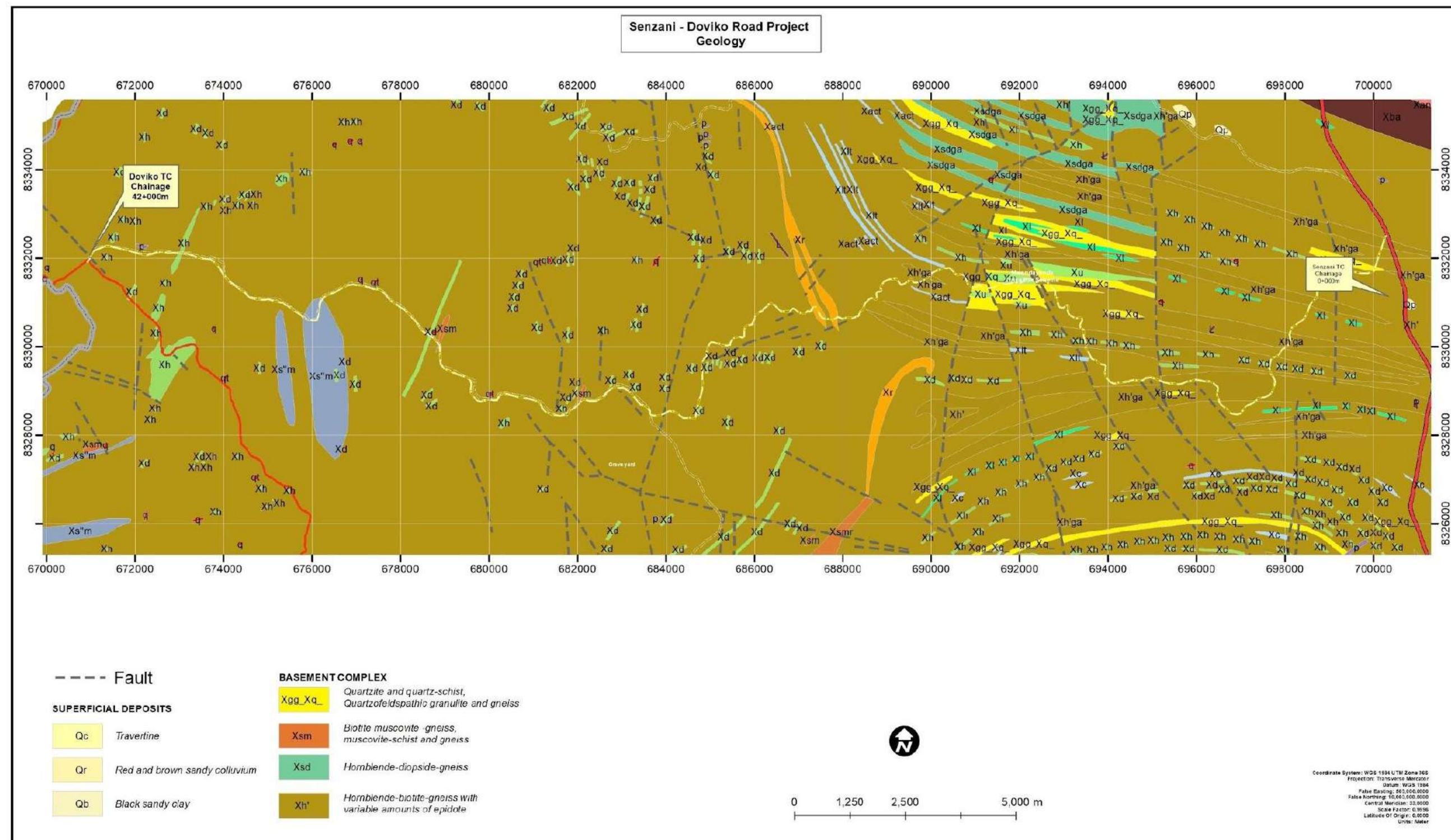


Figure 4-2. Figure. Geological Map of the Senzani - Doviko Road

4.2.3 Soils

The Senzani–Doviko Road is predominantly underlain by residual soils derived from deeply weathered Precambrian basement rocks, with localized transported (alluvial and colluvial) soils in drainage lines and low-lying areas.

The dominant soil type along most of the alignment (Chainage 0+000 m to ~42+000 m) is sandy clay loam. These soils are moderately well drained and generally suitable as subgrade under dry conditions. However, they are moisture-sensitive and prone to rutting, deformation, and reduced bearing capacity during the rainy season if drainage is inadequate.

Localized sandy loam soils occur particularly near Senzani and bridge sections. While better drained and less plastic, they are more erodible and susceptible to shoulder and side-drain instability under heavy rainfall. Low-lying sections and stream crossings are underlain by alluvial soils with poor drainage and low wet-season bearing strength, increasing risks of soft spots and pavement distress.

In trading centres and cultivated areas, soils are often disturbed, compacted, and structurally modified, affecting natural drainage and increasing erosion and sedimentation risks.

Overall, soils along the corridor are moderately erodible and moisture-sensitive. Key design considerations include:

- Proper subgrade preparation and compaction;
- Effective surface and cross-drainage provision;
- Stabilization or replacement of weak subgrade in low-lying areas; and
- Erosion control on shoulders and side slopes.

With improved drainage and targeted subgrade treatment, soil conditions are not expected to significantly constrain long-term road performance.

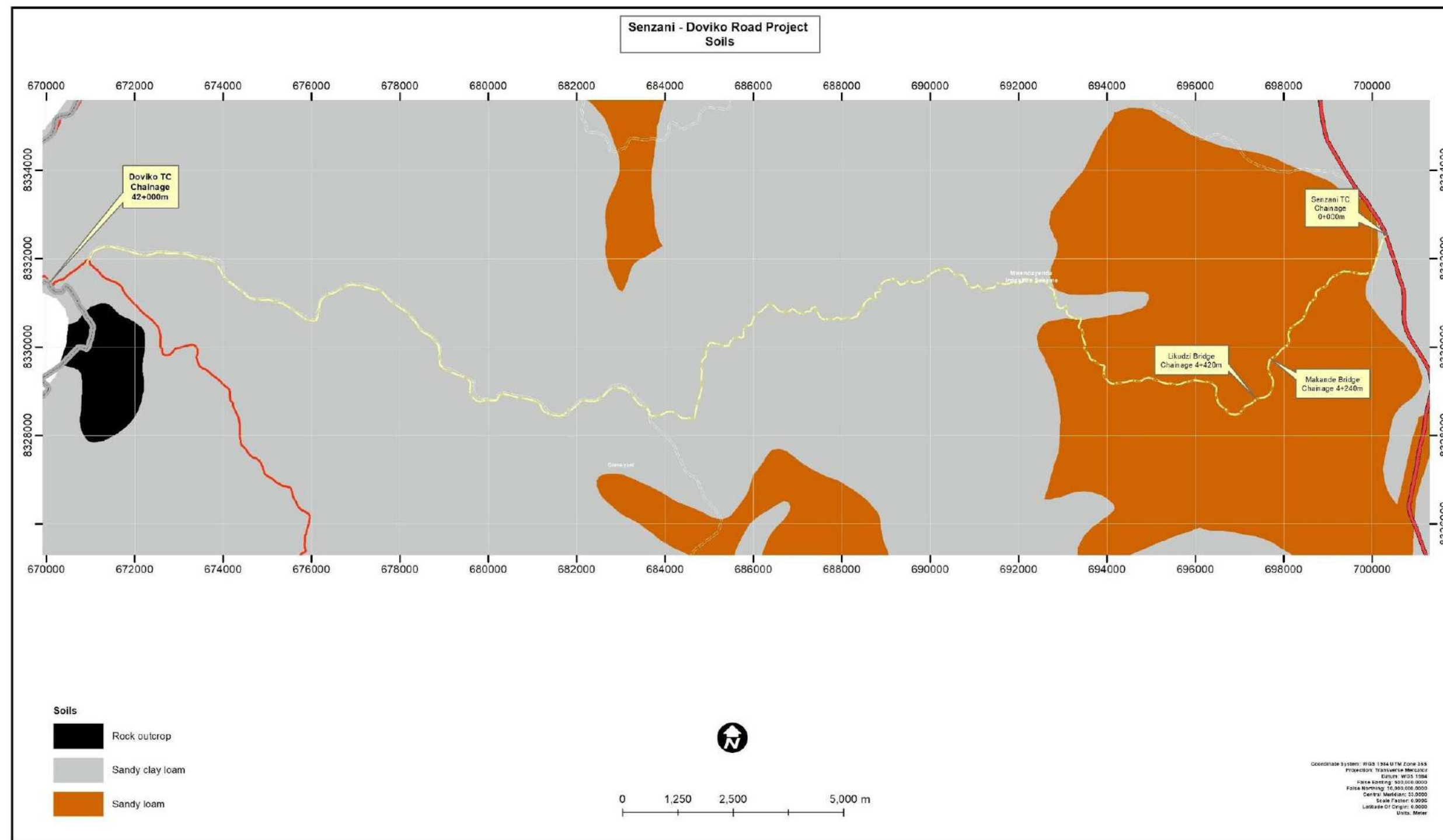


Figure 4-3. Soils of the Senzani - Doviko Road



Figure 4-4. Soils of the Dovio-Senzani Road

4.2.4 Climate and Climate Change Risks

(i) General Climate Conditions

The Senzani–Doviko Road is located within Malawi’s sub-tropical climatic zone, characteristic of the Central–Southern Region plateau and adjacent lowland areas within the Upper Shire sub-catchment of the Zambezi River Basin. The climate of the project area is defined by two distinct seasons a rainy season from November to April; and a dry season from May to October.

Seasonal climate patterns strongly influence soil moisture conditions, surface runoff generation, erosion processes, and the performance of gravel and earth roads along the corridor. Rainfall during the wet season drives runoff, waterlogging, and localized flooding in low-lying sections, while the dry season is characterised by reduced rainfall, declining soil moisture, and relatively stable ground conditions. These seasonal dynamics are critical considerations for construction scheduling, drainage design, and long-term maintenance of the Senzani–Doviko Road.

4.2.4.1 Temperature Pattern

Analysis of ERA5 daily temperature data confirms that the Senzani–Doviko corridor experiences a warm sub-tropical climate with moderate seasonal variability in both maximum and minimum temperatures. Mean annual temperatures are in the low- to mid-20s °C, consistent with the inland location and elevation of the project area.

As illustrated in Figure 4-5 (Average Monthly Max and Min Temperature for the Senzani–Doviko Road Section), the hottest period typically occurs from September to November, when mean monthly maximum temperatures rise to around 28–30 °C along the alignment and mean monthly minima increase to approximately 18–20 °C. During this late dry-season and early rainy-season period, daytime temperatures can occasionally exceed 30 °C, increasing heat stress for construction workers and influencing the handling, curing and performance of materials such as gravel layers, stabilised surfaces and concrete works.

The coolest conditions are generally recorded between June and July, when mean monthly maximum temperatures fall to about 24–25 °C and mean monthly minima drop to roughly 12–14 °C. This cooler, dry-season window is favourable for earthworks, gravelling and compaction, as reduced heat and evaporation rates support more stable working conditions and moisture control in construction materials.

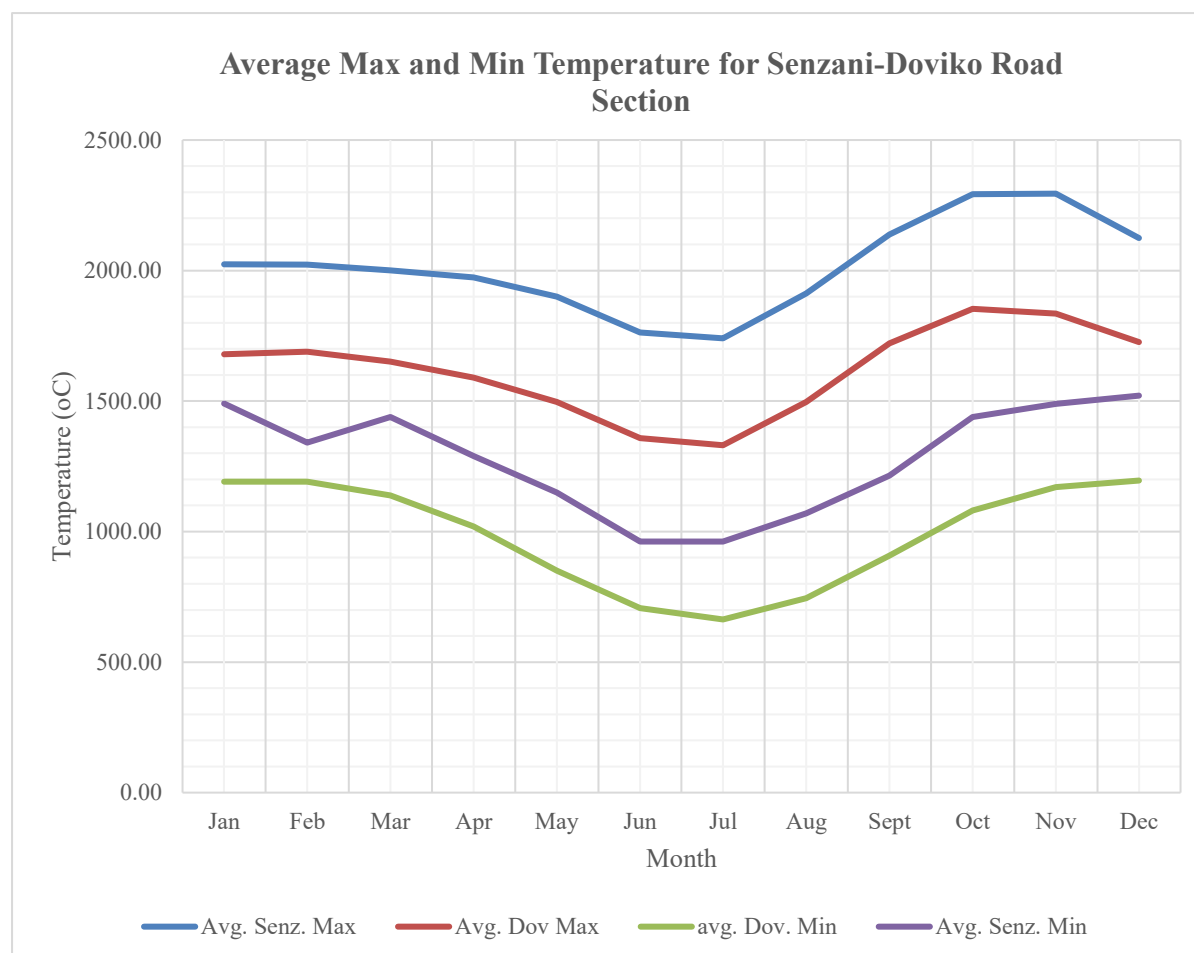


Figure 4-5. Average Monthly Mean Temperature for Senzani – Doviko Road

The coolest months are generally June and July, when average temperatures decline to approximately 16–18 °C. This cooler period coincides with the dry season and provides more favourable conditions for construction activities, particularly earthworks, gravelling, and compaction, due to reduced heat stress and lower moisture loss from construction materials.

4.2.4.2 Rainfall Distribution and Rainy Days

Rainfall along the Senzani–Doviko road exhibits a strongly seasonal, unimodal pattern typical of central Malawi. Figure 4-6 (Monthly Rainfall Distribution for the Senzani–Doviko Corridor Road Area) shows that the rainy season extends from November to April, with markedly higher totals between December and March, and a pronounced dry season from May to October.

Average monthly rainfall peaks in January, when totals reach approximately 380–420 mm across the corridor, and remains relatively high in February and March before declining sharply

in April. In contrast, the dry-season months of May to September receive negligible rainfall, often close to 0–10 mm per month, with only a modest increase in October as the rains begin to establish.

This seasonal concentration of rainfall has important implications for project scheduling. The peak wet-season months (December–March) are associated with intense storm events that generate high runoff, erosion and rapid deterioration of unpaved surfaces, while the extended dry period (May–October) provides a more stable window for undertaking earthworks, gravelling, compaction and drainage construction with reduced interruption from rainfall.

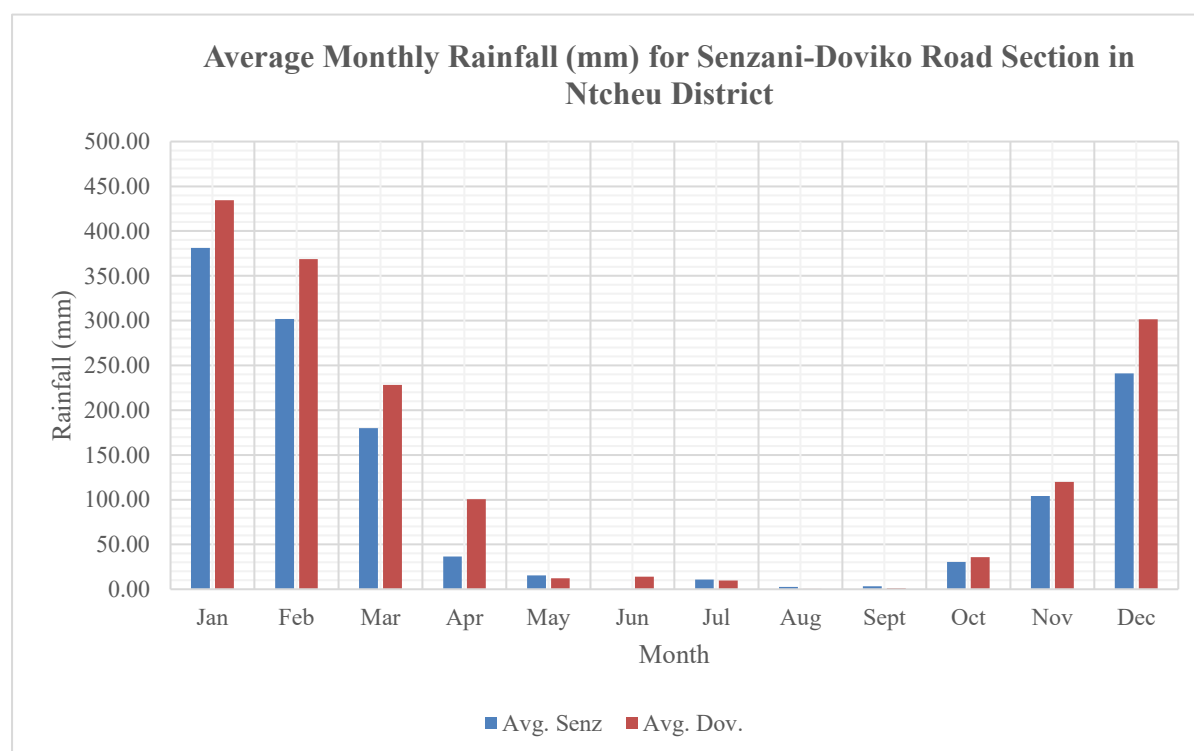


Figure 4-6. Monthly Rainfall Distribution for the Senzani–Doviko Corridor Road Area

4.2.4.3 Sunshine Duration

The Senzani–Doviko Road experiences high annual sunshine levels, reflecting generally clear-sky conditions, particularly during the dry season. Regional climate data for central and southern Malawi indicate average annual sunshine duration of approximately 2,800–3,000 hours. Sunshine duration varies seasonally in close association with rainfall patterns. The dry season (May–October) records the highest sunshine levels, with September and October typically experiencing the longest daily sunshine durations of approximately 9.5–10 hours per day. Humidity Trends

Relative humidity along the Senzani–Doviko Road exhibits a clear seasonal pattern closely linked to rainfall and temperature variations. During the rainy season, particularly between December and March, humidity levels are generally high, with peak values typically recorded in January and February when rainfall intensity and cloud cover are greatest. In contrast, the dry season months from June to September are characterised by significantly lower humidity

levels due to reduced precipitation and increased sunshine duration. Elevated humidity during the wet season can affect the storage, handling, and curing of construction materials such as cement, stabilised soils, and aggregates if not properly managed. High humidity, when combined with elevated temperatures, may also contribute to worker discomfort and heat stress, underscoring the need for adequate welfare facilities, ventilation of storage areas, and strict adherence to occupational health and safety measures during construction.

4.2.4.4 Wind Speed and Direction

Wind conditions along the Senzani–Doviko Road are generally moderate, with average wind speeds typically ranging between 10 and 16 km/h. The windiest conditions usually occur between August and November, coinciding with the late dry season and the transition into the rainy period. Prevailing wind directions vary seasonally. During the cooler months, winds predominantly originate from the south and south-east, while during hotter months they tend to shift towards an east to north-east direction. These wind patterns are relevant for construction planning, as they influence dust dispersion during earthworks and haulage activities, as well as the siting and orientation of temporary facilities such as workers' camps, material storage areas, and batching sites. Appropriate dust-suppression measures and site-layout planning will therefore be required to minimise nuisance and health risks to workers and nearby communities.

4.2.4.5 Climate Change Risks

Observed climate trends derived from ERA5 and CHIRPS datasets, together with national climate projections, indicate that the Senzani–Doviko Road is increasingly exposed to climate-related risks. Key risks include:

- **Rainfall variability**, characterised by shorter but more intense rainfall events, increasing the risk of flash flooding and surface runoff;
 - **Flooding and erosion**, particularly in low-lying sections and areas with limited natural drainage, threatening road stability and serviceability;
 - **Extreme weather events**, including intense storms and cyclonic rainfall systems, which may accelerate road damage and increase maintenance demands; and
- Health and social impacts**, as rising temperatures and humidity may exacerbate heat stress, vector-borne diseases (e.g. malaria), and water-related illnesses where drainage is inadequate.

4.2.5 Rainfall and Water Sources

The Senzani–Doviko Road is characterised by a drainage environment dominated by numerous seasonal streams, dambos, and localized wetlands within a generally low-gradient landscape, with two key perennial river crossings. Surface-water availability and flow patterns are strongly seasonal, although perennial flows are maintained in the main river systems. Hydrological processes are primarily rainfall-driven, with peak surface runoff occurring during the wet season (November–April) and reduced flows in seasonal channels during the dry season (May–October). Interpretation of the hydrology map indicates that the alignment traverses gently undulating to locally low-lying terrain intersected by a dense network of shallow drainage lines,

dambos, and wetland patches. These features reflect shallow groundwater conditions, limited channel incision, and low longitudinal gradients.

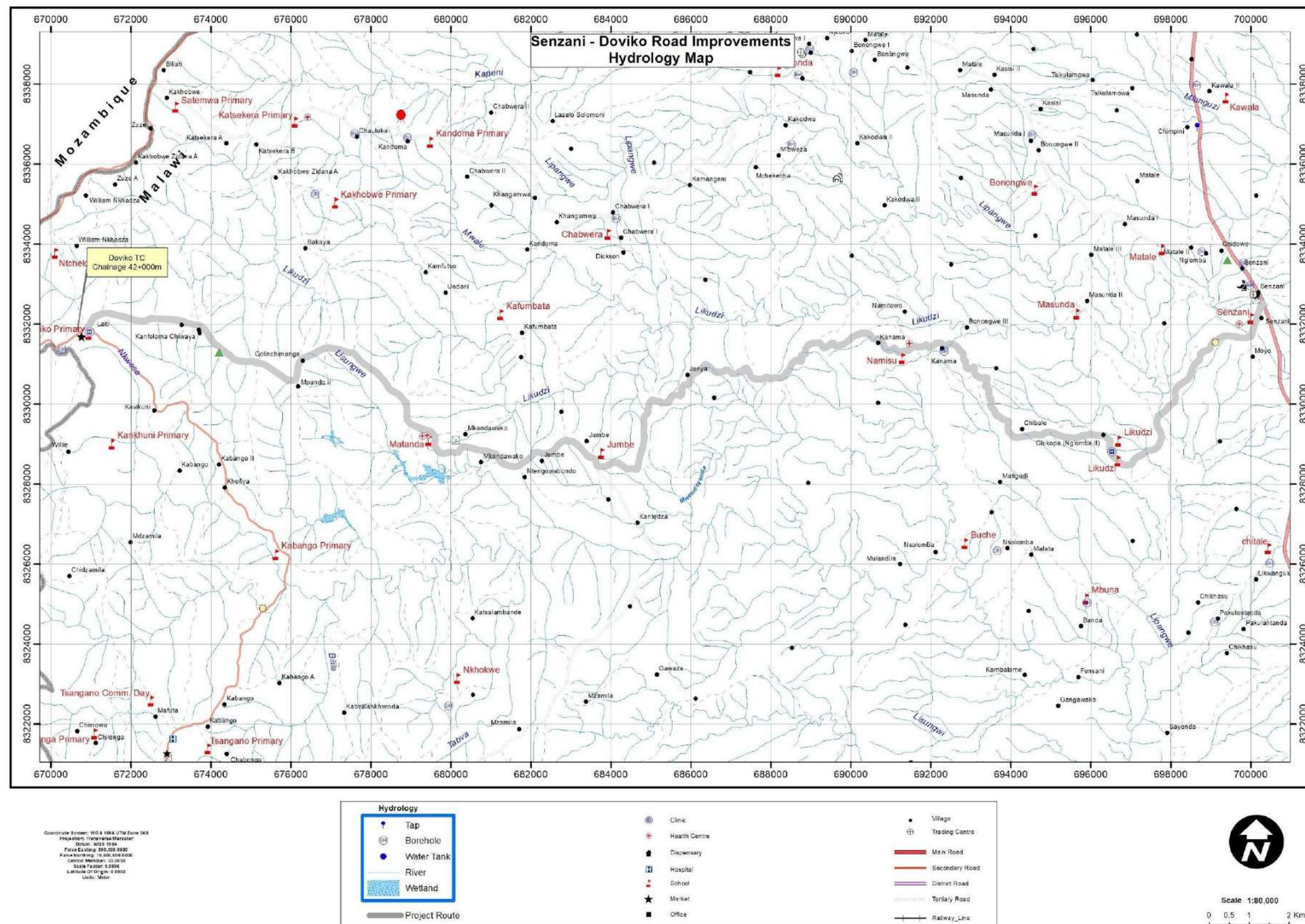


Figure 4-7. Hydrological map of the Senzani - Doviko Road

4.2.6 *Flora of the project Area*

The project corridor is predominantly characterised by mixed woodland, largely comprising secondary, regenerating miombo vegetation. This vegetation reflects historical disturbance from cultivation, fuelwood collection, and settlement expansion, resulting in a mosaic of natural and modified habitats along the road alignment. The dominant woody species recorded within the project area include *Eucalyptus globulus*, *Brachystegia* spp., *Combretum* spp., *Senna* spp., *Piliostigma thonningii*, *Ziziphus* spp., *Gmelina arborea*, and *Pterocarpus* spp. Exotic species such as *Eucalyptus globulus* and *Gmelina arborea* were mainly observed in planted stands and along homesteads, while indigenous species typical of miombo woodlands were more common in less disturbed sections.

Agricultural activities are prevalent along the road reserve and adjacent areas, with cultivated fields extending close to the project corridor. *Zea mays* (maize) was the predominant crop observed, reflecting the area's subsistence-oriented farming systems.



Figure 4-8. *Ziziphus mauritiana* species observed at Likudzi full primary School

Species Composition

The results of the vegetation survey conducted in the road showed that a total of 38 unique plant species were recorded. The sampled species recorded are presented in Table 4-1.

Table 4-1 Flora Species Sampled and Conservation Status

Species	Family	Form	English Name	National Plant Red Data List Conservation Status	IUCN Status
<i>Acacia albida</i>	Fabaceae	Tree	Apple-ring Acacia	Not Evaluated	Least Concern
<i>Acacia nilotica</i>	Fabaceae	Tree	Gum Arabic Tree	Not Evaluated	Least Concern
<i>Agave americana</i>	Asparagaceae	Herb	Century plant	Not Evaluated	Least Concern
<i>Azanza garckeana</i>	Malvaceae	Shrub	African Chewing Gum	Not Evaluated	Not Evaluated
<i>Bauhinia petersiana</i>	Fabaceae	Tree	kalahari white bauhinia	Least Concern	Least Concern
<i>Brachystegia utilis</i>	Fabaceae	Tree	Utulis Brachystegia	Not Evaluated/ Least concern	Least Concern
<i>Brachystegia spiciformis</i>	Fabaceae	Tree	Msasa	Not Evaluated/ Least concern	Least Concern
<i>Calotropis procera</i>	Apocynaceae	Shrub	Apple of Sodom	Invasive	Least Concern
<i>Cascabella tevetia</i>	Apocynaceae	Shrub	Yellow oleander	Not Evaluated	Least Concern
<i>Cinerea dichrostachys</i>	Fabaceae	Shrub	Sickle bush	Not Evaluated/ Least concern	Least Concern
<i>Cissampelos mucronata</i>	Menispermaceae	Climber	Poison vine	Not Evaluated	Not Evaluated
<i>Combretum adenogonium</i>	Combretaceae	Tree	Four-leaved bushwillow	Not Evaluated	Least Concern
<i>Diplorhynchus condylocarpon</i>	Apocynaceae	Tree	Horn-pod tree	Not Evaluated	Least Concern
<i>Ekebergia benguelensis</i>	Meliaceae	Tree	Woodland Dogplum	Not Evaluated	Least Concern
<i>Eucalyptus globulus</i>	Myrtaceae	Tree	Tasmanian blue gum	Least Concern	Least Concern
<i>Gmelina arborea</i>	Lamiaceae	Tree	White teak	Least Concern	Least Concern

Species	Family	Form	English Name	National Plant Red Data List Conservation Status	IUCN Status
<i>Hyparrhenia rufa</i>	Poaceae	Grass	Jaragua grass	Not Evaluated	Not Evaluated
<i>Hyphaene coriacea</i>	Arecaceae	Tree	Lala palm	Least Concern	Least Concern
<i>Jacaranda mimosifolia</i>	Bignoniaceae	Tree	Blue jacaranda	Not Evaluated	Least Concern
<i>Lantana camara</i>	Verbenaceae	Shrub	Common lantana	Not Evaluated	Least Concern
<i>Lonchocarpus capassa</i>	Fabaceae	Tree	Apple-leaf	Not Evaluated	Data deficient
<i>Mangifera indica</i>	Anacardiaceae	Tree	Mango	Not Evaluated	Least Concern
<i>Moringa oleifera</i>	Moringaceae	Shrub	Moringa	Not Evaluated	Least Concern
<i>Phragmites mauritianus</i>	Poaceae	Grass	African Reed	Not Evaluated	Least Concern
<i>Phyllanthus discoideus</i>	Phyllanthaceae	Shrub	Bushveld peacock-berry	Not Evaluated	Not Evaluated
<i>Piliostigma thonningii</i>	Fabaceae	Tree	Camel's foot tree	Not Evaluated	Least Concern
<i>Pterocarpus angolensis</i>	Fabaceae	Tree	Kiaat	Protected	Least Concern
<i>Sclerocarya caffra</i>	Anacardiaceae	Tree	Marula	Least Concern	Least Concern
<i>Senna alata</i>	Fabaceae	Shrub	Candle Bush	Not Evaluated	Least Concern
<i>Senna siamea</i>	Fabaceae	Tree	Siamese cassia	Least Concern	Least Concern
<i>sida acuta</i>	Malvaceae	Herb	broom weed	Least Concern	Not Evaluated
<i>Kigelia africana</i>	Bignoniaceae	Tree	Sausage Tree	Not Evaluated	Least Concern
<i>Tamarindus indica</i>	Fabaceae	Tree	Tamarind	Not Evaluated	Least Concern
<i>Terminalia sericea</i>	Combretaceae	Tree	silver cluster-leaf	Least Concern/Protected	Least Concern
<i>Toona ciliata</i>	Meliace	Tree	Red Cedar	Not Evaluated	Least Concern
<i>Zea mays</i>	Poaceae	Grass	Maize	Least Concern	Least Concern
<i>Ziziphus mauritiana</i>	Rhamnaceae	Shrub	Indian jujube	Not Evaluated	Least Concern
<i>Ziziphus mucronata</i>	Rhamnaceae	Shrub	Buffalo thorn	Not Evaluated	Least Concern

Conservation Status in the project area

No endemic plant species were recorded within the Senzani–Doviko Road project area. All flora species observed are widely distributed beyond the project footprint and road reserve. Assessment against the IUCN Red List of Threatened Species (2025) indicates that none of the recorded plant species are threatened; all are classified as Least Concern. However, *Terminalia sericea* and *Pterocarpus angolensis* were identified within the project area and are protected under the National Forestry Act (Cap. 63:01) and Forest (Amendment) Rules, 2024.



Figure 4-9. Pterocarpus angolensis is one of the protected species observed along the project area

4.2.7 Fauna in the Area

4.2.7.1 Mammal Species

Field surveys recorded 10 mammal species within the project area. All recorded species are classified as Least Concern (LC) under the IUCN Red List. None of the species are listed as threatened, protected, endemic, or invasive. Construction activities, particularly vegetation clearance and increased human activity, may result in localized disturbance or temporary displacement of some mammal species.

Table 4.2.7. Mammal species of the Senzani - Doviko Road

Scientific Name	Local Name	National Plant Red Data List Conservation Status	IUCN/Global Conservation Status
<i>Sylvicapra grimmia</i> .	bush duiker	Not Evaluated	Least Concern
<i>Crocuta crocuta</i>	Spotted hyena	Not Evaluated	Least Concern
<i>Lepus saxatilis</i>	Lepus saxatilis	Not Evaluated	Least Concern
<i>Redunca arundinum</i>	Southern Reedbuck	Not Evaluated	Least Concern
<i>Papio cynocephalus</i>	Yellow Baboon	Not Evaluated	Least Concern
<i>Chlorocebus pygerythrus</i>	Vervet Monkey	Not Evaluated	Least Concern
<i>Saccostomus capensis</i>	Pouched Mouse	Least Concern	Least Concern
<i>Epomophorus paraxerus cepapi</i>	Tree squirrel	Least Concern	Least Concern
<i>Mastomys natalensis</i>	Natal Multimammate Mouse	Not Evaluated	Least Concern
<i>Atelerix albiventris</i>	Four-toed Hedgehog	Not Evaluated	Least Concern

4.2.7.2 Bird Species

A total of 14 bird species were documented within the project footprint and its area of influence. All species are classified as Least Concern (LC) and are not protected under the National Parks and Wildlife legislation. No endemic or invasive alien bird species were recorded. Temporary disturbance and local displacement may occur during construction due to vegetation clearing and tree felling.

Table 4.2.7.2 : Bird Species sampled from the Project Area

Scientific Name	Local Name	National Plant Red Data List Conservation Status	IUCN/Global Conservation Status
<i>Merops pusillus</i>	Little Bee-eater	Least concern	Least concern
<i>Passer diffusus</i>	Southern Grey-headed Sparrow	Least concern	Least concern
<i>Uraeginthus angolensis</i>	Blue-breasted Cordonbleu	Least concern	Least concern
<i>Corvus albus</i>	Pied Crow	Least concern	Least concern
<i>Tchagra senegalus</i>	Black-crowned Tchagra	Least concern	Least concern
<i>Pycnonotus barbatus</i>	Common Bulbul	Least concern	Least concern
<i>Chrysococcyx caprius</i>	Dideric Cuckoo	Least concern	Least concern
<i>Pogoniulus chrysoconus</i>	Yellow-fronted Tinkerbird	Least concern	Least concern
<i>Streptopelia capicola</i>	Ring-necked Dove	Least concern	Least concern
<i>Ploceus velatus</i>	Southern Masked Weaver	Least concern	Least concern
<i>Passer griseus</i>	Northern Grey-headed Sparrow	Least concern	Least concern
<i>Streptopelia semitorquata</i>	Red-eyed Dove	Least concern	Least concern
<i>Colius striatus</i>	Speckled Mousebird	Least concern	Least concern
<i>Laniarius major</i>	Tropical Boubou	Least concern	Least concern

Overall Sensitivity and Implications for ESMMP

The faunal assemblage recorded within the Senzani–Doviko Road project area is typical of modified rural landscapes, with no threatened, endemic, or invasive species identified. Anticipated impacts are expected to be localized and primarily associated with construction-phase disturbance. With appropriate mitigation measures implemented through the ESMMP, impacts on fauna are anticipated to be low and manageable.

4.2.8 Sanitation and Waste Management

Field observations and community consultations along the Senzani–Doviko Road indicate that sanitation and waste management conditions are typical of rural Malawi settings. Most households and public institutions rely on traditional pit latrines, which are generally unlined and privately managed at household level. There is no evidence of sewerage sanitation systems within the project area. Solid waste management is informal and decentralised, reflecting the

absence of organised or centralised waste collection services. Households commonly dispose of domestic waste through burial in waste pits, open dumping, or periodic burning. Organic waste is sometimes composted or discarded in agricultural fields, while non-biodegradable waste, particularly plastics, is frequently burned or disposed of in open areas.

Public institutions such as schools and health facilities generally demonstrate better sanitation and waste management practices, supported by institutional rules and hygiene regulations. The prevailing sanitation and waste management conditions underscore the need for construction-phase mitigation measures, including the provision of adequate sanitation facilities at worksites, proper waste segregation and disposal by contractors, and community sensitisation to prevent increased littering, environmental pollution, and obstruction of drainage structures during road rehabilitation works.



Figure 4-10. Doviko Trading Centre on the tail end of the road

4.3 Socio-economic environment

4.3.1 Demography

4.3.2 Population Size and Distribution

The proposed Senzani–Doviko Road traverses three Traditional Authorities (TAs) in Ntcheu District, namely TA Phambala, STA Tsikulamowa, and TA Mpando. According to the 2018 Malawi Population and Housing Census, these TAs had populations of 44,626, 39,628, and 77,612 persons, respectively, giving a combined population of approximately 161,866 people. Based on the strategic role of the Senzani–Doviko Road as the primary transport corridor linking villages, trading centres, agricultural areas, health facilities, and cross-border markets—particularly between Senzani Trading Centre (Chainage 0+000 m) and Doviko Trading Centre (Chainage ~42+000 m)—it is conservatively assumed that at least 30 percent of the population within these TAs directly relies on this road for routine transport, trade, and livelihood activities. On this basis, the population functionally dependent on the Senzani–Doviko Road is estimated at approximately 48,560 people. Population distribution along the corridor is uneven, with higher concentrations around Senzani and Doviko Trading Centres,

roadside villages, schools, and health facilities, while intervening stretches are predominantly rural, characterised by dispersed homesteads and extensive agricultural land use.

Population Density

Settlement along the Senzani–Doviko corridor is predominantly rural and linear, reflecting village clustering near the road and trading centres interspersed with large tracts of farmland and natural vegetation. Although the road serves a sizeable population, the localised settlement density along the corridor is considerably lower than the Ntcheu District average. Based on spatial interpretation of settlement patterns and the length of the road, the effective corridor population density is estimated at approximately 100–150 persons per km², compared to the district-wide average density of about 203 persons per km² in 2018. Localised density “hotspots” occur at Senzani and Doviko Trading Centres and near river crossings, while long stretches between these nodes remain sparsely populated.

4.3.2 Education and Literacy

Education

Education infrastructure along the Senzani–Doviko Road is relatively concentrated for a rural border setting. Baseline mapping, school records, and consultations confirm that nine (9) schools are located within approximately 100 m of the road alignment, making education one of the most prominent social receptors along the corridor. The schools are distributed mainly within Traditional Authority (TA) Phambala, with additional facilities in TA Mpando, as follows:

- Golimchimanga Full Primary School (TA Mpando)
- Jumbe Full Primary School (TA Phambala)
- Matawale Full Primary School (TA Mpando)
- Namisu Full Primary School (TA Phambala)
- Likudzi Full Primary School (TA Phambala)
- Likudzi Secondary School (TA Phambala)
- Senzani Full Primary School (TA Phambala)
- Senzani Vision Private School (Primary) (TA Phambala)
- Senzani Vision Private School (Secondary) (TA Phambala)
- Ludoviko Primary School (*located at Doviko Trading Centre, TA Mpando*)

The majority of these institutions are public primary schools, complemented by one public secondary school and two private schools. Several schools—particularly Jumbe FP, Golimchimanga FP, Matawale FP, Senzani FP, and Ludoviko Primary School—are located immediately adjacent to the road reserve and experience daily interaction with traffic, highlighting the strong spatial linkage between education facilities and the road.



Figure 4-11. Jumbe primary school

4.3.3 Health

Health conditions along the Senzani–Doviko Road reflect a predominantly rural border setting with limited but locally available primary healthcare services. Consultations with key informants confirmed that the main health facilities serving the corridor are located at Senzani and Doviko, which function as the primary points of care for surrounding villages and trading centres along the road. Access to health services is highly sensitive to road condition and seasonality. During the rainy season, poor soils, flooding, and deteriorated sections of the road significantly constrain mobility, delaying access to outpatient services, antenatal care, emergency referrals, and follow-up treatment. These constraints disproportionately affect pregnant women, children, the elderly, and persons with limited transport options. Common health challenges reported along the corridor include malaria, diarrhoeal diseases, respiratory infections, and other sanitation-related illnesses, reflecting widespread reliance on pit latrines, limited waste management, and open waste disposal practices. Environmental health risks are more pronounced in settlement clusters and trading centres, where population density and informal activities are higher.

4.3.4 Cultural Heritage

A review of secondary sources, consultations with local authorities and community representatives, and field observations conducted along the Senzani–Doviko Road indicate that no known cultural heritage sites, archaeological resources, sacred sites, or formal graveyards are located within or immediately adjacent to the road alignment.

4.3.5 Agriculture

Agriculture is the dominant livelihood activity along the Senzani–Doviko Road, reflecting the predominantly rural land-use character of the area. Households mainly engage in smallholder rain-fed farming, producing maize and other annual food crops such as beans and groundnuts. Production is largely subsistence-oriented, characterised by low external input use, limited mechanisation, and strong dependence on seasonal rainfall. The Doviko area is widely recognised for potato production, which was consistently identified during community

consultations as the primary income-earning agricultural commodity. Potato farming supports household incomes beyond subsistence and supplies both domestic and cross-border markets. Produce from this area is routinely transported to Tsangano (Mozambique), Blantyre/Limbe, and Lilongwe, highlighting the importance of the corridor as a strategic agricultural marketing route linking local producers to national and regional markets.



Figure 4-12. A maize field along the road

4.3.6 Economic Activities/Livelihoods

It is estimated that 20.1% of people in Ntcheu are ultra-poor. Livelihoods along the Senzani–Doviko Road are predominantly agriculture-based, reflecting the rural character of the area. Consistent with 2018 Malawi Population and Housing Census patterns for rural districts, households rely on a combination of smallholder farming, casual labour (ganyu), and informal economic activities. Agriculture provides the primary livelihood, with crop production supplemented by income from labour and trading, particularly during the agricultural off-season. Casual labour (ganyu) is an important income source for many households, providing short-term and seasonal earnings. Sale of food and cash crops, notably potatoes in the Doviko area, contributes to household income, although production remains low-input, labor-intensive, and climate-sensitive. Limited access to agricultural inputs and services constrains productivity.

Beyond farming, households engage in informal livelihoods, including petty trading, small-scale vending, bicycle and motorcycle transport services, brick moulding, carpentry, and other manual trades. These activities are concentrated around Senzani, Likudzi, Jumbe, and Doviko trading centres, which function as local exchange hubs serving surrounding villages. Trading activity increases during designated market days and includes participation by traders from neighbouring areas and across the Mozambique border. Livelihoods are generally low-income and seasonally variable, with strong dependence on road conditions. During the rainy season, poor accessibility increases transport costs and limits market access, affecting farm-gate prices and household earnings. Gender differences in livelihood participation are evident. In line with the Malawi Labour Force Survey (2024), women are predominantly engaged in the informal

sector, particularly petty trading and farm production, while men are more involved in produce marketing, agro-dealing, and transport services, which tend to generate higher returns.

Overall, livelihoods along the corridor are diverse but economically constrained, shaped by subsistence agriculture, informal trade, seasonal labour, and strong dependence on physical access to markets and services.



Figure 4-13. A hawker along the Senzani–Doviko Road (Senzani Road Section)

4.3.7 Transport

Transport along the Senzani–Doviko Road is characterised by limited capacity, informal service provision, and strong seasonality, reflecting the rural setting and existing road condition. The corridor serves a mix of pedestrians, bicycles, motorcycles, and light vehicles, with low to moderate traffic volumes overall. Motorized transport is dominated by private operators locally referred to as “Matola”, mainly using pick-ups and small trucks for both passenger and goods movement.

Motorcycles are widely used, particularly around Senzani and, more prominently, Doviko trading centres, where they provide the primary means of short-distance passenger transport and small-scale freight movement. Bicycle use remains common within villages and agricultural sections of the corridor. In addition, large trucks regularly operate along the corridor to transport potatoes, especially from the Doviko area, which is a major potato-producing zone. These trucks move produce to external markets, including Tsangano (Mozambique), Blantyre/Limbe, and Lilongwe, and constitute the heaviest vehicles observed on the road. Their movement is more frequent during the harvest period and is strongly influenced by road condition and season.



Figure 4-14. A truck on the proposed road in Senzani

During the rainy season, transport reliability declines due to waterlogging, erosion, and inadequate drainage, which periodically disrupt vehicle movement. These conditions constrain access to schools, health facilities, markets, and emergency services, and increase travel time and transport costs for both people and agricultural produce. As a result, mobility along the corridor remains highly weather-dependent, with transport services fluctuating by season. Overall, transport along the Senzani–Doviko Road is informal, agriculture-driven, and dominated by intermediate and heavy goods vehicles, with potato haulage forming a defining feature of traffic patterns in the Doviko section.

4.3.8 Security

Security conditions along the Senzani–Doviko Road are generally stable, with no evidence of organised crime reported during baseline consultations. Communities rely primarily on traditional leadership structures, community policing arrangements, and support from the Malawi Police Service. The nearest formal police facility is Senzani Police Post, located within approximately 500 m of Chainage 0+000, and serves as the primary law-enforcement point for the corridor and adjacent communities. Common security issues reported include petty theft, particularly of bicycles and motorcycles, occurring mainly at night and around trading centres such as Senzani and Doviko. Occasional disputes linked to land use and trading activities were also noted and are typically resolved through customary and community-based mechanisms. No crime hotspots were identified along the corridor. Overall, the Senzani–Doviko Road is characterised by a low-crime rural security environment, supported by strong social cohesion and the proximity of the Senzani Police Post.

4.3.9 Land Use

Land use along the Senzani–Doviko Road is predominantly rural and mixed, comprising residential settlements, smallholder agricultural fields, trading centres, and undeveloped open land. Settlement and development patterns are largely linear, closely following the existing road alignment, with higher concentrations around Senzani, Likudzi, Jumbe, and Doviko trading centres. Away from these nodes, land use is dominated by subsistence agriculture and scattered homesteads. Field observations indicate that the road occupies an established public road reserve that has been in use for many years. However, informal encroachment is common, particularly in the form of cultivation extending close to the road edge and temporary roadside

structures, reflecting land scarcity and limited awareness of formal road-reserve boundaries. Despite this close interaction between land use and the road, the corridor—especially in the Doviko section—is generally well preserved, and the existing alignment remains clearly defined. The proposed rehabilitation is therefore expected to remain within the current road footprint, without altering prevailing land-use patterns or requiring additional land.

4.3.10 Vulnerable and Marginalised Groups

Vulnerable and marginalised groups present along the Senzani–Doviko corridor include female-headed households, elderly persons, persons with disabilities, child-headed households, and very poor farming households. These groups were identified during community consultations and are characteristic of rural settlements with high dependence on subsistence agriculture and informal livelihoods.

4.3.11 Communication

Communication services along the Senzani–Doviko Road are primarily provided through mobile phone networks, with coverage from Airtel and TNM, with Airtel generally reported as more reliable. Network availability is good around trading centres and settlement clusters, including Senzani and Doviko, but weaker in low-lying and sparsely populated sections of the corridor. Radio remains the most widely used medium for information dissemination, particularly for public information and community announcements. Community meetings and communication through traditional leadership structures are also commonly used and trusted channels. Internet access is limited and largely restricted to larger trading centres, with minimal use in outlying rural villages.

4.3.12 Energy Sources

Household energy use along the Senzani–Doviko Road is dominated by biomass energy, particularly firewood and charcoal, which are primarily used for cooking and heating. Access to grid electricity is limited and mainly confined to trading centres and a small number of relatively better-off households. As a result, most rural households rely on traditional energy sources. Solar lanterns and small solar home systems are increasingly used for lighting and mobile phone charging, indicating gradual uptake of off-grid renewable energy solutions. During field observations, transport of charcoal by bicycles, motorcycles, and small vehicles was commonly observed along the corridor, reflecting the importance of charcoal both as a household energy source and a livelihood activity. This movement highlights the continued dependence on biomass energy and the role of the road in facilitating informal energy supply chains between rural production areas and nearby markets.

4.4 Implication for the Project

The Senzani–Doviko Road serves a predominantly rural, youthful, and agrarian population with low-to-moderate settlement density and strong dependence on the road for market access, education, health services, and livelihoods. Trading centres such as Senzani, Likudzi, Jumbe, and Doviko function as focal points for mobility and economic exchange, reinforcing the road's role as a local and cross-border lifeline. Livelihoods along the corridor are largely informal and climate-sensitive, dominated by smallholder agriculture, ganyu, petty trading, and transport services. The Doviko section is a major potato-producing area, with produce transported by large trucks to Tsangano (Mozambique), Blantyre/Limbe, and Lilongwe, highlighting the

corridor's importance for regional and cross-border trade. Poor road conditions, particularly during the rainy season, currently constrain market access, increase transport costs, and limit access to health and emergency services.

Social services are closely linked to the road. Nine schools are located within approximately 100 m of the alignment, several immediately adjacent to the road reserve, indicating high social sensitivity and substantial daily learner movement. Literacy levels are moderate but uneven, with gender and spatial disparities and additional pressure from cross-border mobility with Mozambique, which affects school attendance and livelihood stability.

Land use along the corridor is predominantly rural and mixed, with agriculture closely integrated with the road alignment. While informal use of the road reserve is common, the alignment—particularly in the Doviko section—is well preserved, and no land acquisition or cultural heritage impacts are anticipated. Vulnerable groups, including female-headed households, elderly persons, persons with disabilities, and very poor farmers, are present and rely heavily on uninterrupted access and mobility.

5 CHAPTER 5: ENVIRONMENTAL AND SOCIAL MITIGATION AND MONITORING PLAN

5.1 Introduction

This chapter presents the Environmental and Social Mitigation and Monitoring Plan (ESMMP) for the proposed rehabilitation of the Senzani–Doviko Road. It sets out the mitigation measures, monitoring requirements, implementation responsibilities, and reporting arrangements for managing the environmental and social impacts identified during planning, construction, demobilisation, and operation of the subproject.

The ESMMP provides the framework for implementing environmental and social safeguards in accordance with the Environment Management Act, 2017, applicable MEPA environmental assessment requirements, and relevant World Bank safeguard and environmental and social risk management requirements. It forms part of the environmental and social obligations to be implemented by the Contractor, Supervising Consultant, the MoTPW PIU, the District Council, and other relevant authorities during project execution.

Monitoring provisions are included to enable the PIU, Supervising Consultant, District Council, and MEPA to systematically track environmental and social performance, verify the effectiveness of mitigation measures, and ensure timely corrective action throughout implementation. Monitoring will focus on key risk areas including erosion and sediment control, drainage functionality, pollution prevention, waste management, occupational health and safety, labour and working conditions, traffic and pedestrian safety, stakeholder engagement, and grievance management.

Monitoring reports will be prepared by the Contractor and submitted on a monthly basis to the PIU, Supervising Consultant, and District Environmental Office for review and follow-up in line with the project's six- to nine-month implementation schedule.

Framework instruments for contractor implementation

To support effective implementation of the mitigation and monitoring measures set out in this chapter, this ESMMP includes framework instruments in the annexes that establish minimum procedures, standards, and compliance requirements for contractor implementation. Prior to commencement of works, the Contractor shall prepare site-specific plans and procedures based on these framework instruments for review and approval by the Supervising Consultant and PIU, with copy submission to the District Environmental Office where applicable.

At a minimum, the Contractor shall prepare and implement the following site-specific instruments before the relevant activities commence:

- Borrow Pit Rehabilitation Plan, based on Annex 5: Barrow Pit Rehabilitation Framework.
- Traffic Management Plan, based on Annex 6: Traffic Management Framework.
- Labour Management Plan, based on Annex 8: Labour Management Guidelines for Contractor Compliance and Preparation of Labour Management Plans (LMPs).
- Contractor Environmental and Social Management Plan (C-ESMMP), based on Annex 9: Contractor Environmental and Social Management Plan (C-ESMMP) Framework,

integrating construction-method-specific environmental, social, health, and safety controls.

- Waste Management Plan, based on Annex 10: Waste Management Framework.
- Stakeholder Engagement Plan, based on Annex 11: Stakeholder Engagement Framework.
- GBV/SEA/SH prevention and response measures, consistent with Annex 8: Labour Management Guidelines and Annex 13: SATCP LMI Grievance Redress Mechanism (GRM) Protocol, as applicable to GBV/SEA/SH risk management.

In addition, the Contractor shall implement Annex 4: Sample Code of Conduct for Contractors, Annex 7: Chance Find Procedure for Last Mile Infrastructure under SATCP, and Annex 13: SATCP LMI Grievance Redress Mechanism (GRM) Protocol as mandatory instruments throughout the construction period. These instruments shall apply to all workers, subcontractors, suppliers, and other personnel engaged on the subproject.

All contractor-prepared plans shall demonstrate consistency with Malawi environmental and labour legislation, the Environment Management Act, 2017, MEPA environmental assessment requirements, relevant World Bank safeguard principles, and the mitigation and monitoring commitments set out in this ESMMP.

5.2 Environmental and Social Mitigation and Monitoring Plan

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
5.2.1 Planning Phase – Positive Impacts and Enhancement Measures							
5.2.1.1	Improved stakeholder acceptance	• Conduct stakeholder consultations and disclose ESMMP • Establish and operationalize a Grievance Redress Mechanism (GRM) • Ensure inclusion of women and vulnerable groups in consultations	District Council	1000	Number of consultations conducted Availability of Functioning GRCs along the road Representation of vulnerable people in consultation groups and GRCs	3 times prior to commencement of works	600
5.2.1.2	Improved project design responsiveness through incorporation of local biophysical and socio-economic conditions.	• Apply site-specific design solutions reflecting terrain, drainage, settlements, and sensitive receptors; • Integrate road safety features and maintain existing road footprint where feasible;	MoTPW, Design Engineer	included in design	Approved drawings; design review reports; consultation records	Once	1,000

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		• Validate through consultation with District Councils.					
5.2.1.3	Early planning of local employment opportunities.	1. Include local labour provisions in procurement documents; 2. Establish transparent recruitment procedures; 3. Promote gender-inclusive employment to achieve 40% female employment	1. MoTPW 2. Contractor Contractor	200	Presence of labour and gender clauses in bidding documents	Once	800
5.2.2 Planning Phase – Negative Impacts and Mitigation Measures							
5.2.2.1	Inadequate consideration of sensitive ecological areas	• Conduct thorough environmental baseline surveys to identify sensitive habitats. • Adjust road alignment to avoid ecologically sensitive areas. • Establish buffer zones and protected corridors in the design stage	MoTPW	Included in the design	Number of unresolved design-related community issues	Once	10

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
5.2.2.2	Inadequate consideration of local social sensitivities	• Engage communities and traditional authorities. • Map cultural and socially sensitive areas and integrate them into project design. • Develop culturally appropriate mitigation measures and grievance mechanisms	MoTPW	Included in the design through E & S consultant	Cultural and social sensitivity maps prepared	Once	10
5.2.2.3	Anxiety to loss of land and property	• Conduct participatory consultations with all relevant stakeholders, including vulnerable groups • Sensitize the community on the expected scope of the and extent of works for the assignment • Establish clear channels for ongoing communication and feedback. • Document stakeholder concerns and integrate them into planning decisions	PIU and Design Engineer	200	Number of sensitization sessions done	Twice	50

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		• No land take outside of the project area • Establish a grievance mechanism					
5.2.2.4	Inadequate capacity of contractors to identify and manage the potential environmental and social risks	Contractor to include an Environmental, Social, Health and Safety (ESHS) Officer in their staffing to be based at site. Develop and implement Contractor-ESMP (C-ESMP) and associated management plans in line with the frameworks, Malawi regulations and WB EHS guidelines and policies covering • Waste Management Plan • Code of Conduct • Borrow Pit Rehabilitation • Stakeholder Engagement Plan • Traffic Management Plan	Contractor	Contractor cost	ESHS Officer on site C-ESMP and associated plans developed and implemented	Monthly	N/A
5.2.3 Construction Phase – Positive Impacts and Enhancement Measures							

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
5.2.3.1	Local employment generation	• Establish and implement transparent recruitment procedures; • Promote gender-inclusive employment to achieve 40% female employment.	Contractor	1500	Percentage of local workers; percentage of female workers target is at least 40%	Monthly	400
5.2.3.2	Stimulation of local businesses and economy	• Procure materials and services from local suppliers whenever possible. • Support small-scale community businesses to provide services to the project. • Establish transparent payment systems to ensure local income circulation	Contractor	1300	Percentage of locally sourced goods and services	Monthly	100
5.2.3.3	Skills development and knowledge transfer	• Provide vocational and safety training to local workforce. • Encourage knowledge sharing on sustainable construction techniques. • Build local capacity for future road maintenance and infrastructure projects	Contractor	1000	Number of workers trained target is 100%	Monthly	250

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
5.2.4 Construction Phase – Negative Impacts and Mitigation Measures							
5.2.4.1	Dust emissions	• Regularly water exposed surfaces, stockpiles, and unpaved roads. • Cover trucks transporting loose materials. • Limit vehicle speeds in the project area. • Provide PPE such as masks to workers and sensitive receptors nearby.	Contractor	1200	Number of dust or noise complaints recorded	Monthly	600
5.2.4.2	Incidences of noise and vibration	• Restrict high-noise activities to daytime hours. • Maintain machinery in good working condition and install silencers. • Provide noise barriers or temporary shielding near sensitive areas such as schools or hospitals	Contractor	800	Number of noise and vibration related grievances	Monthly	300

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
	Soil and water contamination	• Establish designated fuelling areas; • Provide spill kits; ensure proper storage of fuels • Provision of sanitation facilities for workers, • Provide waste bins • Train workers on waste management as part of inductions	Contractor	500	• Availability of spill kits and designated areas for fuelling and fuel storage areas • Number of facilities provided • Number of bins being used on site • Number of workers trained (training records)	Monthly	500
5.2.4.3	Incidences of soil erosion and sedimentation	• Implement erosion control measures such as silt fences, sediment traps, and mulching. • Stabilize slopes and exposed areas with vegetation or geo-textiles.	Contractor	1000	Availability of soil erosion prevention measures available	Monthly	400

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		Regularly monitor drainage channels to prevent sediment deposition					
5.2.4.4	Incidences of Water pollution	- Store hazardous materials in bunded and secure areas. - Implement spill response and containment procedures. - Prohibit washing machinery in watercourses. - Monitor water quality in adjacent rivers and streams	Contractor	1500	Bunded storage areas for Fuels available on site Toolbox records on spill prevention and control.	Monthly	400
5.2.4.5	Incidences of traffic congestion and road safety risks	- Develop and implement a traffic management plan (TMP). - Use clear signage, barriers, and traffic marshals. - Schedule material deliveries during off-peak hours.	Contractor	400	Availability of Traffic Plan	Monthly	400

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		Communicate road changes and diversion plans to communities.					
5.2.4.6	Occupational health and safety risks	- Provide ESHS Personnel - Implement measures indicated in SATCP's OHS Management Framework - Carry out risk assessment and implement measures accordingly - Induct all workers on the OHS Plan and conduct toolbox talks on at least a weekly basis - Provide PPE to all workers and enforce its use. - Implement emergency preparedness procedures included in the OHS Management Framework	Contractor	2000	Accident, near miss and incident records Risk assessment records Training records for workers on OHS plan available on site	Monthly	500
5.2.4.7	Incidences of social services disruption	- Maintain temporary access roads and pedestrian pathways. - Schedule disruptive activities to minimize impacts on schools,	Contractor	750	Number of grievances received Number and records of	Monthly	300

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		markets, and health facilities. • Conduct regular consultations with affected communities			consultation done		
5.2.4.8	Increased waste generation	• Implement waste management plans for segregation, recycling, and safe disposal. • Avoid illegal dumping and ensure hazardous wastes are collected and treated properly • Prohibit open burning of waste	Contractor	500	Availability of Waste management plan Number of grievances related to waste management	Monthly	200
5.2.4.9	Loss of biodiversity	• Avoid sensitive habitats • Conduct pre-construction surveys to identify and protect wildlife. • Replant trees and restore vegetation in disturbed areas	Contractor	200	Number of trees replanted	Once in the last month of construction	200
5.2.4.11	Community health and safety risks	• Implement dust suppression • Conduct awareness campaigns on HIV/Aids,	Contractor	1000	Traffic management plan developed and	Monthly	400

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		Cholera and other communicable diseases • Provide safe diversion for safe movement of traffic (including signage, barriers and passable diversion)			available on site		
5.2.4.12	Temporary loss of access to land due to use for ancillary facilities including diversions and storage area	Maintain access to farms, social services etc as part of the Traffic Management Plan including signage, temporary crossings use of flag people, one-way traffic, temporary diversions and pedestrian access route	Contractor	Project cost	Signed sale/lease agreements shared with PIU	Once	N/A
5.2.4.13	Temporary disruption of access to farms and social services.	• Maintain access to farms, social services etc as part of the Traffic Management Plan including signage, temporary crossings use of flag people etc.	Contractor	Costed above	Number of grievances related to issues with access	Monthly	N/A

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
5.2.4.14	Labour influx risks including communicable diseases, SEA/SH and social tensions.	Ensure all workers are trained on and sign Worker Code of Conduct Conduct HIV/AIDS and SEA/SH awareness training; Establish and maintain a Community Grievance Redress Mechanism that is SEA/SH responsive	Contractor	1000	% of workers signed the CoC against number employed % of workers who received training on CoC against number employed % of workers who received training on HIV/AIDS, SEA/SH against number employed Number of Grievances received % of grievances	Monthly	200

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
					received against resolved within indicated timelines		
5.2.4.15	Abusive Labor and Working Conditions (labour exploitation, forced labour, under aged and discriminatory working conditions)	• Explain to all workers' conditions of service, labour expectations and contract duration • Ensure all workers have a signed contract and given a copy • Implement age verification system using national identification to employ only those that are 18 years old and above	Contractor	1000	• % of workers with signed contract against number employed • No of underage workers • Availability of functioning WGRC % of grievances resolved against received	Monthly	200

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		Establish and maintain a Worker Grievance Redress Mechanism that is SEA/SH responsive			within indicated timelines		
5.2.4.16	Impacts to Cultural Heritage	Implement a Chance Finds Procedure including the training of workers	Contractor	200	% of workers trained on chance finds procedure	Monthly	200
5.2.4.17	Damage to assets including crops and trees as a result of works	Establish a grievance redress mechanism Payment of compensation for any losses/ damage to assets inadvertently caused as a result of contractor activities at replacement value	Contractor	Cost as per unintended damage.	Number of grievances related to lost assets received % of grievances related to lost assets resolved in agreed timelines	Monthly	N/A
5.2.4.18	Climate-related risks: increased surface runoff, flash flooding, and accelerated	Store loose soil material, waste, concrete mix and fuel away from the river banks	Contractor	1000	Designated sites for waste, fuels and concrete mixing away	Monthly	500

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
	soil erosion, particularly during high-intensity rainfall events				from riverbank Provide shelter/rest areas for workers		
5.2.5 Demobilisation Phase – Negative Impacts and Mitigation Measures							
6.2.5.1	Generation of waste and debris	• Develop and implement a waste management plan for proper collection, segregation, recycling, and safe disposal. • Remove and properly dispose of hazardous materials (oils, fuels, chemicals). • Conduct site inspections to ensure complete clearance of debris	Contractor	1000	Availability of waste Management Plan	Once	200
6.2.5.2	Soil disturbance and erosion	• Stabilize disturbed areas with vegetation, mulching, or geo-textiles. • Repair and regrade temporary access roads and slopes.	Contractor	1000	Stabilized areas restored	Once	250

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		• Use erosion control measures such as silt fences, gabions, and drainage channels.					
6.2.5.3	Incidences of water pollution	• Conduct proper decontamination of machinery before removal. • Avoid washing equipment near watercourses; use designated wash areas with sediment traps. • Monitor water quality post-demobilization.	Contractor	300	Water quality within acceptable limits	Once	300
6.2.5.4	Disturbance to local communities	• Inform communities of demobilization schedule in advance. • Maintain temporary access routes until all essential services are fully operational. • Engage communities to address any residual social issues from construction	Contractor	500	Number of demobilisation complaints	Once	150
6.2.5.5	Loss of temporary employment opportunities	• Provide training or certification to local workers to enhance future employability.	Contractor	500	Number of workers certified	Once	200

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		• Encourage local authorities to involve trained personnel in routine road maintenance. • Promote small-scale community enterprises linked to the road corridor					
6.2.5.1	Occupational health and safety	• Follow proper decommissioning procedures and safety protocols. • Provide PPE and training for workers involved in demobilization. • Secure the site during equipment removal to prevent unauthorized access	Contractor	1000	Zero serious incidents recorded Number of PPE provided against people exposed to risk conditions	Once	150
5.2.6 Operation and Maintenance Phase – Positive Impacts and Enhancement Measures							
5.2.6.1	Improved accessibility and mobility	• Maintain road surfaces, drainage, and signage to ensure continuous usability • Periodically assess needs of communities and adjust O&M practices accordingly	RA/District Council	Operational costs	Number of scheduled maintenance done the target is once annually	Annually	NA
5.2.6.2	Enhanced economic opportunities	• Promote targeted value chains in the project area, and small enterprises. • Encourage local contractors and labor for	District Council	2000	Number of enterprises supported	Annually	NA

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
		routine maintenance activities. • Monitor and support local employment linked to road operation and maintenance					
5.2.5.2	Improved Road safety and reduced accidents	• Maintain clear signage, • Conduct ongoing road safety awareness campaigns for drivers and communities	DRTSS/Police	Operational costs	Road accident trend	Annually	NA
5.2.6.4	Community well-being and social cohesion	• Engage local communities in routine maintenance programs. • Coordinate with local authorities to ensure roads continue to serve social infrastructure efficiently. • Monitor community satisfaction and address complaints promptly.	District Council	Operational Costs	Number of grievances resolved	Annually	NA
5.2.7 Operation and Maintenance Phase – Negative Impacts and Mitigation Measures							
5.2.7.1	Noise pollution	• Install noise barriers or vegetation buffers in sensitive areas. • Enforce speed limits. • Schedule maintenance activities during daytime. •	Roads Authority/ District Council	Operational Costs	Number of noise complaints	Annually	

REF.	Impacts & Risks	Impact and Risk Enhancement Measures	Responsible institution	Implementation cost	Performance Indicator	Monitoring Frequency	Monitoring Budget (USD)
5.2.7.2	Climate impacts	• Routine maintenance of culverts to main water flow • Consider planting trees along the corridor	District Council	operational costs	Number of culverts maintenance done Number of trees planted	Annually	NA
5.2.7.3	Road safety risks	• Conduct regular road inspections and repairs. • Maintain clear signage and road markings. • Implement safety audits and community awareness programs	DRTSS	5/District Council/Roads Authority	Number of Safety audit done. target is once in 5 years	Once in 5 years	NA

5.3 Institutional Capacity for ESMMP Implementation

The District Environment Sub-Committee (DESC) for Ntcheu District plays a central role in supporting the implementation, monitoring, and enforcement of environmental and social safeguards for the Senzani to Doviko Road Rehabilitation Project. Consultations with DESC members confirmed that the Committee is institutionally mandated, technically aware, and willing to support Environmental and Social Mitigation and Monitoring Plan (ESMMP) implementation throughout the project lifecycle.

DESC Readiness and Monitoring Role

DESC members expressed readiness to actively participate in environmental and social monitoring activities associated with the project. The Committee indicated its capacity and willingness to support the following functions:

- Conducting joint site inspections with the Contractor, Supervising Engineer, and relevant sector departments;
- Providing oversight of contractor compliance with ESMMP requirements, including mitigation measures, occupational health and safety, waste management, and community health and safety;
- Participating in the Grievance Redress Mechanism (GRM), including grievance review, resolution, and enforcement of corrective actions where required;
- Supporting enforcement actions in line with district by-laws and national environmental and social regulations.

DESC members emphasized that their involvement would enhance local accountability, transparency, and early identification of non-compliance issues during construction.

Key Capacity Constraints

Despite their readiness, DESC members highlighted several capacity constraints that could limit the effectiveness of their monitoring role if not addressed. These include:

- Limited access to fuel and transport, constraining the ability to conduct regular site inspections;
- Insufficient operational funding to support routine monitoring and follow-up activities;
- Limited or no allowances for DESC members engaged in field-based monitoring activities, which affects availability and motivation.

These constraints are common across district-level environmental governance structures and were identified as key risks to sustained monitoring engagement.

Support Needs and Capacity Strengthening Measures

To enable effective ESMMP implementation and monitoring, the DESC requested targeted support measures, including:

- Provision of fuel and transport support for scheduled and ad hoc site inspections;

- Allowances for monitoring teams participating in joint inspections and GRM processes;
- Development and provision of standardized monitoring checklists and reporting templates aligned with the ESMMP;
- Regular coordination meetings between the Contractor, Supervising Engineer, Roads Authority, and DESC to review compliance status and emerging issues;
- Early disclosure of the approved ESMMP and contractor work plans to allow adequate planning and alignment of monitoring activities.

Proposed Monitoring Frequency

DESC members proposed a structured monitoring schedule, with:

- Monthly monitoring visits for short-term or fast-tracked construction contracts; and
- Quarterly monitoring visits for longer-term projects with extended construction periods.

This frequency was considered appropriate to balance effective oversight with existing capacity limitations, provided the requested logistical and operational support is made available. Overall, the DESC has the institutional mandate and willingness to support ESMMP implementation for the Senzani to Doviko Road Rehabilitation Project. Addressing the identified capacity constraints through targeted support will be critical to ensuring effective, consistent, and transparent environmental and social monitoring at the district level.

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ANNEXES

Annex 1. Feedback Letter from MEPA

Our Reference No: MEPA /97 /07 /05 /
Your Reference No:
Communications should be addressed to:
The Director General



Malawi Environment Protection Authority
P/ Bag 317
Lilongwe 3
Tel: +265 1771111

Protecting the environment, Protecting life

21st August, 2024.

The Project Manager
Southern Africa Trade and Connectivity Project
Private Bag 322
Lilongwe 3.

Dear Sir/Madam

Environmental Clearance for the Proposed Spot Improvements on Senzani to DOviko Road in Ntcheu District

Reference is made to the project brief on the above-captioned subject which was submitted to the Authority for review and guidance.

Considering the nature and scope of activities, I wish to advise that you can proceed with the proposed spot improvements on Senzani to Doviko Road on condition that;

- Obtain a permit from Ntcheu District council before opening any borrow pit;
- Develop and implement an action plan for mitigating any negative impacts from the project;
- Rehabilitate all excavated/ disturbed areas to their original state;
- Put in place measures for solid and liquid waste management;
- Mitigate dust, noise, vibration impacts during the implementation of the project;
- Provide adequate personal protective equipment (PPE) to your workers and enforce its use;
- Implement preventive measures for communicable diseases such as HIV and AIDS, Cholera, COVID-19;
- Comply with all other legislation applicable to the project including National Parks and Wildlife Act, Environment Management Act, Physical Planning Act, Occupational Safety, Health and Welfare Act, and Sanitation Policy; and

Annex 2. List of Stakeholders Consulted

Ministry/Department: Ministry of Industrialisation, Business, Trade and Tourism

Name of Project: Southern Africa Trade and Connectivity Project (SATCP)

Name of Activity: Consultative meetings with stakeholders on Environmental Assessment for

Last Mile Infrastructure ESMPs - MW-MTPW-450371-CS-CQ5

Date of Meeting: 21/01/26

Meeting Venue: District Council Office
Mthethu

Name of Group: DESC
Mthethu

MEETING ATTENDANCE SHEET

Name of Officer	Designation/Position	Institution/Organization	Phone #	Signature
DANIEL TSOTSA	LANDS OFFICER	NU-DC	081 111 1112	[Signature]
Domen Mthethu	EDD	NU-DC	081 111 1112	[Signature]
Chris Gwamandzi	Ag DPW	NU-DC	081 111 1112	[Signature]
Lucius Njorvu	PNHMO	NU-DC	081 111 1112	[Signature]
Sitifano Mkhate	PSO	NU-DC	081 111 1112	[Signature]
Louis Makhurane	DSDO	NU-DC	081 111 1112	[Signature]
Limbani Mzembe	DIO	NU-DC	081 111 6792	[Signature]
Elen Mwenye	DCDO	NU-DC	081 111 1112	[Signature]
John Mwenye	DCMO	NU-DC	081 111 1112	[Signature]
Francisco Sadyantambo	Trade officer	NU-DC	081 111 1112	[Signature]
Lester Zumbi	Agric ABO	NU-DC	081 111 1112	[Signature]
Joy M. Mkhate	ETHO	NU-DC	081 111 1112	[Signature]
Efford H. Gers	D-L-O	HU - LsGover	081 111 1112	[Signature]
Thoko Zani Kanyenka	PPO	NU-DC		[Signature]
Obedi Mkhathini	EDD	NU-DC		[Signature]

Bigpot Consulting Form 1: List of Participants

Name of Project: Southern Africa Trade and Connectivity Project (SATCP)

Name of Activity: Last Mile Infrastructure ESMPs - MW-MTPW-450371-CS-CQ5

Dates of Field Visit: 21st January 2026

Location: Ronko Community - man's FGD

Name of Officer	Designation/Position	Institution/Organization	Phone #	Signature
AKUZIKE THABO	CDA	CDM-DEV	081 111 1112	[Signature]
Bernie Mkhathini	YOUTH representative	Daviko	081 111 1112	[Signature]
Peter J. Kanyenka	GVH	Daviko	081 111 1112	[Signature]
Benedict Mkhathini	G.V.H	Chiwanga	081 111 1112	[Signature]
Ngweni Paleside	VH	Daviko	081 111 1112	[Signature]
Feti ENEZIYO	VH	Chiwanga	081 111 1112	[Signature]
Malingalwa chuma	VH	William	081 111 1112	[Signature]
Innocent John	Disability	Daviko	081 111 1112	[Signature]
Enock Mkhathini	Daviko	Daviko	081 111 1112	[Signature]
Deus Simen	VH	LATI	081 111 1112	[Signature]
Elia Timothy	GVH Secretary	Chiwanga	081 111 1112	[Signature]
Kamukama Mkhathini	VH	Goli H	081 111 1112	[Signature]
Mkhathini Mkhathini	C.B.O	Daviko	081 111 1112	[Signature]
Bamton Kasabala	G.V.H	Golimchimanga	081 111 1112	[Signature]
Ramosi Mkhathini	VM	Golimchimanga	081 111 1112	[Signature]
Robert Mkhathini	VH	SAND	081 111 1112	[Signature]

Name of Project: Southern Africa Trade and Connectivity Project (SATCP)

NTUHEU

Name of Activity: Last Mile Infrastructure ESMPs - MW-MTPW-450371-CS-CQS

Dates of Field Visit: 21/01/2026

Youth FGD - Ncheu

Location: Kanama Village: T/A phambala

Name of Officer	Designation/Position	Institution/Organization	Phone #		Signature
Manson Lujana		Kanama			
Manuel Gumbani		Kanama			
Tamala Benson		Kanama			
Andrea Gongo		Kanama			
Suzen Brink		Kanama			
Chimwenwe Steven		Kanama			

Annex 3. Stakeholder Comments and Response Matrix

SN	Issue / Comment	Source	How Issue / Comment Has Been Addressed
1	Need for clear, official communication on project scope (gravel vs tarmac standard) and timing before construction starts.	Men FGD; Women FGD; DESC	Section 2.1–2.2 defines the project as rehabilitation of the Senzani–Doviko road to engineered gravel standard and summarises the works scope; Section 6.1 and Annex 10 (Stakeholder Engagement Framework) commit to pre-construction community meetings and ongoing information disclosure on scope and schedule.
2	Houses, gardens and other structures very close to the road; concern that widening may affect property and land, with expectation of fair compensation if impacts occur.	Men FGD; Women FGD	Section 4.3.9 describes settlement patterns and notes structures close to the alignment; the same section states that the design keeps works within the existing formation and skips locations where widening would affect permanent structures; Section 5.2 (ESMMP – Land and Assets) indicates that any future design change leading to land acquisition will be screened and addressed in accordance with applicable national legislation and World Bank requirements before any such works proceed.
3	Important community assets along the road (schools, churches, health facilities, markets, boreholes, grave site, community forest) must be protected during works.	Women FGD; Men FGD; DESC	Section 4.3.3–4.3.6 and 4.3.8–4.3.11 inventory schools, markets, boreholes, churches, forests and the grave site; Section 5.2 includes mitigation measures to avoid or minimise impacts on these assets (buffer zones, fencing, signage, access maintenance) and refers to the Chance Find Procedure for cultural sites.
4	Land and crop fields immediately adjacent to the road are vital for food security and income; any loss or damage to farmland during construction would seriously affect livelihoods.	Men FGD; Women FGD	Section 4.3.4 explains dependence on roadside fields for livelihoods; Section 5.2 (Agricultural land / livelihoods rows in the ESMMP) requires the Contractor to confine works to the agreed working width, avoid unnecessary occupation of fields, document any crop damage and follow SATCP procedures for compensation or livelihood restoration where impacts occur.
5	Existing road condition makes it difficult and costly to transport agricultural produce to markets; strong support for	Men FGD;	Section 1.3 (Project Rationale) and Section 4.3.13 state that poor road condition currently constrains access to markets and services and that the project is expected to improve transport

SN	Issue / Comment	Source	How Issue / Comment Has Been Addressed
	rehabilitation to improve market access.	Women FGD	of agricultural produce and reduce costs; positive socio-economic impacts are summarised in Section 7 (Summary of Impacts and Benefits).
6	Steep and slippery sections, wetlands and flood-prone areas (e.g. around Mateme) are environmentally sensitive and accident-prone; require strong drainage and erosion control.	Men FGD; DESC; Women FGD	Section 4.2 (Topography, soils and hydrology) identifies steep slopes, wetlands and flood-prone areas; Section 2.2.3 (Spatial distribution of works) highlights critical sections; Section 5.2 (Soil erosion and drainage rows) prescribes improved side drains, culvert upgrades, check-dams, slope protection, staging of earthworks in dry periods and special controls in wetland / flood-prone chainages.
7	Concern that tree removal and disturbance of community forest during construction could reverse local conservation gains.	Men FGD; Women FGD; DESC	Section 4.2.3 describes existing vegetation and community forest; Section 5.2 (Biodiversity/vegetation impacts) requires minimising clearance, marking trees to be retained, avoiding the Mabodza community forest as a material source, and re-vegetating disturbed areas including replacement planting for any trees removed.
8	Domestic water sources (boreholes, rivers, streams) are critical and must not be disturbed, polluted or blocked by construction activities or waste.	Men FGD; Women FGD; DESC	Section 4.2.4 and 4.3.7 identify boreholes and surface water sources and their importance; Section 5.2 (Water resources and community health) commits to siting camps and stockpiles away from water points, managing runoff and sediment, prohibiting discharge of wastes into watercourses, and repairing any damage to water infrastructure; ESMMp rows link these measures to specific chainages near boreholes.
9	Need for a robust contractor Waste Management Plan, including sorting, safe storage and disposal at designated sites (not in rivers or sensitive areas).	DESC; Men FGD; Women FGD	Section 5.2 (Waste management) establishes requirements for segregation, safe storage and disposal at approved sites; Annex 6 (Waste Management Framework) sets detailed standards for contractor Waste Management Plans; Section 5.1 states that the Contractor must prepare and implement a site-specific WMP as part of the C-ESMP, with prohibition of dumping or burning in rivers or sensitive locations.

SN	Issue / Comment	Source	How Issue / Comment Has Been Addressed
10	Material extraction (sand, gravel, borrow pits) must follow council permitting, environmental assessment, landowner agreements and proper rehabilitation after use.	DESC	Section 3.3 (Legislative and institutional framework) references the Mines and Minerals Act and district council roles; Section 5.2 (Borrow pits and quarrying impacts) requires permits from the Department of Mines and Local Authority, landowner consent, environmental screening and full rehabilitation; Annex 5 (Borrow Pit Rehabilitation Framework) provides detailed operational and rehabilitation procedures to be followed by the Contractor.
11	Frequent road accidents already occur, especially in steep sections and near bridges; risk will increase during construction due to traffic, machinery, dust and open pits.	Men FGD; Women FGD; DESC	Section 4.3.6 documents existing accident risks, particularly on steep sections and near bridges; Section 5.2 (Traffic and community safety) outlines construction traffic controls, dust suppression, safe management of bridges and steep sections, and securing of open pits and stockpiles; the Traffic Management Framework annex complements these measures.
12	Strong recommendation for road safety measures: speed control, signage, traffic management near schools and markets, safe crossing points and securing open excavations/borrow pits.	Men FGD; Women FGD; DESC	Section 5.2 (Traffic and community safety rows) includes speed limits, traffic signage, flag-persons, temporary traffic calming near schools and markets, safe pedestrian routes and fencing/backfilling of excavations and borrow pits; Annex 6 (Traffic Management Framework) requires the Contractor's TAMP to incorporate these specific controls.
13	Need to maintain access to markets and services during construction; alternatives are mainly footpaths, so temporary access planning is essential.	DESC; Women FGD; Men FGD	Section 5.2 (Access to services and livelihoods) requires the Contractor to maintain at least one passable lane, provide temporary crossings and safe detours where necessary, and coordinate with communities on timing of any short-term closures, especially near markets and social services; these requirements are integrated in the BoQ-linked ESMMp.
14	Concern about labour issues from past projects (delayed payment, underpayment, lack of written contracts); request for transparent contracts,	DESC	Section 3.3 (Legal framework – labour) references Employment Act and related laws; Section 5.2 (Labour and working conditions) and Annex 8 (Labour Management Guidelines) require written contracts, compliance with

SN	Issue / Comment	Source	How Issue / Comment Has Been Addressed
	minimum wage compliance and use of national IDs.		minimum wage and statutory benefits, timely payment, use of national IDs for worker verification and supervision of contractor compliance by the Supervising Consultant and Labour Office.
15	Strong preference for local employment opportunities and prioritisation of local residents over outsiders.	Men FGD; Women FGD; DESC	Section 4.3.4 describes expectations for local jobs; Section 5.2 (Employment and local content) specifies that contractors should give priority to qualified local residents (including women and youth), with requirements to advertise locally and report on local vs non-local hires in monthly ESHS reports.
16	Prohibition of child labour and need for inclusive employment of women, youth and persons with disabilities.	DESC; Women FGD; Men FGD	Section 5.2 (Labour and working conditions) prohibits child labour and requires age verification; Annex 8 (Labour Management Guidelines) reinforces minimum age, non-discrimination and promotion of inclusive employment for women, youth and persons with disabilities; the Sample Code of Conduct annex also prohibits child labour and discrimination.
17	Concern that presence of contractors and increased cash may aggravate existing GBV, SEA/SH, marital conflict and spread of communicable diseases (including HIV/AIDS).	Women FGD; Men FGD; DESC	Sections 4.3.10 and 4.3.12 acknowledge GBV/SEA/SH and communicable disease risks; Section 5.2 (GBV/SEA/SH and community health rows) sets out prevention and response measures, including worker and community sensitisation, collaboration with GBV service providers, integration of SEA/SH actions into the C-ESMP, and HIV/STD awareness campaigns.
18	Request for clear Codes of Conduct for workers, with strict enforcement and sanctions for GBV, SEA/SH and other misconduct.	Men FGD; Women FGD; DESC	Annex 4 (Sample Code of Conduct for Contractors) defines behavioural standards and sanctions for GBV, SEA/SH, child abuse and other misconduct; Section 5.2 (GBV/SEA/SH and labour measures) requires Contractors to adapt, sign and enforce the CoC for all workers and allows the Supervising Consultant/PIU to sanction non-compliance under the contract.

SN	Issue / Comment	Source	How Issue / Comment Has Been Addressed
19	Existing community grievance structures should be strengthened and formalised (inclusive grievance committees with chiefs, women, men, youth, VDC and mother groups).	Women FGD; Men FGD; DESC	Section 6.3 (Grievance Redress Mechanism) describes a multi-tier GRM that builds on village structures and calls for inclusive GRM committees with representation of chiefs, women, youth and VDC; Annex 9 (GRM / GBV protocol) provides operational detail on membership and procedures.
20	Serious GBV or criminal cases should be referred to the police, while other complaints can be handled through harmonised GRM structures with clear referral pathways.	DESC; Women FGD; Men FGD	Section 6.3 (GRM) distinguishes between general project grievances and GBV/SEA/SH or criminal cases; it states that GBV and other serious offences will be referred confidentially to appropriate service providers and the police, while other complaints are managed through GRM committees; Annex 9 sets out referral pathways and confidentiality arrangements.
21	Request for ongoing consultations and feedback throughout the project, not just at design stage, so that community views continue to shape implementation.	Men FGD; Women FGD; DESC	Section 6.1–6.2 (Stakeholder engagement) and the Stakeholder Engagement Framework annex commit to ongoing engagement throughout pre-construction, construction and operation phases, with periodic community meetings, feedback on ESMMP implementation and use of the GRM to capture and respond to emerging concerns.
22	DESC needs access to project documents (designs, screening reports, ESMP) and logistical support (fuel, allowances) to effectively monitor contractor compliance.	DESC	Section 3.3 (Institutional roles) and Section 5.3 (Implementation arrangements) recognise DESC's monitoring mandate and state that SATCP PIU/Supervising Consultant will share relevant project documents with district authorities and support joint inspections; the ESMMP notes that budget provisions for district monitoring support should be included in project costs.
23	Recommendation for regular joint site inspections and monthly coordination meetings between DESC, PIU, Supervising Consultant and Contractor.	DESC	Section 5.3 specifies monthly site meetings and joint inspections with participation of the Contractor, Supervising Consultant, PIU and relevant district departments including DESC, and links these to ESMMP monitoring and reporting requirements.

SN	Issue / Comment	Source	How Issue / Comment Has Been Addressed
24	Cultural heritage: presence of a grave site in Chibale Village and risk of encountering graves or artefacts; contractor must stop works and consult chiefs if such resources are found.	Women FGD; DESC	Section 4.3.8 identifies the grave site and notes potential physical cultural resources; Section 5.2 (Cultural heritage row) and Annex 7 (Chance Find Procedure) require immediate stoppage of works, securing of the area and notification of chiefs, District Council and Antiquities/MEPA before any decision on treatment or relocation.
25	Concern that improved road access, while beneficial, could also increase accidents, in-migration and social ills if not accompanied by strong social safeguards and awareness campaigns.	Women FGD; Men FGD; DESC	Section 4.3.13 discusses potential negative consequences of improved access, including accidents and social change; Section 5.2 (Traffic safety, GBV/SEA/SH and community health rows) and Section 6 (Stakeholder engagement and GRM) include road safety awareness, GBV/HIV sensitisation and community engagement measures intended to manage these risks.
26	Overall strong support for the Senzani–Doviko road rehabilitation, provided that safety, environmental protection, fair treatment of workers and meaningful community participation are ensured.	Men FGD; Women FGD; DESC	Executive Summary, Section 4.3.13 and Section 6 highlight broad stakeholder support conditional on effective ESMP implementation; Chapter 5 (ESMMP) and the supporting frameworks (C-ESMP, CoC, LMP, Waste, Traffic, Stakeholder Engagement, GRM) collectively set out how safety, environmental protection, fair labour practices and participation will be achieved during implementation.

Annex 4. Sample Code of Conduct for Contractors

1. Purpose and Scope

This Sample Code of Conduct (CoC) provides the minimum mandatory standards of behaviour for all personnel engaged in implementation of SATCP Last Mile Infrastructure (LMI) subprojects, including contractors, sub-contractors, supervising consultants, suppliers, and all categories of workers (permanent, temporary and day workers). The annex serves as a framework and template for preparation of a project-specific Contractor's Code of Conduct, which shall be adapted by each Contractor to reflect the scope, risks, workforce composition and community context of the subproject, and submitted to the Supervising Consultant and the PIU for review and approval prior to mobilisation.

The project-specific CoC shall apply to all personnel working on or in connection with the subproject and shall be communicated in a language and format that workers understand. Each worker shall sign the approved Code of Conduct as a condition of employment and shall receive induction and periodic refresher training on its requirements, including sanctions for non-compliance.

The Code addresses risks associated with the following:

- Environmental and social management.
- Occupational health and safety (OHS).
- Labour influx and labour relations.
- Spread of communicable diseases, including HIV and AIDS.
- Sexual harassment (SH), sexual exploitation and abuse (SEA), and gender-based violence (GBV).
- Child labour and child protection.
- Illicit behaviour, crime and corruption.
- Community health, safety and road safety.

Compliance with the approved Code of Conduct is a contractual obligation for the Contractor and all associated personnel, and a condition of employment on the project. The Contractor shall be responsible for enforcement of the Code at worksites, worker accommodation areas, haul routes and all other project-related locations, while the Supervising Consultant and PIU shall monitor compliance as part of ESMMP and contract implementation.

2. General Obligations

The Supervising Consultant shall ensure that the Contractor and all associated personnel:

a) Legal Compliance

Comply at all times with the laws, regulations, and standards of the Republic of Malawi, including the Environment Management Act (2017), labour laws, occupational safety legislation, and applicable World Bank safeguard requirements.

b) ESHS Planning Instruments

Prepare, implement, and maintain site-specific instruments prior to commencement of works, including:

- Environmental and Social Management and Mitigation Plan (ESMMP);
- Health and Safety Management Plan (HSMP);
- HIV and AIDS Awareness Programme;
- Occupational Health and Safety Awareness Programme;
- Road Safety and Traffic Management Plan.

c) Occupational Health and Safety

Provide a safe and healthy working environment, including:

- Provision and compulsory use of appropriate Personal Protective Equipment (PPE);
- Prevention of avoidable accidents and injuries;
- Immediate reporting and correction of unsafe acts or hazardous conditions.

d) Traffic and Road Safety

Implement traffic safety measures, including:

- Temporary speed calming devices and speed-limit signage;
- Warning signs in villages, trading centres, schools, health facilities, and construction zones;
- Enforcement of safe driving practices by all project drivers.

e) Environmental Protection

Avoid unnecessary clearance of trees and vegetation, prevent conflicts over water resources, and ensure sustainable use of natural resources in consultation with local communities.

f) Pollution Prevention

Take all reasonable measures to prevent pollution of air, water, and soil, land degradation, and environmental damage, and ensure compliance with good international industry practice.

g) Worker and Public Safety

Install standard safety signs, barricades, and road markings during construction and after completion to protect workers, communities, and road users.

h) Sanitation and Welfare Facilities

Provide adequate sanitation facilities, including:

- Safe drinking water;
- Decent toilets and washing facilities at worksites and camps;
- Prohibition of open defecation.

i) Site Rehabilitation and Restoration

Restore all disturbed areas after construction, including borrow pits, quarries, stockpiles, camps, access roads, batching plants, fuel storage areas, and waste disposal sites, through landscaping, tree planting, and erosion-control measures.

3. Labour, Ethics, and Social Conduct

j) Non-Discrimination

Prohibit all forms of discrimination in recruitment, employment, and working conditions on the basis of gender, age, ethnicity, disability, religion, marital status, political affiliation, or other protected characteristics.

k) Fair Labour Practices

Adhere to Malawi labour laws by issuing written contracts to skilled and unskilled workers, respecting working hours, wages, and conditions of employment.

l) Prevention of Sexual Harassment

Strictly prohibit sexual harassment, including abusive language, inappropriate gestures, sexually suggestive behaviour, or culturally offensive conduct, particularly towards women and children.

m) Prevention of SEA/GBV

Prohibit any form of sexual exploitation, abuse, or violence, including:

- Exchange of money, goods, services, or employment for sex;
- Exploitative or degrading behaviour;
- Any sexual activity with minors (persons under 18), regardless of consent.

n) Child Protection and Child Labour

Prohibit child labour and all forms of child abuse, exploitation, or endangerment, and ensure children's safety in and around project areas.

o) Conflict of Interest and Corruption

Avoid conflicts of interest and prohibit bribery, favouritism, or preferential treatment based on personal, financial, or family relationships.

p) Protection of Property and Assets

Safeguard project equipment, materials, and property; prohibit theft, vandalism, misuse, or waste of resources.

q) Grievance Reporting and Non-Retaliation

Ensure that workers and community members can report violations of this Code through established grievance mechanisms without fear of retaliation, provided the report is made in good faith.

4. Enforcement and Accountability

r) Acknowledgement and Sanctions

All workers and contractor personnel shall:

- Read, understand, accept, and sign this Code of Conduct as a condition of employment;
- Attend mandatory induction and refresher training on ESHS and SEA/GBV prevention.

Any violation of this Code of Conduct may result in disciplinary action, including:

- Verbal or written warnings;
- Suspension or dismissal;
- Termination of contract; and/or
- Referral to relevant legal authorities.

5. Contractor Certification

I, the undersigned, confirm that I have read and understood this Code of Conduct and commit to ensuring full compliance by all personnel engaged under this contract.

I Agree /

Name	of	Authorized	Representative:	_____
Signature:				_____
Name	of	Company:		_____
Physical		Address:		_____
Company		Stamp:		_____
Date:	_____			

Annex 5. Barrow Pit Rehabilitation Framework

(SATCP Last Mile Infrastructure Projects)

1. Introduction and Purpose

This Borrow Pit Rehabilitation Framework applies to all borrow pits identified and utilised under the SATCP Last Mile Infrastructure (LMI) projects. It sets out mandatory procedures for environmentally sound material extraction, operation, rehabilitation and closure of borrow pits so that material sourcing does not result in permanent land degradation, public safety hazards, or adverse impacts on surrounding communities and ecosystems.

The Framework provides the standard requirements that **Contractors** must follow when preparing site-specific Borrow Pit Management and Rehabilitation Plans for each borrow source they intend to use. These site-specific plans shall form part of the Contractor's Environmental and Social Management Plan (C-ESMP) and shall be submitted to the Supervising Consultant and the PIU for review and approval prior to opening or using any borrow pit. The Framework shall also be applied within the site-specific ESMMP to guide oversight, monitoring and verification of borrow-pit performance throughout construction and post-closure.

2. Project Context

Borrow pits are identified during the design and pre-construction phases of LMI subprojects based on geotechnical investigations undertaken under the Detailed Engineering Design (DED). These borrow pits may supply lateritic gravel, fill material, or other construction materials required for road rehabilitation, drainage works, and ancillary infrastructure.

At the planning stage, borrow pits are considered **indicative material sources**. Final selection, approval, and use shall be subject to field verification, landowner consent, environmental and social screening, and approval by relevant authorities.

3. Regulatory and Safeguards Framework

Borrow pit development, operation, and rehabilitation under SATCP LMI projects shall comply with:

- Environment Management Act (2017)
- MEPA Guidelines for Environmental Assessment (2025)
- SATCP ESMF
- World Bank OP/BP 4.01 and OP/BP 4.04 (where applicable)
- Approved ESMs and DEDs for each LMI subproject

4. Borrow Pit Planning and Site Controls

Before opening or using any borrow pit, the Contractor shall:

- Obtain written approval from the Supervising Consultant and the relevant District Council.
- Secure documented landowner consent and confirmation from the appropriate Traditional Authority.
- Verify land tenure status and agree on access, use, rehabilitation, and handover conditions.
- Clearly demarcate the borrow pit footprint and access routes.
- Strip and stockpile topsoil separately for use during rehabilitation.
- Install warning signage and temporary fencing, particularly where borrow pits are located near settlements, agricultural land, footpaths, or grazing areas.

5. Key Environmental and Social Risks

Typical risks associated with borrow pits under LMI projects include:

- Loss of productive agricultural land
- Open excavations posing injury risks to people and livestock
- Standing water leading to mosquito breeding
- Soil erosion and sediment runoff into nearby streams or wetlands
- Visual scarring of the landscape
- Community dissatisfaction where land is not adequately restored

6. Rehabilitation Objectives

Borrow pit rehabilitation under SATCP LMI projects shall aim to:

- Restore land to a safe, stable, and productive condition
- Prevent erosion, standing water, and slope instability
- Reintegrate rehabilitated sites into agricultural or community land use
- Eliminate public health and safety hazards
- Meet landowner, community, and District Council expectations

7. Rehabilitation Measures

7.1 Progressive Rehabilitation

- Implement rehabilitation progressively, commencing immediately after material extraction in each section.
- Phase excavation activities to minimise the total open area at any given time.

7.2 Backfilling and Reshaping

- Reuse overburden and unsuitable material for backfilling.
- Reshape excavated areas to stable slopes (maximum 1:3).
- Partially backfill deep excavations to eliminate water accumulation.

7.3 Topsoil Replacement

- Evenly spread stockpiled topsoil over rehabilitated surfaces.

- Ensure sufficient topsoil depth to support revegetation or agricultural reuse.

7.4 Drainage and Erosion Control

- Restore surface drainage to natural flow patterns.
- Apply erosion control measures such as contour shaping, grass strips, or stone pitching where required.

7.5 Revegetation

- Revegetate rehabilitated sites using indigenous grass species and locally appropriate tree species, subject to landowner preference.
- Prioritise vegetation that supports soil stabilisation, shade provision, and community utility.

8. Safety and Community Protection

- Secure active borrow pits using fencing, barriers, or warning tape.
- Install clear warning signage in English and local languages.
- Eliminate vertical faces and open pits upon closure.
- Formally hand back rehabilitated sites to landowners after completion.

9. Post-Use Land Options

Subject to agreement with landowners and District Councils, rehabilitated borrow pits may be converted into:

- Agricultural land
- Community woodlots
- Grazing areas
- Controlled water retention areas (only where approved, engineered, and safe)

10. Roles and Responsibilities

Actor	Responsibility
Contractor	Implement borrow pit management and rehabilitation
Supervising Consultant	Approve, supervise, and certify rehabilitation works
District Council / DESC	Community liaison and site verification
Landowners / Traditional Authorities	Accept rehabilitated land

11. Monitoring and Reporting

- Report borrow pit status in monthly ESMMP compliance reports.

- Monitor indicators including number of rehabilitated sites, erosion evidence, water ponding, and vegetation establishment.
- Conduct final inspections prior to issuance of completion certificates.

12. Budgeting

- Fully include borrow pit rehabilitation costs in the Contractor's BoQs and C-ESMP.
- Prohibit approval of any borrow pit without a costed and approved rehabilitation provision.

13. Completion and Handover

Consider borrow pits closed only when rehabilitation is complete, sites are safe and stable, and formal handover documentation is signed by relevant parties.

14. Conclusion

This Borrow Pit Rehabilitation Framework provides a consistent and enforceable approach for managing borrow pits across all SATCP Last Mile Infrastructure projects, ensuring *Environmentally* responsible material sourcing, protection of community interests, and full compliance with MEPA (2025) and World Bank safeguards.

Annex 6. Traffic Management Framework

1. Introduction

This Traffic and Access Management Framework (TAMF) has been prepared for the Southern Africa Trade and Connectivity Project (SATCP) – Last Mile Infrastructure (LMI) subprojects, including feeder road rehabilitation, drainage improvements, bridge/culvert works and associated construction activities. The Framework sets out the minimum requirements for planning, operating and monitoring construction-related traffic so that works are carried out safely and with limited disruption to local communities and road users.

The Framework provides mandatory guidance for the preparation and implementation of site-specific Traffic and Access Management Plans (TAMPs) **by Contractors**. For each subproject, the Contractor shall prepare a TAMP consistent with this Framework and submit it to the Supervising Consultant and the SATCP PIU/State Agency for Transport and Construction Projects for review and approval prior to commencement of construction works.

The TAMF aims to ensure that all construction-related traffic—vehicles, equipment and personnel—is managed safely, efficiently and in an environmentally and socially responsible manner, while minimising risks and disruptions to communities, vulnerable road users, businesses, and existing transport infrastructure.

2. Purpose and Objectives

Construction activities will increase vehicular and machinery traffic within worksites and along existing regional and community roads. Without effective management, such traffic may:

- Interfere with normal traffic and pedestrian movements;
- Increase risks of accidents and injuries to workers and the public;
- Damage existing road infrastructure;
- Generate dust, noise, congestion, and community nuisance.

The objectives of this Framework are to:

- Promote safe interaction between construction traffic, pedestrians, and local road users;
- Minimize *Environmental* and social risks associated with construction traffic;
- Guide the planning, use, and rehabilitation of access roads and haul routes;
- Ensure site-specific traffic impacts are addressed through appropriate design, scheduling, signage, and controls.

3. Access Roads and Haul Routes

a) Planning and Approval

The Contractor shall prepare detailed layout plans for all proposed access roads and haul routes. These plans shall:

- Be submitted to the Supervising Consultant for approval;
- Be accompanied by written consent from affected landowners, Traditional Authorities, or village leadership where applicable.

b) Use of Existing Infrastructure

Existing roads shall be used wherever feasible. Construction of temporary access roads shall only be permitted where unavoidable and upon approval by the Site Manager and relevant stakeholders. Construction of temporary diversions, if required, will require approval of the District and the World Bank.

c) *Environmental Considerations*

Planning of haul routes shall consider:

- Vegetation and sensitive habitats;
- Watercourses and drainage patterns;
- Existing land use;
- Proximity to households, schools, markets, and health facilities.

d) Construction, Maintenance, and Rehabilitation

The Contractor shall be responsible for:

- Construction and routine maintenance of access and haul roads;
- Installation of drainage infrastructure at early stages to prevent erosion;
- Decommissioning and rehabilitation of temporary roads upon completion of works.

Topsoil shall be stripped and stockpiled prior to construction and reused during rehabilitation. Disturbed areas shall be revegetated using indigenous species where applicable.

e) Dust Suppression

Dust control measures shall be implemented, including:

- Regular watering of access and haul roads;
- Enforcement of speed limits (maximum **30 km/h** near settlements);
- Use of dust palliatives where necessary.

Dust suppression activities shall be recorded and reported as part of *Environmental* compliance monitoring.

4. Traffic Management and Safety Measures

Each site-specific Traffic and Access Management Plan shall include, at minimum, the following components:

4.1 Traffic Control and Signage

- Clearly defined access routes within and around worksites;
- Advance warning signage along haul routes and near construction zones;
- Temporary traffic signs, barriers, and flag persons where required;
- Establishment and enforcement of speed limits and control points.

Where bridge or culvert works require road occupation, **temporary bypasses or diversions** shall be constructed prior to commencement of works to avoid full road closures.

5. Transport of Materials

The Contractor shall ensure that:

- Vehicles transporting fine or granular materials are fully covered with tarpaulins to prevent dust and spillage;
- Any spillage or pollution along transport routes is cleaned immediately at the Contractor's cost;
- Delivery schedules are aligned with off-peak hours to reduce congestion and disturbance to communities.

6. Driver Requirements and Conduct

All project drivers and equipment operators shall:

- Hold valid licenses appropriate to the vehicles or machinery operated;
- Be trained and certified in defensive driving and road safety;
- Receive training in eco-driving to reduce fuel consumption and emissions;
- Undergo project induction covering pedestrian safety, fatigue management, and substance abuse prevention.

Driver working hours shall be managed to prevent fatigue, ensuring adequate rest periods. The Contractor shall maintain up-to-date driver registers and dust suppression logs.

7. Interaction with Communities and Sensitive Areas

High-risk interaction areas such as schools, markets, trading centres, and health facilities shall be identified and mapped. Site-specific mitigation measures shall be implemented, including:

- Temporary pedestrian crossings;
- Traffic calming devices (speed bumps, rumble strips);
- Warning lights, reflectors, and signage;
- Temporary bypasses where necessary.

Community engagement shall be coordinated with the Stakeholder Engagement Framework (Annex 11) to ensure awareness of traffic changes and safety measures.

8. Monitoring, Enforcement, and Reporting

The Contractor's Traffic and Access Management Plan shall include:

- An **accident and incident register** with clear reporting procedures;
- Random alcohol and drug testing protocols for drivers;
- A penalty and disciplinary structure for non-compliance with traffic safety requirements;
- Regular monitoring of road conditions and prompt repair of damage caused by construction traffic;
- **Monthly traffic management reports** detailing:
 - Traffic incidents and near misses;
 - Dust and noise control performance;
 - Community complaints related to traffic;
 - Corrective actions undertaken.

The Supervising Consultant shall verify compliance and recommend corrective measures where deficiencies are identified.

9. Institutional Responsibilities

Actor	Key Responsibilities
Contractor	Prepare and implement site-specific TAMPs, ensure compliance
Supervising Consultant	Review, approve, and monitor TAMP implementation
SATCP / PIU	Oversight and enforcement
District Authorities	Local coordination and support
Traffic Police (where applicable)	Enforcement and incident response

10. Conclusion

This Traffic and Access Management Framework establishes mandatory requirements for safe, efficient, and *Environmentally* responsible management of construction traffic under the SATCP Last Mile Infrastructure subprojects. Effective implementation of this Framework will reduce accident risks, protect communities, and ensure compliance with national legislation and World Bank safeguard requirements.

Site-specific Traffic and Access Management Plans shall be developed and approved prior to commencement of construction works and updated as necessary throughout project implementation.

Annex 7. Chance Find Procedure for Last Mile Infrastructure under SATCP

1. Introduction

This Chance Find Procedure sets out the protocol to be followed if previously unidentified cultural heritage is discovered during implementation of the SATCP Last Mile Infrastructure (LMI) subprojects. Cultural heritage may include, but is not limited to, archaeological materials, graves and burial sites, religious artefacts, sacred or ritual sites, and historical objects that were not identified during the initial environmental and social assessment. The procedure is to be applied by Contractors and Supervising Consultants on all worksites and along all associated project footprints, and ensures that any chance finds are managed in accordance with the Monuments and Relics Act (Cap 29:01) of Malawi and the World Bank's OP/BP 4.11 on Physical Cultural Resources.

2. Purpose

The purpose of this procedure is to safeguard Malawi's tangible cultural heritage by ensuring that any unexpected discoveries are handled with care and in accordance with legal and safeguard requirements. The procedure seeks to prevent unauthorized interference, preserve historical and cultural assets, and maintain respect for community traditions and sensitivities.

3. Scope

This procedure applies to all personnel involved in the project, including contractors, subcontractors, consultants, field workers, and any party engaged in construction, material sourcing, excavation, or related site activities. It is applicable to all locations along the project corridor, including campsites, borrow pits, material stockpiles, access roads, and working zones.

4. Definition of a Chance Find

A chance find is defined as any artifact, feature, structure, or site of cultural, historical, or religious significance that is discovered unexpectedly during the execution of project activities. Examples may include human remains, pottery fragments, stone tools, religious objects, altars, burial grounds, historical ruins, or sacred trees. These are typically items or sites not previously recorded or anticipated in the ESMMP documentation.

5. Procedure to Follow in the Event of a Chance Find

If a chance find is encountered, the following steps must be followed:

1. All work in the immediate vicinity must stop immediately. The affected area must be secured with a buffer zone of no less than 20 to 50 meters to prevent disturbance or looting.
2. The Contractor must promptly inform the Supervision Consultant, the Project Implementation Unit (PIU) of the SATP, and the Department of Antiquities (DoA) within 24 hours.
3. The DoA will dispatch a qualified cultural heritage or archaeological specialist to assess the nature, significance, and appropriate treatment of the discovery.

4. Based on the expert assessment and consultations with relevant stakeholders, the cultural material may be preserved in situ, documented and relocated, or managed in accordance with traditional practices—such as holding customary ceremonies prior to relocating graves or sacred objects.
5. No work should resume in the vicinity until the DoA has provided written clearance authorizing continuation. All findings must be properly recorded, photographed, and geotagged for documentation and reporting purposes.

6. Roles and Responsibilities

The Contractor is responsible for ensuring that all site personnel are trained in this procedure and for immediately halting work and protecting the area in the event of a discovery. The Supervision Consultant must verify contractor compliance and support the coordination of response efforts. The PIU is responsible for notifying the Department of Antiquities, facilitating expert engagement, and ensuring adherence to this procedure. The Department of Antiquities will lead assessments, determine the heritage value of the find, and authorize appropriate measures or clearance to resume work.

7. Training and Awareness

To ensure that all relevant personnel are aware of and can implement this procedure, pre-construction induction training will be provided to all workers and supervisors. This will include awareness of local cultural sensitivities and the importance of cultural heritage protection. Refresher training will be conducted every six months or upon the onboarding of new workers. On-site communication materials such as posters and briefing cards will be used to reinforce awareness.

8. Legal and Policy Basis

This procedure is grounded in the Monuments and Relics Act (Cap 29:01) of Malawi, which mandates the protection and reporting of archaeological discoveries and prohibits unauthorized disturbance of cultural resources. It is also aligned with the World Bank's OP/BP 4.11 (Physical Cultural Resources), which requires Borrowers to avoid, minimize, or mitigate impacts on cultural heritage and to engage relevant communities and authorities in the process of managing heritage resources.

9. Reporting and Documentation

All chance finds must be documented in a standardized reporting format that includes the date and time of discovery, location coordinates (GPS), a physical description of the find, photographic records, and the actions taken. These reports must be submitted to the PIU, the Department of Antiquities, and included in the Contractor's monthly E&S compliance reporting. Records of follow-up actions, assessments, and final clearance must also be retained.

10. Budget and Resources

A dedicated budget line will be included in the project's Environmental and Social Management and Mitigation Plan (ESMMP) to support implementation of the chance find procedure. This will cover costs associated with expert assessments, protective measures (e.g.,

fencing), documentation, stakeholder engagement, and cultural or ceremonial activities where required for the proper treatment of sacred or religious sites.

Annex 8: Labour Management Guidelines for Contractor Compliance and Preparation of Labour Management Plans (LMPs)

1. Purpose of these Guidelines

These Labour Management Guidelines are issued to guide Contractors in the preparation and implementation of project-specific Labour Management Plans (LMPs) for SATCP Last Mile Infrastructure (LMI) road projects. They are not a standalone LMP; rather, they operationalise the project-level Labour Management Procedures and relevant Malawi labour legislation for application at subproject and contract level.

Specifically, the Guidelines:

- Establish minimum labour and working-conditions requirements that Contractors must meet on all SATCP LMI contracts.
- Clarify statutory obligations under applicable Malawi labour legislation (including the Employment Act, Occupational Safety, Health and Welfare Act, Gender Equality Act, Child Care, Protection and Justice Act, and Trafficking in Persons Act).
- Define the scope, structure and content expected in Contractor LMPs, including provisions on terms and conditions of employment, OHS, worker accommodation, Code of Conduct, SEA/SH and GBV, child labour, and grievance mechanisms.
- Provide direction on labour-risk identification, mitigation and monitoring consistent with national law and World Bank requirements for managing social risks (OP/BP 4.01 and the Labour Management Procedures for SATCP).

All Contractors engaged under SATCP shall prepare a site-specific Labour Management Plan (LMP) consistent with these Guidelines and the project-level Labour Management Procedures, and submit it to the Supervising Consultant and PIU for review and approval prior to mobilisation. The approved LMP will form part of the Contractor's C-ESMP and will be monitored throughout implementation.

2. Legal and Policy Framework

Contractors must ensure their LMPs demonstrate compliance with:

- Employment Act (2000, as amended)
- Occupational Safety, Health and Welfare Act (1997)
- Gender Equality Act (2013)
- Child Care, Protection and Justice Act (2010)
- HIV and AIDS (Prevention and Management) Act (2018)
- Trafficking in Persons Act (2017)
- Public Health Act (1948)
- Applicable minimum wage regulations
- Relevant World Bank safeguards (OP/BP 4.01)

The LMP must clearly reference these instruments and describe how compliance will be operationalised.

3. Categories of Workers to be Covered

The Contractor's LMP shall cover all categories of project workers, including:

1. Direct workers (Contractor employees)
2. Subcontracted workers
3. Security personnel
4. Primary supplier workers

The LMP must describe how labour standards will be applied to subcontractors and suppliers.

4. Minimum Content Requirements for Contractor LMPs

Each Contractor's LMP must include, at a minimum, the following components:

4.1 Workforce Planning and Recruitment Procedures

The LMP must describe:

- Anticipated labour numbers by category and phase;
- Recruitment procedures;
- Local hiring strategies;
- Non-discrimination measures;
- Age verification procedures;
- Prohibition of forced labour and child labour;
- Record-keeping systems for employees.

Recruitment must comply with Sections 4, 5, 21, and 23 of the Employment Act.

4.2 Employment Conditions

The LMP shall demonstrate how the Contractor will ensure:

- Written contracts for all workers;
- Clear specification of wages, hours, and benefits;
- Compliance with statutory working hours and rest days;
- Provision of annual, sick, and maternity leave;
- Equal pay for equal work;
- Proper termination procedures and severance entitlements.

4.3 Occupational Health and Safety (OHS)

The LMP must include:

- Site-specific OHS risk assessment;
- Hazard identification and control measures;
- PPE provision policy;
- Toolbox talks and safety training plan;
- Accident and incident reporting procedures;
- Emergency response plan;

- First aid and medical arrangements;
- Special protection for young workers (14–18 years).

OHS provisions must comply with the Occupational Safety, Health and Welfare Act (1997).

4.4 Worker Welfare Facilities

The LMP must outline provision of:

- Adequate sanitation facilities (segregated by gender);
- Potable water;
- Waste management systems;
- Rest areas and shelters;
- Medical and first aid facilities;
- Safe worker accommodation (where applicable).

4.5 Gender, GBV, SEA/SH and Child Protection

The LMP shall include:

- A mandatory Code of Conduct;
- GBV/SEA/SH awareness training programme;
- Zero tolerance policy;
- Confidential reporting pathways;
- Sanctions for misconduct;
- Measures to prevent exploitation of minors.

The LMP must align with the project's GBV Management Framework.

4.7 Workers Grievance Redress Mechanism (WGRM)

The Contractor's LMP must establish a Workers Grievance Redress Mechanism that:

- Is free and accessible;
- Protects confidentiality;
- Prohibits retaliation;
- Provides defined timelines for resolution;
- Maintains grievance records;
- Allows escalation procedures.

4.8 Monitoring and Reporting

The LMP must describe:

- Internal compliance monitoring procedures;
- Monthly labour reporting requirements;
- OHS statistics reporting;
- Training records;
- Grievance reporting;
- Supervision Consultant oversight arrangements.

5. Key Labour Risks in LMI Road Projects

Contractors shall assess and manage risks including:

- Workplace injuries and accidents;
- Exposure to dust, noise, and hazardous materials;
- Spread of communicable diseases;
- Child labour and forced labour risks;
- Gender-based violence;
- Labour disputes;
- Discrimination and exclusion of vulnerable groups;
- Resource competition due to labour influx.

Mitigation measures must be integrated into the Contractor's ESMP and Construction Environmental and Social Management Plan (C-ESMP).

6. Review and Approval

No Contractor shall mobilise to site until:

- A project-specific Labour Management Plan has been prepared;
- The LMP has been reviewed and approved by the Supervision Consultant and Roads Authority/SATCP;
- The Code of Conduct has been signed by all personnel;
- Induction training on labour standards and GBV has been conducted.

7. Enforcement

Failure to comply with these Guidelines and approved LMP provisions may result in:

- Suspension of works;
- Withholding of payment;
- Contractual penalties;
- Termination of contract.

Annex 13. SATCP LMI Grievance Redress Mechanism (GRM) Protocol

1. Introduction

This Grievance Redress Mechanism (GRM) Protocol has been developed for the Southern Africa Trade and Connectivity Project (SATCP) – Last Mile Infrastructure (LMI) subprojects, including feeder road rehabilitation, drainage improvements, culvert/bridge works and associated construction activities. The GRM provides a structured, project-wide system for receiving, recording, assessing and resolving concerns, queries and complaints from communities, workers and other stakeholders.

The GRM serves as the **first line of response** to stakeholder concerns, complementing statutory and other grievance channels (e.g. courts, police, labour authorities). It aims to resolve issues as close as possible to the point of impact, using dialogue and collaborative problem-solving, and thereby maintain constructive relations between the project, affected communities and workers.

Construction activities under SATCP LMI are expected to generate grievances related to, among others, land and assets, labour and working conditions, occupational and community health and safety, environmental impacts, and gender-based violence / sexual exploitation and abuse / sexual harassment (GBV/SEA/SH) and trafficking in persons (TIP). Contractors are required to develop and implement **site-specific GRM Management Plans** consistent with this Protocol.

The GRM will use two complementary modes of recording grievances:

- **Manual** submission (e.g. verbal, paper forms, grievance boxes, community meetings); and
- **Electronic** recording in a central database to allow tracking, escalation, and consolidated reporting across SATCP LMI.

Electronic recording will be promoted to support timely management oversight, automatic flagging of overdue cases, and real-time analysis of grievance trends.

2. Categories and Types of Grievances

The GRM will receive and register all grievances related to SATCP LMI activities, whether from community members, workers or institutions. Grievances may be submitted:

- In person to GRM committee members or project staff.
- By phone, SMS, WhatsApp or project-designated hotlines.
- Via grievance boxes at key locations.
- Through written letters or emails to the PIU, Supervising Consultant or Contractor.

The following categories and examples guide classification (non-exhaustive):

2.1 Construction-related Community Concerns and Livelihood Continuity

- **Reinstatement disputes** – Disputes about reinstatement of inadvertently damaged crops, structures or roadside assets, or disagreement on the adequacy of remedial measures.
- **Access disruption** – Concerns about temporary loss of access to homes, services, schools or markets during construction.
- **Livelihood continuity** – Alleged negative impacts on income sources (e.g. crop damage, disruption of business).

2.2 Health and Safety (Workers and Community)

- **Safety violations** – Inconsistent handling of safety breaches, inadequate enforcement of rules.
- **Accidents and injuries** – Workplace or traffic accidents, concerns about the response, or perceived unfair dismissal following an accident.
- **Health and safety hazards** – Exposure to hazardous materials or unsafe conditions, lack or poor quality of PPE.
- **Community safety complaints** – Dust, noise, blocked accesses to schools/health centres/markets, speeding construction vehicles, unsafe detours, open borrow pits or excavations.

2.3 Labour / Contractor Issues

- **Payment disputes** – Delayed payment, underpayment or non-payment.
- **Working conditions** – Poor accommodation, sanitation, unsafe or unhealthy work environments.
- **Wage disputes** – Wage rates, overtime, non-payment of benefits.
- **Discrimination and harassment** – Workplace discrimination, bullying, harassment.
- **Contract interpretation** – Disagreements about terms, duration, or conditions of contracts.

2.4 Gender and Social Inclusion (GSI)

- **Gender discrimination** – Unequal treatment of women and men in recruitment, pay or opportunities.
- **Social exclusion** – Exclusion of youth, persons with disabilities or vulnerable groups from employment or consultations.
- **Cultural insensitivity** – Disrespect for local customs, norms or religious practices.

2.5 Environmental

- **Pollution and waste management** – Improper waste disposal, dust, noise, spills, or other pollution.
- **Community environmental impacts** – Perceived damage to water sources, agricultural land, forests or communal resources.
- **Natural resource damage** – Deforestation, degradation of wetlands, unsustainable material extraction.

2.6 General Project Issues

- **Project delays and disruptions** – Concerns about prolonged construction or schedule slippage affecting access.
- **Communication gaps** – Lack of information, unclear messages about project scope, timing and impacts.
- **Stakeholder engagement** – Inadequate consultation, lack of feedback, or perceptions of exclusion.

2.7 GBV / SEA/SH and TIP (Special Handling)

GBV/SEA/SH and TIP-related grievances require **special, survivor-centred handling**. These cases will:

- Be received through any GRM entry point, but **not investigated by community or project committees**.
- Be **immediately and confidentially referred** (with consent) to trained focal points and survivor service providers/police, in line with the project's GBV/SEA/SH Action Plan and referral protocol.
- Not be discussed in open committee meetings; only anonymised statistics may be reported.

3. Objectives of the GRM

The GRM seeks to:

- Provide accessible, responsive and demonstrably fair channels through which communities and workers can raise grievances and complaints and obtain timely resolution.
- Maintain open, two-way communication between the project and stakeholders and serve as an early-warning system for emerging risks.
- Resolve most grievances **locally and amicably** at site or community level, reducing escalation to courts or disruptive conflict.
- Manage expectations and reduce negative perceptions by offering clear information on what the project can and cannot do.
- Prevent accumulation of unresolved grievances that could lead to protests, work stoppages, sabotage or reputational damage.
- Ensure that the rights, dignity and safety of all complainants are respected, including vulnerable and marginalised groups.
- Generate lessons on recurrent issues to support continuous improvement of ESMP and C-ESMP implementation.

4. Principles of the GRM

The SATCP LMI GRM is guided by the following principles:

- **Human dignity and rights** – All complainants are treated with respect, without discrimination.
- **Equity and gender equality** – Processes recognise different barriers faced by women, men, youth and vulnerable groups and proactively promote equitable access.

- **Accessibility** – Multiple, free-of-charge uptake channels (verbal, written, phone, SMS/WhatsApp, boxes, community meetings) are provided in local languages; illiterate complainants can lodge complaints verbally.
- **Fairness and impartiality** – Grievances are assessed objectively; members with conflicts of interest recuse themselves; complainants may appeal decisions.
- **Transparency** – Procedures, timelines and possible outcomes are clearly communicated; complainants are informed of progress and decisions.
- **Accountability and responsiveness** – Clear responsibilities for receiving, logging, processing and closing grievances; time-bound response standards; monitoring of overdue cases.
- **Confidentiality and safety** – Identity of complainants is protected where requested; anonymous grievances are accepted; special measures protect GBV/SEA/SH survivors.
- **Predictability** – Sequential steps (receipt, acknowledgement, assessment, resolution, appeal, closure) and associated timeframes are defined and publicised.
- **Inclusivity and participation** – GRM committees are gender-balanced and include community representatives; stakeholders participate in developing and reviewing solutions.
- **Systematic record-keeping** – All grievances are logged, tracked and reported (including anonymous ones), with capacity to attach supporting evidence.
- **Right to appeal** – Complainants can request reconsideration and, if unsatisfied, escalate to higher levels and/or formal legal systems.
- **Rule of law** – Outcomes are consistent with the Constitution and laws of Malawi and applicable international standards.

5. GRM Structure and Implementation Levels

The GRM operates at three main levels, plus specialised handling for GBV/SEA/SH and TIP:

1. **Community Level GRM Committee (CGRC)** – For community grievances.
2. **Contractor / Workers' GRM Committee (WGRC)** – For worker-related grievances.
3. **District Grievance Redress Committee (DGRC)** – For escalated and complex cases and oversight.
4. **Project-Level GRM Focal Point (PIU)** – For further escalation, supervision and reporting to SATCP and the World Bank.

5.1 Community Level GRM Committee (CGRC)

Composition (6–10 members, ≥40% women):

- Community representatives (including women and youth).
- Community member(s) from affected villages.
- Community Development Assistant / case worker.
- Representative of community policing or community-based structures.
- Local NGO/CBO representative where available.

Chiefs and political leaders are **not formal members**, but are kept informed and may support outreach to ensure independence.

Key roles:

- Conduct community sensitisation on GRM procedures and rights.
- Receive grievances (verbal or written), assist complainants to record them, and log all cases.
- Screen and, where within mandate, investigate and facilitate resolution through dialogue with involved parties.
- Refer complex cases or those beyond community mandate (including all GBV/SEA/SH and criminal cases) to the Supervising Consultant and/or DGRC.
- Provide feedback to complainants and record outcomes.
- Submit monthly summaries to the DGRC and Supervising Consultant.

5.2 Contractor / Workers' GRM Committee (WGRC)

Composition (6–10 members, ≥40% women):

- Worker representatives (skilled and unskilled, including women).
- Contractor's ESHS/HR representative (secretariat).
- Supervising Consultant representative.
- Where relevant, service provider/GBV focal person.

Key roles:

- Sensitise workers on GRM, Code of Conduct and rights.
- Receive and log grievances from workers (including anonymously).
- Screen and address labour-related complaints within the Contractor's mandate (wages, conditions, OHS, etc.).
- Refer unresolved or serious cases (e.g. GBV, criminal acts, systemic labour violations) to the DGRC and/or regulatory authorities.
- Provide feedback to complainants and ensure documentation of actions taken.

5.3 District Grievance Redress Committee (DGRC)

Typical composition (with ≥40% women):

- District Environmental Officer.
- Director of Public Works.
- District Social Welfare / Protection Officer.
- District Gender Officer.
- District Labour Officer.
- District Lands Officer.
- HIV and AIDS Coordinator.
- Police representatives (Victim Support Unit and Community Policing).
- District Education Officer (as needed).
- NGO / CSO representative.
- SATCP PIU representative.
- Supervising Consultant and Contractor representatives (as observers/resource persons).

Key roles:

- Receive cases escalated from CGRCs, WGRCs and Supervising Consultant.

- Verify facts (including site visits), mediate and decide on appropriate resolutions.
- Refer GBV/SEA/SH, TIP and other criminal matters to appropriate services/police while ensuring survivor-centred handling.
- Provide guidance, training and backstopping to CGRCs and WGRCs.
- Consolidate and submit quarterly GRM reports to the District Executive Committee and PIU.
- Monitor overall functioning of the GRM and recommend improvements.

5.4 Project-Level GRM Focal Point (PIU)

- Maintain the central GRM database and track status of all cases.
- Provide oversight and quality control of GRM implementation across LMI sites.
- Support resolution of cases escalated from the DGRC where necessary.
- Report GRM performance to SATCP management and the World Bank.

6. GRM Process and Timeframes

The standard process applies to all grievances **except GBV/SEA/SH and other sensitive cases**, which follow separate confidential protocols.

- 1. Receipt and Registration (Day 0–2)**
 - Grievance received via any channel (verbal, written, phone, box, etc.).
 - Logged in the GRM register (paper and/or electronic) with unique ID, date, category, location, and brief description.
 - Complainant receives acknowledgement (receipt, SMS or verbal confirmation).
- 2. Screening and Assignment (Day 2–5)**
 - CGRC or WGRC reviews the grievance to confirm whether it falls within their mandate.
 - If yes, they handle it at their level; if not, it is referred to DGRC or appropriate authority (e.g. police, labour office) with documentation.
- 3. Investigation and Proposed Resolution (Day 5–21)**
 - Committee gathers information from relevant parties, may conduct site visits, review documents or consult experts.
 - A proposed resolution is formulated (e.g. corrective action, compensation within project rules, explanation, and/or referral).
- 4. Communication of Decision (By Day 21)**
 - Decision communicated to the complainant in a language and format they understand.
 - If accepted, the case is implemented and closed.
 - If not accepted, the complainant may **appeal** to the next GRM level (e.g. from CGRC/WGRC to DGRC, from DGRC to PIU or formal legal system).
- 5. Implementation and Closure (Within agreed timeframe, typically 30–45 days total)**
 - Responsible party implements agreed actions.
 - Committee verifies completion and records closure details in the register/database.
- 6. Appeal**
 - If unsatisfied, complainants can escalate sequentially (CGRC/WGRC → DGRC → PIU → courts/other formal mechanisms).

- Appeals and outcomes are logged and reported.

7. Special Protocol for GBV / SEA/SH and TIP

- Any GRM entry point may receive a GBV/SEA/SH/TIP disclosure.
- The receiver **must prioritise survivor safety, confidentiality and consent**, thank the survivor, avoid probing questions, and **not** attempt to investigate.
- With the survivor's consent, the case is referred within 24 hours to a designated GBV Focal Point (e.g. Social Welfare Officer or specialised NGO) and, where appropriate, the police.
- The case is recorded **without personal identifiers** in the GRM system for statistical and monitoring purposes only.
- No details are discussed in GRM committee meetings; only anonymised numbers and types of cases are reported.

8. Information, Training and Monitoring

- GRM information (process, contacts, timelines, anonymity options) will be disclosed through community meetings, posters, radio spots and worker inductions in accessible languages.
- All GRM committee members receive initial and refresher training on GRM procedures, record-keeping, conflict resolution and GBV-sensitive handling.
- The PIU consolidates monthly/quarterly GRM reports (number of cases, categories, resolution rates, average closure time, outstanding cases) and uses this information to improve ESMP and C-ESMP implementation.

Annex 14. Spatial Description of works

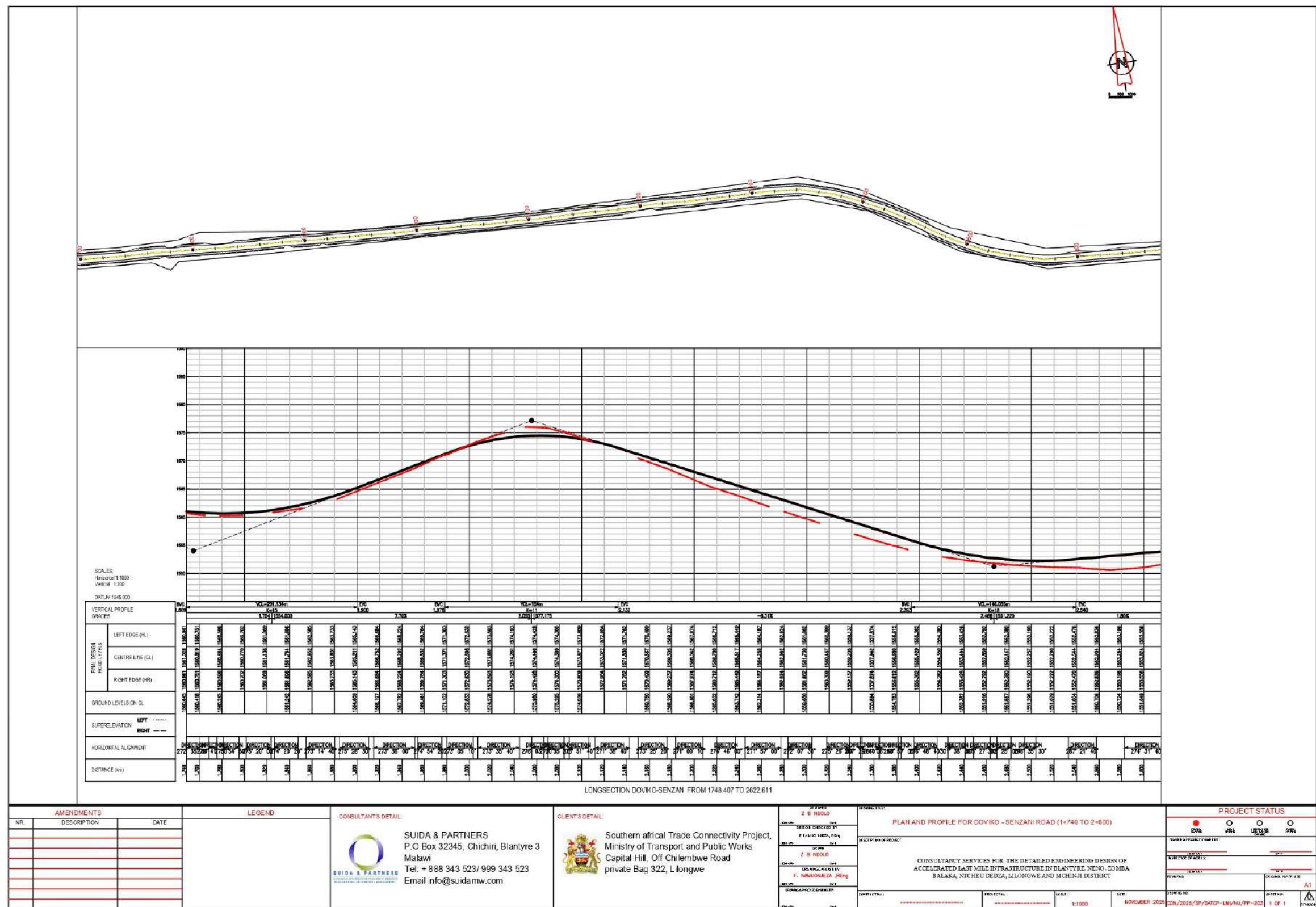
Chainage		DESCRIPTION OF WORKS
FROM	TO	
0+000		SENZANI
0+004		Existing Culvert line- 600mm Dia - 2lines, Excavation of outlet drain
0+010	0+470	Section requires Embank formation and Lined drains LHS & RHS
0+300		Provide Vehicular cross - over slab
0+470	0+600	Section requires gravelling and Line drains
0+600	0+810	Sections Requires Embank formation and Lined Drains
0+810		Existing Concrete pipe Culvert - (600mm Dia , 1 Line) - Requires - Erosion protection Works at the outlet structure
1+200		Mitre drain required - LHS & RHS
1+200	2+056	Section requires gravelling
2+000	2+056	Sections requires gravelling and earth drains - LHS and RHS
2+200	2+300	Section requires gravelling
2+300	2+400	Sections requires gravelling
2+400		anti-treatment required
2+904		Existing Concrete Pipe culvert - (600mm Dia, 1 Line) - Excavation of outlet drain required
2+998		Mitre drain required - RHS
3+300		Provide mitre drain - RHS
4+200	4+260	Section requires gravelling and Earth drains
4+300	4+405	Provide concrete pad and Lined drains - LHS and RHS
4+560		Existing Concrete drift - Erosion protection works required
5+410		Existing Bridge - Likudzi Bridge
10+910		Mitre drain required - LHS
11+800	11+882	Reshape Section
12+000	12+136	Reshape section
12+145	12+190	Re-alignment of Vertical Curve
12+700	12+805	Reshape Section
12+805	12+815	Filling of eroded sections
12+822	12+853	Section requires gravelling
12+853		Provide Service Ducts - min. 110mm Dia
13+280	13+360	Section requires gravelling and Earth drains
13+550	13+600	Re-alignment of Vertical Curve, Provide lined drains - LHS & RHS
13+570	13+700	Section requires gravelling and Earth drains
14+200		Provide a Box Culvert 1m x 1m - 1 Cell, Excavate inlet & outlet drains
14+200	14+300	Section requires gravelling and Earth drains
14+300	14+400	Provide Scour Checks - LHS & RHS
14+400		Demolish and remove existing culvert (600mm Dia 1 line)
14+700		Provide mitre drain - LHS
14+700	14+900	Section requires Gravelling and Earth drains
14+750		Demolish and remove existing Culvert (600mm Dia 1 Line)
14+800		Provide mitre drain - RHS

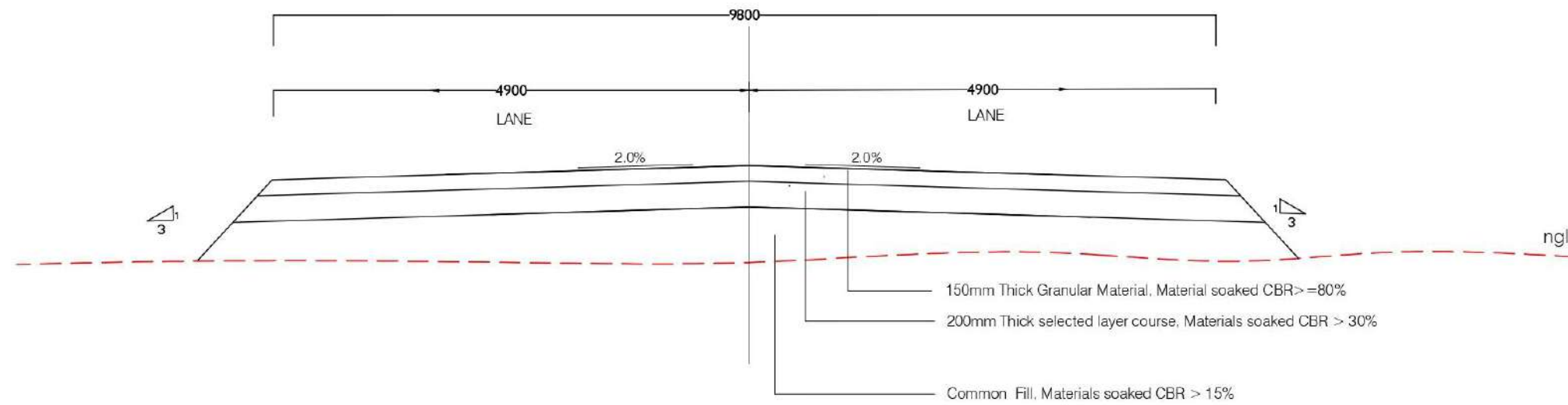
Chainage		DESCRIPTION OF WORKS
FROM	TO	
15+000	15+300	Reshape Section and provide Earth drains
15+300	15+365	Reshape Section and provide Earth drains
15+380	15+600	Reshape Section and provide Earth drains
15+700		Provide mitre drain - RHS
15+715		Provide mitre drain - LHS
15+738		Provide mitre drain - RHS
15+748		Provide mitre drain - LHS
15+800		Provide mitre drain - LHS & RHS
15+800	16+100	Reshape Section and provide Earth drains
16+385	16+405	Section requires gravelling and Earth drains
16+500		Provide mitre drain - RHS
16+510		Provide mitre drain - RHS
16+515		Provide mitre drain - LHS
16+580		Provide mitre drains -LHS & RHS
16+600		Provide mitre drains -LHS & RHS
16+670	16+700	Reshape Section and Provide Earth drains
16+670		Provide mitre drain - LHS
16+790		Provide mitre drain - LHS & RHS
16+870	16+915	Re-alignment of Vertical Curve
16+985	17+025	Re-alignment of vertical Curve
17+025		Provide mitre drain - RHS
17+100		Provide mitre drain - RHS
17+104		Provide mitre drain - LHS
17+180	17+220	Reshape section and provide Earth drains
17+300		Provide Mitre drain - RHS
17+305		Provide mitre drain - LHS
17+350	17+410	Reshape section and provide earth drains
17+410	17+500	Reshape road, Provide earth drain - LHS
17+000		Provide mitre drain - RHS
17+750		Provide mitre drain - RHS
17+780	17+900	Reshape Section, Provide Scour Checks - LHS and Provide lined drains RHS
17+920		Provide mitre drain - LHS & RHS
18+000		Provide mitre drain - RHS
18+00	18+070	Reshape Section and provide earth drains
18+010		Provide mitre drain - RHS
18+070	18+133	Section requires Gravelling and Earth drains
18+200	18+300	Section requires Gravelling and Earth drains
18+300		Provide mitre drains - RHS
18+315		Provide mitre drains - LHS
18+400		Provide mitre drain - LHS
18+500		Provide Box Culvert 1m x 1m , 1 Cell
18+670	18+700	Reshape Section
18+700	18+780	Reshape Section, Provide Scour Checks - LHS& RHS
18+800		Provide mitre drain - LHS & RHS

Chainage		DESCRIPTION OF WORKS
FROM	TO	
18+830	18+900	Reshape Section and provide earth drains and Scour Checks- LHS & RHS
18+900	19+100	Reshape Section
19+200	19+400	Realignment of vertical curve
19+500		Provide mitre drain - RHS
19+500	19+840	Reshape Section , Provide Earth drains
19+600		Provide Mitre drains - LHS & RHS
19+660		Provide Mitre drains - LHS & RHS
19+700		Provide Mitre drain - LHS
19+840	19+920	Section requires Gravelling
20+180	20+205	Reshape Section and provide Earth drains
20+205	20+280	Reshape Section and Provide earth drains
20+300		Provide mitre drain - LHS
20+500		Provide mitre drain - RHS
20+500	20+600	Reshape Section, provide earth drains
20+550		Provide mitre drains - LHS & RHS
20+600		Provide mitre drains - LHS & RHS
20+630	20+700	Provide earth drains - RHS
20+700	20+800	Provide earth drains - RHS
20+800		Provide mitre drain - RHS
20+870	20+940	Reshape Section, Provide earth drains - LHS & RHS
20+970	21+000	Provide earth drains - RHS
21+000		Provide Mitre drains - LHS
21+000	21+400	Reshape Section, Provide earth drains
21+200	21+379	Section requires Gravelling and Earth drains
21+400	21+500	Reshape Section and Provide Earth drains
21+500	21+700	Reshape Section and Provide Earth drains
21+770	21+820	Provide earth drains - RHS
21+770	21+850	Reshape Section
21+850	22+090	Gravelling and Lined drains - LHS and RHS
22+090	22+133	Extend concrete pad and provide lined drains - LHS & RHS
22+133	22+195	Provide concrete pad and lined drains - LHS & RHS
22+195	22+235	Extend concrete pad and provide lined drains - LHS & RHS
22+235	22+248	Provide concrete pad and Lined drains - LHS and RHS
22+248	22+310	Extend concrete pad and provide lined drains - LHS & RHS
22+310	22+400	Reshape Section and Provide earth drains
22+400	22+440	Section requires gravelling and Earth drains
22+440	22+600	Reshape Section and provide earth drains
22+760		Anti- treatment
22+760	23+500	Reshape Section and provide earth drains
22+900	23+000	Provide Scour Checks - LHS & RHS
23+000	23+280	Section requires gravelling and Earth drains
23+280	23+400	Reshape and Gravel Section
23+400	23+660	Section requires Gravelling and Earth drains
23+740	23+850	Section requires gravelling and Earth drains

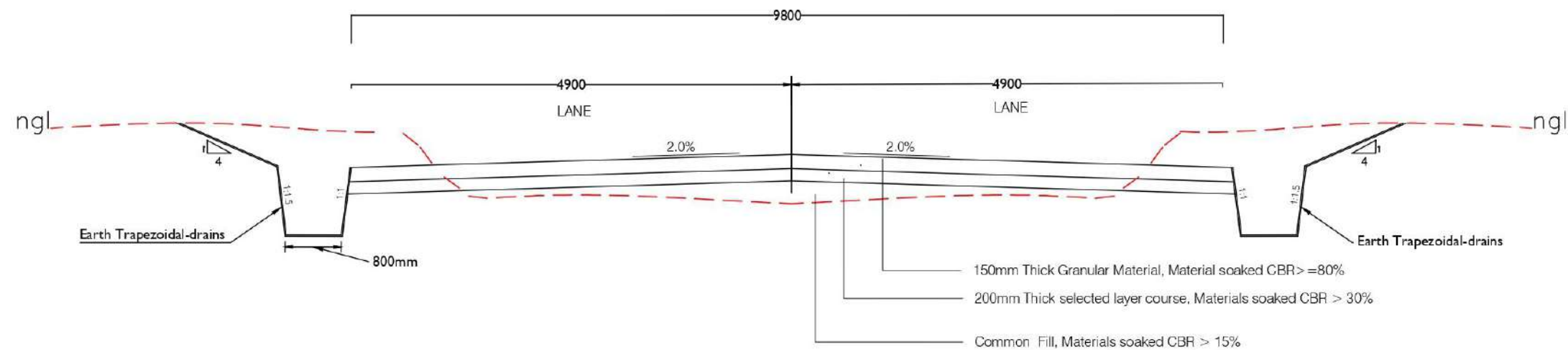
Chainage		DESCRIPTION OF WORKS
FROM	TO	
23+660	24+000	Reshape Section, Provide Earth drains
		END

Annex 15. Design Drawings

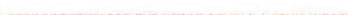


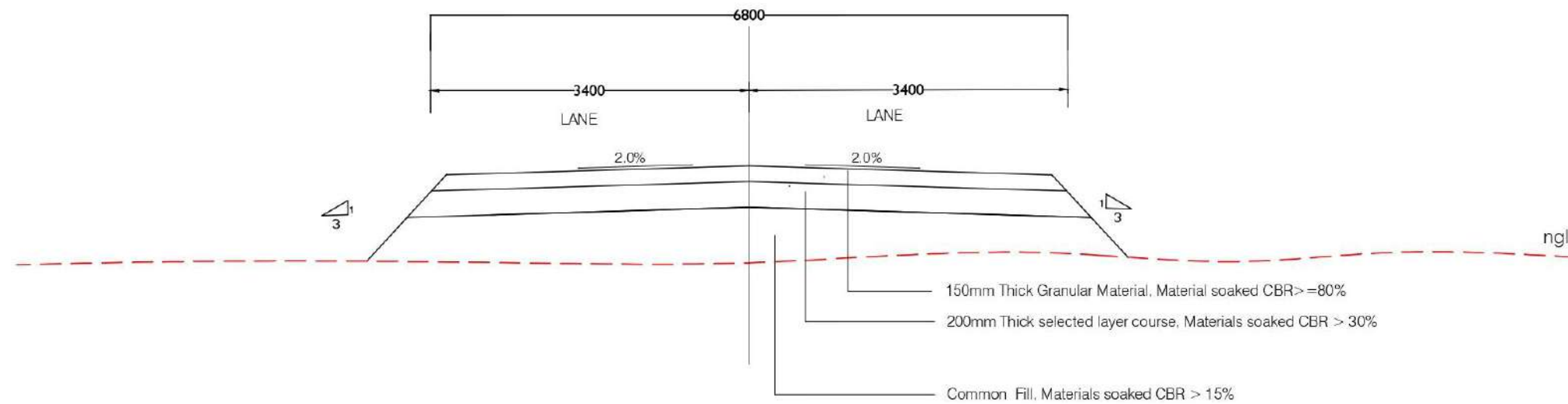


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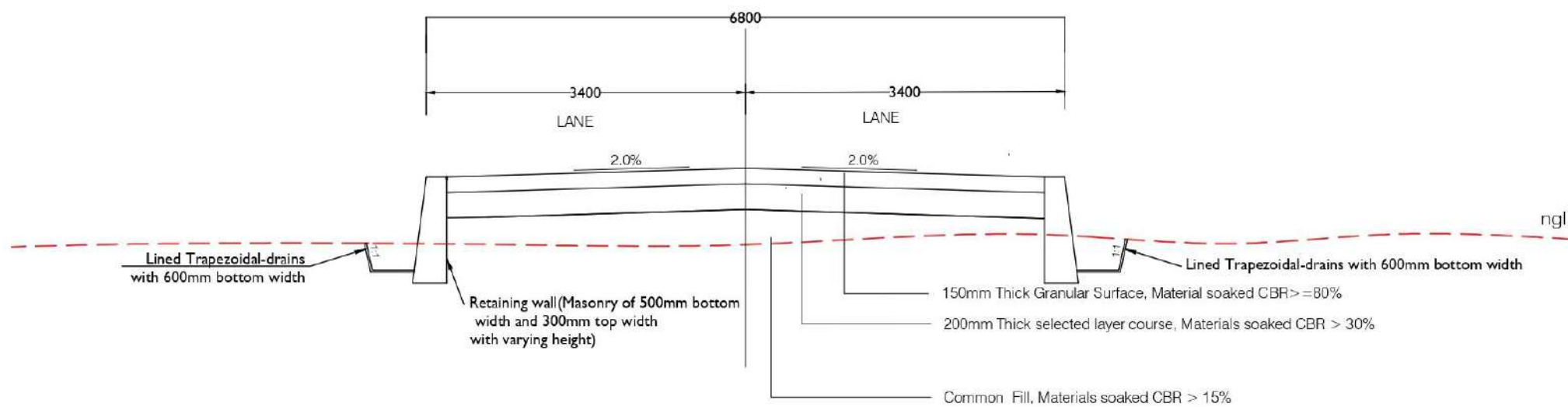


TYPICAL CROSS SECTION IN CUT

AMENDMENTS			LEGEND		CONSULTANTS DETAIL:		CLIENT'S DETAIL:		TYPICAL CROSS SECTION FOR THE NDOGE-GOVALA- KACHULU ROAD				PROJECT STATUS			
NR.	DESCRIPTION	DATE			 SUIDA & PARTNERS P.O Box 32345, Chichiri, Blantyre 3 Malawi Tel: + 888 343 523/ 999 343 523 Email info@suidamw.com		 Southern africa Trade Connectivity Project, Ministry of Transport and Public Works Capital Hill, Off Chiembele Road private Bag 322, Lilongwe		 TYPICAL CROSS SECTION FOR THE NDOGE-GOVALA- KACHULU ROAD				 PROJECT STATUS			

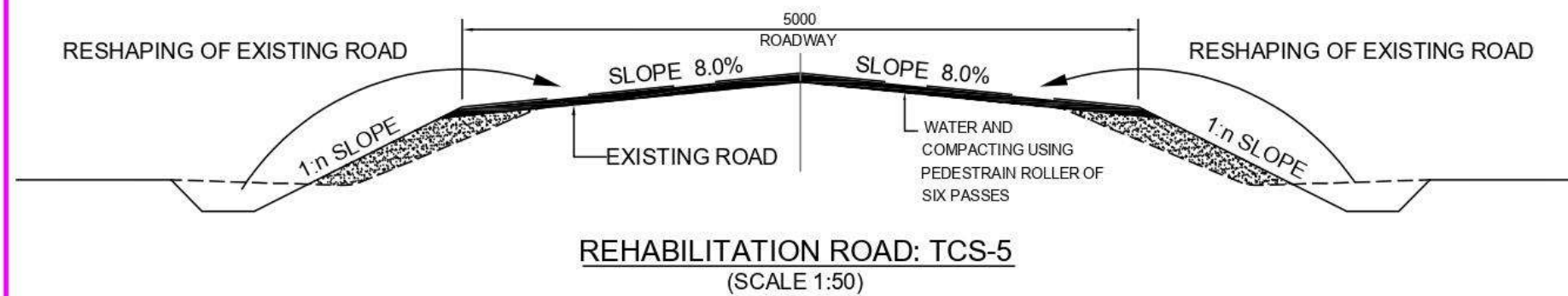


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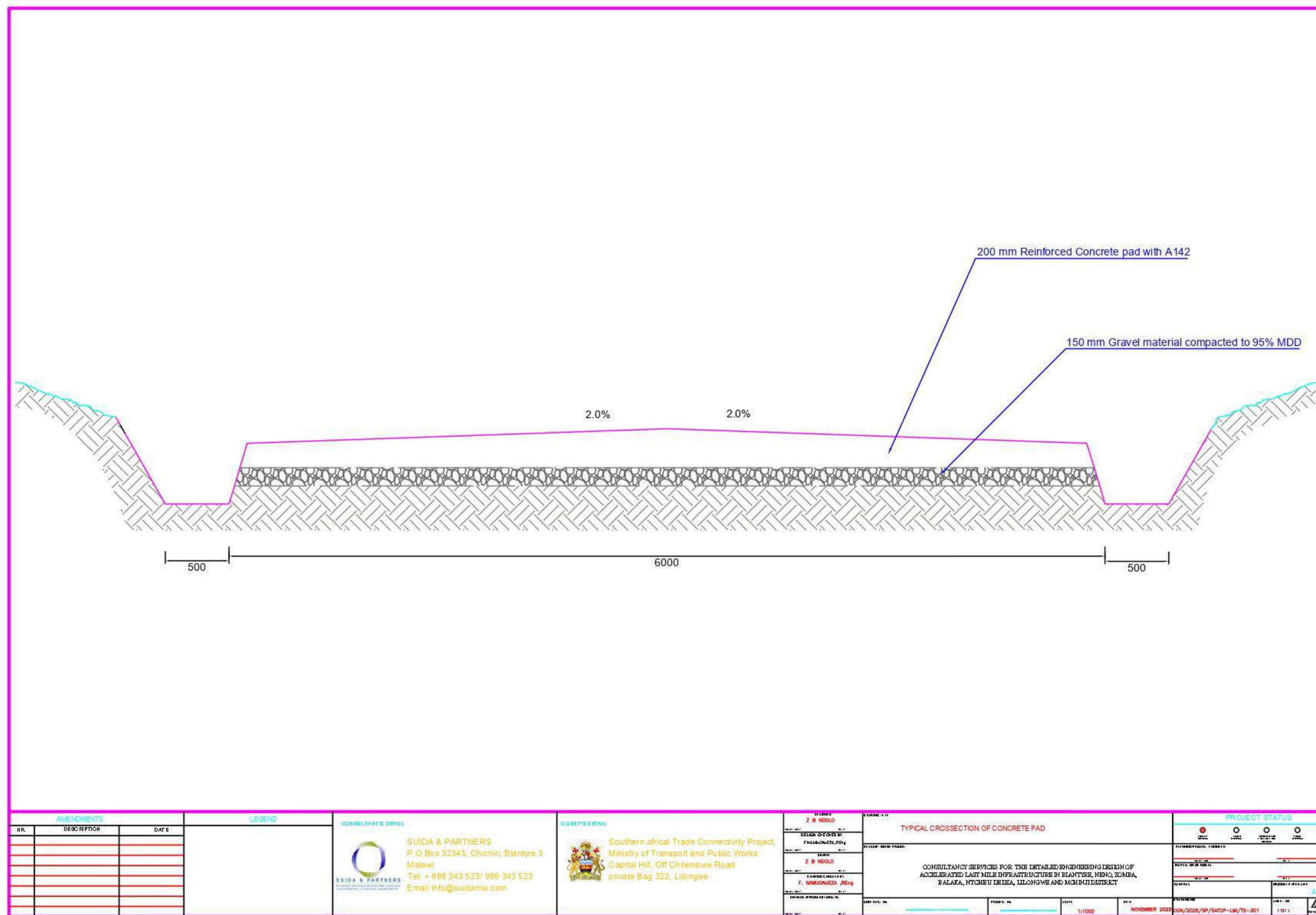
TYPICAL CROSS SECTION IN FILL WITH RETAINING WALL

AMENDMENTS			LEGEND		CONSULTANTS DETAIL:		CLIENT'S DETAIL:		TYPICAL CROSS SECTION FOR THE ROAD IN EMBANKMENT				PROJECT STATUS			
NR.	DESCRIPTION	DATE			 SUIDA & PARTNERS P.O Box 32345, Chichiri, Blantyre 3 Malawi Tel: + 888 343 523/ 999 343 523 Email info@suidamw.com		 Southern africa Trade Connectivity Project, Ministry of Transport and Public Works Capital Hill, Off Chiembwe Road private Bag 322, Lilongwe		 TYPICAL CROSS SECTION FOR THE ROAD IN EMBANKMENT				 PROJECT STATUS			

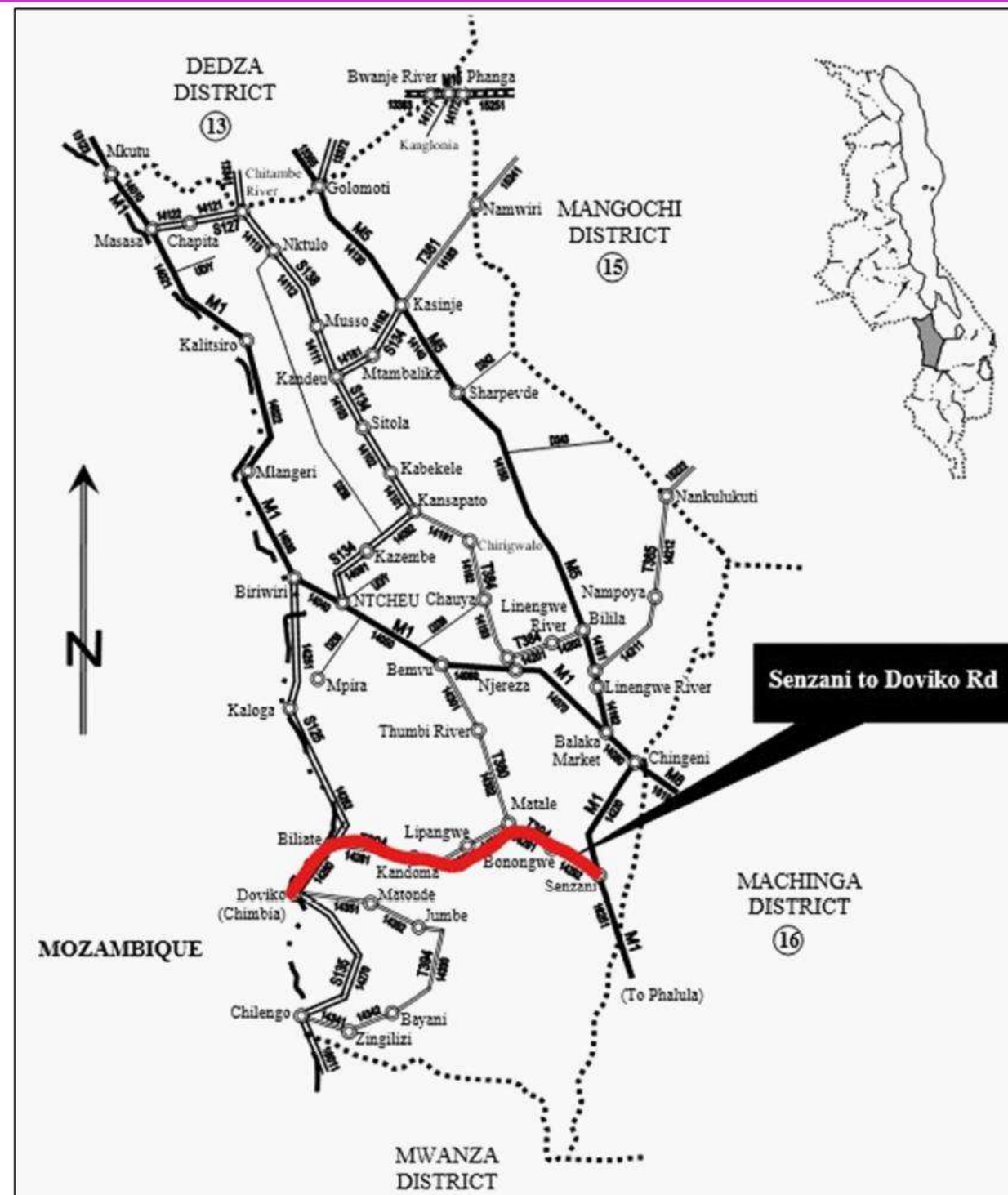


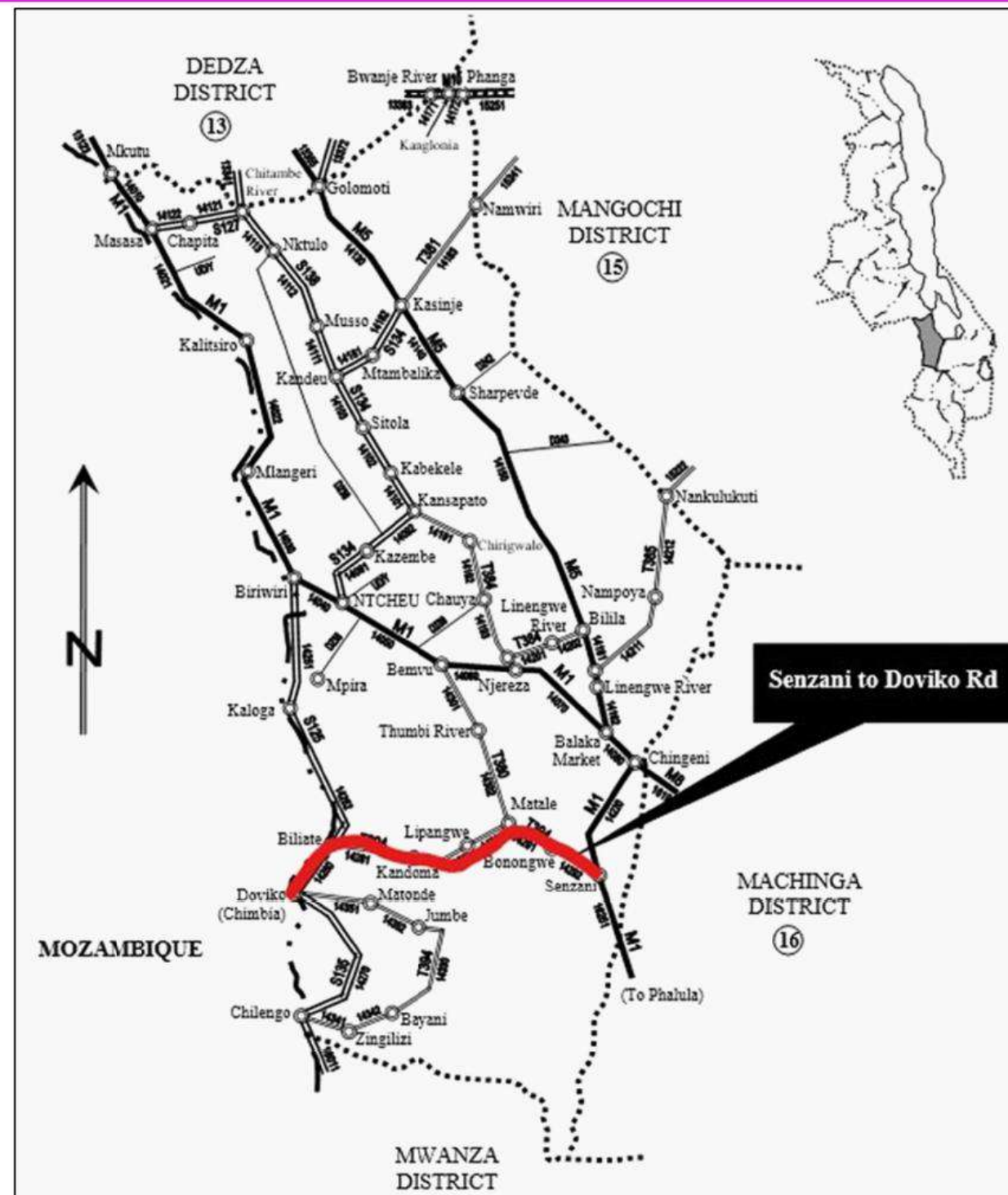
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE MENTIONED.
2. FOR OTHER DETAILS, REFER RELEVANT MISCELLANEOUS DRAWINGS.

AMENDMENTS			LEGEND		CONSULTANT'S DETAIL		CLIENT'S DETAIL		TYPICAL CROSSSECTION OF LD ROAD		PROJECT STATUS					
NR.	DESCRIPTION	DATE			 SUIDA & PARTNERS SOUTHERN AFRICAN TRADE CONNECTIVITY PROJECT SPECIALIST CONSULTANTS		 Southern Africa Trade Connectivity Project, Ministry of Transport and Public Works: Capital Hill, Off Chibambwe Road private Bag 322, Lilongwe		STATIONED Z B NO000 SCALE OF THIS DRAWING FRAMES/NOTES, ETC DATE Z B NO000 PROJECT NO F. NAMUNJONGA, JENG DATE OF ISSUE IN LHD, PL		STATIONED Z B NO000 SCALE OF THIS DRAWING FRAMES/NOTES, ETC DATE Z B NO000 PROJECT NO F. NAMUNJONGA, JENG DATE OF ISSUE IN LHD, PL		☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐ APPROVED ☐			



AMENDMENTS			LEGEND	CONSULTANT'S DETAIL	CLIENT'S DETAIL	SENZANI-DOVICO SECTION 2 LIST OF STRUCTURES									
NR.	DESCRIPTION	DATE		 SUIDA & PARTNERS SOUTHERN AFRICA TRADE CONNECTIVITY PROJECT CONSULTANCY SERVICES FOR THE DETAILED ENGINEERING DESIGN OF ACCELERATED LAST MILE INFRASTRUCTURE IN BLANTYRE, NENO, ZOMBA, SALAZA, WICHUZI DISTRICT, Lilongwe	 Southern Africa Trade Connectivity Project, Ministry of Transport and Public Works Capital Hill, Off Chimbabwe Road private Bag 322, Lilongwe	PROJECT STATUS DESIGN ISSUED FOR TENDERS UNDER REVIEW APPROVED DESIGNER ISSUED FOR TENDERS UNDER REVIEW APPROVED CONSULTANCY SERVICES FOR THE DETAILED ENGINEERING DESIGN OF ACCELERATED LAST MILE INFRASTRUCTURE IN BLANTYRE, NENO, ZOMBA, SALAZA, WICHUZI DISTRICT, LILONGWE AND MORIHA DISTRICT DATE: 11/06/2025 BY: [Signature] FOR: [Signature] NOVEMBER 2025 CON/2025/SP/SATSP-LM/NU/LIST-01									

[illegible]



AMENDMENTS			LOG-NO	CONSULTANT'S DETAIL	CLIENT'S DETAIL	PROJECT NO	PROJECT STATUS
HR.	DESCRIPTION	DATE		 SUIDA & PARTNERS CONSULTANCY (PVT) LTD P.O. Box 32345, Chichiri, Blantyre 3 Malawi Tel: + 888 343 523/ 999 343 523 Email info@suidamw.com	 Southern Africa Trade Connectivity Project, Ministry of Transport and Public Works Capital Hill, Off Chilimbwe Road private Bag 322, Lilongwe	2 B NOOLO DESIGN OFFICE BY F. NALONJEZA, (Reg) DESIGN Z B NOOLO DRAWING CHECKED BY F. NALONJEZA, (Reg) DRAWING PREPARED BY	MAP of SENZANI TO DOVOKO ROAD in NTCHEU DISTRICT CONSULTANCY SERVICES FOR THE DETAILED ENGINEERING DESIGN OF ACCELERATED LAST MILE INFRASTRUCTURE IN BLANTYRE, NENO, ZOMBA, BALAKA, NTCHEU DEIWA, LILONGWE AND MCHINJI DISTRICT DATE: 11/01/2023 SCALE: 1:1000 NOVEMBER 2023
							DESIGN COMPLETE DRAWING COMPLETE CONSTRUCTION NOT STARTED OPERATION NOT STARTED TRAFFIC SIGNAGE NOT STARTED TRAFFIC LIGHTS NOT STARTED TRAFFIC SIGNALS NOT STARTED TRAFFIC JUNCTIONS NOT STARTED TRAFFIC INTERSECTIONS NOT STARTED TRAFFIC CIRCULARIS NOT STARTED TRAFFIC T-JUNCTIONS NOT STARTED TRAFFIC Y-JUNCTIONS NOT STARTED TRAFFIC SPLIT NOT STARTED TRAFFIC MERGE NOT STARTED TRAFFIC DIVIDE NOT STARTED TRAFFIC BARRIER NOT STARTED TRAFFIC FENCE NOT STARTED TRAFFIC LIGHT NOT STARTED TRAFFIC SIGNAL NOT STARTED TRAFFIC JUNCTION NOT STARTED TRAFFIC INTERSECTION NOT STARTED TRAFFIC CIRCULARIS NOT STARTED TRAFFIC T-JUNCTION NOT STARTED TRAFFIC Y-JUNCTION NOT STARTED TRAFFIC SPLIT NOT STARTED TRAFFIC MERGE NOT STARTED TRAFFIC DIVIDE NOT STARTED TRAFFIC BARRIER NOT STARTED TRAFFIC FENCE NOT STARTED



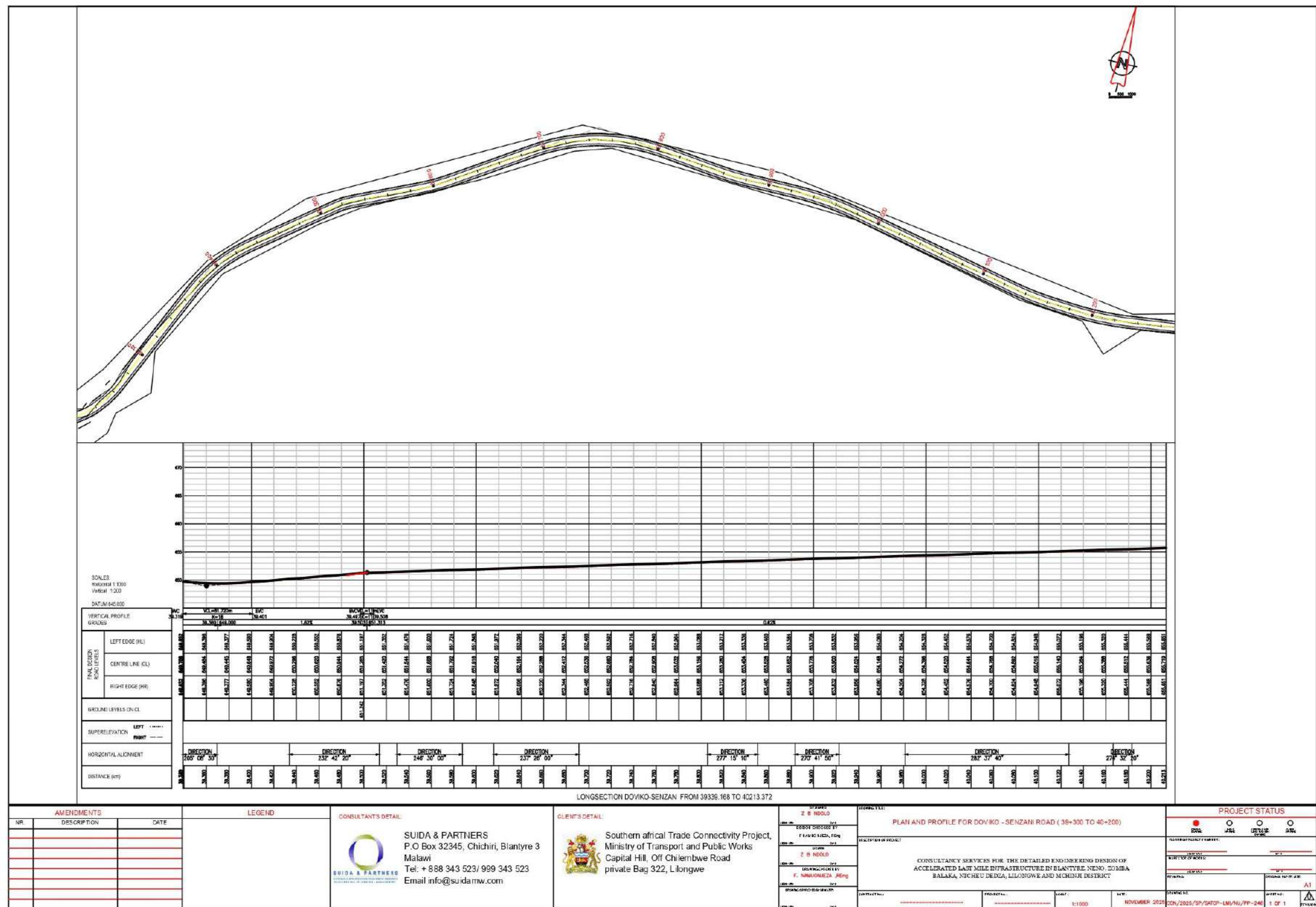
SCALES:
 Horizontal 1:100
 Vertical 1:20
 DATUM 645.000

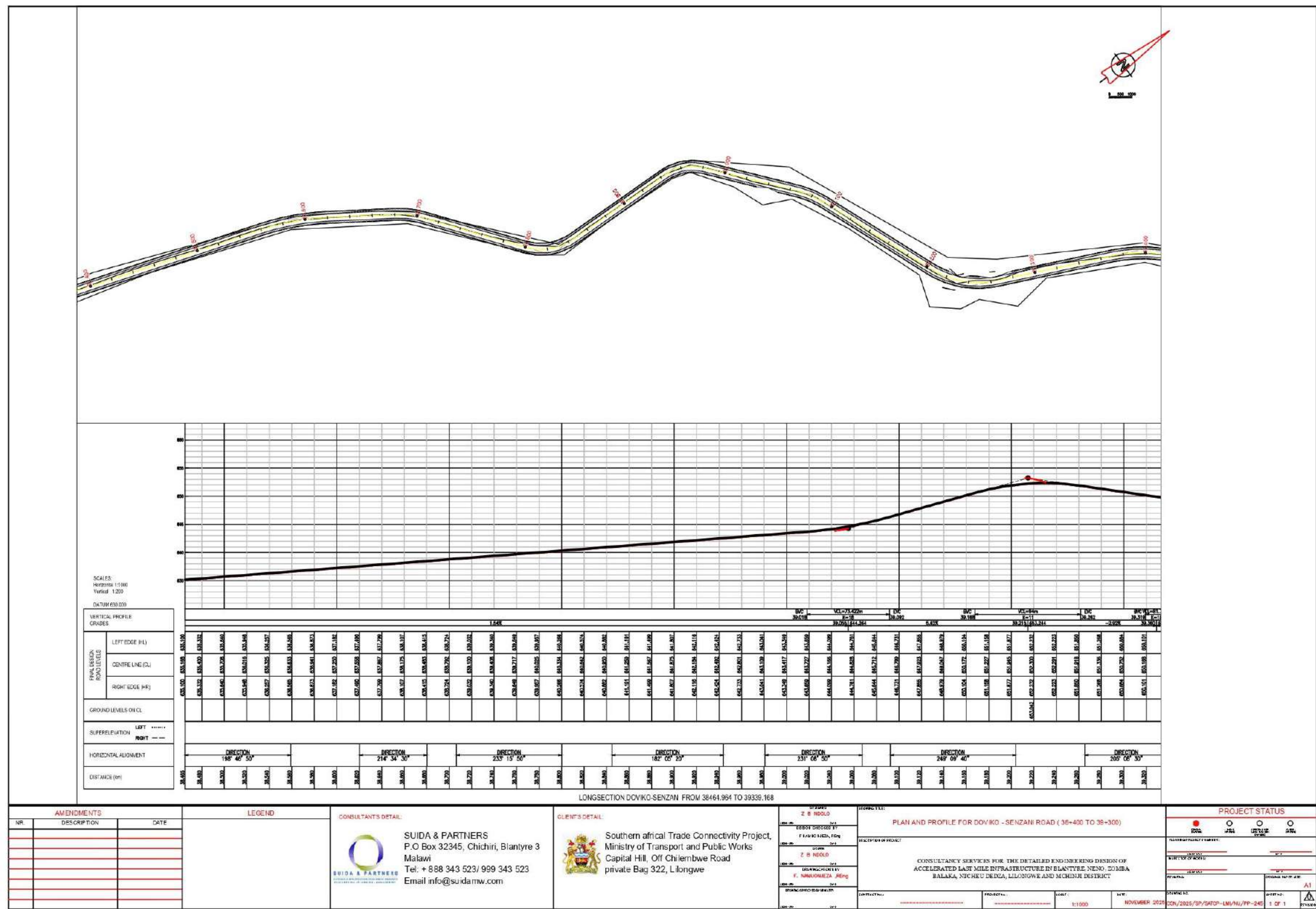
VERTICAL PROFILE
 GRADES

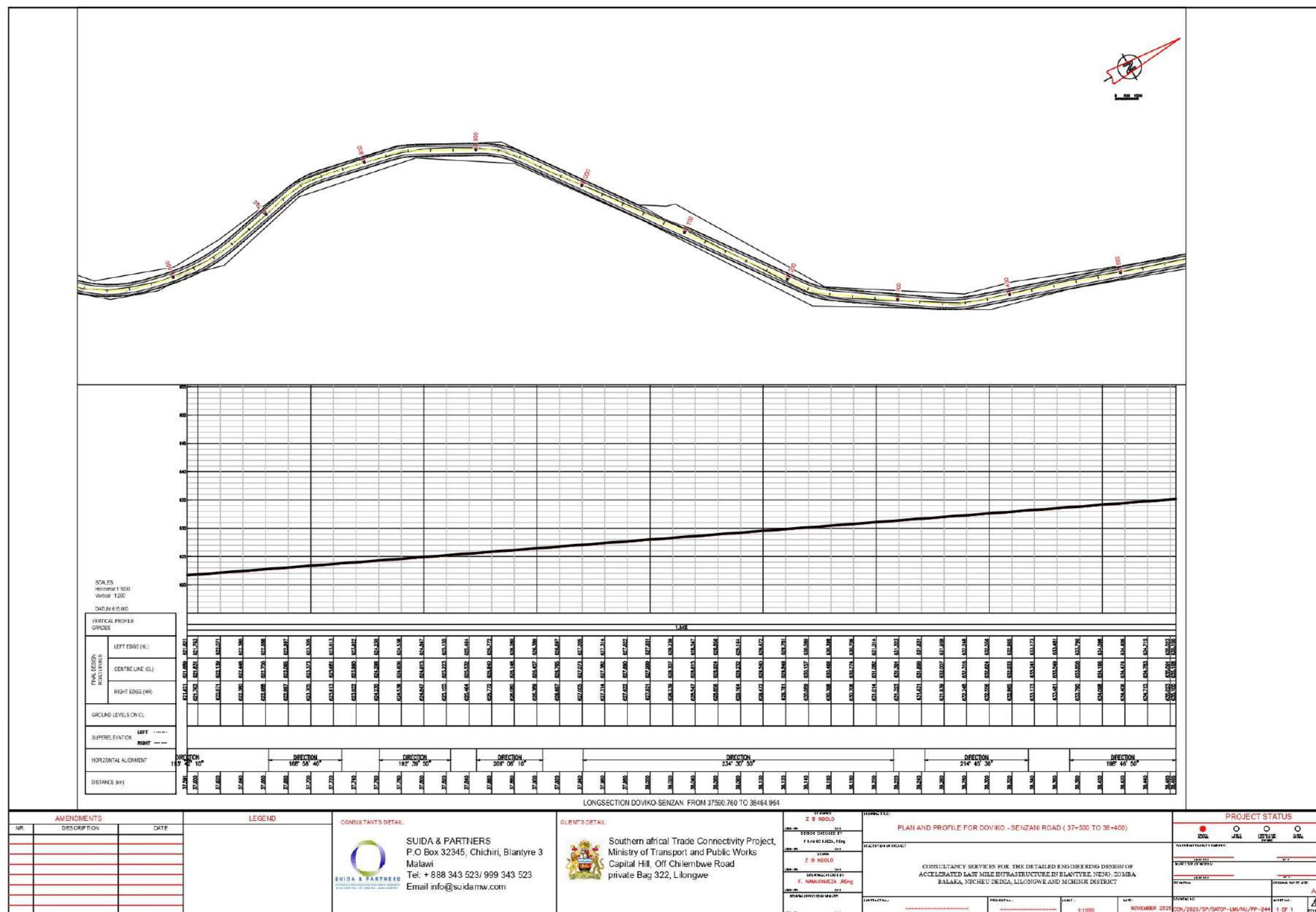
FINAL DESIGN ROAD LEVEL	LEFT EDGE (HL)	CENTRE LINE (CL)	RIGHT EDGE (HR)
680.177	680.629	680.677	680.626
680.307	680.793	680.841	680.792
680.806	681.290	681.338	681.290
687.423	687.307	687.424	687.307
687.127	687.003	687.131	687.002
687.556	687.390	688.148	687.592
688.420	688.397	688.524	688.397
689.238	689.246	689.314	689.246
689.271	689.324	689.322	689.254
689.138	689.332	689.332	689.292
689.056	689.389	689.332	687.982

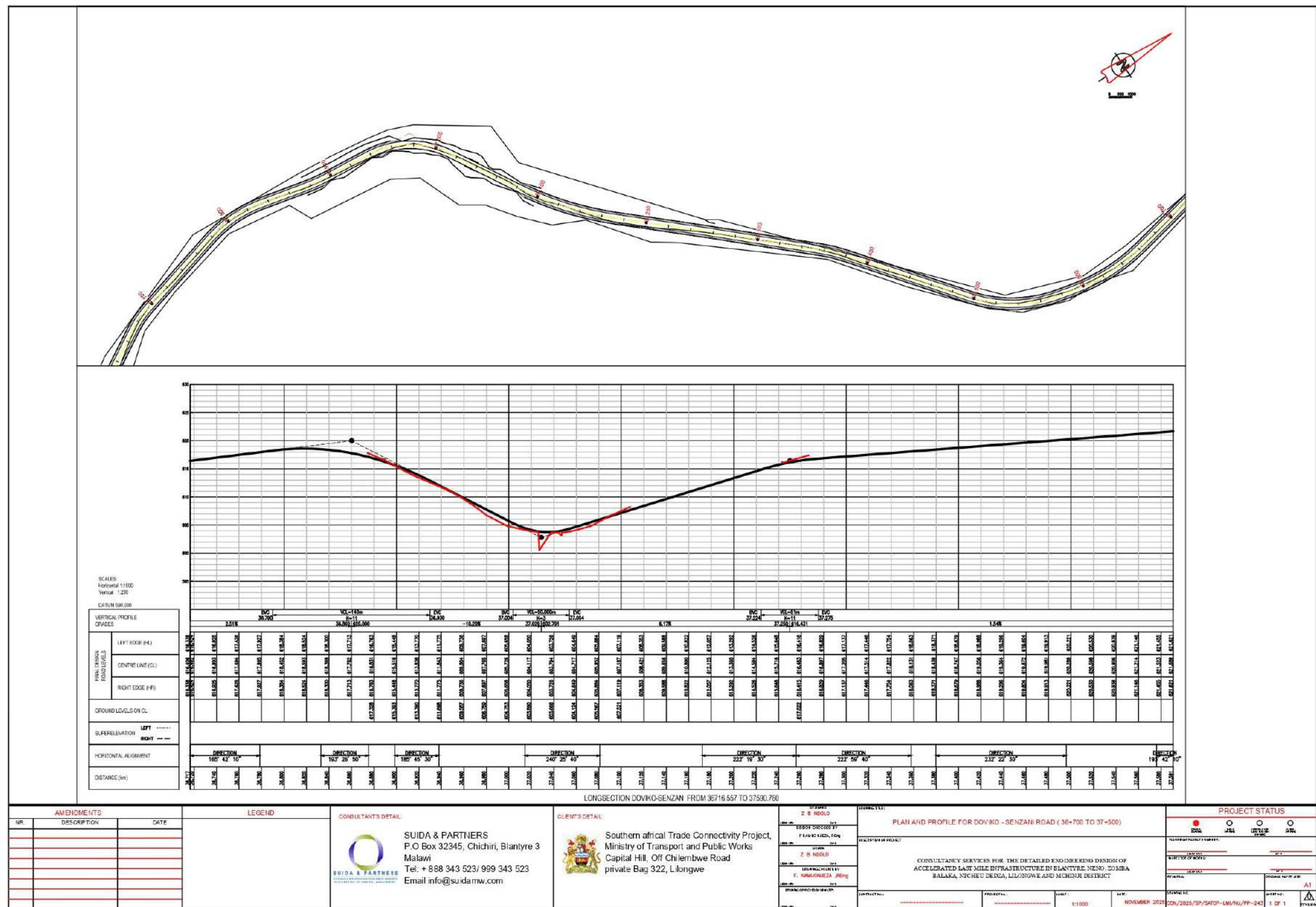
GROUND LEVELS ON CL
 SUPERELEVATION
 HORIZONTAL ALIGNMENT
 DISTANCE (m)

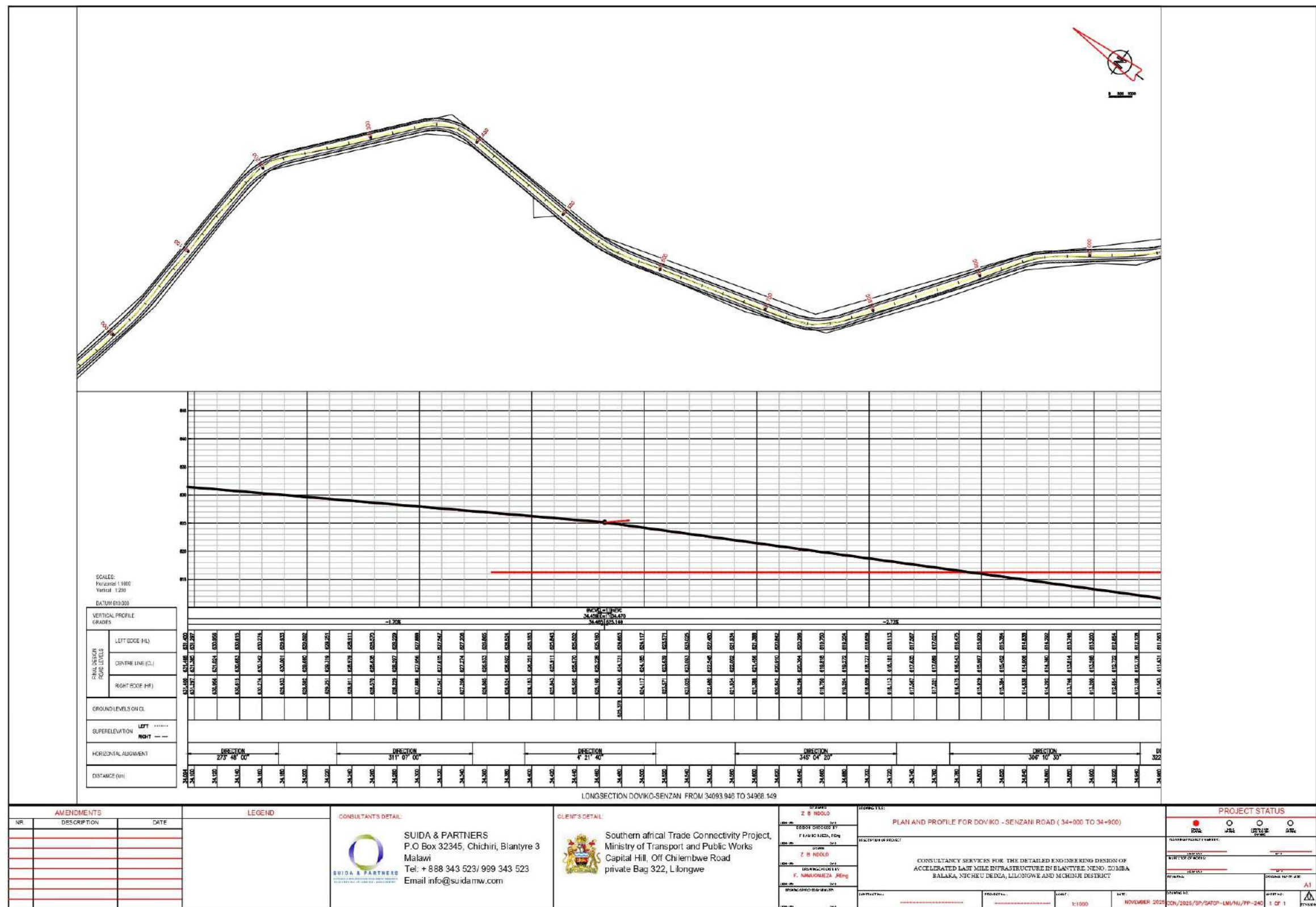
LONGSECTION DOVOKO-SENZAN FROM 41087.575 TO 41292.183

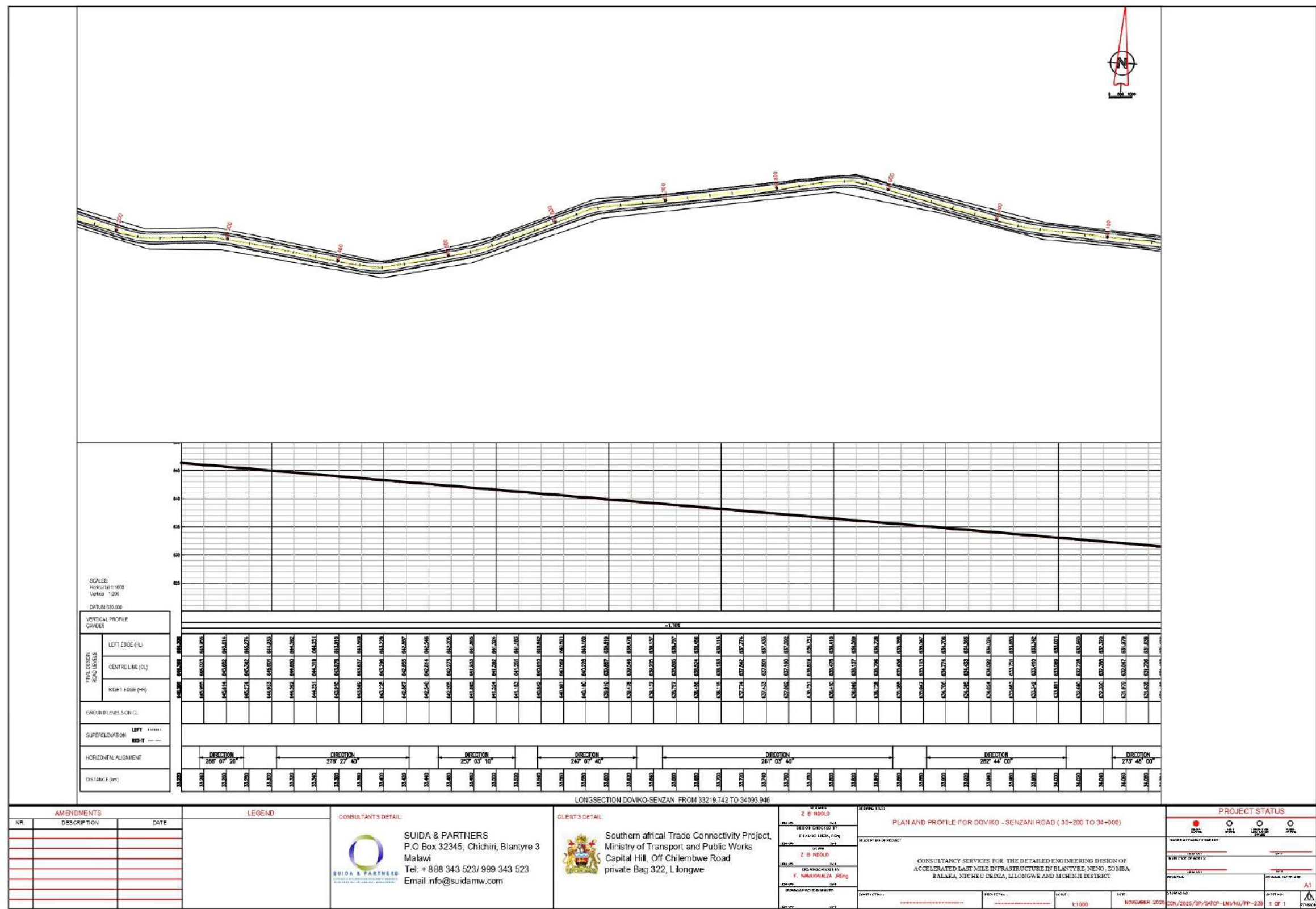


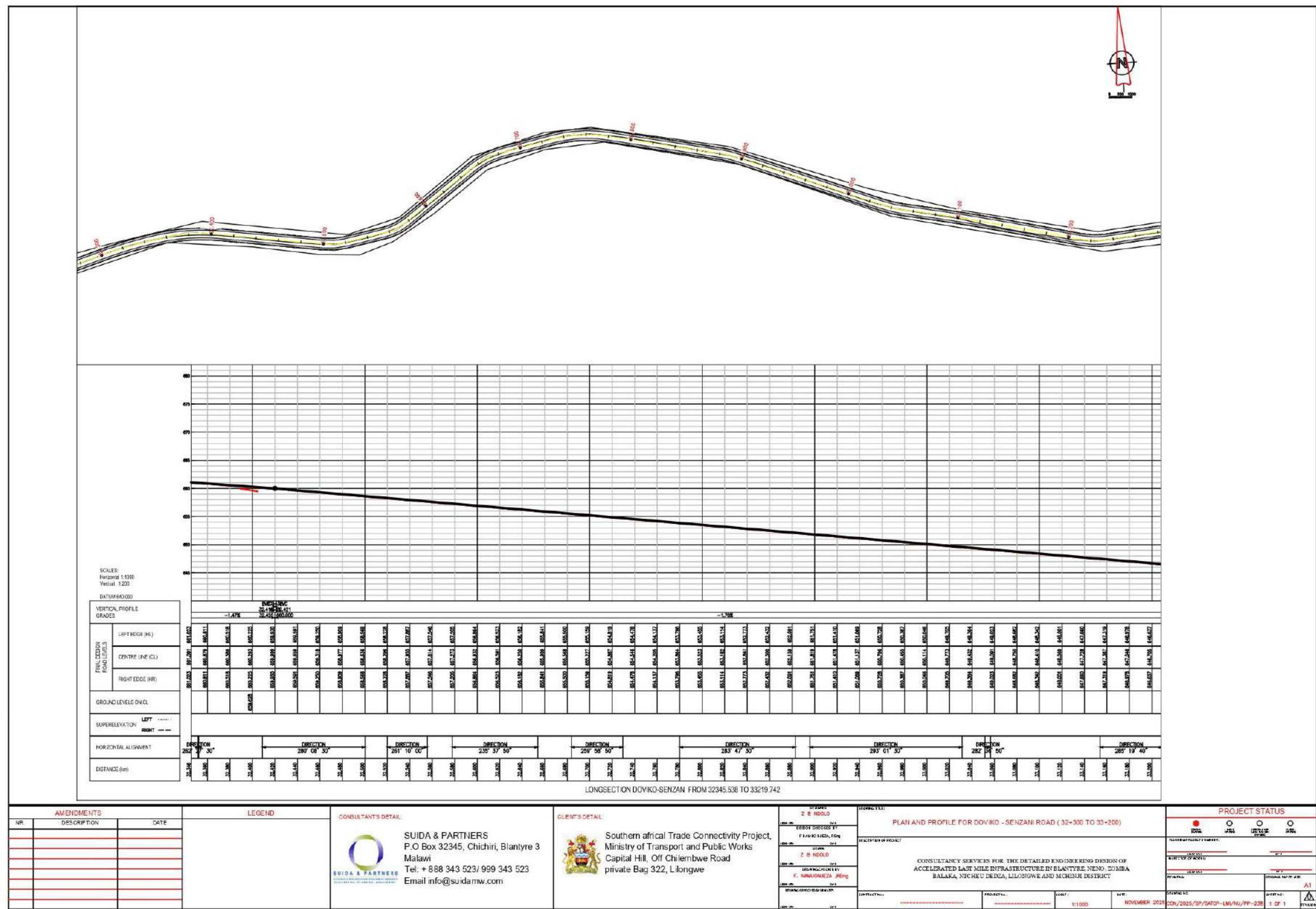


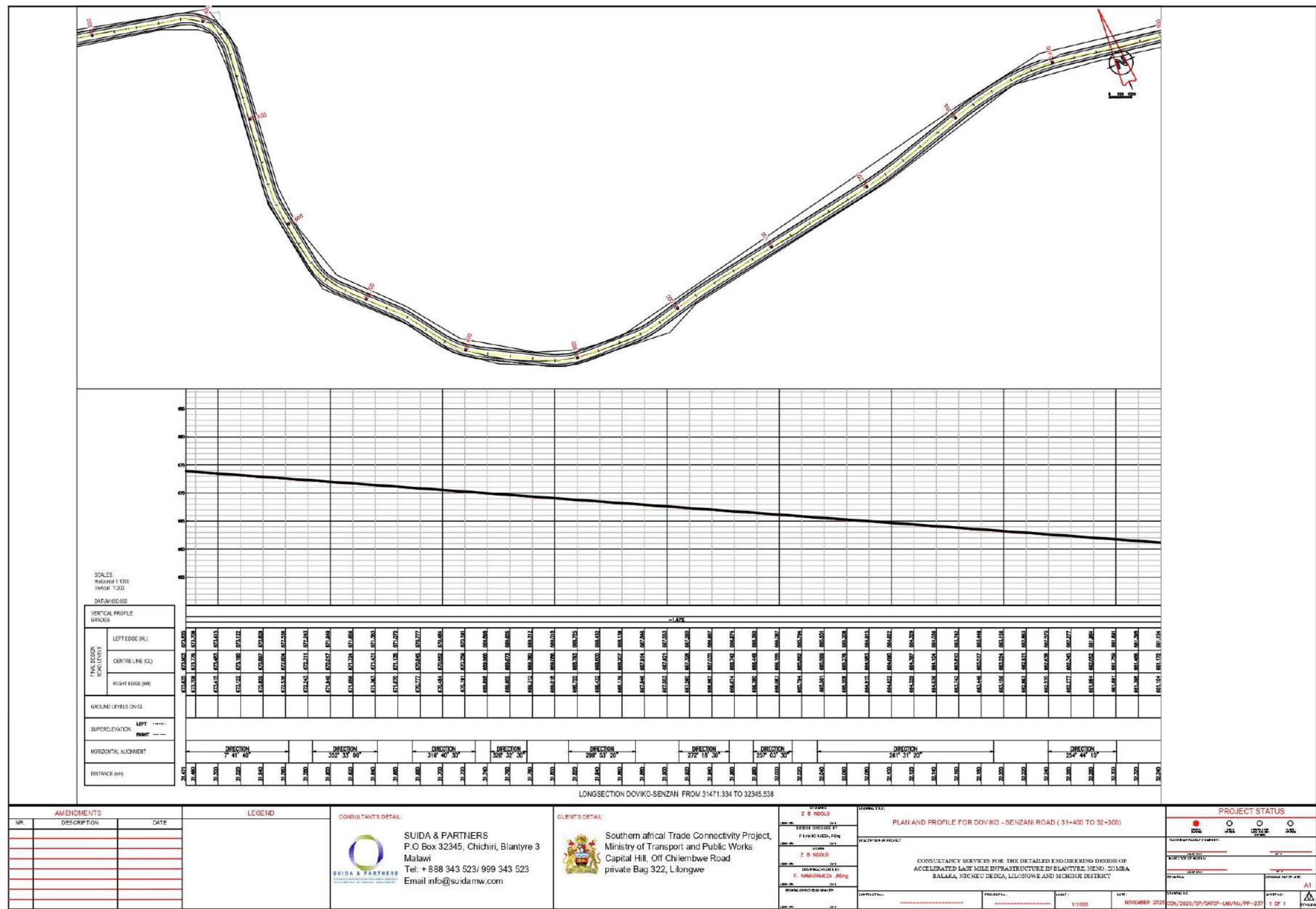


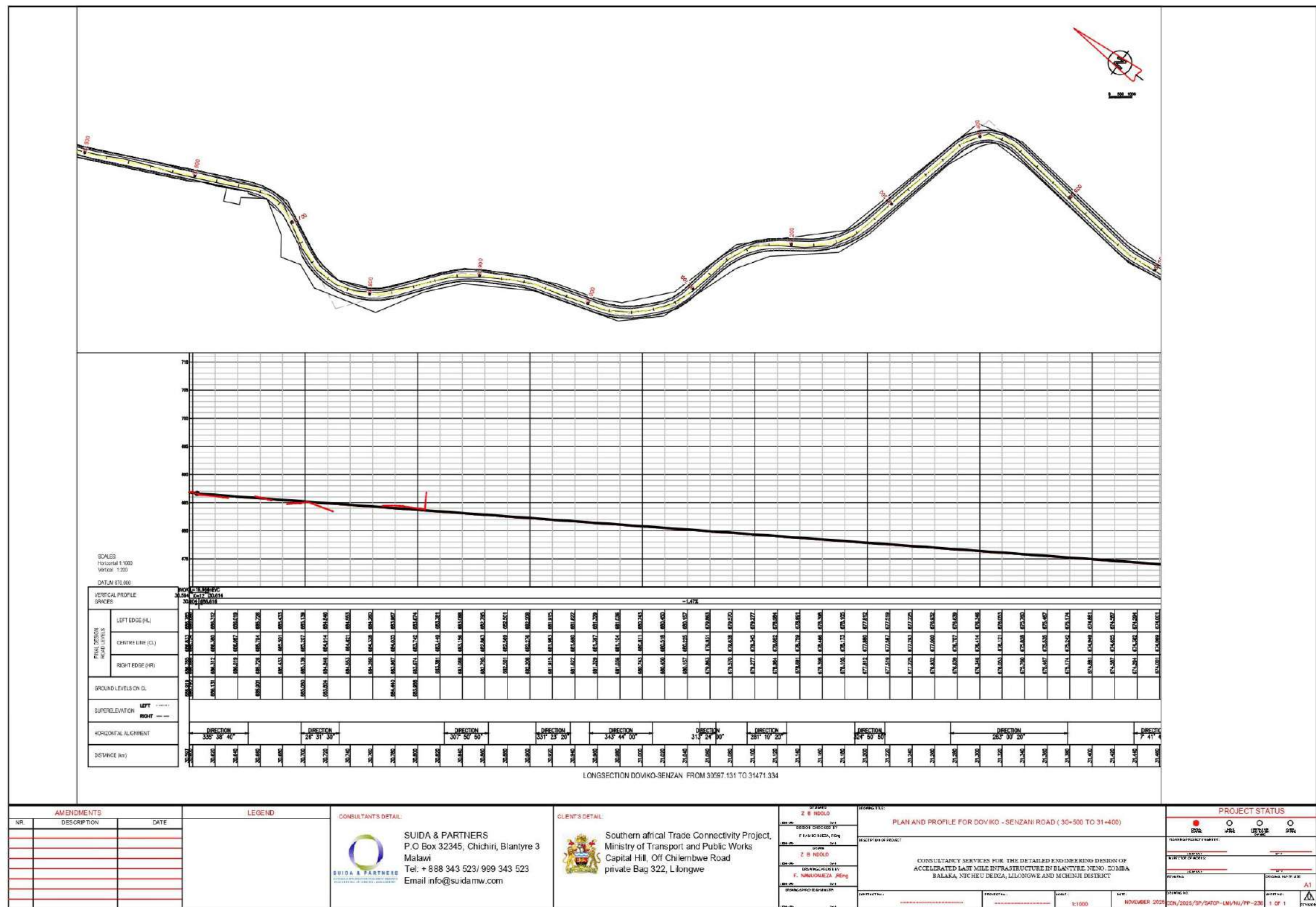


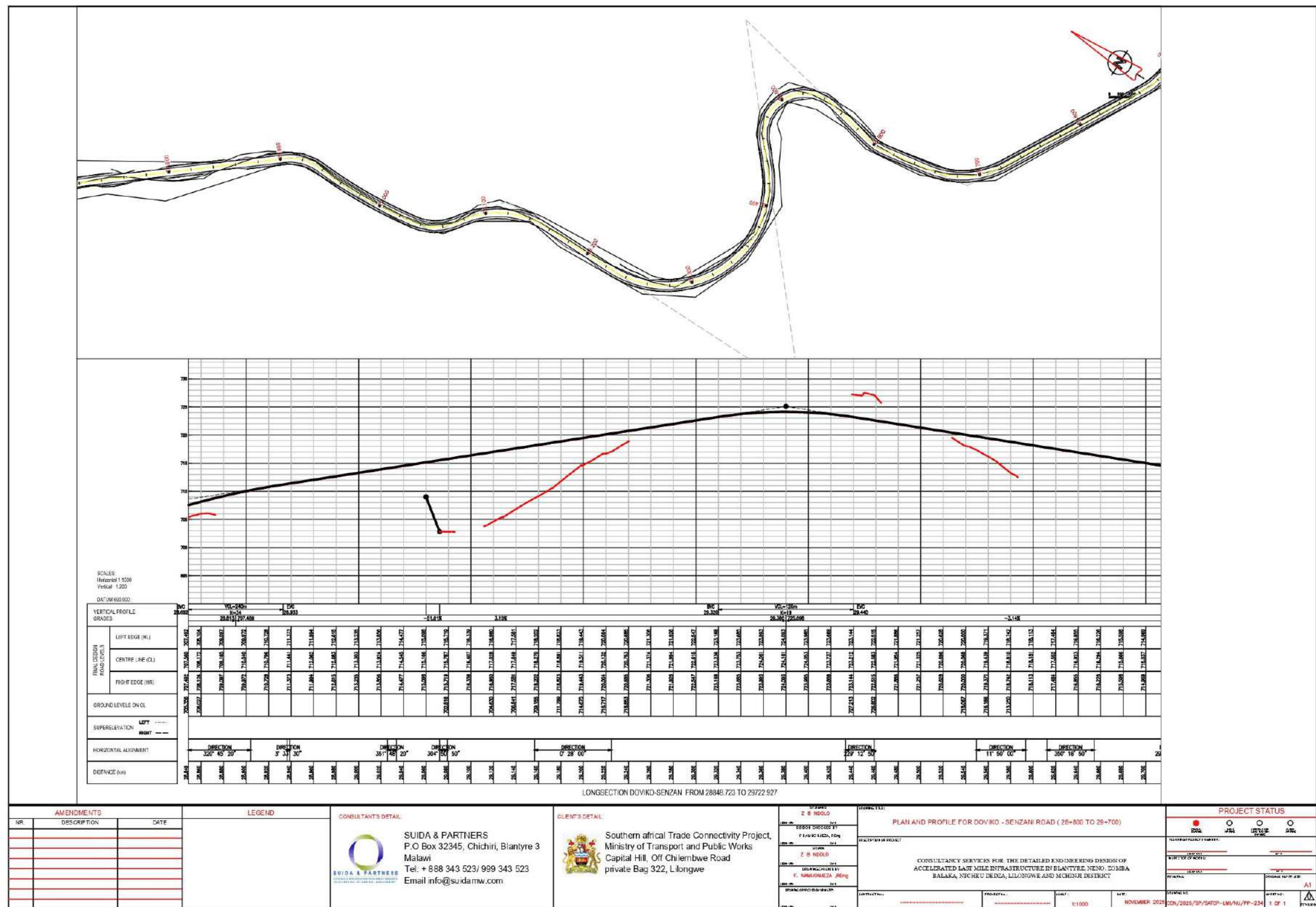


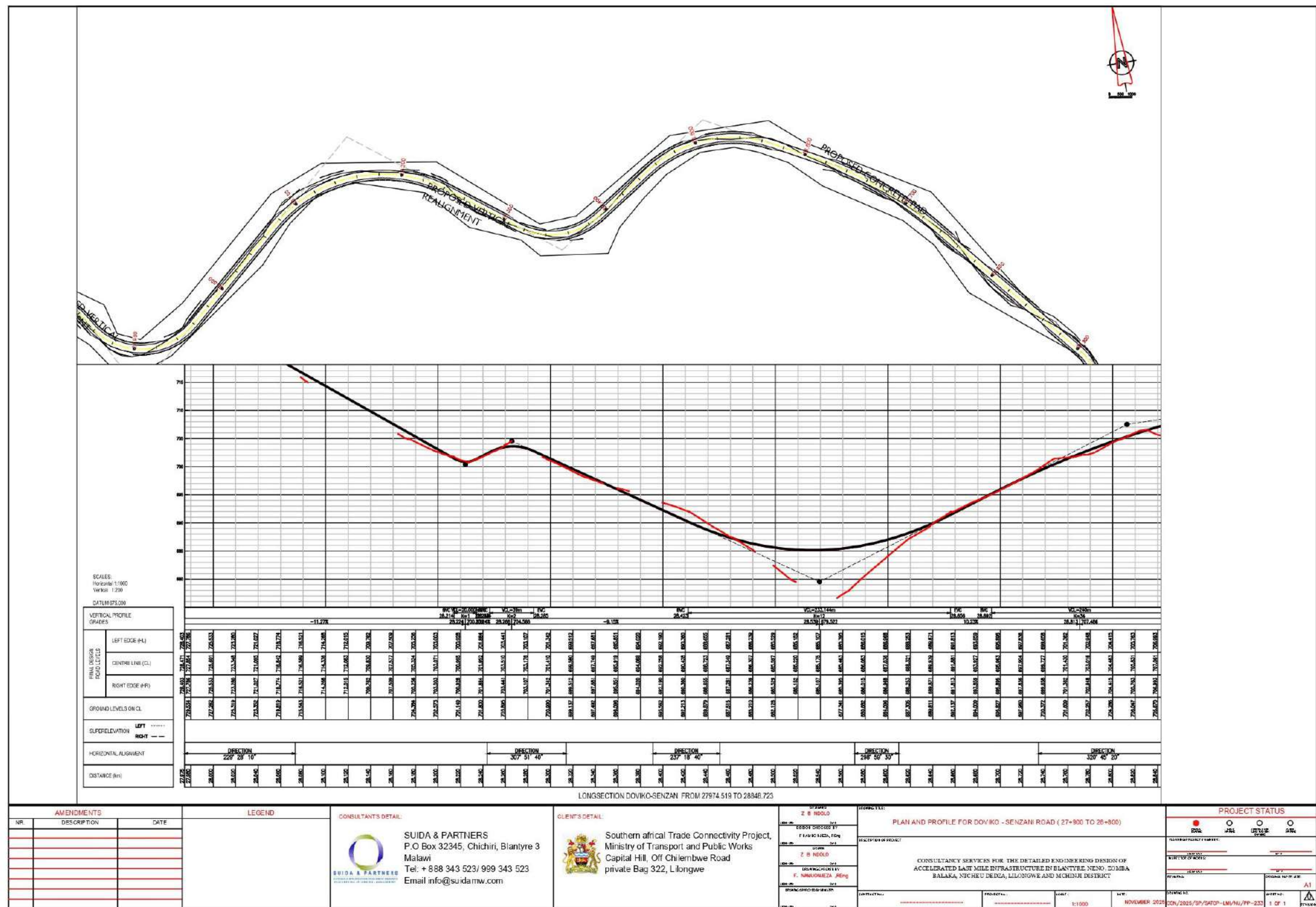


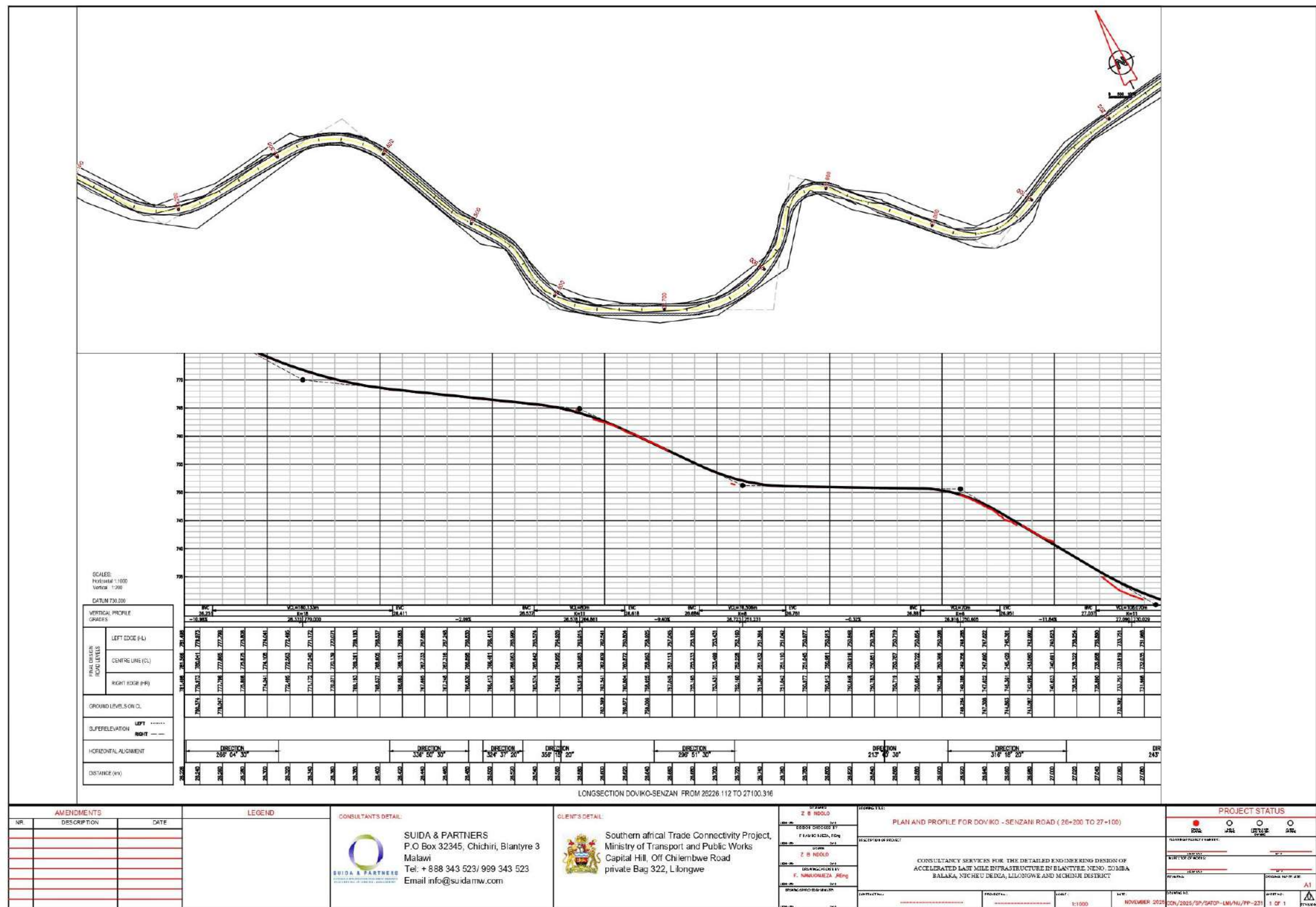


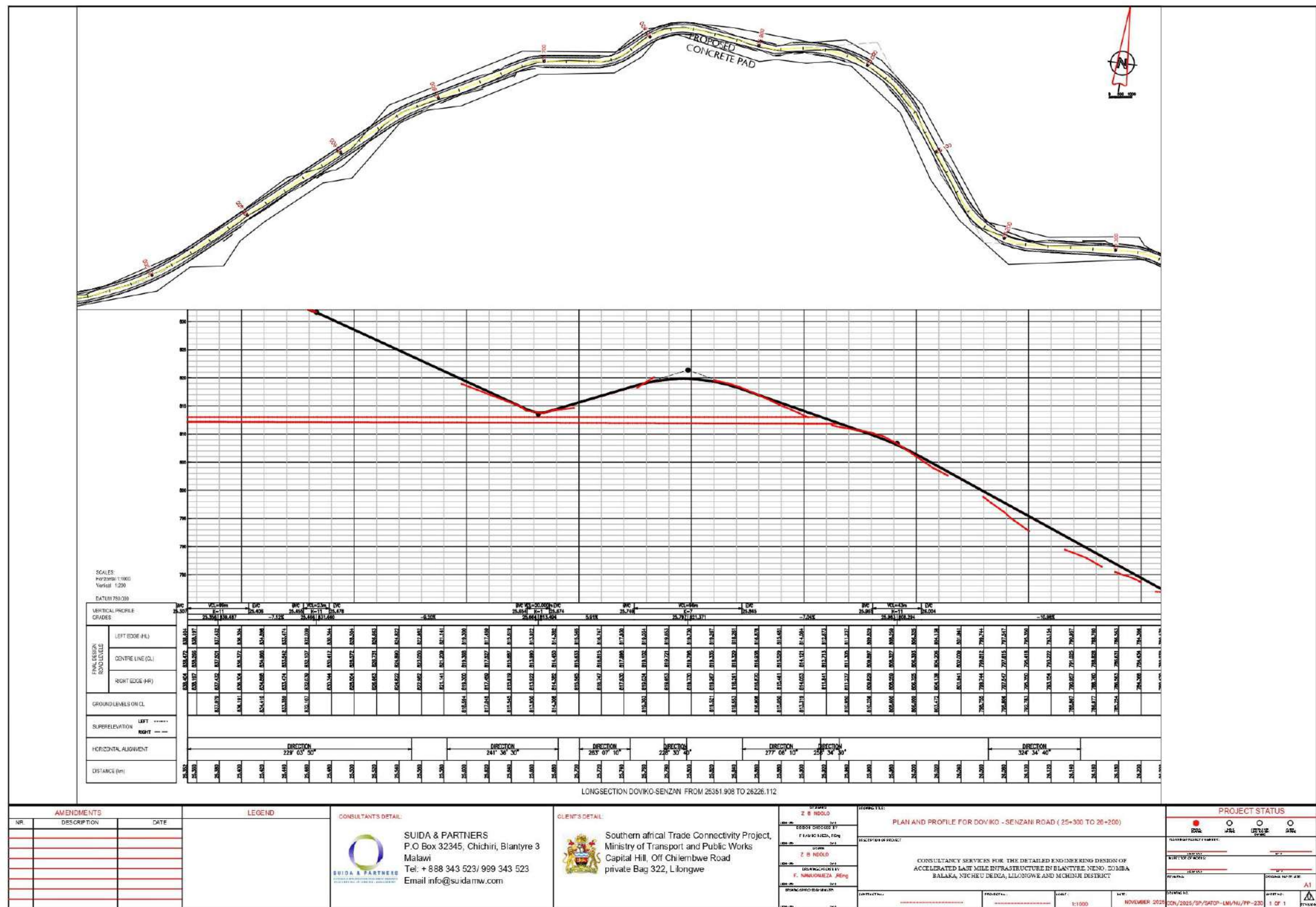


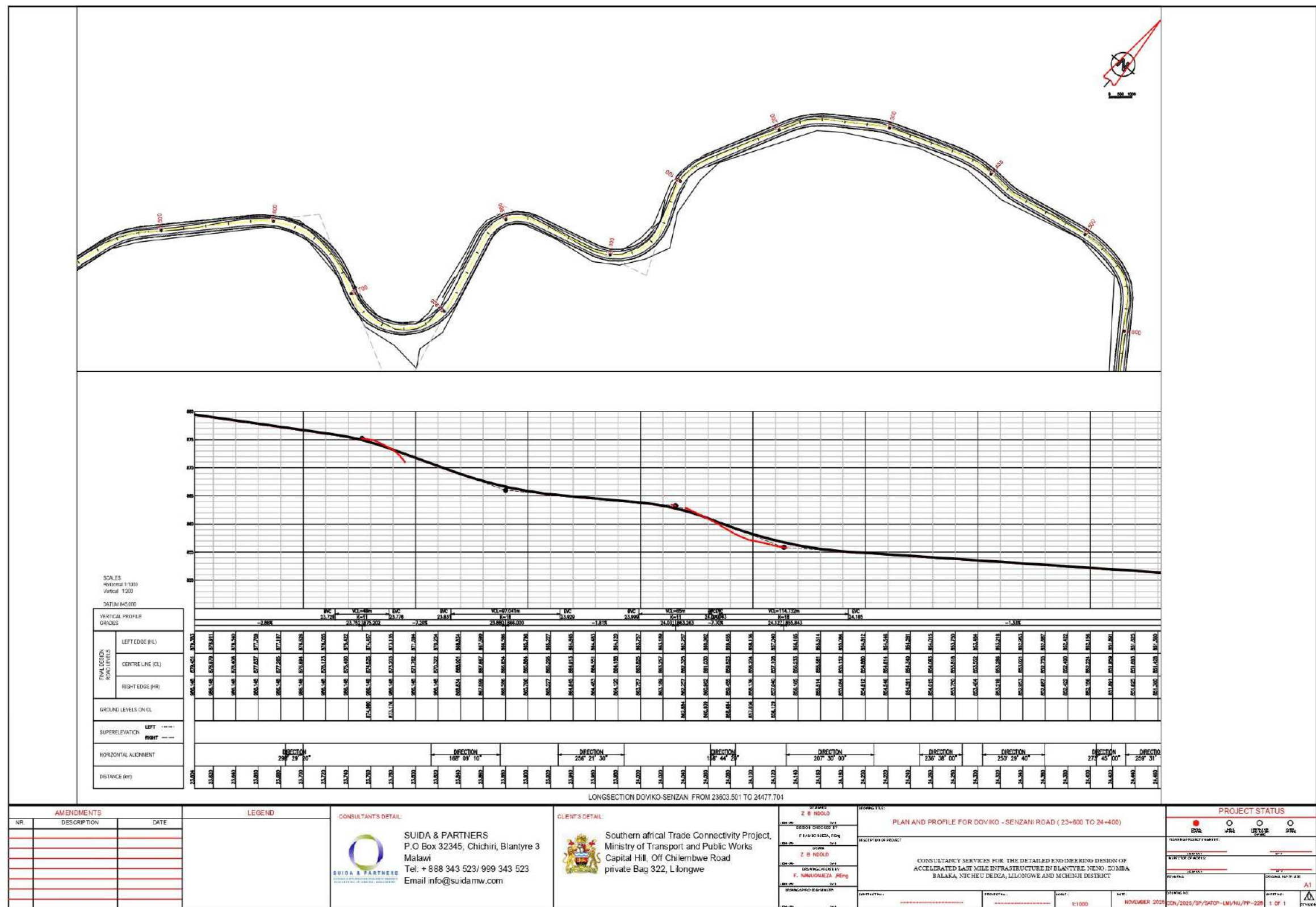


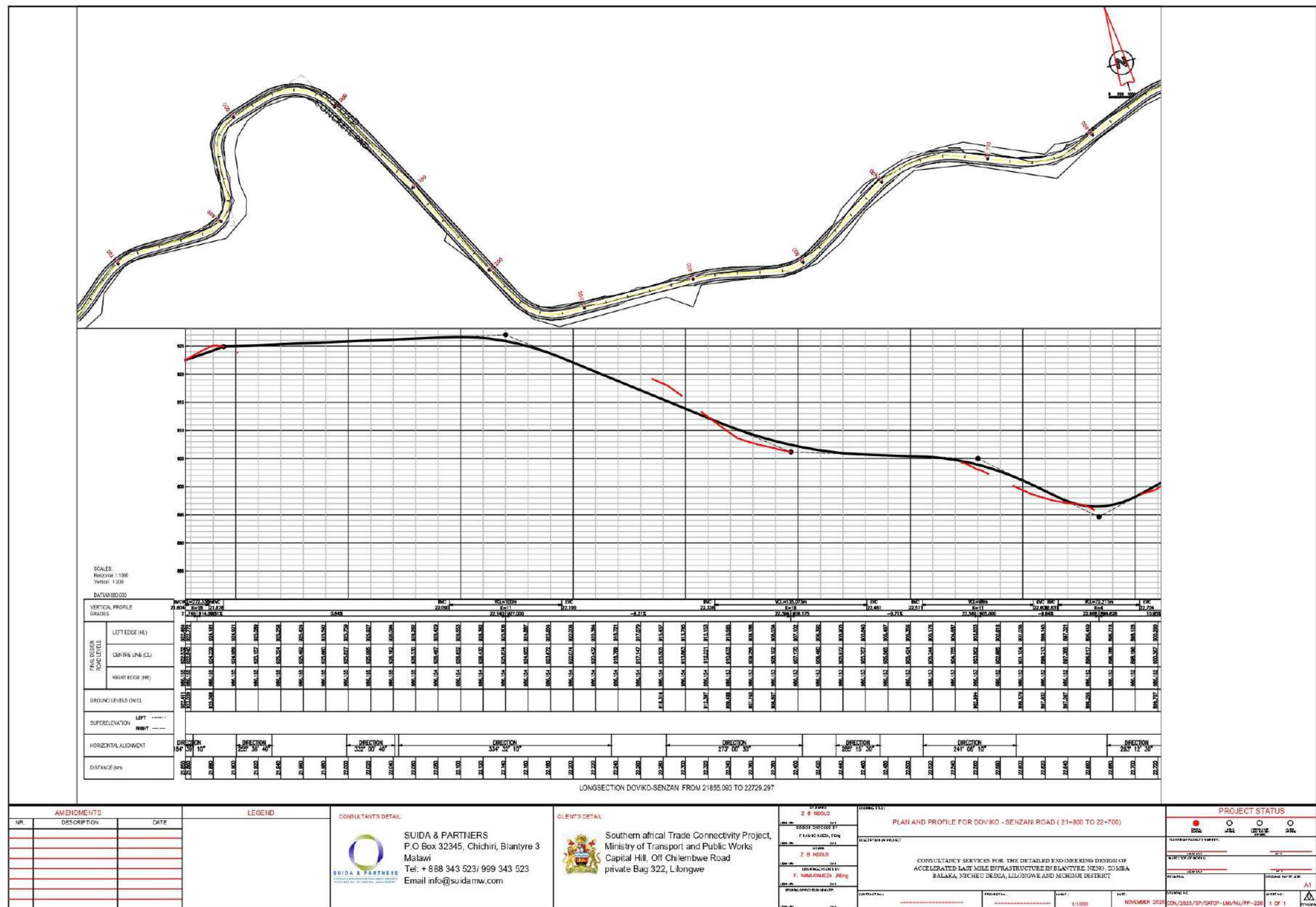


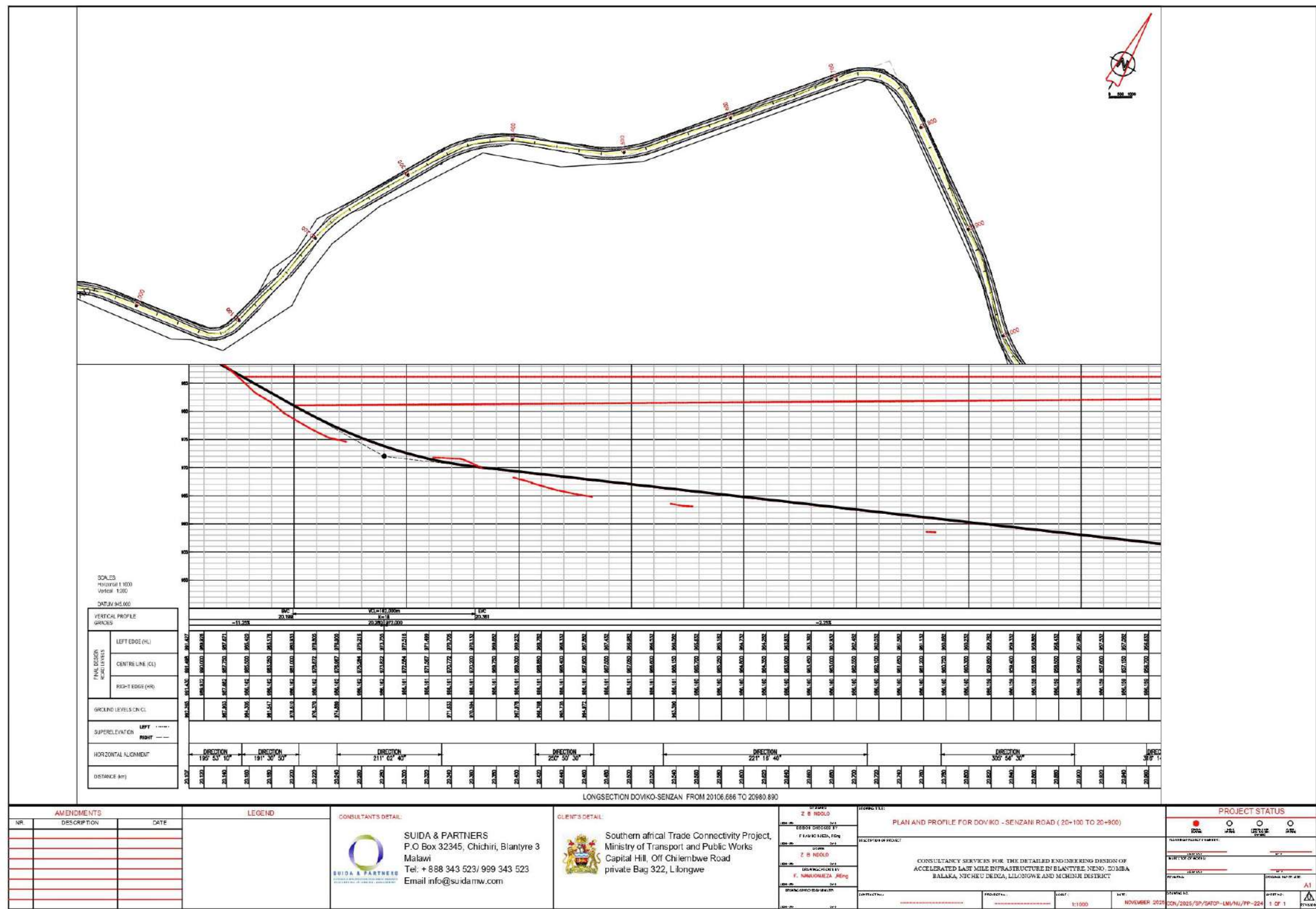


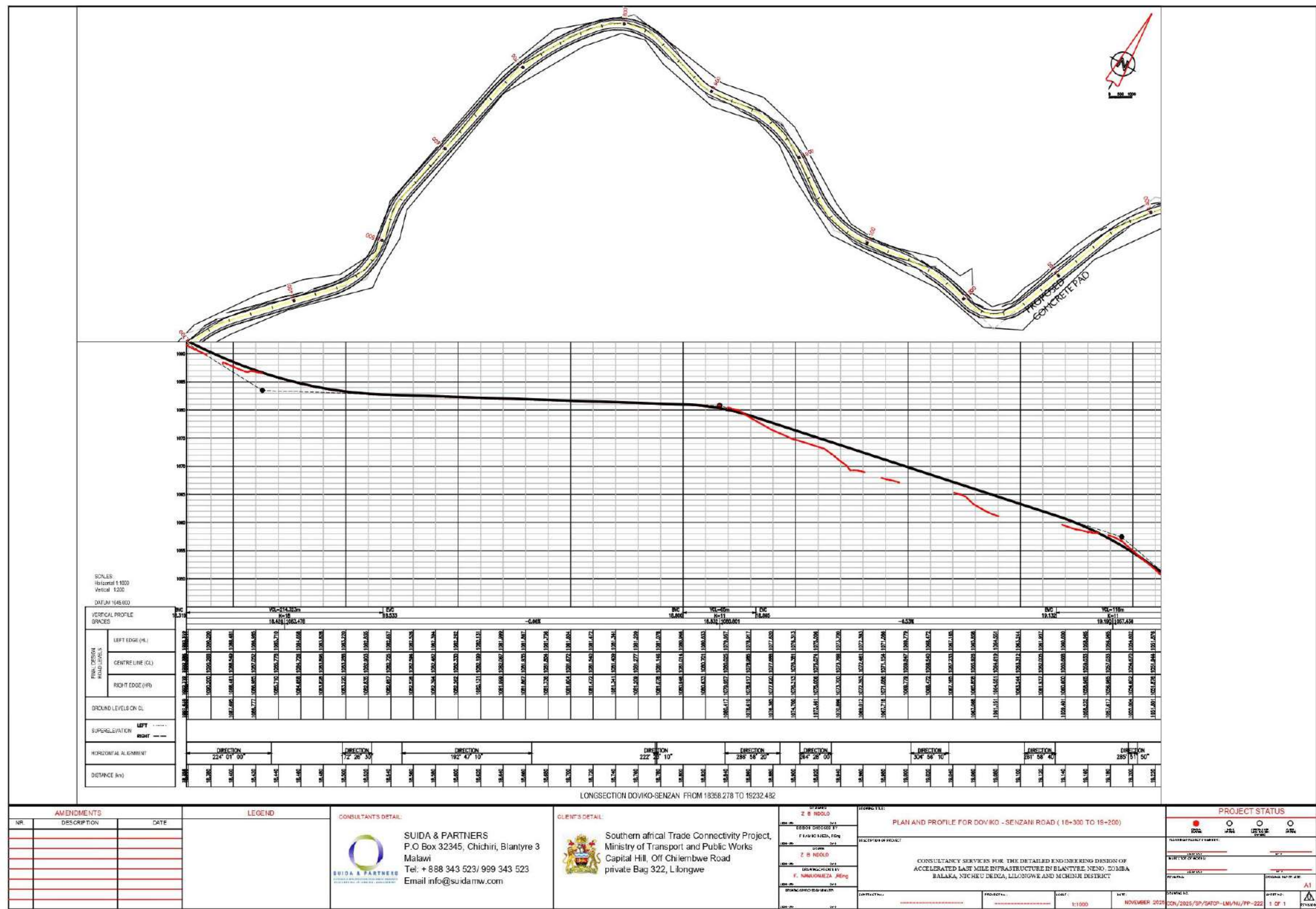


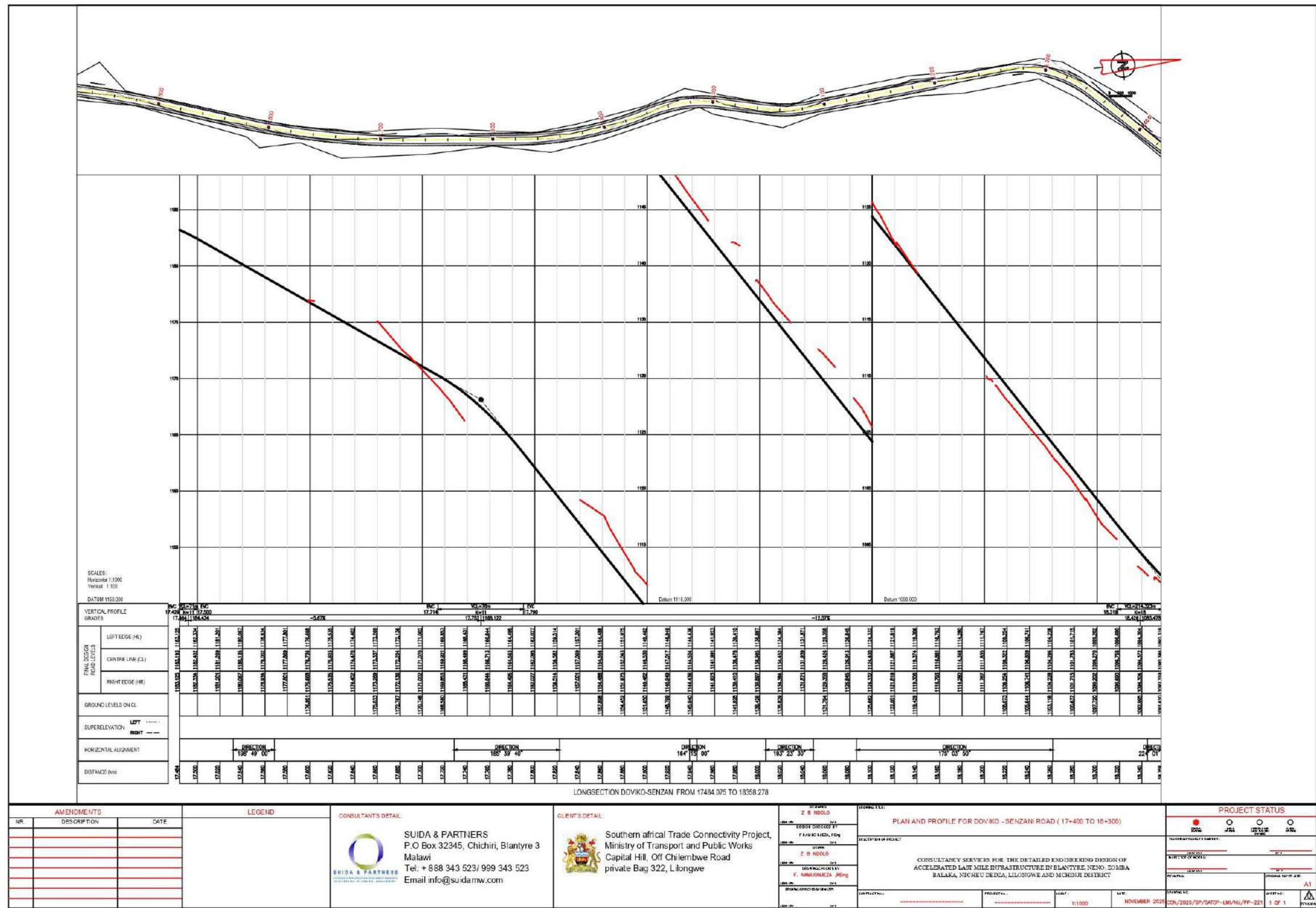


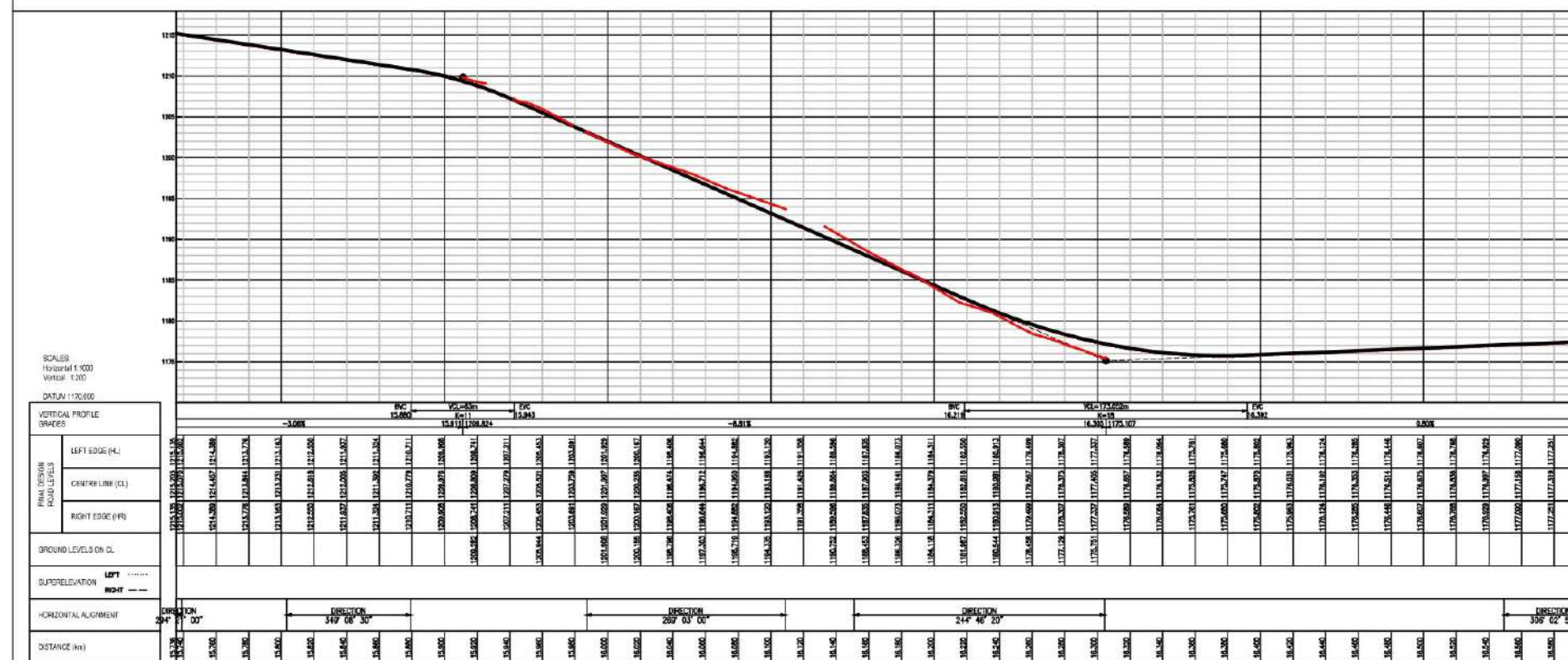












AMENDMENTS			LEGEND		CONSULTANTS DETAIL		CLIENT'S DETAIL		PROJECT TITLE				PROJECT STATUS			
NR	DESCRIPTION	DATE			 SUIDA & PARTNERS P.O Box 32345, Chichiri, Blantyre 3 Malawi Tel: + 888 343 523/ 999 343 523 Email info@suidamw.com		 Southern africa Trade Connectivity Project, Ministry of Transport and Public Works Capital Hill, Off Chimbwe Road private Bag 322, Lilongwe		PLAN AND PROFILE FOR DOV/KO - SENZANI ROAD (15+700 TO 16+800)							
									DESCRIPTION OF PROJECT CONSULTANCY SERVICES FOR THE DETAILED ENGINEERING DESIGN OF ACCELERATED LAST MILE INFRASTRUCTURE IN BLANTYRE, NENO, ZOMBA BALAKA, NICHU DEDGA, LILONGWE AND MCHINI DISTRICT				PROGRESS OF PROJECT RFP: ☐ RFQ: ☐ Bidding: ☐ Award: ☐			
									CONTACT INFO PROJECT NO: PROJECT: LAST: DATE:				STANDARD SUD/2005/SP/STP-1/MAL/PP-215 1.0-1			

