MALAWI WATER AND SANITATION PROJECT – 1

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) FOR PROPOSED CONSTRUCTION OF ACCESS ROAD TO MZEDI DUMP SITE

PROJECT PROPONENT:

BLANTYRE WATER BOARD,
OFF MAKATA ROAD,
Private Bag 30369,
BLANTYRE 3,
Malawi

Phone : +265 1 872 000
Email:

MAY 2024

EXECUTIVE SUMMARY

1. Introduction

This ESMP is for the proposed upgrading of access road to Mzedi Dumpsite from earth/muddy road to concrete standard road under the Malawi Water Sanitation Project 1 (MWSP-1). Blantyre Water Board (BWB) is a Statutory Corporation under the Ministry of Water and Sanitation, established in 1929 and incorporated under the Water Works Act No. 17 of 1995 with a purpose of supplying wholesome water to residents of the City of Blantyre and its surrounding peri-urban areas as directed by the Ministry of Water and Sanitation (MOWS) in accordance with the provisions of the Act.

To improve water supply and sanitation service delivery to residents of Blantyre City and surrounding areas, the Government of Malawi (GoM), through BWB and Blantyre City Council (BCC), with financial support from World Bank`s International Development Association (IDA), is implementing the Malawi Water and Sanitation Project-1 (MWSP-1). The Project Development Objective (PDO) is to increase access to improved water supply and safely managed sanitation services in Blantyre metropolitan area and to enhance the operational and financial efficiency of the Blantyre Water Board. The PDO will be achieved through implementation of the following components: 1) Water supply improvements; 2) Priority sanitation investments; 3) Institutional capacity strengthening; 4) Technical Assistance and Project Management Support; and 5) Contingency Emergency Response.

Following the emergency event of cholera which hit most parts of Malawi including Blantyre City, Malawi Water and Sanitation Project (MWSP) in consultation with WBG allocated a financing of USD 750 thousand as a provisional package for cholera emergency preparedness and response. The package will assist in improving the provision of sanitation and hygiene services in the City of Blantyre through construction of access road to Mzedi Dumpsite.
The project will be implemented over a period of 120 calendar days. The upgrading of Mzedi access road to concrete standard is expected to provide direct employment to 45 people of which 40% will be females. The project will benefit a population of 1,000,000 people, all residents of Blantyre City as waste collected from all corners of the city will pass through this road to Mzedi Dumpsite.

2. Nature and scope of the project

Mzedi dumpsite access road is in Blantyre City in the Southern region of Malawi, at Kachere off Zomba Road. The road covers a total distance of 1.2km. The road is used to access the solid waste dumpsite in Blantyre City. Currently this is an earth road, and it is hardly passable during the rainy season. This project aims at constructing a concrete access road to ensure the road is passable throughout the year. The scope of the works will involve debris excavation, earthworks pavement layer construction, drainage works and concrete pad construction.

3. Rationale of the study

The construction and operation of the proposed project activity requires an Environmental and Social (ES) assessment to be carried out in compliance with the Environmental Management

Act of 2017. Blantyre Water Board was therefore asked to prepare an Environmental and Social Management Plan to integrate environmental and social issues into the project.

4. **Justification of the project**

This project will contribute to the achievement of the country's goals as outlined in the ***Malawi 2063***. The upgrading of the Mzedi dumpsite access road will improve solid waste collection and management which will help in reducing financial resources spent on frequent road maintenance. In addition, it will partly respond to Sustainable Development Goals (SDG) target 6.2 that seeks to ensure access to sanitation services by all by 2030.

5. Project objectives

The main objective of the intervention is to improve solid waste collection and management services in Blantyre City. Other objectives include the following: 1) To improve road accessibility to be useable all year through transformation of the earth road to concrete road. This will encourage waste collection service providers to increase number of trips to the dumpsite per day; 2) **To reduce illegal dumping (**dumping waste along or at the entrance to Mzedi access road) due to poor road condition; and 3) **To improve hygiene** along the Mzedi access road will be accessible and passable by all waste collection vehicles hence no dumping of waste at the road entrance or along it.

6. Objectives of environmental and social assessment/ study

The objective of this assessment was mainly to: 1) Outline the nature and scope of the proposed project area; 2) Outline the policy and legal framework governing the proposed activities; 3) Describe the existing biophysical and socio-economic environment; 4) Identify key environmental and social impacts and recommend measures to enhance positive impacts and reduce, mitigate or eliminate negative impacts; and 5) Propose an environmental and social management plan and monitoring plan to deal with the identified key environmental and social impacts.

7. Methodology

Initial desk and field investigations, including public consultations, were conducted prior to detailed field data collection. The team reviewed relevant literature pertaining to the proposed project. Field observation for physical parameters including geology, drainage, topography amongst others, was conducted within the project site. The study also engaged immediate surrounding communities, road users, waste collection service providers and local government authority to get an in depth understanding of the current sanitation and problems faced due to the poor condition of the access road to the dumpsite and relate to the proposed solution through the upgrading of the road to concrete standard.

8. Summary of identified impacts

This ESMP focuses on identifying both positive and adverse impacts of the proposed upgrading and operation of Mzedi access road. For positive and negative impacts, the ESMP has provided enhancement measures and mitigation measures, respectively. Below is the summary of the anticipated impacts and measures to be undertaken.

8.1. Positive impacts

8.1.1 Creation of job opportunities

Proposed enhancement measures

- Inform local communities of employment opportunities;
- Prioritize employment of local persons that qualify; Pay workers above the minimum wage and timely pay overtime; and
- Sensitize workers to save and invest during project implementation

8.1.2 Ease access to the dump site by waste collectors.

Proposed enhancement measures

- Undertake periodic road maintenance.
- Installation of road signage to accommodate all road users accordingly.
- Sensitise waste collection vehicle operators on proper use.

8.1.3 Improved sanitation and hygiene along the access road

Proposed enhancement measures

- Maintenance and cleaning of roadside drains
- Conduct sensitisation meetings on proper use of the road and the dumpsite area
- Continuous monitoring and evaluation of the road and the surrounding area for potential illegal dumping

8.1.4 Increased income of communities

Proposed enhancement measures

- Purchase materials from local suppliers and pay them within the agreed times;
- Source materials from licensed suppliers;
- Support and promote local entrepreneurship skills amongst the communities and businesspeople in the project area by engaging them where appropriate; and

8.1.5 Reduce travel time.

Proposed enhancement measures

- Conduct road maintenance periodically.
- Installation of road signage to direct road users

8.1.6 Promotion of skill transfer among project workers

Proposed enhancement measures

- Pair skilled with non-skilled workers to work together to promote transfer of skills.

8.2 Negative impacts

8.2.1 Disruption of traffic flow

Proposed mitigation measures

- Determine in advance the alternative route to the dumpsite before any construction activities commence.
- Carry out the construction works as quickly as possible to reduce period of inconveniencing road user.
- Provide for diversions during construction phase; and
- Provide proper signs for the road users.

8.2.2 Generation of solid waste

Proposed mitigation measures

- Encourage application of 3Rs (Reduce, Reuse and Recycle)
- Provide well labeled waste bin to promote waste segregation and reuse/ recycle reusable waste such empty cement bags for making mats.
- Ensure that the waste bins are provided with cover and there is no overfilling.
- Dispose collected waste in an approved disposal site; and
- Implement sensitization campaigns on consequences of indiscriminate waste disposal

8.2.3 Air pollution due to dust emission

Proposed mitigation measures

- Apply water to suppress dust being generated;
- Provide protective gear (dust masks) to workers and ensure that they wear them;
- Store and handle sand and cement properly to limit dust generation.

8.2.4 Soil erosion and sedimentation

Proposed mitigation measures

- Avoid excavations during rainy season.
- Stockpile excavated soil away from water courses.
- Install sediment traps on natural drainage paths at construction site.
- Restrict land clearing only to the proposed site for construction activities; and
- Compact and spray water on loose soil in all disturbed areas during construction phase.

8.2.5 Health and safety risks to the workers and the surrounding communities

Proposed mitigation measures

- Develop a workplace safety policy
- Train workers in OHS requirements (e.g., manual handling, use of safety harness, etc.) and repeat reminders on the same.

- Inform and sensitise the public about all open pits and trenches;
- Provide appropriate Personal Protective Equipment (PPEs) to construction workers;
- Train First Aiders and provide fully stocked first aid kit; and

8.2.6 Spread of sexually transmitted infections (STIs)

Proposed mitigation measures

- Sensitize workers and surrounding communities on the risks of indulging in casual sex;
- Sensitize girls on the dangers of getting involved in pre-marital sex;
- Provide both male and female condoms to workers;
- Develop and implement a workplace policy on HIV and AIDs; and
- Implement and follow-up on Grievance Redress Mechanisms.

8.2.7 Child labor and trafficking

Proposed mitigation measures

- Employ people who have genuine identification to prove that they are 18 years old and above;
- Employ workers through established recruitment agencies; and if they are from other districts make sure the office of the District Commissioner is informed.
- Maintain an accurate staff register against which employee presence must be checked every day.
- Collaborate and network with District labor office in implementation of Labor Management plan.

8.2.8 Disruption of the social fabric

Proposed mitigation measures

- Induct migrant workers to respect the local people.
- Prioritize employment of local people

8.2.9 Risk of open defecation that may exacerbate spread of diseases.

Proposed mitigation measures

- Sensitize the workers on hygiene and sanitation.
- Promote use of mobile toilets by workers at the project site

8.2.10 Increased risk of noise pollution and vibrations

Proposed mitigation measures

- Regularly service and maintain equipment;
- Provide earmuffs for the workers in noisy areas;
- Notify the public of upcoming loud events.
- Reduce noise by using noise control covers, noise silencers, etc.

8.2.11. Gender Based Violence (GVB), Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and Violence Against Children (VAC)

Proposed Mitigation Measures

- Sensitize workers and nearby communities to desist from GBV, SEA, SH, and VAC
- Provide appropriate signage on GBV/SEA/SH/VAC in local language
- Conduct sensitization and awareness campaigns to encourage communities to report cases of GBV/SEA SH and VAC and publicize GRM in place.
- Create a decent work environment to allow workers to report cases of sexual harassment;
- Ensure that Code of Conduct is GBV/SEA/SH/VAC responsive, signed, understood and applied by all contractor's staff;
- Enforce punitive and disciplinary measures, including dismissal from employment on any project workers involved in sexual abuse and harassment;
- Collaborate and network with GBV Service providers in the project area.
- e.g., Gender and Social Welfare Office and Non-Governmental Organizations in the implementation of on-going projects aimed at promoting gender equality, ending sexual harassment, and empowering women to be financially independent.
- Ensure Grievance Mechanism system is GBV/SEA/SH responsive.
- Ensure the contractor is responsible and to take necessary punitive measures against employees who commit acts of sexual exploitation and abuse.
- Provide tip-off anonymous boxes for complaints on sexual exploitation abuse and sexual harassment.
- Provide separate sanitary facilities for men and women workers;
- Provide tip-off anonymous boxes for complaints on GBV, SEA, SH, and VAC

9. Conclusion

The ESMP has identified the measures to manage the identified impacts that will arise during construction/ upgrading and operation of access road to Mzedi Dumpsite. The ESMP is aimed at ensuring proper management of the environment and socio-economic components throughout the project cycle. As stated in the ESMP, negative impacts associated with the proposed project activities can be suitably managed and mitigated through the implementation of the recommended measures. It is recommended that the developer will be responsible for monitoring activities that will be carried out during project preparation, construction, operation and maintenance and demobilization phases to ensure that the mitigation and rehabilitation measures described in this report are adhered to.

10. Recommendations

The Environmental and Social Management Plan (ESMP) in this report describes the environmental and social impacts of the project and outlines corresponding management measures that should be implemented to mitigate the potential adverse environmental impacts that have been identified. The project should therefore comply with all local laws and regulations, which seek to ensure that the project is implemented in an environmentally sound manner while safeguarding the safety and health of the workers and the surrounding community. In this regard, it is recommended that: 1) The project should adopt the recommendations advanced in this report; 2) The Project must ensure that safety and health issues are given the necessary attention; 3) The developer should implement the recommendations and mitigation measures advanced in the Environmental Management and Monitoring Plans and 4) The developer is required to obtain a permit from MEPA.

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List of Acronyms and abbreviations

AIDS	Acquired Immunodeficiency Syndrome
BCC	Blantyre City Council
BWB	Blantyre Water Board
CoC	Code of Conduct
CESC	City Environmental Subcommittee
DODMA	Department of Disaster Management Affairs
EMA	Environment Management Act
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESCOM	Electrical Supply Cooperation of Malawi
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
ESMF	Environmental and Social Management Framework
GBV	Gender Based Violence
GoM	Government of Malawi
GRM	Grievance Redress Mechanism
HIV	Human Immunodeficiency Virus
IDA	International Development Association
IWRM	Integrated Water Resources Management
MEPA	Malawi Environmental Protection Agency
MOAM	Minibus Owners Association of Malawi
MWSP	Malawi Water and Sanitation Project
NSO	National Statistics Office
NGO	Non-Governmental Organisation's
NRM	Natural Resources Management
NWRA	National Water Resources Authority
OPD	Outpatient Department
PAP	Project Affected People/ Properties
PDO	Project Development Objective
PIU	Project Management Unit
PPE	Personal Protective Equipment
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
STIs	Sexually Transmitted Infections
THA	Traditional Housing Areas
TOR	Terms of Reference
VEC	Valued Environmental Component
WASH	Water, Sanitation and Hygiene
WCPC	Ward City Protection Committee

CHAPTER 1: INTRODUCTION

This is an Environmental and Social Management Plan (ESMP) for the upgrading/ construction and operation of 1.2km access road to Mzedi Dumpsite located at 5.5 km north of Limbe Central Business District (CBD), along the Blantyre-Zomba Road soon after Kachere Township. This chapter provides background information on the proposed project locations, details of the project developer, objectives of the ESMP and the approach and methodology for the development of the ESMP.

1.1 Background Information

Blantyre Water Board (BWB) is a Statutory Corporation under the Ministry of Water and Sanitation. It was established in 1929 and was incorporated under the Water Works Act No. 17 of 1995 with a purpose of supplying wholesome water to residents of the City of Blantyre and its surrounding peri-urban areas as directed by the Ministry of Water and Sanitation (MOWS) in accordance with the provisions of the Act.

In an effort to improve water supply and sanitation service delivery to residents of the city of Blantyre and surrounding areas, the Government of Malawi (GoM), through BWB and Blantyre City Council (BCC), with financial support from World Bank`s International Development Association (IDA), is implementing the Malawi Water and Sanitation Project-1 (MWSP-1) with a total of USD 148.5 million (3.5 million from GoM and 145 million from IDA) and will run from March 2023 to March 2029. The Project Development Objective (PDO) is to increase access to improved water supply and safely managed sanitation services in Blantyre metropolitan area and to enhance the operational and financial efficiency of the Blantyre Water Board. The PDO will be achieved through implementation of the following components: 1) Water supply improvements; 2) Priority sanitation investments; 3) Institutional capacity strengthening; 4) Technical Assistance and Project Management Support; and 5) Contingency Emergency Response.

Following the emergency event of cholera which hit most parts of Malawi including Blantyre City, Malawi Water and Sanitation Project (MWSP) in consultation with WB allocated a financing of USD 750 thousand as a provisional package for cholera emergency preparedness and response.
Among the infrastructures targeted by the project is the 1.2 km access road to Mzedi Dumpsite where all solid waste collected from the city and the surrounding peri-urban areas are disposed of. The site is located some 5.5 km north of Limbe CBD, along the Blantyre-Zomba Road soon after Kachere Township. The upgrading of the road from earth/muddy to concrete road will improve accessibility to the disposal site especially during the rainy season during which it is hardly passable. Improved accessibility to the dump site will help in containing cholera out breaks in Blantyre city as more solid waste which attracts breeding of flies responsible for spreading vibrio cholerae (cholera microbe) from one place to another will easily be dumped to the site. The activities involved in the road upgrading include but not limited to; debris excavation and construction of earthworks pavement layers, drainage works and concrete pad.

The project will be implemented over a period of 120 calendar days. The upgrading of Mzedi access road to concrete standard is expected to provide direct employment to 45 people, the contractors will be encouraged to implement several affirmative actions including but not limited to ensuring a working environment free of harassment, intimidation, and coercion, assigning two or more women to each construction tasks at the site, this should be in line with employing at least 40% of females which the project is encouraging. The project will benefit a population of 1,000,000 people, in most all residents of Blantyre City as the waste collected from all corners of the city will pass through this road to Mzedi Dumpsite.

1.2 Objective of the proposed project

The main objective of the intervention is to improve solid waste collection and management services in Blantyre City. Other objectives include but not limited to the following: 1) To improve the road accessibility to be useable all year round through transformation of the earth road to concrete road. This will encourage waste collection service providers to increase number of trips to the dumpsite per day; 2) To reduce illegal dumping (dumping waste along or at the entrance to Mzedi access road) due to poor road condition; and 3) To improve hygiene along the Mzedi access road will be accessible and passable by all waste collection vehicles hence no dumping of waste at the road entrance or along it.

1.3 Nature and scope of the proposed project

The proposed road upgrading works will involve activities such as site clearing and earthworks, debris excavation, earthworks pavement layer construction, drainage works and concrete pad construction.

Considering the proposed civil works, the MWSP recognizes the need to conduct an environmental and social assessment to identify anticipated positive and negative impacts and propose measures for managing these impacts. This will also help the project have social acceptance through all relevant stakeholders' involvement. The report is a basis for managing, mitigating, and monitoring the environmental and social impacts associated with the planning, construction, demobilization, operation, and maintenance phases of the proposed project.

1.4. Project proponent

The project proponent details are provided below.

Blantyre Water Board,
Off Makata Road,
Private Bag 30369,
Blantyre 3,
MALAWI
Stainley Bakolo
Phone : +265 1 895 000
Email: bwb@bwb.mw or piu@bwb.mw

1.5. Objectives of Environmental and Social Management Plan

The main objectives of the ESMP are as follows:

1) To determine the compatibility of the proposed project with the local environmental and social conditions of the area.
2) To examine, in detail, adverse environmental and social aspects and associated impacts.
3) To provide appropriate enhancement and mitigation measures for the significant positive and negative impacts respectively; and
4) To develop an ESMP with mechanisms for implementation, monitoring and evaluating compliance and environmental performance.

1.6. Rationale of the Study

The upgrading works and operation of the proposed access road to Mzedi Dumpsite require an Environmental and Social Management study to be carried out in compliance with the regulatory requirements of the World Bank`s Environmental and Social Framework and Malawi`s Environment Management Act (EMA) of 2017 that proposed development projects should be implemented in an environmentally and sustainable manner. EMA requires that an environmental assessment should be carried out for such projects. Blantyre Water Board was therefore asked to prepare an Environmental and Social Management Plan to integrate environmental and social issues into the project and received Terms of Reference (Annex 1) from MEPA to guide the ESMP preparation. The need for ESMP was also triggered by environmental and social screening which was carried out along the access road to Mzedi dumpsite, refer to Annex 2 for a completed environmental and social screening form.

1.7. Justification of the Project

This project will contribute to the achievement of the country's goals about road infrastructures as outlined in the ***Malawi 2063***. The upgrading of the road from earth/muddy to concrete road will also improve accessibility to the disposal site especially during the rainy season, a period when the road is hardly passable. Improved accessibility to the dump site will help in containing cholera out breaks in Blantyre city as more solid waste which attracts breeding of flies responsible for spreading vibrio cholerae (cholera microbe) from one place to another will easily be dumped to the site. In addition, it will partly respond to Sustainable Development Goals (SDG) target 6.2 that seeks promote access to sanitation services by all by 2030 (WHO, 2030)

1.8 Location and Size of Land

Mzedi access road span 1.2km from Blantyre towards Zomba road junction to Mzedi Dumpsite which is located 5.5 km North of Limbe CBD. The land of the entire access road and its boundaries belongs to BCC and in terms of size it covers 14,400m^2. The area is isolated and there is human settlement. Figure 1 shows the map of the access road and its surrounding features.

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Figure 1: Map showing access road to Mzedi Dumpsite

1.9. Approach and Methodology in the development of the ESMP

The general steps followed during the assessment were desk studies, physical inspection of the site and surrounding areas, stakeholder consultations, reporting and documentation.

1.9.1 Desk Study

The sources of information included Environmental and Social Impact Assessment (ESIA) reports for similar projects and some selected national documents, policies, and pieces of legislation. Among the documents, the desk study looked at relevant project documents that include the Environmental and Social Screening (ESS) report, the project's Environmental and Social Management Framework (ESMF), BWB and BCC Geographical Information System (GIS) Database, and the World Bank Environmental and Social Framework (ESF).

1.9.2 Field Visits

The study team conducted field surveys along the access road was conducted between 19th to 24th June 2023 to observe and capture baseline data on the existing environment. During this period, studies were done to capture various information about the landscape and visual ecology (flora and fauna) and socio-economic environment, among others. These visits assisted in identifying and assessing environmental and social impacts that might occur because of the project implementation.

1.9.3.Stakeholder Consultations

Stakeholder participation involved engaging key stakeholders within the project impact area and selected community-based structures as Ward/ Community Development Committee (CDC) members and representatives of the waste pickers and roader users such as private waste collectors who dump waste at the site. The stakeholder participation process tried to ensure that consideration is given to stakeholder values, concerns, and preferences when decisions regarding the project are made. The purpose of stakeholder involvement was to: (i) inform the stakeholders about the proposed activity and its effects; (ii) canvass their inputs, views, and concerns; and (iii) consider of the information and views of the stakeholders in the environmental and social assessment and decision-making.

Some issues raised by stakeholders include the following: 1) Private refuse collectors indicated that when a road is being rehabilitated, there are issues with alternative routes that are small and difficult to pass. They therefore requested for proper alternative access road to the dumpsite to allow for continue waste disposal at the site while the main road is under construction; 2) Waste pickers raised an issue of employment opportunities that contractors usually bring with them people from far places to work on the project yet there are people in the area that can do similar kind of the work. They therefore requested that they should be considered when it comes to engaging people to work on the project; and 3) Ward councilors and CDC representative indicated that besides that they are very happy with the project, their main concern is that most of the contractors of road construction projects tends to do sub-standard and work leading to poor road infrastructure that quickly and easily get damaged. The private waste collectors also expressed similar concern. They therefore requested that the project and all other players involved in the activity should ensure all quality parameters for the proposed project are taken on board during construction phased; and 4) Another concern from almost all stakeholder was that, although the project will be implemented far from residential areas, issues of Gender Based Violence (GBV), Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) including transmission of sexually transmitted infection as well as HIV and AIDS are common in construction projects. Therefore, there is a need to put in place measures to prevent proliferation of these adverse social impacts. Figure 2 shows a photo of one of the consultative meetings with ward councilor and CDC representatives. Additional concerns/ issues raised during consultative meetings and responses provided are contained in Annex 3.

Figure 2: Consultation meeting with ward counsellor and CDC representatives

1.10. Potential users of the ESMP

The ESMP shall be used by various stakeholders who are involved in planning, implementation, management, and monitoring of project activities such as contractors, BWB, BCC, MEPA, Blantyre District Councils, National Water Resources Authority, and the public. The plan contains policies and procedures to be adhered to, analysis of potential environmental and social impacts and suggested mitigation measures at various stages of implementing the project activities.

CHAPTER 2: PROJECT DESCRIPTION

This chapter provides an overview of the project's specifics, focusing on the project phases, to enhance comprehension of the level of detail and the planning or design choices at hand. Additionally, it describes the tasks and actions involved in executing the project.

2.1. Main project Activities

The main project activities in the upgrading of Mzedi access road from earth to concrete standard will include site clearing and earthworks, debris excavation (debris/ trash such as plastic bags, plastic bottles, cigarette butts, bottle caps, food containers etc. from excavation works of the access road will be segregated/ sorted into biodegradable and non-biodegradables and disposed of accordingly e.g. recycling of plastics and disposal of the other materials at Mzedi Dumpsite area) earthworks pavement layer construction, drainage works and concrete pad construction. The road will have a width of 6 meters, inclusive of a 0.5meter shoulder on both sides for added safety and convenience for pedestrians. Open drainage systems will be integrated on both sides of the road to manage surface water runoff efficiently. A detailed drawing of the road section is shown in Annex 4. The project execution has been divided into four primary segments, which are planning and design, construction, demobilization, operation, and maintenance stages. The activities to be carried out within each of these phases are detailed as follows:

2.1.1 Planning and design phase

This is the initial phase of the proposed project, and it involves the following activities:

a) **Preliminary design**

The preliminary design entails the following:

i. Review of the existing data on the proposed access road project as well as the social and economic activities in the project area.

ii. Collection of all social, environmental, and physical data necessary for the successful design of the access road.

iii. Preliminary engineering survey and design work for the optimum alignment and meeting of design standards.

b) **Detailed design**

The detailed design of the proposed access road includes:

i. Field surveys and visits.

ii. Drainage inspections.

iii. Engineering designs.

It is essential to mention that the design drawings were prepared by BCC`s Engineering Department and were shared with the World Bank.

2.1.2 Construction phase

This phase shall include contractor mobilization, construction of a road diversion (along the same Mzedi access road), earthworks and grading, sub-base and base construction, construction of drainage infrastructure, construction of pavement, road marking and installation of road signage and construction of appurtenant works. It is estimated that 45 people will be employed at this stage.

The following sections provide insight on some of the activities that shall occur during the construction phase.

***Contractor mobilization*:** The initial phase of construction involves contractor mobilization, which serves as the first step before commencing any work on the site. During this phase, the contractor will undertake various tasks, which may include the following and any additional activities they find necessary:

1. Locating and setting up secure storage facilities or buildings for construction materials.
2. Identifying and establishing restroom facilities for contractor's team.
3. Acquiring health, safety, social, and environmental resources, including appropriate Personal Protective Equipment (PPE), first aid kits, fire extinguishers, flashlights, and other relevant items.
4. Identifying a water supply source for both the contractor's staff and construction purposes, encompassing drinking water, construction needs, and dust control.
5. Locating sources for construction materials, particularly river sand and coarse aggregate.

***Construction of a road diversion*:** This activity will help in accommodating traffic of the waste pickers, so as not to disrupt the solid waste management activities while construction of the road is ongoing. This diversion will be constructed along the same Mzedi access road after branching from Blantyre Zomba Dual Carriage Road. The land covered by the entire access road and outside the road boundary within the dumpsite on land belonging to BCC. Constructing a road diversion will involve:

1. Clearing: This step will prepare the diversion by removing vegetation, debris, and topsoil.
2. Grading: This step will shape the terrain according to the diversion's design. This will involve cutting and filling to achieve the desired diversion alignment, slope, and levels.
   The graded surface will be compacted to ensure that it is stable and able to support the traffic load.

Earthworks and grading: This stage will involve.

1. Excavating and cutting the existing road to the desired subgrade elevation.
2. Filling and compacting the roadbed to achieve the specified slope, cross-section, and alignment.

3. Effectively manage excess excavated material, which may be reused elsewhere or disposed of.

Subbase and base construction: This stage will involve.

1. Importing materials to be used for the subbase and base layers.
2. Conducting material testing to ensure that the subbase and base layers meet the required specifications for gradation, strength, and durability.
3. Spread the subbase material evenly over the prepared subgrade to achieve the desired thickness.
4. Compacting the sub-base material using compaction equipment to achieve the required density and stability. Compaction is crucial to prevent settlement and maintain proper drainage.
5. Ensuring that the sub-base and base layers are graded and sloped according to the road design to facilitate proper drainage and surface runoff.
6. Managing and controlling the moisture content of the subbase and base materials to ensure that they are neither too dry nor too wet, which can affect compaction and material properties.

Construction of drainage infrastructure: This stage will involve constructing various drainage structures to manage rainwater. Activities involved will include.

1. Construction of concrete lined side drains which shall be excavated to a minimum depth of 1.0m from the finished road level.
2. Installation of both approved 600mm (about 1.97 ft) and 900mm (about 2.95 ft) diameter precast concrete pipes with ogee type joint on Class A bedding.
3. Construction of reinforced concrete culverts and erosion protection works.

Construction of pavement: This stage will involve the following activities.

1. Setting up formwork along the pavement's edges to define the concrete slab's shape and dimensions.
2. Installing welded steel fabric (142 mesh wire) to enhance the pavement's structural integrity.
3. Preparing a well-proportioned concrete mix in accordance with the project's mix design, considering factors like strength, durability, and workability.
4. Conducting tests and inspections to ensure that the concrete meets the design specifications, including strength, thickness, and smoothness.
5. Casting the concrete into the prepared formwork, ensuring uniform thickness and proper consolidation using a vibrating poker to minimize the formation of voids and air pockets.

6. Using a screed to strike off excess concrete and create a level and smooth surface. This process will help to achieve the desired pavement thickness and cross-section of the road.
7. Using finishing tools like bull floats and trowels to further smooth and consolidate the concrete surface. This process will improve surface quality and ensure proper texture for skid resistance.
8. Creating control joints and expansion joints in the concrete surface as specified by the design to control cracking and accommodate temperature-related expansion and contraction.

Road marking and installation of road signage: This will involve.

1. Road marking using retro-reflective paint complying with the requirements of SABS 731-1 for type 1 paint.
2. Road marking using white centerline, yellow lane demarcation lines, stop marking and pedestrian markings, among others.

***Construction of appurtenant works*:** This will involve.

1. Construction of walkways.
2. Installation of precast concrete curbs on edges of the carriageway. The curbs will be laid on a concrete bed of at least 100mm (about 3.94 in) thick so they are joined with the pavement. The back of the curbing will be hunched with concrete to a thickness of at least 150mm (about 5.91 in) to provide lateral support. The curbs will then be tapped down to the correct level.

Demobilization (good housekeeping): Demobilization refers to the stage at which the project's construction works shall end with the contactor readying to leave the site. This shall involve the removal of equipment, personnel, and temporary facilities. Here are some of the activities that shall be undertaken during this stage:

- Removal of construction equipment, machinery, and tools from the site.
- Demobilization of temporary staff, sub-contractors, and workers.
- Disassembly of temporary structures like site offices and storage units.
- Cleaning and organizing the site, ensuring that the site is free of debris and any loose tool.
- Disposal of construction waste and ensuring that hazardous materials are disposed of properly following environmental guidelines.

Construction materials: The main raw materials for upgrading the access road to Mzedi dumpsite are cement coarse aggregate, river sand, etc. A summary of construction materials and their sources for the construction phase is provided in Table 1.

Table 1: Construction materials

Item #	Raw Material	Source	Mode of Delivery
1	Sand	Nearby rivers or streams approved by local authorities	Road Transport
2	General building materials such as cement and aggregates	Local approved suppliers	Road Transport
3	Diesel (for the operation of the generator and machinery)	Local approved suppliers	Road Transport
4	Construction Water	Existing water from nearby sources stored in tanks.	Tanks
5	Equipment (Tippers, scaffolding materials, light passenger vehicles, Engine generator and hand tools**)**	Contractor	Road Transport

Construction equipment

Main equipment includes excavators, motor graders, concrete loader or front-end loaders, drum rollers and sheep foot rollers, concrete mixers, and transport vehicles. There will be no major installations except for water and electricity in campsite and signposts along the road under rehabilitation. Since this is a public project, there will be no offsite investments involved. Table 2 show photos of the main plant and machinery and their use on this project.

Table 2: Plant/ machinery and use on the project

Plant and machinery and use on the proposed project	
	
Tipper: Used for transportation of construction materials	Motor Grader: For creating flat surfaces

	
Front end Loader or Concrete Dumper: used for moving a pile of material from the ground without spreading it	Concrete Dumper or Front-end Loader: used for moving a pile of material from the ground without spreading it
	
Drum Roller: Used for compacting the roadbed.	Crawler excavator: Used for excavation of earth rocks and loading them into a dump truck
	
Concrete Mixer (at least 200L capacity): for fast mixing, good workability, and consistency of the concrete mix.	Water Bowser: to spray water on the site to reduce dust levels and supply water for concrete mixing.

	
Lorry (at least 5 tons. capacity): used to transport materials and debris to and from the construction site	Sheep foot roller: used for compacting fine grained soils such as heavy clays and silty clays.

2.1.3. Operation and maintenance phase

Activities will include commissioning the road for use and repairing and maintaining the road infrastructure. BWB and BCC will include a liability period for one year, a period the contractor will provide repair and maintenance of the road after commissioning. After this period, BCC will take over the repair and maintenance work of the road.

2.2. Environmental Planning and Design

The Environmental Planning and Design segment emphasizes the environmental and social factors that must be considered in the detailed project design phase. Integrating these factors into the detailed designs is essential to minimize identified negative effects and enhance positive outcomes. Environmental planning and design are necessary for addressing concerns related to natural hazards, including earthworks, floods, sourcing and handling construction materials, safety, public health, labor, and rehabilitation/revegetation aspects.

2.2.1 Safety and Risk Reduction Measures

Standard precautions related to environmental health and safety procedures must be taken seriously. The contractor will be responsible for ensuring these precautions are followed diligently to prevent accidents. Before commencing work, the chosen contractor shall be required to submit a Contractors Environmental and Social Management Plan to the project proponent for approval. The plan will provide specific details of nature, scope and delivery method of the project including specific area where the contractor will set up a campsite, specific impacts/ risk and mitigation measures associated with the campsite, just to mention but a few.

2.2.2 Labour management

The proposed project is anticipated to generate employment opportunities within the project areas. It is expected that more than 50% of the 45 people to work on this project will come from surrounding areas. This will be achieved by engaging CGRC's to help in vetting process when selecting labor personnel within the location. This could serve as a learning platform for the residents, enabling them to acquire specific construction skills in relation to the upgrading of access road to Mzedi Dumpsite. The contractor will be advised to engage local laborers to undertake less complicated work and provide them with brief on-the-job training. In addition, all

employees will have a duly signed contract with the employer and a Code of Conduct before commencement of the work. The contractor shall ensure that the local community. the District Labor Office, and local/ block leaders are involved in the recruitment of workers. Please refer to the generic Labor Management (LMP) in Annex 5 which the contractor will use when developing specific LMP that will suit the nature, scope, and delivery method of upgrading the access road to Mzedi Dumpsite. Waste pickers will also be given an opportunity to be employed as local labors of the community.

2.3.3 Water Supply

The contractor shall have to carefully assess the water supply needed for the road upgrading works to prevent any disruption to the water requirements for the area. The main water sources along the access to Mzedi is BWB water supply. There is a main water pipe that feeds the industrial area along the road. There is a small stream close to the Dumpsite that empty its water into Mzedi River located far away from the access road and the Dumpsite. The contractor can either buy water directly from BWB or use the water from the stream for the construction works. In case of use of water from the stream, the contractor will adhere to all appropriate procedures to obtaining water from such a source for construction purposes. For instance, water abstraction from a river/ stream or groundwater from a borehole need to be permitted by relevant authorities. If the water is to be obtained from other sources other than BWB, there must be a formal agreement with the owner of the water infrastructure.

2.2.4.Sanitation Facilities

The site where the project will take place has no existing sanitation facilities. There will be a need for sanitation facilities to be used by workers during construction of the access road to Mzedi Dumpsite. The contractor will have to arrange for at least two mobile toilets one for male and the other for female workers. This will help in to containing human excreta and mitigating a risk of open defecation thereby contributing to prevention of spread of communicable diseases such as cholera, dysentery, typhoid, and other diarrheal diseases associated with poor sanitation and hygiene.

2.2.5 Energy

During the construction phase of the access road to Mzedi Dumpsite energy requirements will be satisfied by utilizing generators to support works such as welding, lighting, etc. Alternatively, there already exists an ESCOM grid that span along the access road. The contractor can arrange for its use, provided that all required safety measures and approvals are in place. The contractor will liaise with the owners of existing energy sources or provide their own sources based on the prevailing circumstances, all while ensuring that the decision does not compromise or present any environmental or social risks. The contractor can also use solar energy for lighting purposes.

2.2.6 Waste Management

It is obvious that during upgrading of the access road to Mzedi Dumpsite waste will be generated. The main points of the proposed strategy for managing solid waste are outlined below:

- During the construction phase, waste will be segregated into biodegradable, non-biodegradable, and hazardous categories.
- Waste like empty cement bags will be recycled for others uses such as making mats.

- Material waste like blocks for constructing road drains and cement will be repurposed as fill material, and concrete will be recycled and reused on-site when necessary.
- Adequate on-site storage facilities shall be provided for these waste materials.
- Solid waste generated during both the construction and operational phases, if any, will be managed in a way that minimizes environmental and social impacts. This includes proper collection, transportation, and disposal methods.
- Reusable and recyclable waste will be sold to scrap dealers and private contractors for reuse.
- Non-biodegradable and non-reusable waste will be transported from the road construction site by the contractor to Blantyre City Council's solid waste management facility (Mzedi Dumpsite) for safe disposal.
- The contractor will liaise with MEPA and BCC to dumping of any hazardous wastes.

2.2.7 Tree Planting

It is advisable for the project to include tree and grass planting initiatives, especially in areas where the soil structure is disturbed. BWB and BCC conduct annual tree planting activities within its catchment area, and a deliberate effort will be made to supply seedlings for planting in these regions and even along the access road to Mzedi Dumpsite. The tree planting process will be conducted under the guidance of the District/ City Forestry Office. This office will provide guidance on tree planting techniques, management practices, and the selection of appropriate tree species.

CHAPTER 3: POLICY AND LEGAL FRAMEWORK

3.1 Applicable Policy Frameworks

3.1.1 Malawi Vison 2063

Malawi Government published Malawi Vision 2063 in 2020 as a successor of Vision 2020 and as a long-term development strategy. The Malawi Vision 2063 aims to transform Malawi into a wealthy and self-reliant industrialized upper middle-income country by the year 2063.

There are three pillars of Malawi Vision 2063. These are: Pillar 1-Agricultural productivity and commercialization; Pillar 2- Industrialization, and Pillar 3-Urbanization. Vision has seven enablers. Enabler 1: Mindset change; Enabler 2: Effective governance systems and institutions; Enabler 3: Enhanced public sector performance; Enabler 4: Private sector dynamism; Enabler 5: Human capital development; and Enabler 6: Economic infrastructure; and 7: environmental sustainability.

Environmental Sustainability is one of the six enablers of the Malawi Vision 2063. The First Implementation Plan (MIP-1) is the country's first 10-year implementation plan and the new medium-term development strategy under Vision 2063, aimed at helping Malawi to graduate into a middle-income economy and achieve most of the Sustainable Development Goals by the year 2030. The construction upgrading of the access road to Mzedi Dumpsite from earth road to concrete paved rood is aligned to enabler 7 which talks about environmental sustainability of the Malawi Vision 2063 with an objective of promoting sustainable development with clean and secure environment. Focus area (2) of enabler No. 7 talks about Waste Management and green economy which focuses on adequate waste disposal, treatment, and recycling. The proposed road upgrading project will promote quick waste collection from Blantyre City, transportation, and disposal of the waste to Mzedi Dumpsite.

The construction of the Mzedi dumpsite access road falls under enabler 5; (Human Capital Development) where the objective is to have globally competitive and highly motivated human resources. Enabler no. 5 has the following focus areas that include Education and skills development; Science, Technology, and Innovation; Health and Nutrition; Managing population growth; Water, Sanitation and Hygiene (WASH); Sports and creative arts; and Gender equality & equity and social welfare. Sanitation and Hygiene envision that the Government shall take the lead and rally partners and communities in promoting the adoption of sanitation practices at the individual and household level. This shall include the provision and use of improved and accessible road to Mzedi Dumpsite that will promote proper solid waste transportation and disposal.

This ESMP generates the potential and actual impacts of improving access to sanitation and implementation activities on issues highlighted in the Vision 2063 including inadequate and proper solid waste disposal, treatment and recycling, deforestation, land degradation, diversity loss,

increased dust generation, poverty, and other issues. The report further recommends specific measures to mitigate the negative impacts and enhance the positive impacts through the project.

3.1.2 National Environmental Policy, 2004

The Policy was adopted by the Government in June 2004. The mandate of the policy is derived from Section 13 of the Malawi Constitution. In the policy, it is noted that Malawi has a diversified natural resource base and if properly utilized, the resources may provide the basis for sustainable socio-economic development of the country. The policy also takes note of the fact that the resources are subject to increasing pressure and there is serious degradation of the environment.

There are strategies on environmental planning and environmental impact assessment, audits, and monitoring, among others. On environmental planning, the objective is to ensure that national and district development plans integrate environmental concerns to improve environmental management and ensure sensitivity to local concerns and needs. On ESIAs, the objective is to regularly review and administer the guidelines for ESIAs, audits, monitoring, and evaluation so that adverse environmental impacts can be eliminated or mitigated, and environmental and social benefits enhanced.

In line with the environmental policy (on planning and ESIAs, ESMPs, among others), the Blantyre Water Board (BWB) and Blantyre City Council (BCC) must integrate environmental and social concerns during the whole cycle of the project i.e., planning, construction, demobilization, operation, and maintenance. This will ensure that the upgrading of the access road to Mzedi Dumpsite is not only environmentally friendly but also socially acceptable to the project beneficiaries and surrounding communities.

3.1.3 National Sanitation Policy, 2008

The overall policy goal is to promote improved sanitation and safe hygiene practices for improved health and socio-economic development for the people of Malawi. The contractor for this project will have a waste management plan to manage his waste.

The National Sanitation Policy provides a vehicle to transform the hygiene and sanitation situation in Malawi. The policy mission is to ensure that all people in Malawi own and have access to improved sanitation facilities, practice safe hygiene, and practice safe recycling of liquid and solid waste for sustainable environmental management and socio-economic development. Section 1.2 of the policy provides for both guidelines and an action plan where, by 2020, all the people of Malawi were supposed to have access to improved sanitation, safe hygienic behavior will be the norm and recycling of solid and liquid waste will be widely practiced. This will alternatively lead to healthier living conditions, a better environment, and a new way for sustainable wealth creation. One of the policy objectives as highlighted in section 3.1.1 is the improvement of hygiene, sanitation, and recycling of waste in the country. As such, the proposed project will ensure that solid waste management encourages the reduction, recycling, and reuse of waste before final disposal, hence complying with the provisions of the policy.

In this regard, during the upgrading of the road from earth to concrete standard, the contractor will be required to adhere to Sanitation policy by providing project workers with facilities such as good

toilets, waste bins, and safe drinking water, among others. The contractor shall ensure provision of toilets are separate for men and women and that they are safe and user friendly for those physically challenged.
The policy also advocates for transport of waste from point of generation to disposal site. The construction of the road is critical for transportation of waste to the dumpsite.

3.1.5 National Land Policy, 2002

The National Land Policy is the principal policy that guides land management and administration in Malawi. The policy introduces major reforms intended for land planning, use, management, and tenure. It provides clear definition of land ownership categories (Section 4) and addresses issues of compensation payment for land (Sub section 4.6).

The proposed project will not impact on land, as land ownership in the proposed site is public land. The land covered by the entire access road and its surrounding belongs to BCC. The land is wide enough to accommodate the road shoulders and diversion routes to allow passage of waste collection vehicles and other road user including waste pickers while the road is being constructed the project will not displace people in the impact areas. The design was made so that there will be non-existent displacement of people. In addition, a proper grievance redress system is already in place at the community and City level. The project will also work closely with the city and district land offices where there are grievances regarding land issues. This will help resolve potential grievances which are likely to arise during the project's implementation.

3.1.6 National Gender Policy, 2015

Gender mainstreaming into social economic development plans is one of the enablers for sustainable development worldwide. The Malawi Vision 2063 (M63) recognizes the importance of gender and women empowerment in socio-economic development.
The National Gender Policy calls for integration of gender responsiveness in planning and implementation of development projects and programs. It is understood that consideration of gender needs and benefits enhance poverty reduction in both rural and urban environments. This project must integrate consideration of needs of both males, females, and other vulnerable groups in project activities and ensure that at least 40% of employees are female.
The Government of Malawi has made efforts to improve gender equality, for instance in 2002 the Ministry of Gender, Child Welfare and Community Services created a Multi-Sector Country Gender Profile to identify the areas of society that need the most attention regarding gender equality. Despite governmental efforts, women in Malawi face many challenges when it comes to household and everyday decision-making.
The implication of this policy is that gender should be carefully balanced in the implementation of the project activities. This project will ensure that at least 40% of employees are women so that they also become bread winners and participate in household decision making. The project shall consider to source labor force from the surrounding communities to reduce the influx of migrant workers who may exacerbate risk of GBV and SEA.

3.1.7 National HIV and AIDS Policy, 2005

The goal of the Policy is to prevent the further spread of HIV infection, promote access to treatment for People Living with HIV (PLHIV) and mitigate the health, social-economic and psychosocial impacts of HIV and AIDS on individuals, families, communities, and the nation.

The Policy highlights that HIV and AIDS impact on the country is quite significant and affects a range of socio-economic activities be it in agriculture, fisheries, public sector, private sector, tourism, urban areas, rural areas, among others. HIV and AIDS prevalence in the country varies from one region to the other and from rural to urban areas. The highest rate is in the Southern Region and the lowest in the Northern Region. Prevalence rate is high in urban areas as compared to the rural areas.

National HIV and AIDS Policy identifies migrant workers and women among highly vulnerable people to transmission of HIV and AIDS and other sexually transmitted diseases. In addition, increased disposal of income from migrant workers may enhance some workers to indulge in extra-marital affairs within the surrounding villages. These sexual activities would enhance the spread of HIV among workers and local people.

Blantyre being one with high prevalence rate of 17.6% compared to 8.8% of national coverage, the developer will have to develop and implement its workplace HIV and AIDS program, such as provision of condoms to prevent spread and mitigate its impact in the project impact area. It is further proposed that during implementation of construction activities of the sanitation facilities, BWB and BCC should ensure that the Contractor liaises with the stakeholders such as the City AIDS Coordinators for Blantyre city to sensitize workers as well as surrounding communities on the dangers of HIV and AIDS. Further, Information, Education and Communication (IEC) materials on HIV and AIDS should be distributed. It is also recommended that during construction phase, much of the labor force should be sourced from the surrounding communities to reduce the influx of migrant workers who may exacerbate the situation.

3.1.9 National Water Policy, 2004

The Government of Malawi has a National Water Policy with the aim of providing a comprehensive and integrated water resource conservation and management within the country. The National Water Policy of 2005 is one of the administrative tools in the natural resources management (NRM) sector. The overall goal of this policy is to ensure "sustainable management and utilization of water resources, in order to provide water of acceptable quality and of sufficient quantities and ensure availability of efficient and effective water and sanitation services that satisfy the basic requirements of every Malawian and for the enhancement of the country's natural ecosystems." The policy is aimed at addressing all aspects of water including resource management, development, and service delivery by means of an integrated approach to the integrated management of water resources in the country. It also comprehensively covers areas of water resource conservation, management and development, water quality and pollution control, water utilization, disaster management and institutional roles and linkages. The overall policy goal is sustainable management and utilization of water resources to provide water of acceptable quality and of sufficient quantities and ensure availability of efficient and effective water and sanitation

services that satisfy the basic requirements of every Malawian and for the enhancement of the country's natural ecosystems.

There are several implications of the National Water Policy and Water Resources Act (2013) related to the activities to be undertaken during upgrading of the access road to Mzedi Dumpsite. Among them include but not limited to the fact that the upgrading/ construction works the road will require abstraction of water for construction, so it is important that the Contractor shall not significantly contribute towards the degradation and depletion of water resources in the project area. The contractor will have to obtain a permit before abstracting water for project activities from any natural water sources (rivers, streams, etc.) in the area.

3.2 Relevant Legal Framework

3.2.1 Constitution of the Republic of Malawi, 1995

Legislation, policies, and instruments exist to support environmental management in Malawi. Section 13 (d) of the Malawi constitution sets a broad framework for sustainable environmental management at various levels in Malawi and supports the enforcement of the Environment Management Act (EMA), and the environmental policy. In accordance with the provisions of the Constitution, the primary aim is to ensure that development activities of the country, including the proposed project, do not jeopardize the full rights of the future generation regarding the environment. The Malawi Constitution therefore calls for sustainable management of natural resources and prevention of environmental degradation. The Environment Management Act sets the national legal framework. A few sectoral policies, acts, regulations, and requirements, embracing transversely the environmental issues, support this document.

The Constitution of the Republic of Malawi is the supreme law of the land. As such, any statute which is inconsistent with it is automatically rendered invalid. The Constitution of the Republic of Malawi provides a foundation for environmental management in Malawi. Section 13 (d) of the Malawi Constitution lays down what are termed principles of National Policy. It outlines the principles of sustainable development. This section outlines that Malawians have the responsibilities of promoting their welfare and development by progressively adopting and implementing policies and legislation aimed at preventing the degradation of the environment, providing a healthy living and working environment for the people of Malawi, according full recognition of the right of future generation by means of environmental protection and sustainable development of natural resources and conserving and enhancing biological diversity of Malawi.

The Malawi constitution recognizes the crucial role which the environment and natural resources play in sustaining human livelihood and emphasizes the need for managing the environment responsibly. It aims to prevent the degradation of the environment, provide healthy living and working environment for the people of Malawi, accord full recognition to the rights of future generation by means of environmental protection and the sustainable development of natural resources, and conserve and enhance the biodiversity of Malawi. This implies that all activities involving this project will have to integrate the principles outlined in the Constitution.

3.2.2 The Environment Management Act, 2017

The Environment Management Act makes provision for the protection and management of the environment and the conservation and sustainable utilization of natural resources. The Act is the principal piece of legislation on the protection and management of the environment. Under Section 6, the Act states that 'subject to the constitution, where a written law on the protection and management of the environment or the conservation and sustainable utilization of natural resources is inconsistent with any provision of the Act, the written law shall be invalid to the extent of the inconsistency.'

To integrate environmental and social considerations in projects, the Act provides for environmental planning and the need for Environmental and Social Impact Assessment (ESIA). The environmental planning is required to be done both at national and district levels. Section 31 of the Act is on environmental and social impact assessments. The Act stipulates that the Minister may, on the recommendation of the Malawi Environment Protection Authority (MEPA), specify by notice published in the Gazette, the type and size of project which shall not be implemented unless an Environmental and Social Impact Assessment is carried out. It also specifies that a person shall not undertake any project for which an Environmental and Social Impact Assessment is required without the written approval of the Authority, and except in accordance with any conditions imposed in that approval.

Section 26 (3) of the Act provides that a Licensing Authority shall not issue any license with respect to a project for which an ESIA is required under the Act unless the Director has certified in writing that the project has been approved by the Minister or that an ESIA is not required under the Act. In line with the provisions of this Act, BWB and BCC have initiated the development of this ESMP to ensure that all environmental and social concerns are incorporated in the project activities. Also, the ESMP was prepared to ensure that the project activities, such as water abstraction and mining of construction materials (sand and quarry stones), that threaten the environment adhere to these provisions.

3.2.3 Physical Planning Act, 2016

The Physical Planning Act (2016) is a principal act for regulating land use, planning and physical developments in Malawi. The Act repeals the Town and Country Planning Act of 1988 (Cap 23.01). The Act promotes orderly spatial physical development to optimize use of and service infrastructure and protect and conserve fragile ecosystems in space. This is achieved by guiding physical developments through provision of planning permission following appropriate scrutiny by local planning committees or the Commissioner for Physical Planning. The Act regulates development by prescribing screening for environmental and socio-economic implications for large-scale development projects before planning permission is granted. In view of the above requirements, the proposed project is a large-scale development and will have to undergo screening before permission is granted. The current ESMP for the project is part of screening and development control. The Blantyre City Council will have to scrutinize and grant development permission in accordance with this Act.

3.2.4 The Land Act, 2016

The Land Act, 2016 is the revised and recent piece of legislation for management and administration of land issues in Malawi from the previous Land Act of 1965. Land Act, 2016 makes provision for land in Malawi and all matters connected to it.

The Land Act, 2016 defines land types including private and public land. The Land Act, 2016 defines public land as all land held, occupied, or used by the government or local authority. This definition entrusted the authority to administer public land in the hands of a local authority. A good example of public land is the land designated as a road reserve which is in the hands of local authority for Government use in provision of road infrastructures and other services. The land on which all the proposed project activities will be implemented and operated is public land. During construction phase, the contractor of the proposed project will have to observe road reserve boundaries.

3.2.5.The Public Roads Act No.11 of 1962 as amended Act of 2017

The Public Roads Act consolidates and amend the law relating to Public Roads and matters connected therewith. The Act makes a provision on roads classification and vesting, compensation, supplementary and transitional, responsibility for construction, maintenance, and rehabilitation of roads in Malawi. The Public Roads Act classifies roads as main roads, secondary roads, terminally roads, district roads, branch roads and estate roads. Section 8 (1) of the Public Road Act defines estate roads as roads in any area including any city, municipality or township area provided for the purposes of internal access to any area being developed, whether by Government or otherwise, for building plots, farms, or other specific purposes. The construction of Mzedi access road is being undertaken for a specific purpose of accessing the dumpsite, hence Mzedi is one of the estate roads. In terms of maintenance, the Act, in section 8 (4) states that the cost of construction, care and maintenance of estate roads shall be done by the person responsible for the development in that area. The implication of the Act on the proposed project is that BCC is the responsible person/ institution for repair and maintenance of estates roads such as Mzedi access road.

`3.2.6 Occupational Safety, Health and Welfare Act, 1997

The Occupational Safety, Health, and Welfare Act (OSHWA) of 1997 emphasizes the need of ensuring that a place of work is safe and free of risks to health with respect to the use of plant and machinery and encourages an immediate stop of any operations where there is an eminent and danger to safety and health and evacuation of all persons employed. It further provides for the protection of people other than people at work from hazards arising out of or in connection with the activities of people at work. Overall, the Act is a pro-active attempt by the government to prevent and avoid work-related injuries and illness. The Act regulates work conditions with respect to safety, health, and welfare of workers. The duty of ensuring safety, health, and welfare of workers rests with the employer. However, every employee must take reasonable care of their own safety and that of other workers.

The Act governs the health and safety for the diverse industry of Malawi. The Act provides regulatory mechanisms to ensure safe and secure workplaces in Malawi. General safety facilities stipulated for most workplaces include the following: adequate ventilation, cleaning materials and cleanliness of workplaces, lighting, washing facilities, change rooms for some workers, sanitary conveniences and first aid kits. Both employers and employees are sensitized on basic procedures for proper use and operations of the welfare and safety facilities within workplaces. Non–compliance or negligence with the use of work safety facilities is an offence under Sections 82 and 83 of the Act. Sections 56 and 57 provide guidelines for prevention of fire out breaks, and control of incidences of fire outbreaks within workplaces. Section 57 stipulates some recommended means of fire escape from workplaces such as offices. These must be properly labelled with red letters and kept free of obstruction. Examples are emergency escape doors and emergency assembly points. Section 58 stipulates the provisions of protective clothing (such as gloves, footwear, screens and goggles, ear muffles and head covering) to protect workers from excessive exposure to nuisances with some work activities.

In compliance with the Act requirements, the contractor hired to do construction works for the project will develop an Occupational Safety, Health, and Welfare plan. Furthermore, according to Section 58 (Part VI) all workers for the construction works will be provided with appropriate Personal Protective Equipment (PPE) and these will include work suits, industrial boots, hard helmets and gloves during the construction and appropriate PPE during operation period. The employees will have the responsibility to use the PPE and take diligent care of it. The employer will have to enforce the use of the PPE during working.

In addition, the Contractor shall ensure that a well-stocked First Aid Box is made available at the construction site for use by workers as provided for under Section 33 (Part IV) of the Act. The First Aid Box shall be under the supervision of a well-qualified person. In line with Part II, Section 6 of the Occupation Safety, Health and Welfare Act, the contractor shall also apply for the workplace certificate registration.

3.2.7 HIV and AIDS (Prevention and Management) Act, 2018

The HIV and AIDS (Prevention and Management) Act makes provision for the prevention and management of HIV and AIDS; provisions for the rights and obligations of persons living with HIV or affected by HIV and AIDS; provisions for the establishment of the National AIDS Commission; and provisions for matters incidental thereto or connected therewith. Part 4, Section 6 (1) states that discrimination related to HIV or AIDS is prohibited. Part 5, Section 9 (1) states that a person living with HIV has the right to privacy and confidentiality regarding information concerning their status. Part 8 of this Act gives provisions to employers by stipulating requirements in several sections quoted as follows:

- Section 26 states that an employer shall not require any person to undergo HIV testing as a pre-condition for recruitment.
- Section 27 (1) states that an employer shall not terminate the employment of an employee solely on the ground that the employee is living with HIV or is perceived to be living with HIV.

- Section 28 (1) states that an employee shall not be discriminated against or be subjected to unfair treatment solely on the ground that he is perceived to be or is living with HIV; and
- Section 32 (1) states that the State shall ensure that employers adopt and implement an HIV and AIDS policy at the workplace.

The proposed project's implication is that BWB and BCC will ensure that HIV and AIDS intervention measures are put in place to respond to the Act's requirements. The project will use already existing Government of Malawi's HIV and AIDS policy in all workplaces and during construction and operation phase of the project.

3.2.8 Public Health Act, 1948

The Act provides legal framework on planning and management of a wide range of health-related issues including environmental health, occupational health, and solid waste management. Section 88 stipulates the requirements for separate toilets for both female and male persons in public buildings or buildings, which would be used by both male and female employees.

The Act's implication on the proposed project is that it will bring workers to work on the project and the project site has no sanitation facilities and proper drinking water among other things. Therefore, the contractor shall ensure there are appropriate and adequate waste disposal facilities, hand washing facilities and sanitary toilets during construction phase. The toilets will need to be demarcated according to sexual category (male separate from female) to comply with Act.

3.2.9 Gender Equality Act, 2013

There is a general misconception among girls and women that technical jobs are for men resulting into the gender imbalance in the industry. The Gender Equality Act's purpose is to act and address the inequalities that exist between men and women in many aspects of daily life in Malawi. The Act seeks to promote gender equality, equal integration, influence, empowerment, dignity and opportunities for men and women in all functions of society; to prohibit and provide redress for sex discrimination, harmful practices, and sexual harassment; to provide public awareness on promotion of gender equality. The Act applies to all persons and to all matters. This means it will apply to private and public institutions, including religious settings and chiefs. It also applies to the Government. It affects all aspects of life in Malawi. The Act in Part 2 prohibits sex discrimination and harmful social or cultural practices; Section 7 calls for a workplace policy to ensure that sexual harassment is avoided. The proposed project will ensure that these principles are included in all its activities specifically in relation to membership and providing a conducive environment without sexual harassment and any other types of gender discrimination.

Therefore, the proposed project will incorporate these principles in all activities, ensuring fair representation and creating a conducive environment free from sexual harassment and gender discrimination, with a targeted employment distribution of 40% for women and 60% for men.

3.2.10 Malawi Employment Act, 2000

The legal framework for child labor in Malawi is contained in the Employment Act of 2000 (CAP 55:01). The Act sets the minimum age for admission of a child to employment at 14 years. The Act further prohibits children between the ages of 14 and 18 from working in hazardous work.

Section 22 (1) of the Act states that no person between the age of fourteen and eighteen years shall work or be employed in any occupation or activity that is likely to be (a) harmful to the health, safety, education, morals, or development of such a person; or (b) prejudicial to his attendance at school or any other vocational or training program.

In line with the provisions of this Act, the contractor for this project's construction activities will ensure that under-aged people (less than 18 years old) are not employed in the project. This will be done through age verification using credible sources of information such National ID. The project will also implement Labor Management Plan Annexed to this ESMP which among other things prohibits employment of people of less than 18 years old.

3.2.11 Mines and Mineral Act, 2000

The objective of this Act is to regulate the development of the mineral resources of Malawi through adherence to sustainable development principles in order to benefit the economy and promote the economic growth of Malawi; protect and improve the welfare of the present and future citizens of Malawi; provide an attractive and conducive environment for investment in the mining sector; minimize or prevent economic declines related to decreased mining activity by creating through training and other means a foundation for the future, social economic empowerment, uplifting and development of local communities and regions affected by mining; and manage environmental impacts for the benefit of all present and future generations of Malawians. Section 33 of this Act states the types of licenses that can be obtained with reference to size of mining. The contractor will therefore need to get construction materials such as sand and quarry stones from licensed suppliers.

3.3 Regulatory Licenses and Permits

Based on the consultations with key regulatory authorities and review of the requirements of the above policies and legislation, a list of relevant statutory and regulatory approvals and licenses to be obtained while implementing the proposed project, has been developed and are shown in Table 3.

Table 3: Regulatory approvals relevant for the project

No	Regulations/ Approvals	Description	Reference	Issuing Institution	Status
1	Approval Letter (ESMP approval)	The approval letter will be provided after approval of the ESMP report	EMA, 2017	MEPA	Not done
2	Development project approval	Development project approval	Physical planning act 2016	Blantyre Town Planning Committee	Approved

3	Water Abstraction Rights	Abstraction of surface water for construction works	Water Resources Act (2013)	National Water Resources Authority	Not done
4	Registration of Workplace Certificate	Protect health and safety of workers	Occupational Safety, Health, and Welfare Act (OSHW) (1997)	Ministry of labor	Not done
5	Declaration of road as public or private street	Determine who will be maintaining the road when the project closes	Urban Areas (Public and Private Streets) Act	Blantyre City Council	Not done

3.4 World Bank Environmental and Social Standards

World Bank Environmental and Social Standards (ESSs) are used during the implementation of projects or activities funded by the Bank to protect the interest of beneficiaries, clients, shareholders, and the Bank. The ESSs also provides a comprehensive framework for enhancing positive impacts, avoiding negative impacts, and promoting sustainability. Below is the summary of ESSs identified as relevant to the proposed project.

- ESS1: Assessment & Management of Environmental & Social Risks and Impacts
- ESS 2: labor and Working Conditions
- ESS 3: Resource Efficiency and Pollution Prevention and Management
- ESS4: Community Health and Safety
- ESS5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement
- ESS 8: Cultural Heritage
- ESS10: Stakeholder Engagement and Information Disclosure

3.4.1. ESS1: Assessment & Management of Environmental & Social Risks and Impacts

ESS1 sets out responsibilities for assessing, managing, and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs). The ESSs are designed to help in managing the risks and impact of a project, and improve their environmental and social performance, through risk and outcomes-based approach.

The preparation and subsequent adoption and implementation of this ESMP complies with this standard. The development of this Environmental and Social Management Plan for the project will ensure that environmental and social impacts are identified and managed in an environmentally and socially sound and sustainable manner. In line with ESS1 an environmental and social screening of the proposed project was undertaken and it was found that they will be of low to

moderate severity. Hence, the road upgrading works were classified as Moderate Risk, which triggered further environmental and social assessments, stakeholder engagements and the preparation of the Environmental and Social Management Plan. During project implementation there will be a need for adequate monitoring and reporting on the environmental and social performance of the project works against ESS 1. The environmental and social management will be proportionate to the risks and impacts of the project. The assessment will inform the project's design and will be used to identify mitigation measures and actions and improve decision making. Management of environmental and social risks and impacts of the project will be throughout the project life cycle in a systematic manner, proportionate to the nature and scale of the project and potential risks and impacts.

3.4.2.ESS 2: Labour and Working Conditions

The ESS 2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. The project implementers can promote sound worker management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.

The project will use recommended labor Management Procedures, including guidelines on health, safety, and welfare of the workers in accordance with the requirements of national laws and ESS2.

As per this ESS, a worker-specific Grievance Redress Mechanism will be put in place to support implementation of program activities. To ensure safety of the workers from hazards, measures relating to occupational health and safety risks guided by the WB General Environmental Health and Safety Guidelines, and Occupational Safety Health and Welfare Act, 1997 will be adopted during project implementation. Measures will be put in place to avoid the impact associated with the influx of migrant workers. Procedures have been set out in the way in which project workers will be managed, in accordance with the requirements of national law and this ESS. The procedures address how this ESS will apply to various categories of project workers including direct workers and how the project requires third parties to manage their workers. The project will ensure that the workers abide by the code of conduct to minimize and mitigate environmental and social impacts. No child shall be employed during implementation of the program.

3.4.3.ESS 3: Resource Efficiency and Pollution Prevention and Management

ESS 3 recognizes that economic activity and urbanization often generate pollution of air, water, land, and consume finite resources that may threaten people, ecosystem services and the environment at local, regional, and global level. The proposed project is expected to cause significant water and energy use, and the associated handling and storage of construction material could raise waste production potential. Inappropriate disposal of wastewater might pollute the environment, and burning of waste generated in construction activities may contribute to air pollution. Building materials such as sand, quarry and gravel will also have to be obtained from sustainable sources to avoid impacts on natural resources. To comply with this ESS, the contractor will be required to apply technically and financially feasible resource efficiency and pollution

prevention measures in accordance with the mitigation hierarchy (anticipate, avoid, reduce, or minimize and compensate or offset).

3.4.4. ESS4: Community Health and Safety

ESS 4 recognizes that program activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of proponent to avoid or minimize such risks and impacts, with particular attention to people who, because of their circumstances, may be vulnerable. Although the project is not taking place in community settlement area, BWB and BCC is aware of the community health and safety risks. To satisfy the requirements of ESS4, the Environmental and Social Assessment of the project works considered the risks and impacts of the project on the health and safety of the communities. Measures have been provided in the ESMP to avoid road safety concerns/ impacts or reduce their effects in the case that they still occur.

3.4.5. ESS5: Land Acquisition, Restriction on Land use and Involuntary Resettlement

The ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets, or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

In the proposed project, the entire road stretch is free from human settlement, and no one will be displaced. The land covered by the road and its surrounding including the land covered by the dumpsite belong to BCC. The construction of road shoulders and diversion routes to allow passage of waste collection vehicles and other road users (waste pickers) while the Mzedi access road is being constructed will not trigger impacts such as displacement or land take from other people. The diversion route will be created along the same Mzedi access road. In some situation, one roadside/ section will be closed for construction activities while the other section is being used by road users to access the dumpsite. Appropriate traffic signs and flag men/ women will be provided where necessary to assist in traffic control. Impacts such as soil erosion, dust emission from the diversion route will be mitigated as indicated in Section 5.2.2

3.4.6.ESS 8: Cultural Heritage

The term 'cultural heritage' encompasses tangible and intangible heritage, which may be recognized and valued at a local, regional, national, or global level. Tangible cultural heritage may include movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be in urban or rural settings and may be above or below land or under the water.

Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artifacts, and cultural spaces associated therewith—that communities and groups recognize as part.

The upgrading of the access road to Mzedi Dumpsite may not adversely affect cultural heritage in the earmarked site. However, since the road upgrading works will involve earth works and excavation of debris and trenches for the road drainage system, it is probable that a physical cultural resource can be found while undertaking the excavation works, hence the need to have a chance find procedure in place to manage such accidental encounters.

Chance Find Procedures outline, step by step, what needs to be done when projects come across archaeological sites, historical sites, remains and objects, including graveyards or individual graves during excavations or construction. Refer to Annex 6 for details about the procedure.

3.4.7. ESS10: Stakeholder Engagement and Information Disclosure

ESS 10 recognizes the importance of open and transparent engagement between the project proponent and program stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of program activities, enhance program acceptance, and make a significant contribution to successful program design and implementation.

Stakeholder engagement and information is integral to the project's implementation. During the ESMP preparation, all relevant stakeholders were met and consulted. Importantly, to apply the requirements of ESS10, the Proponent will continue to engage and disclose information to allow stakeholders to understand the risks and impacts of the project, and potential opportunities and solicit ideas that will help improve implementation of activities under the upgrading of access road to Mzedi Dumpsite. The stakeholder engagement under the project will be guided by the Project`s Stakeholder Engagement Plan (SEP)[1]

[1] https://www.bwb.mw/WorldBankProjectDownloads.php

CHAPTER 4: ENVIRONMENTAL AND SOCIAL SETTING

This chapter shall describe the biophysical and socio-economic characteristics of the proposed project site.

4.1. Bio - Physical environment

4.1.1Topography

The access road to Mzedi Dumpsite stands on a sloppy terrain at 3 kilometers from Mpingwe hill. The implication of this topography is that the soil structure disturbance due to road upgrading works may risk soil erosion, siltation, and sedimentation of natural water courses in the surrounding areas. Mitigation measures will among other things included but not limited to breaking down the slope into benches/ steps to control the speed of run off and consequently soil erosion.

4.1.2. Soil

The project site is dominated by soils classified as cambisols which are soils at an early stage of formation (FAO, UNDP, and UNEP, 2016). The soil is brownish in color below the surface horizon due to the pedogenesis process. These soils are common in hilly and deposition areas and in eroding lands as mature residual soils. They contain weatherable minerals in the silt and sand fractions. In a soil profile, cambic horizon is situated between an A horizon and an unaltered C construction, that has soil structure rather than the rock structure and color that differs from the C horizon. The soil type for the access road is loamy. These are fine faired soils with a mixture of sand, clay and silt hence promotes good soil structure and contains more moisture, nutrients and humus that enhance water holding capacity and infiltration. Due to high water holding capacity, sites tend to be very muddy and slippery during rainy season making it hardly passable.

4.1.3. Climate characteristics

The climate for Blantyre city, which also covers the site proposed for the upgrading of access road to Mzedi Dumpsite, is classified as tropical wet and dry savanna influenced by specific location in the tropical zone and altitude. The rainy season runs from November to April while end May commences continuing light cold showers locally known as Chiperoni. The annual precipitation averages 834mm (about 2.74 ft) which is equivalent to 834L/m^3, of which 80% is experienced within 3.5 months from November to March. Temperatures range from 19^0C in May to July and 26^0C during the hot season in September to November. The temperatures vary by 70C, indicating that continentally type is hyper oceanic (Source of this data). Figure 3 shows temperature, rainfall, and humidity in a year.

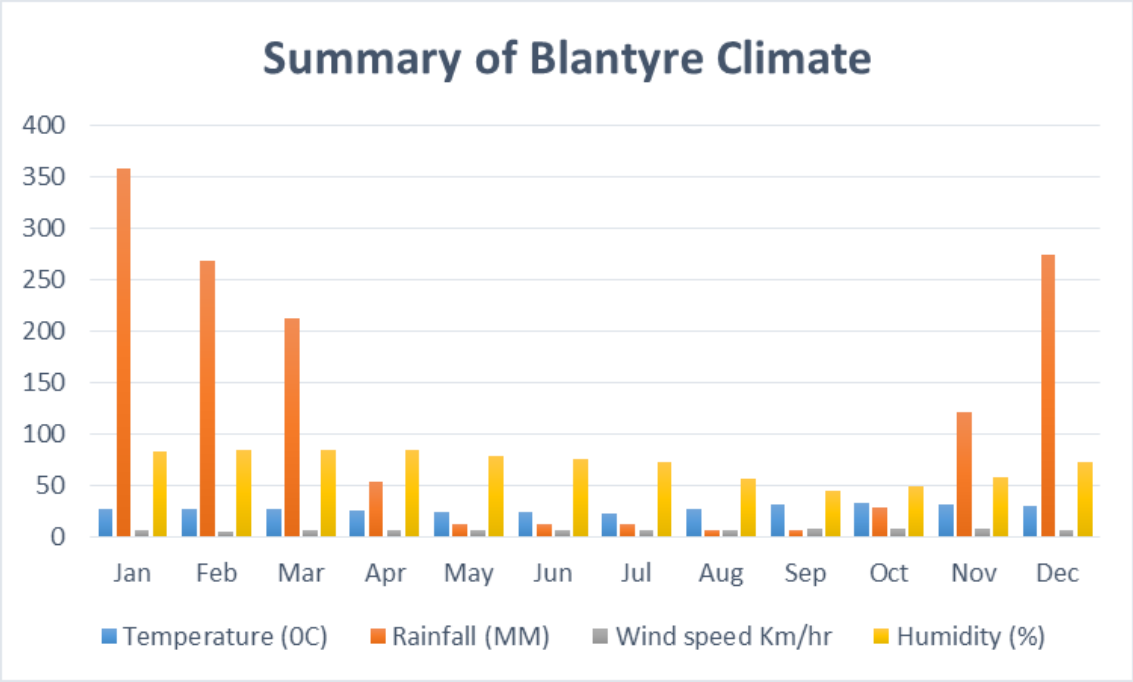


Figure 3: Blantyre Climate

Precipitation is the lowest in August, with an average of 10 mm (about 0.39 in) | 0.4 inch. On average, the highest amount of rainfall occurs during January with a mean value of 321 mm (about 1.05 ft) | 12.6 inch as shown in Figure 3, sourced from Climatic Data ORG

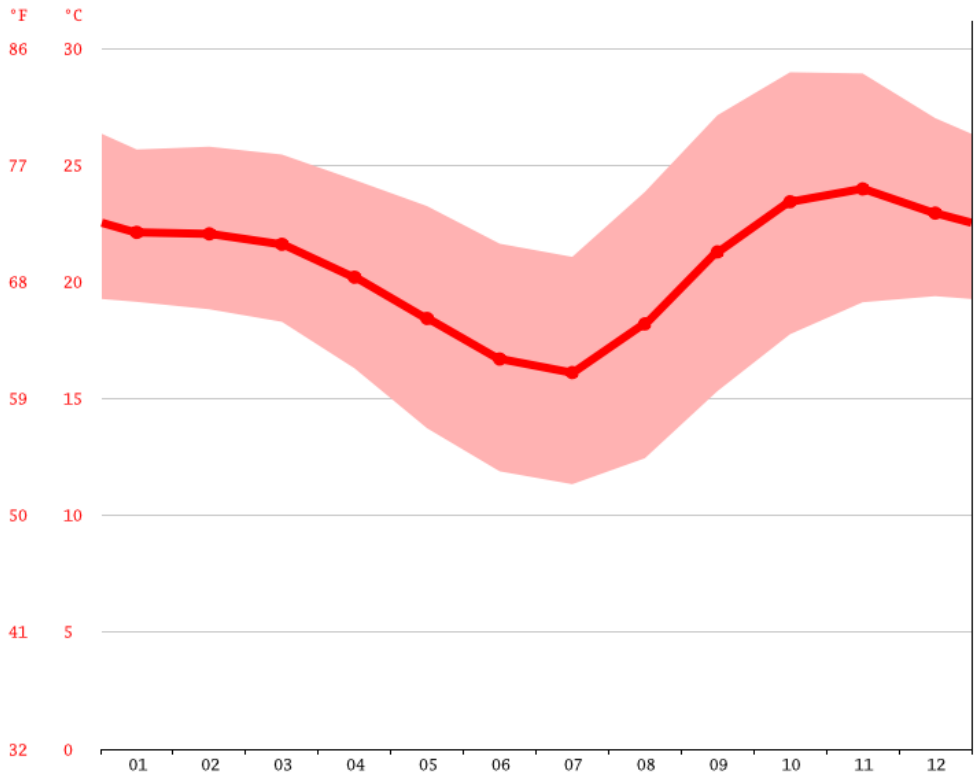


Figure 4: Hottest and coldest months in Blantyre

With an average temperature of 24.0 °C | 75.2 °F, November is the hottest month of the year. On average, the month of July is the coldest time of year with temperatures averaging at around 16.1 °C | 61.0 °F. (1999 to 2019) as indicated in Figure 4.

4.1.4. Air Quality

The air quality in Malawi including Blantyre City is within acceptable levels and it is ranked eighth of nine priority issues in Malawi[2]. Nevertheless, based on "precautionary principle[3]", the absence of scientific evidence (specific air quality for the area) does not take away the need to implement mitigation measures. Therefore, the project will train workers about dangers of air pollution and request them to keep away from the actual waste dumpsite area and downwind direction during their idle time. In case of need to work close to the actual dumpsite area, appropriate PPE such as masks will be provided to cushion foul smell (that may come from the decomposition process of the dumped waste) and minimize inhalation of air pollutants. It is expected that construction works will trigger air pollution following emissions from fueled vehicles and machinery to be used within the project construction site. Furthermore, air quality will also be affected by dust generated by

[2]H. Mapoma and X. Xie, "State of Air Quality in Malawi," Journal of Environmental Protection, Vol. 4 No. 11, 2013, pp. 1258-1264. Doi: 10.4236/jep.2013.411146.

[3] When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully scientifically established – Wingspread Conference 1998

the movement of vehicles and machine operation, but periodical sprinkling of water will help to reduce the levels of impact. The use of machinery will generate some noise but since the size of the project is small and the construction period is short, this is not expected to last long.

4.1.5. Disaster Management

Disaster management refers to the systematic approach of preparing for, mitigating, responding to, and recovering from natural disasters. In Blantyre city, due to illegal settlement in hilly mountains and riverbanks most houses are prone to natural disasters. Recently the city was affected by cyclone Freddy which claimed over 1000 lives and displaced many households especially those that illegally constructed houses in hilly areas and close to waterways. As one way of preparedness, the council formulated Ward Civil Protection Committees (WCPC) represented by various sectors within the ward and City Civil Protection Committees (CCPC) as an umbrella agency within the city. These committees were trained by the Department of Disaster Management Affairs (DODMA) in their roles and responsibilities and were equipped with relevant knowledge on disaster issues.

The project area has potential to experience disasters like mud slides and flooding but the risk of having floods at this specific road construction site is low considering the sloppy terrain of the site as discussed in Section 4.1.1. To mitigate the risk of flooding the design of the road shoulders is provided with drains that are wider enough to convey run off way from the site. In addition, the project will work with DODMA trained committees to get early warning signals of disasters that may occur while undertaking construction works of Mzedi access road.

4.1.6. Flora and fauna

Blantyre City has green areas that are not naturally interconnected. Built up infrastructures separate these green areas. Tree belts along roads and hedges along the boundaries in the built-up areas provide corridors between green areas. Some of the green areas pass through riverbanks. Typical types of fauna seen at the access road to Mzedi Dumpsite migrating birds that frequent the dumpsite in search of food, insects, and lizards. There is little or no fish in the stream, a situation which may be due to pollution through seepage from disposed waste. However, the stream is 0.8km from the access road and will not be affected by the road upgrading works. The entire stretch of the access road and its surroundings is bare (no vegetative cover) hence the upgrading of the road will not affect any flora. However, the contractor and BCC will vegetate the road verge with grasses and trees after completion of the road upgrading works.

4.2. Social-economic Environment

4.2.1. Population and settlement pattern

The City of Blantyre, which is part of Blantyre District, is not only one of the largest cities but also the commercial capital of Malawi. Blantyre was declared a planning area in 1897 by the Scottish missionaries and has experienced high population growth, with the population increasing from 109,461 in 1966 to 661,256 in 2008. The 2018 census showed that the Blantyre City had a population of 879,000 with 50.13% being males and 49.87% being females. The 2022 projections

indicate that Blantyre City will have a population of about 995, Table 4 highlights population and projection for Blantyre.

Table 4: Population and projection figures for Blantyre, 2012 – 2022

Year	Population	Growth Rate
2022	995,000	3.43%
2021	962,000	3.22%
2020	932,000	2.98%
2019	905,000	2.96%
2018	879,000	2.81%
2017	855,000	2.89%
2016	831,000	2.85%
2015	808,000	2.93%
2014	785,000	2.88%
2013	763,000	2.83%
2012	742,000	2.91%

Source: NSO 2018

The growth rate is estimated at 3.4 percent between 2018 and 2022. The population of Blantyre represents 5.1 percent of the national population. The average population density is 3,509.93 persons per square kilometer (National Statistical Office, 2018). There are 14 unplanned settlements (aggregated) within the city and five planned low-income housing areas. Over 70 percent of the urban population live in unplanned areas, which occupy up to 23 percent of the land in the city (NSO, 2018). Specifically, the population of the Mzedi Ward is 42, 233. However, the area where the access road is passing through has no human settlements apart from waste pickers who use the same road to access the Mzedi Dumpsite daily.

4.2.2. Health facilities and health care services

Blantyre City Council is mandated by the Local Government Act of 1998 to provide health services. Health care services in Blantyre are provided by Queen Elizabeth Central Hospital, the largest referral hospital in the city, run by the government, and the main health care service provider for the entire city. Some of the health facilities operating in Blantyre are Limbe, Zingwangwa, South Lunzu, Chilomoni, Makhetha, Bangwe, Ndirande Health Centers, Chirimba, Makata Health Centres, Kachere Health Centre, and Gateway clinics just to mention but a few. These health facilities are run by both the District Health Office (DHO) and Blantyre City Council. The city also has private health facilities and clinics run by individuals and Churches.

Blantyre registers several diseases including cholera, typhoid, tuberculosis (TB), measles, infectious hepatitis, malaria, and HIV and AIDS. Malaria is the leading cause of morbidity and mortality in the city, especially among children under five years old. Malaria accounts for 40 percent of all outpatient visits to health facilities. Pneumonia and diarrhea are the other leading

causes of death in children under five years old. The common conditions/ diseases prevalent in the area proposed for construction/ upgrading of access road to Mzedi Dumpsite include cholera, malaria, pneumonia, diarrhea, common injuries, chicken pox outbreaks and HIV and AIDS. Malaria is still the biggest health challenge reported in the city and most of the malaria cases were reported in the low-income areas and the informal settlements (MWSP ESMF, 2023).

Kachere Health Centre is the nearest health facility in the area where the access road to Mzedi Dumpsite is located. This is where cases or needs for health care services from the proposed project can be refereed. Services offered at Kachere Health Centre include Outpatient Department (OPD), Anti natal Clinic (ANC) Family Planning (FP), etc. In case of need of other services not offered by Kachere Health Centre, then that need/ case will be referred to Queen Elizabeth Centre Hospital.

4.2.3. Land Administration

Land in the city is managed by three major landlords, namely: The Commissioner for Lands, Malawi Housing Corporation, and Blantyre City Council. The Commissioner for Lands is responsible for public land subdivided and offered for development under leasehold titles usually held for 99 years or shorter terms. The Malawi Housing Corporation owns public freehold land for purpose of subdivisions in residential and commercial development in the city. The Blantyre City Council has assumed the administration of Traditional Housing Areas (THAs) in the city. The land on which the project is taking place belongs to BCC.

4.2.4. Main economic activities

Some of the key industrial/ economic sites include but are not limited to Makata, Ginnery Corner, Maselema, Limbe, Chirimba, South Lunzu, Maone and Chitawira. These industrial areas are located along the banks of the main rivers or streams, with notable ones being Mudi, Naperi, Limbe, Nasolo, Lunzu and Chirimba. It is estimated that Blantyre City offers 33% of the employment opportunities in general, 19% in Blantyre Central Business District (CBD) and 14% in Limbe CBD. The private sector provides about 45% of employment opportunities, with the public sector at 12% and 36% in self-employment with over 500,000 informal traders/vendors. In unplanned areas, 10% are in professional jobs, 4% in clerical, 13% drivers with 18% employed in the informal sector. Poverty stands at about 24% for the poor and about 5% for the ultra-poor. Poverty is accelerated by the absence of credit and steady increase in prices of basic requirements and unemployment. About 50% access microfinance credit prompting the city to provide investment land with incentives to encourage business investment and job creation. Blantyre City has a strong solid economic base for sustained economic growth and a diversified modern economy offers a wide range of employment opportunities. The most important economic sectors are retail trade, construction, food, textile manufacturing, motor vehicle sales and maintenance and the informal sector. However, the sector lacks adequate regulation and support. Economic growth is crippled by poor infrastructure, limited or lack of basic urban services, no access to credit and lack of competitive entrepreneurial skills.

There is no notable economic activity taking place along the access road to Mzedi Dumpsite apart from a commercial building that serves as Swoop Security Office. The livelihoods of waste pickers will remain unaffected as waste companies will employ alternative dumping routes, allowing them to continue sorting and collecting waste for profit. Nevertheless, safety measures will be implemented by the contractor to prevent them from accessing the construction site. Additionally, they will be encouraged to seek employment as laborers at the site.

4.3.5. Health Situation and HIV and AIDs prevalence

Some of the major hospitals, health centers and clinics operating in Blantyre are Queen Elizabeth Central Hospital, Limbe, Zingwangwa, Chilomoni, and Ndirande Health Centers and Gateway, Chirimba and Makata Clinics just to mention but a few. These health facilities are run by both the government and Blantyre City Council. The city also has private health facilities and clinics run by the private sector, and churches. Blantyre has the full range of diseases including cholera, typhoid, tuberculosis (TB), measles, infectious hepatitis, malaria, and HIV and AIDS. Malaria is the leading cause of morbidity and mortality in the city, especially among children under five years old. Pneumonia and diarrhea are the other leading causes of death in children under five years old. Despite the continuing presence of these diseases, overall, Malawi's health conditions are improving. The project impact areas are affected by malaria, pneumonia, diarrhea, common injuries, chicken pox outbreaks and HIV and AIDS. Most of the malaria cases were reported in the low-income areas and the informal settlements (MWSP ESMF, 2023).

Blantyre has a lot of people from different areas with diverse interests and health concerns. Most of these people go to the city with several types of diseases, others are referred from Blantyre rural health centers to Blantyre urban main hospitals such as Queen Elizabeth Central Hospital, Mwaiwathu Private Hospital and Blantyre Adventist Hospital.

Among the cities, Blantyre has the 2nd highest HIV prevalence rate (15.2%), the first being Zomba City (19.6%). The city has about 89,639 people living with HIV, of which 93% know their status Blantyre has about 2,055 new annual infections, of which 75% are occurring within the city boundaries. Key HIV drivers include poverty, overcrowding, migration, and concentration of key and vulnerable populations, among others. The city was highly hit by COVID-19 and cyclone Freddy, interrupting HIV service provision and displacing people. ART coverage is at 91% in Blantyre and still facing the greatest challenge of identifying the new HIV positives, retaining care recipients on ART, and increasing viral load monitoring coverage. The Blantyre City Strategic Plan produced under the Fast Track Cities Project by the UNAIDS and IPAC is a blueprint to tackle these challenges.

4.2.5. Education

Literacy is defined as the ability to read and write. Specifically, this analysis classifies all those who can read and write in Chichewa or English or any other language as being literate. Among males, almost 76 percent are literate while half of females are literate. Education services are provided by the government. Blantyre Urban Education is part of Blantyre City Council and provides quality and relevant education to its learners to enable them to acquire relevant

knowledge, skills, expertise, and competencies to perform effectively as citizens of Malawi. Blantyre City has 62 full public government primary schools, and 219 private primary schools. There are 1,133 classrooms in the 62 public primary schools. The district has a total of 2,397 teachers of which 2,107 are female and 290 are male and there are 76,149 boys and 77,202 girls making an enrolment of 153,351 of which translate into a pupil: teacher ratio of 64:1. There are 29 public secondary schools. Out of these, 21 are Community Day Secondary Schools (CDSSs). Out of the five conventional secondary schools, one is a girls' national boarding secondary school, there are double shift day secondary schools, and the remaining is a day secondary school. The combined enrolment for public secondary schools is 27,553 of which 13,555 are boys and 13,998 are girls. There no school premises in the area where the project is going to be undertaken.

4.2.6. Energy

Energy sources in Blantyre include electricity, fuel, wood, and paraffin. The Electricity Supply Corporation of Malawi (ESCOM) supplies electricity in most parts of the city. In Blantyre, only 26 percent of residents are connected to electricity. The electricity supply infrastructure is old and worn out resulting in frequent power outages and high maintenance costs. Further, the cost of electricity supply is high and inaccessible to the poor. The high reliance on charcoal and firewood for cooking and lighting, by the urban poor, is the major cause of deforestation. Most of the population cannot access electricity; hence they use fuel wood for heating and cooking; there is also a high demand for firewood for brick curing. Almost 80% of the population in the city use fuel wood in the form of charcoal and firewood. Solar power is not a popular alternative, only small populous use it and most commonly in medium to affluent residential areas (MWSP ESMF, 2023).

In the area where the project will be undertaken, there is an ESCOM electric grid located at the entrance of the access road that may provide power to support the road upgrading works in the form of lighting, welding and other uses required by the contractor.

4.2.7. Transport

The most common means of public transport in Blantyre are minibuses, motorcycles, and taxis. Buses operate on long and inter-city routes. To mainstream the transport sector in Blantyre, there are minibus terminals in Mibawa and Limbe managed by BCC in collaboration with Minibus Owners Association of Malawi (MOAM). Blantyre city experiences considerable traffic congestion following the increased number of motor vehicles. Motorcycles are preferred for short distances and fast, especially to escape from motor vehicle congestion. Improvements required in the transport network include provision of pedestrian and cyclists' pathways, construction of adequate bypass roads, construction of three highway roads, improvement on train transport service and provision of bus lay-bys.

At the proposed project site there is no through road beyond the Dumpsite. The only vehicles that pass through this road are waste collection vehicles that come to dump the waste. To access the road, traffic will have to use Blantyre – Zomba Road and branch to the left just before Chiradzulu turn off. As result of the project there is risk of increase in traffic due to presence of project construction vehicles. To mitigate the risk, the contractor will escort some project trucks

(especially those carrying/ transporting machines and equipment to the site. The contractor will also deliberately avoid using the road during traffic pick hours. The contractor will also provide traffic signage at the junction from Zomba – Blantyre Road into the Mzedi access road and throughout the access road to the dumpsite.

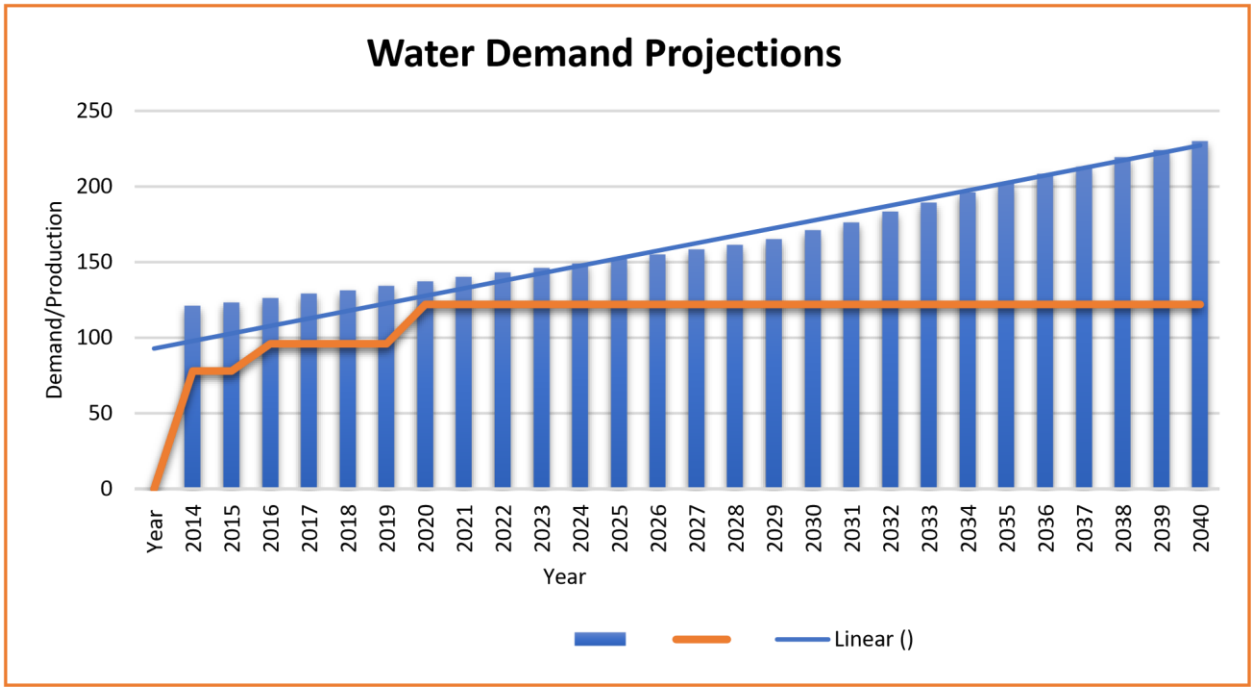
The alternative route will be constructed along the same Mzedi access road from the junction to the Dumpsite. This will not displace or trigger land from other people because the land covering the entire access road and the road reserve belongs to BCC.

4.2.8. Water Supply

BWB is mandated to supply potable water to Blantyre City and surrounding areas with an estimated population of 1,400,000 (projected based on 2018 population census). This population is expected to continue growing at a high rate due to rural-urban influx, expansion of the city to the peripherals, high birth rate and reduced mortality rate due to improved health services, among others. The current production capacity has increased to 122 million litres with Mudi Treatment Works and Likhubula contributing an average of 6 million litres and 20 million litres per day, respectively. Figure 6 shows a graph of water demand projections.

The increased production has resulted in more water within the supply area and the storage reservoirs.

The project will be undertaken with BWB water supply extending to the Swoop Security Office. The contractor can either buy water directly from BWB for construction works. Alternatively, there is a stream at about 0.8km from the access road. In case the contractor opts to use water from the stream, a formal permit will have to be obtained from relevant authorities.



Key Actual production Ideal production

Figure 5: Water demand project

4.2.9. Waste management and Sanitation

BCC oversees waste management in the city. The Cleansing Services within the BCC's Department of Health and Social Services is responsible for waste collection and disposal. Waste management is focused on planned areas. The informal urban areas, which include over 70 percent of the urban population, have little access to waste management services provided by the BCC, mostly serving the markets. Solid Waste Management in Blantyre City involves primary collection, secondary collection, and final disposal. Apart from the conventional system in managing solid waste stated above, there are some efforts to manage solid waste through resource recovery initiatives such as recycling, composting, and turning waste to energy. Primary collection includes street and market cleansing, solid waste capture and containment. While secondary collection involves emptying and transportation of the solid waste from the containment sites to Mzedi, the final disposal site. At the final disposal site, solid waste is mostly disposed of unsegregated and thereafter it is periodically spread and compacted using machinery, particularly the bulldozer. On daily activities the council bases its planning on the fact that 70% of the residents in the city live in high-density areas and that the waste generation rate is pegged at 475 tons/day. Primary solid waste collection is a labor-intensive activity. The Council has an average of 800 employees responsible for solid waste management distributed in four (4) cleansing depots (zones), namely Blantyre, Limbe, Ginnery Corner and Soche. Tools provided for the primary collection of solid waste include local brooms, rakes, shovels, digging forks and wheelbarrows. Apart from the work tools, the employees are also provided with protective wear for their safety while carrying out their duties. Figure 7 shows the city's routine waste management activities.

Figure 6: Refuse Collectors clearing refuse.

Prior to its subsequent disposal, solid waste is contained in litter bins (street or household), skip bins in markets and open spaces in low-income areas and bunkers in markets and some private institutions. Secondary collection includes emptying of the refuse storage facilities and transportation to the final disposal site. Solid waste collection in the City of Blantyre is done using a fleet of 14 refuse collection vehicles. These vehicles are coordinated by a daily collection schedule guiding which routes to be collected on a particular day. Solid waste collection is done once a week for each residential area and every day in the Central Business District (CBD) (Blantyre and Limbe) and in some markets. Some private companies also provide refuse collection and transportation services for their institutional customers.

Collected solid waste is finally disposed of at Mzedi Dumpsite which is located some 5.5 km north of Limbe town, along the Blantyre-Zomba Road soon after Kachere Township. Mzedi dumpsite has a total area of about 23 hectares (including the buffer zone). It was established around 1992 and was designed as an open dumpsite where there are no mechanisms for the treatment of leachate and gaseous waste produced from the solid waste decomposition processes. The spreading and compaction of refuse at the dumpsite is done periodically by hired machinery to manage the available dumping space.

The current situation along the access road to the dumpsite is filthy because waste is dumped along due to the poor condition of the road especially during the rainy season. The upgrading of the road to concrete standard is expected to improve hygienic condition of the road as all waste will be disposed of at the actual dumpsite

4.2.10. Security

Blantyre City, like many urban areas around the world, faces various security challenges. While Malawi is considered one of the peaceful countries in the region, urban areas, including Blantyre, had concerns related to petty crimes such as theft, vandalism, pickpocketing, and occasionally more serious crimes. Law enforcement agencies in Blantyre include police, private security agencies, community policing and occasional military which at times is involved in ensuring public safety. However, because resources are sometimes limited, there are still challenges in maintaining law and order, especially in densely populated urban areas.

In the area where the proposed project will be undertaken there is a private security company called Swoop Security Company that provides security services to its customers in Blantyre City. Since the area is very isolated, there is a security concern in the proposed project area. The contractor may engage with Swoop Security or any security service providers or police to secure project properties during construction phase.

CHAPTER 5: IMPACT IDENTIFICATION AND THEIR MANAGEMENT MEASURES

This chapter outlines the project's anticipated positive and negative effects, encompassing both direct and indirect impacts on each environmental and social aspects within the project site. It examines the methods employed for impact prediction and the criteria applied to assess the severity and significance of these impacts. The chapter summarizes the most significant impacts and presents proposed measures to prevent, diminish, and/or control them.

5.1. Impact identification

The assessment considered the potential environmental effects of physical work and activities, including environmental changes that may result from the proposed project. Specifically, the assessment started by identifying the issues through scoping and selecting Valued Environmental Components (VECs) on which to focus the assessment. VECs are components of the environment that society values, and upon which the assessment is focused. Thereafter, the assessment identified environmental effects of project activities, by project phase, including those resulting from the interaction of the project with the environmental effects identified for past, present, and future projects that will be carried out, and the changes to the project caused by the environment.

The VECs for this project were identified through a process whereby the features and activities (both planned and unplanned) associated with planning and designing, construction and operation phases of the project have been considered with respect to their potential impact with resources or receptors. This method identifies VECs and activities that could act as a source of impact and the vertical axis of a Potential Interaction Matrix (refer to Table 5) lists them.

Table 5: Potential impact interaction matrix

Receptor Component		Anticipated Environmental and Social Impacts																								
		Occupational Safety and Health	HIV & AIDS/ communicable disease	Generation of waste including Hazardous Waste	Risk of Child Labour	Impact on Economy & Livelihood	Human Trafficking	Risk of GBV, SEA and SH	Vandalism and Theft	Soil/ Environmental Contamination	Air Quality & Fugitive Emissions	Noise and Vibration	Water Contamination	Land Degradation	Increased Waste Generation	Muddy and slippery surfaces	Noise	Traffic & Road Safety Risks	Increase in theft and vandalism	Community Health and Safety	Soil erosion	Siltation and sedimentation	Impact on Flora and Fauna	Disruption of social fabric	PAP awareness of project	Water & energy consumption	Community Grievance Redress
SN	**Project activity/Hazard**																									
1	**Planning Phase**																									
1.1	Design of Proposed access road																									
2	**Construction Phase**																									
2.1	Land Clearance																									
2.2	Excavation and Civil Construction																									
	Source of construction materials																									

Receptor Component		Anticipated Environmental and Social Impacts																										
		Occupational Safety and Health	HIV & AIDS/ communicable disease	Generation of waste including Hazardous Waste	Risk of Child Labour	Impact on Economy & Livelihood	Human Trafficking	Risk of GBV, SEA and SH	Vandalism and Theft	Soil/ Environmental Contamination	Air Quality & Fugitive Emissions	Noise and Vibration	Water Contamination	Land Degradation	Increased Waste Generation	Muddy and slippery surfaces	Noise	Traffic & Road Safety Risks	Increase in theft and vandalism	Community Health and Safety	Soil erosion	Siltation and sedimentation	Impact on Flora and Fauna	Disruption of social fabric	PAP awareness of project	Water & energy consumption	Community Grievance Redress
SN	**Project activity/Hazard**																											
2.3	Equipment/Material/ Worker Transport	■				■					■	■				■		■		■					■	■	■
2.4	Waste Generation including hazardous waste such as used oil, Storage and Disposal														■					■					■	■	■
2.5	Construction Workers Presence						■	■										■	■	■			■	■	■	■	■

Receptor Component		Anticipated Environmental and Social Impacts																										
		Occupational Safety and Health	HIV & AIDS/ communicable disease	Generation of waste including Hazardous Waste	Risk of Child Labour	Impact on Economy & Livelihood	Human Trafficking	Risk of GBV, SEA and SH	Vandalism and Theft	Soil/ Environmental Contamination	Air Quality & Fugitive Emissions	Noise and Vibration	Water Contamination	Land Degradation	Increased Waste Generation	Muddy and slippery surfaces	Noise	Traffic & Road Safety Risks	Increase in theft and vandalism	Community Health and Safety	Soil erosion	Siltation and sedimentation	Impact on Flora and Fauna	Disruption of social fabric	PAP awareness of project	Water & energy consumption	Community Grievance Redress
SN	**Project activity/Hazard**																											
3	**Operational Phase**																											
3.1	Operation of road	■				■	■								■	■			■	■								
3.2	Repair & maintenance														■													
KEY		■									Scoped In				■						Positive Impacts							
											Scoped Out				■						Scoped Out with Justification							

5.2.Environmental and social impacts arising from project activities

5.2.1.Positive impacts

Planning and design phase

a) Skill transfer from senior engineers to junior engineers

During the planning phase facilitates skill transfer as senior engineer work close with junior engineer. Junior engineers are provided various engineering/ designing assignment that are reviewed by senior engineer and feedback is provided. This facilitates skill transfer and learning.,

Enhancement measures:

i. Encourage junior engineers to work closely with senior engineers and learn from them in their day-to-day undertakings.

Construction phase

a) Creation of temporary employment opportunities

The construction phase will provide employment (both skilled and unskilled) to people in the proposed area including men, women, youth and the vulnerable from the surrounding communities.

Enhancement measures:

i. Prioritize the employment of people (including the youth) from the project area.
ii. Give equal employment to both men and women (60% and 40%) respectively.
iii. Ensure salaries and wages to be paid to the local employees are above the minimum stipulated Government wages.

b) Creation of temporary market for goods/ services hence improved livelihood

The project will be buying construction materials from the local market and will provide business for the local businesses. The people in the project area of impact will be selling food to construction workers, which will improve their incomes and hence improve livelihood.

Enhancement measures:

i. Promote the procurement of construction materials and supplies from approved small-scale businesspeople and entrepreneurs within the project area, while not compromising the quality.
ii. Where possible ensure that locally produced materials are given priority over imported materials; and

iii. Purchase construction materials and supplies at competitive prices to ensure local businesses and entrepreneurs are making profits.

c) Skill transfer to local communities

Employment of local people from within the project area will facilitate capacity enhancement and the acquisition of specific skill sets through on the job and formal training. These skill sets may then be readily replicated after employment termination in other construction related projects.

Enhancement measures:

i. Maximize employment of local people particularly for the unskilled labor force.
ii. Make deliberate effort to pair skilled and unskilled workers during various construction assignments; and
iii. Formalize on-the-job training for local unskilled labor in the surrounding areas and includes learning targets and performance monitoring.

Operation phase

a. Ease access to the dumpsite.

Upgrading the road will ease access to the dump site for waste collectors, thereby more waste will be collected from the city. During the wet seasons, the road to the dumpsite gets very muddy making it difficult for the waste collection vehicles to reach the designated dumping area hence they end up dumping the waste at the entrance to the dumpsite.

Enhancement measures:

i. Proper maintenance of the access road can ensure uninterrupted access to the dumping site, minimizing any disruptions in waste disposal activities.
ii. Regular inspections and repair work to address any damages or deterioration of the road, ensuring its smooth and safe operation throughout the project's lifespan.

b. Improved sanitation, hygiene, and health

The project will help to improve sanitation and hygiene along the access road because vehicles that dumped waste along the road due to poor road access especially during rainy season will proceed to dumping the waste to the actual dump site without any hurdles.

Enhancement measures:

i. Public awareness campaigns and educational programs to promote proper waste management practices and hygiene behaviors.
ii. Sensitize waste collectors on properly dumping the waste at designated site.
iii. Periodic monitoring of the entire access road and the dumpsite
iv. Set up bylaws and punitive measures for improper dumping of waste.

c. Reduced incidences of water borne diseases such as Cholera

Improved access to the dump site will minimize the potential for contamination of surrounding water sources in the city, thus reducing the risk of waterborne diseases for the local population.

Enhancement measures:

i. .
ii. Establish effective waste management systems at the dump site to prevent the spread of waterborne diseases. This includes implementing proper waste segregation, recycling, and disposal practices to minimize the release of contaminated waste materials into the surrounding environment.
iii. .
iv. Implementing regular maintenance and sanitation practices at the dump site and its surroundings, such as cleaning and disinfecting facilities, will help minimize the potential for waterborne disease transmission.

d. Reduce travel time.

The upgrading of the road to a concrete standard will reduce travel time hence resulting in quick service provision. The time saved from quick service provision can be used for other economic productive activities.

Enhancement measures:

i. Ensure clear and visible signage to guide drivers and prevent confusion. Well-marked lanes and proper road markings contribute to smoother traffic flow.
ii. Keep the road in good condition through regular maintenance. Smooth and well-maintained roads allow for faster travel and reduce wear and tear on vehicles.
iii. Designate separate entry and exit points for vehicles accessing the dumpsite. This can prevent congestion and improve the overall flow of traffic.

5.2.2.Negative impacts

Design and planning phase.

a) Increased risk of accidents and exposure to hazardous material

During the design and planning phase, it is particularly important to keep in mind that accidents may occur during the implementation stage and that there might be a need to compensate the injured persons or damaged properties. Injuries can also occur to design experts/ supervising engineer when visiting the site during feasibility studies.

Mitigation measures:

i. Develop Occupational Safety and Health (OSH) plan, which will aim to avoid, minimize, and mitigate the risk of workplace accidents.

ii. Ensure that the contractor has insurance for its workers.

iii. Provide OSH orientation training and hazard specific training.

iv. Make available first aid kits during field and site inspections.

v. Put appropriate measures to prevent field investigations during periods of harsh weather conditions.

Construction phase

a) Increased risk of Soil erosion, siltation, and sedimentation of water courses

Soil erosion will be induced by soil disturbing activities such as excavations, land clearing and grubbing, vehicle movement, open piling of materials coupled with weather conditions (windy, rainy).

Mitigation measures:

i. Stockpile excavated soil away from water courses.

ii. Install sediment traps on natural drainage paths at construction site.

iii. Break the sloppy terrain into benches or steps to control speedy run off and erosion.

iv. Restrict land clearing only to the proposed site for construction activities; and

v. Compact and spray water on loose soil in all disturbed areas during construction phase

vi. Do not excavate during rainy season.

vii. Plant vegetative cover (grasses and trees) along the road verge after completion of construction works.

b) Increased generation of solid waste including hazardous waste

The activities of the construction phase of the project are expected to generate many types and varying quantities of wastes that include empty cement bags, dry concrete, and general waste from the sale of various merchandise to construction workers.

Mitigation measures:

i. Provide adequate on-site well labelled waste receptacles such as bins to encourage waste segregation i.e., biodegradable, and non-biodegradable.

ii. Use the 3Rs (Reduce, Reuse and Recycle) principle, which should also be advocated to construction workers e.g., waste such as empty cement bags can be recycled/ reused for making mats.
iii. Dispose waste at the dumpsite designated by BCC.
iv. Avoid having concrete waste by using all the concrete prepared in each day and reuse dry concrete waste as a fill and compaction materials for the road.

c) Increased generation of sanitary waste

The presence of construction workers at the project site will increase generation of sanitary waste through open defecation that may pose the risk of disease (e.g., cholera). Poor disposal of other sanitary waste from menstrual hygiene management) would make the work site to be untidy.

Mitigation measures:

i. Provide mobile toilets male and female workers separately.
ii. Train the workers on proper use of the toilets
iii. Periodic emptying and cleaning of mobile toilets.
iv. Provide appropriate bins for other sanitary wastes and
v. Conduct routine monitoring of the mobile toilets to ensure they are always clean.

d) Increased noise and vibration

A significant increase in noise and vibration due to use of machinery and equipment.

Mitigation measures:

i. Use of modern machines fitted with noise silencers or use of less noisy machines.
ii. Use well serviced machinery and equipment.
iii. Provision of PPE such as earmuffs to workers
iv. In case of high noise activity, surrounding communities (e.g., the Swoop Security Office) should be notified in advance.
v. Train workers about risk of vibration
vi. Limit the time spent by workers on vibrating source/ surface.
vii. Ensure equipment is well maintained to avoid excessive vibration.

e) Increased air pollution/ dust emissions

Construction works produce dust because of material and vehicle movements, excavation works, land clearing and other activities.

Mitigation measures

i. Control vehicle speed to reduce generation of dust.
ii. Install speed limit signs and humps in strategic areas, and
iii. Sprinkle water on earth roads to suppress dust.

f) Hazardous waste e.g., oil leak/ leak that can pollute/ contaminate the environment/ soil.

During construction phase oil/ fuel can leak from vehicles, machines and equipment and pollute/ contaminate the environment. Poor disposal of used oil and fueling of machines and vehicles can result in soil/environmental contamination.

Mitigation measures

i. Regular servicing of machine and vehicle
ii. Inspection of vehicles and machines to detect leakage early.
iii. Fuel small vehicles at filling station.
iv. Recycle used oil for other use such metal smelting.
v. Provide spill kits and drip trays help in cleaning the spill and support onsite fueling of machines.

g) Increased incidences of child labor

The impact of child labor exploitation in the project area is expected to be medium-term during this phase. Child laborers are generally engaged as seasonal workers and in business related activities outside construction sites with children engaged to sell food stuff to construction workers. This calls for the proposed project to take serious measures to control and monitor that this does not happen in the proposed project area.

Mitigation measures:

i. Sensitize local leaders, children, and the community at large on prohibition of any forms of child labor at the project site.
ii. Monitor business activities including sale of foodstuff to workers outside construction site
iii. Display posters at the project site and neighboring communities that warn and inform community members against child labor.
iv. Put in place proper procedures for preventing child labor.
v. The contractors should verify age of workers through National identification card.
vi. Collaborate and network with District labor office in implementation of Labor Management plan and in response to child labor incidents.

h) Increase in other labour related risks such as labour disputes and employment conditions (i.e., paying workers below minimum wage) and influx of people to the site looking for employment.

Mitigation measures

i. Sensitize workers about their labour rights.

ii. Have in place a worker's grievance redress committee at the work site.
iii. Presence of grievance boxes at the site
iv. Paying worker's above minimum wage.
v. Employ people from within the area and 40% female.
vi. Employ some of the waste pickers who frequent the site to pick up usable waste.
vii. Provide suitable working conditions i.e., safe drinking water and sanitary facilities.
viii. Ensure all workers have duly signed contracts and code of conduct.

i) Conflict between contractor and community members e.g., waste picker

Conflict between contractor and surrounding community members e.g., waste pickers which can have negative effects on the construction phase of the Mzedi dump site access road.

Mitigation measures

i. Conducting awareness campaigns about the project's importance, benefits, and potential disruptions and mitigation measures that have been put in place to minimize the disruptions.

ii. Enable all affected persons to access the developed Grievance Mechanism (GM)

iii. Provide employment to some of the waste pickers to work as unskilled personnel.

iv. Ensure the dumpsite is still being accessed by waste pickers and waste collection vehicles while the access road is being constructed.

j) Risk of poor-quality work

As noted from stakeholder engagement and consultative meeting that some contractors do not do a good quality work and the same may happen in the construction of access road to Mzedi Dumpsite

Mitigation measures:

i. Ensure that the contractor adhere to the design and BoQ for the road throughout the construction phase.
ii. Verify materials used in the construction of the road e.g. strength of cement used.
iii. Conduct frequent supervision and monitoring of the road construction works.

k) Increased risk to community health and safety

The construction works will involve the movement of vehicles carrying various construction materials, this will increase traffic in the project area that may lead to a high probability of accidents occurring.

Mitigation measures:

iv. Introduce speed limit to construction vehicles.
v. Develop and enforce use of Traffic Management Plan, refer to the generic Traffic Management Plan (TMP) in Annex 7 which will guide preparation of specific TMP by contractor; and
vi. Introduce speed humps to control vehicular speed
vii. Introduce flag men or women to monitor traffic and safety of the community.
viii. Advise surrounding communities to be selling food outside the construction sites to avoid incidents
ix. Sensitize waste disposal companies/private waste collectors on the safety measures for both the diversion route and for new road eg speed limit
x. Sensitize waste pickers about traffic safety along the access road.

l) Increased Occupational Safety and Health Risks

Workers involved in this construction works will be exposed to various occupational risks as the project activities will bring about hazards such as machinery and equipment including the work site itself.

Mitigation measures

i. Develop and enforce the use/ implementation of Occupation Health and Safety Plan (refer to generic Occupational Health and Safety Plan in Annex 8 and OHS measures outlined in Section 3 of Labour Management Plan contained in Annex 5 which will be shared with the contractor to use when developing specific OHS plan that will suit the nature, scope, and delivery method of the access road to Mzedi Dumpsite. The contractor will also be shared the environmental rules contained in Annex 3 of the project`s ESMF[4])
ii. Training of workers in all relevant risks including lifting and materials handling techniques in construction and decommissioning projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary.
iii. Implementing good house-keeping practices, such as the sorting and placing loose construction materials away from foot paths
iv. Training and use of temporary fall prevention devices such as rails or other barriers able to support a weight of 200 pounds (91kgs) or fall arrest systems such full body harnesses and energy absorbing lanyards able to support 5000 pounds (2268kg), when working at heights equal or greater than two meters or at any height if the risk includes falling into operating machinery, into water or other liquid, into hazardous substances, or through an opening in a work surface
v. Provide workers with PPE and enforce its use.

[4]https://www.bwb.mw/Downloads/Environmental_and_Social_Management%20Framework_ESMF_Malawi_Water_and_Sanitation_Project_1_P178954.pdf

vi. Train workers to observe and practice good sanitation and hygiene behaviors such washing hand with soup and clean water before touching/ eating food or after using toilet, drink safe water, etc.
vii. Sensitize BCC staff (dumpsite workers) and refuse collectors about traffic safety along the access road.
viii. Put warning signs (written in English and local languages) at strategic sites; and
ix. Ensure availability of a fully stocked First-Aid Kit.
x. Provide workers with PPE such as masks to cushion foul smell that may come from decomposition process of dumped waste.
xi. Train workers about dangers associated with air pollution.
xii. Request workers and other stakeholders at the site to keep away from downwind direction with regards to the dumpsite

m) Increased risk of cases of SEA, Sexual Harassment, and Gender Based Violence

Construction workers will have extra disposable income that may lead to Gender Based Violence/SEA/SH.

Mitigation measures:

i. Develop and implement code of conduct for workers that integrates GBV/SEA/SH and should be part of contract and signed by all members and should include consequences for committing GBV/ SEA and SH
ii. Develop and implement GBV and SEA plan.
iii. Encourage employees to report any GBV, SEA and Sexual Harassment in the project area.
iv. Employ over 80% of unskilled labour force from surrounding communities.
v. Training of workers through on-board training and toolbox talk on GBV/SEA/SH and reporting.
vi. Train GRCs in issues of GBV/SEA, SH, and reporting
vii. Implement Grievance Mechanism (GM) contained in Annex 9 and ensure that the GM is GBV/SEA/SH is responsive to both workers and the communities.
viii. Ensure GRM is always functional.
ix. Community sensitization on GBV/SEA/SH targeting construction workers, waste pickers and BCC workers on the site.
x. Collaborate and network with District Social Welfare, District Gender Office, and NGOs during implementation of GBV Action plan.
xi. Display of IEC material at the site related to GBV/SEA/SH

n) Increased risk of human trafficking and crime/ theft

Increased risks of human trafficking and crime can threaten the safety and well-being of both construction workers and nearby communities. In one stakeholder meeting it was mentioned that

some contractors can be involved in trafficking people from other regions of Malawi to Blantyre in search of cheap labour. This can result in disruption of the social fabric in the community with the said labour wanting to make ends met, they can be involved in theft at the site as well as in the community. This can lead to potential violence, theft, and intimidation, creating an unsafe environment for all involved.

Mitigation measures:

i. Implementing appropriate security measures, such as hiring security personnel and establishing regular patrols, can help deter criminal activities and ensure the safety of workers and local communities.
ii. Collaborating with local law enforcement agencies can help in monitoring and addressing any criminal activities in the construction site area. This cooperation can ensure a prompt response to any security issues and foster a safe working environment.
iii. Building strong relationships with local communities and actively involving them in the construction project can help mitigate the risks of human trafficking and theft/ crime.
iv. Conduct awareness campaigns against human trafficking and theft in the project area.

o) Disruption of flow of traffic and public mobility and service utilities

The access road to Mzedi dumpsite branches from Zomba-Blantyre Dual Carriage Road and passes close to a nearby small area with industrial activities. The construction of the Mzedi Dumpsite Access Road will result in disruption of traffic flow on the Zomba-Blantyre Dual Carriage Road, near the industrial area due to increased presence of construction vehicles/machines which may inconvenience other road users and even cause traffic accident. This may also affect waste pickers who use the same road Mzedi road to access the Mzedi Dumpsite to pick up some usable waste.

Mitigation measures:

i. Implementing proper traffic management plan (refer to Annex 7) to minimize congestion and ensure safe transportation during construction through engagement with private waste collectors, waste pickers and other road users regarding traffic safety
ii. Provide road diversion routes and temporary traffic signals.
iii. Establishing clear signage and alternative routes to minimize access restrictions and ensure that emergency services can reach affected construction areas efficiently.
iv. Ensure diversion route which will be constructed along the same Mzedi access road has enough space to accommodate both waste collection vehicles and waste pickers to continue accessing the dumpsite.
v. Escort trucks carrying machinery and equipment to and from the construction site and where necessary notify the traffic police to provide support.

vi. Deliberately avoid use of the Zomba Blantyre Road during traffic pick hours
vii. Sensitize waste pickers, waste collection vehicle operators/ drivers and BCC staff (dumpsite workers) about traffic safety along the access road.
viii. Provide employment (as casual labourers) to some of the waste pickers.

p) Competition over use of existing resource (water and energy)

During construction of the access road there shall be need for water and energy to support construction works. For instance, for suppression of dust emission, for concrete mixing, etc. and energy for lighting (the campsite), running generate when needed, etc.

Mitigation measures

i. Secure water abstraction permits before abstracting water from a river/ stream.
ii. Buy water from BWB for construction works.
iii. Contractor may use generator as source for running machines like concrete vibrator.

q) Use of materials that are illegally produced or of poor quality.

During construction of the access road there is a risk of using materials that are illegally produced i.e. quarry stone produced without following proper environmental mitigation measures or use of materials that are of poor quality.

Mitigation measures

iv. Ensure that quarry stone and sand are obtained from licensed suppliers.
v. Inspect materials prior to purchase and use on the construction site.

r) Increased risk of communicable and infectious diseases

Interactions between workers and the communities and even amongst themselves can increase the likelihood of spreading HIV and AIDS and other communicable diseases such as Cholera, typhoid, dysentery, etc.

Mitigation measures:

i. Conduct HIV and AIDS sensitization and awareness meetings and campaigns with workers and surrounding communities.
ii. Use HIV and AIDS Information, Education and Communication materials on site.
iii. Distribution of condoms to workers.
iv. Observe and practice good sanitation and hygienic behavior such as washing hands with soap and lean water after using toilet/ before touching/ eating food, drink safe water, use latrine/ toilet to dispose of human excreta and avoid open defecation, etc.

Demobilization phase

a) Loss of employment

At the end of construction works, temporary employment of workers will have to be terminated and this will result in a loss of jobs.

Mitigation measures

i. Give adequate notice to workers prior to termination of their contracts; and
ii. Provide terminal benefits to workers.

b) Increased generation of waste

At the end of the construction works some of the temporary structures (contractors camp, if situated at the site) will be demolished as such there will be an increase in solid wastes such as rubble.

Mitigation measures

i. Disposal of waste at designated site; and
ii. Use rubble to rehabilitate access roads and degraded areas in the project area.
iii. Handover the structure to be used for other purposes.

Operation and maintenance phase

a) Risk of Theft and Vandalism

Laid off workers and other surrounding community members vandalize or steal road signs and other road furniture.

Mitigation measures

i. Sensitizing the surrounding communities against vandalism, emphasize on the importance of road signs.

ii. Hiring of workers locally and providing a good wage.

b) Road safety risk after the road is improved.

After the road is improved to concrete standards there shall be road safety risks associated with moving vehicles to and from the dumpsite bearing in mind the road is also used by waste pickers and BCC staff (dumpsite workers) to access the dumpsite.

Mitigation measures

iii. Sensitizing the waste pickers and BCC staff (dumpsite workers) about traffic on the improved road

iv. Install traffic signs such as speed limit signs.

v. Install speed humps to control vehicular speed.

CHAPTER 6: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN AND MONITORING PLAN

6.1.Environmental and Social Management and Monitoring Plan

The ESMP serves as a guide for addressing and managing environmental and social impacts throughout the project's lifecycle. It lays out practical measures to mitigate identified impacts and specifies the monitoring activities necessary. Covering environmental impacts, mitigation strategies, monitoring plans, and institutional measures, the ESMP aims to prevent, minimize, or eliminate adverse effects during project implementation and operation. The collaboration of various stakeholders is crucial for the success of the ESMP, as they play a key role in implementing the outlined measures. As a dynamic document, the ESMP can be updated as needed during project implementation to ensure the proposed measures remain both feasible and effective.

Table 6 offers a clear and organized presentation of the proposed environmental management plan. It establishes a transparent connection between predicted negative impacts and the corresponding mitigation measures. Simultaneously, it illustrates the correlation between recommended mitigation actions, the allocated budget for these activities, and the stakeholders responsible for their implementation. Furthermore, the plan outlines the recommended timeline for executing these mitigation measures throughout the project cycle.

Table 6: Environmental and Social Management Plan for access road to Mzedi Dumpsite

No.	Impact	Enhancement/ Mitigation Measure	Output indicators	target	Period	Responsibility for implementation of Enhancement/ Mitigation Measures	Estimated Cost (MWK)
Positive Impacts							
Design and planning phase							
1	Transfer of skills from senior engineers to junior engineer	Encourage junior engineer to work close with senior engineers so they can learn from them	Percentage of junior engineers working close with senior engineers	All (100%)	Planning & design phase	PIU BCC	Covered in project cost
Construction Phase							
1	Creation of temporary employment	Prioritize the employment of people (including the youth) from the project area	Percentage of youth and women (40%) in workforce		During Construction Phase	Contractor	Part of project cost
		Give equal employment to both men and women;					

		Ensure salaries and wages to be paid to the local employees are above the minimum stipulated Government wages.	Percentage of workers paid above the minimum wage	100			
2	Creation of temporary market for goods/ services hence improved livelihood	Promote the procurement of construction materials and supplies from approved small-scale businesspeople and entrepreneurs within the projects area, while not compromising the quality	Percentage of construction materials purchased from local suppliers	80	During Construction Phase	Contractor	Part of project cost
		Where possible ensure that locally produced materials are given priority over imported materials	Procurement records	80			

		Purchase construction materials and supplies at competitive prices to ensure local businesses and entrepreneurs are making profits.					
3	Skills transfer to local communities	Maximise employment of local people particularly for the unskilled labour force;	Percentage of locals in workforce	NA	During Construction Phase	Contractor	1,000,000
		Make deliberate effort to pair skilled and unskilled workers during various construction assignments; and	Percentage of unskilled workers being trained				
		Formalise on-the-job trainings for local unskilled labour that also includes learning targets and performance monitoring					

Operation and Maintenance Phase							
1	Ease access to the dumpsite.	Proper maintenance of the access road to ensure uninterrupted access to the dumping site and compacting waste to create room for incoming waste.	Records of maintenance	NA	During operation and Maintenance Phase	BCC	7,000,000
		Regular inspections of blockages due to inappropriate dumping	Inspection records	4 per annum			
2	Improved sanitation, hygiene, and health				During operation and Maintenance Phase	BCC	6,000,000
		Public awareness campaign and training targeting private waste collectors on proper waste management practices and hygiene behaviors.	Records/ report of public awareness campaign.	All areas that generate high volume of waste			

		Periodic monitoring of the entire access road and the dumpsite	Monitoring records				
		Sensitize and train waste collectors on properly dumping the waste at designated site.	Training records	Twice a year			
		Set up bylaws and punitive measures for improper dumping of waste	Presence of bylaws against improper dumping of waste				
3	Reduced incidences of water borne diseases such as Cholera	Conducting community awareness campaigns to educate residents about the importance of proper waste disposal and	Report on the awareness campaign	Residents of BCC	During operation and Maintenance Phase	BCC	8,000,000

		associated health benefits					
		Establish effective waste management systems at the dumpsite to prevent the spread of waterborne diseases. This includes implementing proper waste segregation, recycling, and disposal practices to minimize the release of contaminated waste materials into the surrounding environment.	Evidence of waste segregation and recycling	4 per annum			
		Regular monitoring of water quality in nearby water sources, such as	Monitoring records				

		rivers, to ensure that they are not contaminated by the dump site.					
4	Reduce travel time.	Provide clear/ visible signage and proper road marking for smoother traffic flow.	Presence of road signage and marking		During operation and Maintenance Phase	BCC	Covered in project cost
		Designate separate entry and exit points for vehicles accessing the dumpsite. This can prevent congestion and improve the overall flow of traffic.	Presence of separate entry and exit points		During operation and Maintenance Phase	BCC	Covered in project cost
	Negative Impacts						
	Design and planning phase.						
1	Increased risk of accidents and exposure to hazardous	Develop Occupational Safety and Health (OSH) plan and	Availability of OSH guidelines	1	Planning phase	BCC, PIU	1,000,000

	materials and harsh weather conditions	risk assessment which will aim to avoid, minimize, and mitigate the risk of accidents during field visit					
		Ensure that the contractor has insurance for its workers	Availability of insurance for workers	1		PIU/ PST & Contractor	
		Put appropriate measures to prevent field investigations during periods of harsh weather conditions.				PIU and PST	
	Construction Phase						
1	Increased risk of Soil erosion, siltation, and sedimentation of water courses	Restrict land clearing only to the proposed site for infrastructure	Area of land cleared	14,400m^2	During Construction Phase	Contractor	Covered in project cost
		Install sediment traps on natural drainage paths at construction site; or break the sloppy terrain into benches or steps to control speedy	Presence of sediment traps		During Construction Phase	Contractor	1,000,000

		run and erosion off.					
		Compact and spray water on loose soil in all soil disturbed areas during construction	Area compacted	NA	During Construction Phase	Contractor	Covered in project cost
		Plant vegetative cover (grasses and trees) along the road verge after completion of construction works	Presence of grass and trees at the site after construction works		During Construction Phase	Contractor	2,000,000
		Stockpile excavated soil away from water courses	Distance from water courses	NA	During Construction Phase	Contractor	Covered in project cost
2	Increased Generation of solid waste including hazardous waste such as dry concrete waste	Provide adequate on-site well labelled waste receptacles such as bins to encourage waste segregation i.e., biodegradable, and non-biodegradable	Number of bins provided	5	Construction Phase	Contractor	500,000

		Use the 3Rs (Reduce, Reuse and Recycle) principle, which should also be advocated to construction workers e.g., waste such as empty cement bags can be recycled/ reused for making mats	Evidence of recycling e.g., presence of labelled bins				
		Dispose waste at Designated disposal site	Disposal records	NA			
		Avoid having concrete waste by using all the concrete prepared in each day and reuse dry concrete waste as a fill and compaction materials for the road	State of the degraded area	NA	Construction Phase	Contractor	

3	Hazardous waste such as oil leak, fuel spill from gen set or fuelling vehicles and machines	Regularly services project vehicles and machines	Presence of service records		Construction phase	Contractor	
		Inspect vehicles/ machines and equipment for oil leak	Frequency of inspection	Daily	Construction phase	Contractor	
		Have spill kits to take care of spills	Availability of spill kits		Construction phase	Contractor	1,000,000
4	Increased generation of sanitary waste	Provide mobile toilets for male and female separately	Number of mobile toilets	2	Construction Phase	Contractor	4,800,000
		Periodic emptying and cleaning of mobile toilets	State of the toilets	NA			
		Provide appropriate bins for other sanitary wastes	Availability of bin	1			
		Train workers on proper use of the toilets	Training records	NA			
5	Increased risk of noise and vibration	Use of modern machines fitted with noise silencers or use of less noisy machines.	Number of noise complaints	0	Construction Phase	Contractor	

		Train workers about risk of vibration	Training records				
		Limit the time spent by workers on vibrating source/ surface					
		Use well-serviced machinery and equipment to avoid excessive noise and vibration.	Machinery service records				
6	Increased air pollution/ dust emissions	Control vehicle speed through speed limit signs to reduce generation of dust;	Presence of speed limit signage	4	Construction Phase	Contractor	250,000
		Install speed humps in strategic areas to control speed	Presence of humps	4	Construction Phase	Contractor	
		Provide PPE (masks) to workers working in dusty or foul smell areas	Percentage of workers provided with PPE	100	Construction phase	Contractor	

		Train workers about dangers of air pollution	Percentage of workers trained	100	Construction phase	Contractor	Already covered in other trainings
		Sprinkle water on the road surface to suppress dust.	Frequency of dust suppression	Twice a day	Construction Phase	Contractor	500,000
7	Increased incidences of child labour	Sensitize local leaders, children, and the community at large on prohibition of any forms of child labour at the project site	Records of sensitization meetings on child labour		Construction Phase	Contractor	1,000,000
		Display posters at the project site that warn and inform community members against child labour	Number of posters displayed	4 posters			
		The contractors should verify age of workers through National identification card					

		Put in place proper procedures for reporting and addressing child labour	Records of incident on child labour	0 incidents on child labour			
8	Increase in other labour related risks such as labour disputes and employment conditions (i.e., paying workers below minimum wage) and influx of people to the site looking for employment.	Sensitize workers about their labour rights.	Records of sensitization on labour rights	1	Construction phase	Contractor	100,000
		Have in place a worker's grievance redress committee	Presence of Workers GRC	1	Construction phase	Contractor	
		Paying workers' above minimum wage.	Percentage of workers paid above minimum wage	100	Construction phase	Contractor	Covered in project cost
		Provide suitable working conditions i.e., safe drinking water and sanitary facilities	Presence of drinking water and sanitary facilities		Construction phase	Contractor	
		Employ people from within the project area	Number of people employed from within the area	More than 50%	Construction phase	Contractor	Covered in the project cost

			Number of wastes pickers employed		Construction phase	Contractor	Covered in the project cost
			Number of females employed in the project	40%	Construction phase	Contractor	Covered in the project cost
		Provision of grievance boxes at each site	Number of boxes	1	Construction phase	Contractor	20,000
		Ensure all workers have duly signed contracts and CoC	Percentage of workers with dully signed contract	100	Construction phase	Contractor	
9	Increased risk to community health and safety	Introduce speed limit to construction vehicles.	Availability of speed limit signs and humps to control vehicle speed		During Construction Phase	Contractor	500,000
		Barricade all open excavation at the construction site	Presence of barricades	All open excavations			
		Introduce flag men or women to monitor traffic and safety of other road users					

		Advise surrounding communities be selling selling food outside the construction sites	Presence of food sellers outside the construction site				
		Enforce the use of Traffic Management Plan	Presence of tailor made TMP	1			
10	**Conflict between contractor and community members e.g., waste picker**	Conducting awareness campaigns about the project's importance, benefits, and potential disruptions and mitigation measures that have been put in place to minimize the disruptions	Records/ report of awareness meeting				
		Ensure the dumpsite is still accessible by waste pickers and waste collection vehicles while the access road is being constructed					

		Provide employment to some of the waste pickers to work as unskilled personnel	Number of waste pickers employed in the project				
		Enable all affected persons to access the developed Grievance Mechanism (GM)	Percentage of affected persons accessing the GM	100			
11	Risk of poor-quality work	Ensure that the contractor adheres to the design and BoQ (quality assurance plan) for the road throughout the construction phase	Compliance of contractor with quality assurance plan (QAP)				Covered in project cost
		Verify materials used in the construction of the road e.g. strength of cement used					Covered in project cost
		Conduct frequent supervision and monitoring of the	Supervision and monitoring report				Covered in project cost

		road construction works					
12	Increased Occupational Safety and Health Risks	-Develop and implement tailor made OHS Plan (refer to generic OHS Plan in Annexed 8) -Train workers in all relevant risks including lifting and materials handling techniques and risk assessment. -Implementing good house-keeping practices -Provide and train workers in use of temporary fall prevention devices (rails) and body harnesses -Provide workers with PPE and enforce its use. -Put warning signs (written in English and local languages) at strategic sites.	-Raining records Presence of body harness for workers working at height -Presence and use of PPE by all workers	1 All workers working at height. All workers	During Construction Phase	Contractor	3,200,000

		-Have a first aid kit in place					
13	Increased risk of GBV/ SEA and SH cases	Codes of conduct that integrates issues of GBV/SEA/SH should be made part of the contract both in English and vernacular language and be signed	Percentage of workers oriented on COC and signed for CoC. -Availability of signed code of conduct	100%	During Construction Phase	Contractor	6,000,000
		Contractual clause should be presented that explains the consequences of any of sexual harassment, and sexual exploitation and abuse cases	Availability of the clause in worker's contract	All workers			
		Develop GBV and SEA Prevention Plan;	GBV and SEA prevention plan available	1			
		Conduct on-board training/ sensitization and public awareness meetings on GBV/ SEA/SH	Number of people trained. Number of meetings conducted	All contract workers Records of sensitization meeting			

		Prioritize employment of unskilled and skill labour force from surrounding communities;	Percentage of local workers employed from surrounding communities	80%			
		Employ females in the project	Percentage of female employed	40%			
		Collaborate and network with District Social Welfare, District Gender Office, and NGOs during implementation of GBV Action plan.	Records of collaboration, minutes/ reports				
		Display of IEC material at the construction site related to GBV/SEA/SH	Presence of IEC materials on GBV/SEA/ SH		During Construction Phase	Contractor	250,000
14	Increased risk of human trafficking	Sensitize workers and surrounding communities about trafficking in person	Records of sensitization meeting	Workers and surrounding communities	During Construction Phase	Contractor	200,000

		Provide means of reporting trafficking or traffickers	Presence of boxes	1	During Construction Phase	Contractor	
14	Theft of project materials	Sensitize workers against theft	Records of sensitization meeting	All workers			
		Engage security personnel to safeguard project materials/ properties	Presence of security guards		During Construction Phase	Contractor	1,000,000
		Employ worker from surrounding area	Number of workers employed		During Construction Phase	Contractor	
15	Disruption of flow of traffic and public mobility and service utilities	Prepare and implement traffic management plan (refer to a generic TMP in Annex 7) to minimize congestion and disruption	Presence of tailor made TMP	1	During Construction Phase	Contractor	
		Provide clear signage and alternative routes			During Construction Phase	Contractor	
		Provide road diversion routes	Presence of diversions		During Construction Phase	Contractor	

		and temporary traffic signals					
		Ensure diversion route has enough space to accommodate both waste collection vehicles and waste pickers to continue accessing the dumpsite	Presence of enough space in the diversion route to the dumpsite		Construction phase	Contractor	Covered in project cost
		Sensitize both waste pickers and waste collection vehicle operators/ drivers about traffic safety along the access road	Percentage of waste pickers and drivers of waste collection vehicles sensitized	100	Construction phase	Contractor	1,000,000
		Escort trucks carrying machinery and equipment to and from the construction site and where necessary notify the traffic police to provide support	Presence of escorting vehicle during transportation of machinery and equipment to and from the site				Covered in project cost

		Deliberately avoid use of the Zomba Blantyre Road during traffic pick hours					
		Provide employment (as casual labourers) to some of the waste pickers	Number of waste pickers employed by the project		Construction phase	Contractor	
16	Competition over use of existing resource (water and energy)	Secure water abstraction permits before abstracting water from a river/ stream	Availability of permit if contractor uses water from river/ stream	1	Construction phase	Contractor	
		Buy water from BWB for construction works.			Construction phase	Contractor	
		Contractor may use generator as source for running machines like concrete vibrator.	Presence of generator		Construction phase	Contractor	
17	Use of materials that are illegally produced or of poor quality.	Ensure that quarry stone and sand are obtained from licensed suppliers	Availability of license/ permit	1	During Construction Phase	Contractor	
		Inspect materials prior to purchase	Inspection report	1	Construction phase	BCC/ BWB	

		and use on the construction site					
18	Increased risk of spread of communicable diseases (HIV and AIDS, Cholera, dysentery, typhoid, etc.	Conduct HIV and AIDS awareness meetings;	Number of awareness meeting conducted	2	During Construction Phase	Contractor	4,000,000
		Distribution of condoms to workers	Number of condoms distributed	45 per month			
		Use HIV and AIDS Information, Education and Communication materials on site;	Number of IEC materials distributed	45 brochures			
		Orient workers on Cholera and other diarrhoea disease prevention through handwashing after latrine use, before eating any food, etc.	Number of workers trained	All workers			
		Purchase and place water buckets and soap for handwashing in strategic position for workers use	Number buckets and soap bottles/ tablets available				
Demobilization phase							

1	Loss of employment	Give adequate notice to workers on the duration of the construction works	Percentage of workers warned/ notified	100	During construction/ demobilisation Phase	Contractor	Part of project cost
		Provide terminal benefits to workers.	Percentage of workers paid terminal benefits	100			
2	Increased generation of waste from demolition	Disposal of waste at designated and approved site	Area free of rubble	NA	During demobilization Phase	Contractor	1,000,000
		Handover the structure (e.g., contractor's camp) to be reused for other purposes.					
		Use rubble to rehabilitate access and surrounding roads					
Operation phase							
1	Increased risk of theft and vandalism of road signage	Sensitize community members against vandalism and theft – emphasize on importance of road signs	Number of sensitization meetings	4 per annum	During operation Phase	BCC	4,000,000

		Develop bylaws to curb vandalism	Bylaws available		During operation Phase		
		Sensitize staff and user fee collectors on HIV and AIDS prevention	Percentage of user collectors sensitized	100			
2	Road safety risk after the road is improved	Sensitizing the waste pickers about traffic on the improved road	Records of the sensitization meeting				Covered above
		Install traffic signs such as speed limit signs	Presence of traffic signs				
		Install speed humps to control vehicular speed	Presence of humps				
Total							**53,570,000**

6.1.1. Incidents management

All incidents/ accidents must be recorded and reported. An accident is an event that has unintentionally happened and results in damage, injury, or harm. An incident is an event that has unintentionally happed, but this may not result in damage, harm, or injury. Therefore, every accident can be an incident. However not all incidents can be termed as an accident.

When an incident or accident occurs, it must be reported within 24 hours using the reporting forms contained in Annex 10a and 10b. Immediately the accident/incident investigation must start to identify the cause and measures that when implemented will prevent the incident/accident from recurring.

6.2. Institutional roles and responsibilities

Implementation Arrangements

The successful implementation of this ESMP lies on the concerted efforts from various key stakeholders and these include MEPA, Blantyre Water Board (BWB), MWSP- PIU, Blantyre District Council, Blantyre City Council (BWB), Contractor and Private waste collectors who will be collecting waste from the city of Blantyre to the dumpsite through Mzedi access road.

BWB and BCC with MWSP-PIU will be responsible for coordinating, planning, implementing, and monitoring environmental and social issues. In addition, the PIU will ensure that financial resources for capacity building and implementation of the ESMP are allocated. Further, BCC will, through the MWSP-that the Environmental and Social Safeguards team oversee the following:

- Disseminating the content and requirements of the ESMP to the contractors and all key stakeholders and assisting with the implementation of the ESMP.
- Monitoring and evaluating the Contractor's implementation of the ESMP.
- Monitoring key indicators of the Project's environmental impacts and performance.
- Reviewing plans, designs, and strategies in relation to environmental, social and health considerations.
- Maintaining appropriate management systems and documentation.
- Preparing and submitting environmental and social documentation to government agencies and lenders/ donors as required.
- Following-up non-conformance situations to ensure they are successfully addressed.
- Taking corrective action or stopping works in the event of breaches of ESMP conditions that have the potential for serious impacts on local communities or the project's reputation.
- Adapting management policies and strategies through lessons learnt.
- Disseminating the content and requirements of the ESMP to the contractors and all key stakeholders and assisting with the implementation of the ESMP.

Supervising Engineer will ensure the following: 1) Timeline management; 2) Budget management; 3) contractor management; 4) Quality control; 5) Regulatory compliance by contractor; 6) Design reviews; 7) risk management; 8) Safety oversight (including but not limited to safety checks, approval of certain works including safeguards considerations, contractor capacity building in some safeguards aspects, etc.) ; 9) Reviewing, supervising, and monitoring the implantation of safeguards instrument; and 10) Documentation and reporting and final inspection and handover.

Contractors will develop Contractors ESMP (CESMP) and associated auxiliary management plans and ensure their implementation and compliance. In addition, the contractor will ensure that all workers have signed *'Code of Conduct'* and are compliant to it. The contractor will be responsible for orienting his workers in environmental, social, health and safety issues. The contractor will also be responsible for reporting all incidents/accidents using reporting forms contained in Annex 10a and 10b and, prepare and submit a monthly report using the reporting template contained in Annex 11

The contractor will also be responsible for the following:

- Adherence to local labour regulations
- Preparation and implementation of the Waste Management Plan.
- Implementation of the Occupational Health and Safety Plan securing workplace registration certificate.
- Ensuring that all construction personnel and subcontractors are informed of the intent of the ESMP and are made aware of the required measures for environmental and social compliance and performance.
- Developing and implementing specific Traffic Management Plan, with special emphasis on high trafficked areas.
- Complying with all mitigation measure requirements as provided in this ESMP and other safeguards instruments such as ESMF.
- Ensuring that contracts and construction plans for the project meet all design requirements identified in the mitigation measures; and
- Engaging a Social and Gender officer and an Environmental and Safety Health officer to oversee compliance with mitigation measures on site.
- Use of modern and safe equipment,
- Development of safe work systems such as permit to work systems.
- Ensure EHS capacity throughout project implementation.

Blantyre District Council will work with PIU to monitor the implementation of the CESMP and auxiliary plans. Therefore, Blantyre District Council's Environmental Officer will work with the MWSP-PIU Safeguards Team in monitoring the implementation of the ESMP.

Private waste collectors will be responsible for properly collection of waste from waste generation point and ensure that waste is not falling over from their vehicle into road as they are being transported to the dumpsite to maintain the hygienic condition of the road.

- Participate in inspection of the road to identify defects for rectification.
- Participate in sensitizing communities/ residents about proper solid waste management.
- Report any vandalism/ theft of traffic signs from access road to Mzedi Dumpsite

Malawi Environmental Protection Authority (MEPA) will conduct inspections and monitor compliance with the implementation of the ESMP during the construction and operation phase of the project.

Capacity Building

The successful implementation of the environmental and social safeguards depends on the implementing stakeholders' capacity. The following training requirements have been planned to facilitate capacity building of the implementing stakeholders for them to effectively execute the roles and functions they have been assigned under this project. Table 7 provides areas that require training and target audience including period and responsible institution to deliver.

Table 7: Required training on Environmental and Social Safeguards

#	Type of Training	Targeted Stakeholder	Responsible Institution	Period
1	ESMP and Auxiliary Management Plans	Contractor; Blantyre City Council	PIU/ BWB & BCC	Planning, Construction Phase
2	Occupational Safety and Health	Contractor; Blantyre City Council	PIU/ BWB & BCC	Construction; Operation and Maintenance Phases
3	Grievance Mechanism	Contractor; Blantyre City Council	PIU/ BWB & BCC	Construction; Operation and Maintenance Phases
4	Operational and Maintenance of the road	Private waste collectors/ BCC	Contractor PIU/ BWB & BCC	Construction; Operation and Maintenance Phases
5	Code of Conduct, labour rights and awareness on STI including HIV and AIDS	Contractor	PIU/ BWB & BCC	Construction; Operation and Maintenance Phases

7	GBV, SEA, SH, Violence Against Children VAC and Child Labour	Contractor, Blantyre City Council	PIU/ BWB & BCC	Construction; Operation and Maintenance Phases

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1.Conclusion

The ESMP has identified the measures to manage the identified impacts that will arise during construction/ upgrading and operation of access road to Mzedi Dumpsite. The ESMP is aimed at ensuring proper management of the environment and socio-economic components throughout the project cycle.

As stated in the ESMP, negative impacts associated with the proposed project activities can be suitably managed and mitigated through the implementation of the recommended measures. It is recommended that the developer will be responsible for monitoring activities that will be carried out during project preparation, construction, operation and maintenance and demobilization phases to ensure that the mitigation and rehabilitation measures described in this report are adhered to.

7.2.Recommendations

The Environmental and Social Management Plan (ESMP) in this report describes the environmental and social impacts of the project and outlines corresponding management measures that should be implemented to mitigate the potential adverse environmental impacts that have been identified. The project should therefore comply with all local laws and regulations, which seek to ensure that the project is implemented in an environmentally sound manner while safeguarding the safety and health of the workers and the surrounding community. In this regard, it is recommended that:

- The project should adopt the recommendations advanced in this report.
- The Project must ensure that safety and health issues are given the necessary attention.
- The developer should implement the recommendations and mitigation measures advanced. in the Environmental Management and Monitoring Plans and
- The developer is required to obtain a permit from MEPA.

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ANNEXES

Annex 1: Terms of reference for the ESMP

TERMS OF REFERENCE OF ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE MZEDI DUMPSITE ACCESS ROAD IN BLANTYRE

1. Provide a brief description of the nature and location of the proposed project with respect to the name of the proponent, postal address, aim and objectives of the project, the spatial location of the site with aid of appropriate topographical maps of the area (at least at a scale 1:50,000); the estimated cost of the project, the size of land for the project sites, expected inputs and outputs, the number of people to work on the project during construction and operation of the facility (provide a breakdown of males and females).

2. Provide a site-specific visible map of the area (scale 1: 50,000) showing the proposed site and (1:10,000) showing existing establishments in the area and surrounding areas including natural endowments like rivers and streams. A site plan for the project should be provided. All maps should be in colour to portray the themes clearly and must be printed on A3 paper.

3. Provide a brief description of the existing biophysical characteristics and the socio-economic environmental status of the proposed area.

4. Briefly review the legal framework pertaining to the proposed project and indicate their impacts on the project. Reference should at least be made to Environment Management Act, New Land Acts, Gender Equality Act, Gender Policy, Water Resources Act, National Water Policy, Malawi National Land Policy, Public Health Act, Occupational Safety, Health and Welfare Act, Mines and Minerals Act, Public Roads Act and other policies and pieces of legislations.

5. Briefly describe main activities to be undertaken for the project. In the description include description on project activities in all the phases of the project, the type of machinery to be used, land acquisition and ownership, nature and estimated quantity of wastes (both solid and liquid) that will be generated, circularity to waste management i.e. state the means of reducing waste to a minimum by reusing and recycling of waste, facilities for appropriate waste disposal that cannot be recycle or reused, including estimated costs for the activities.

6. Propose an Environmental and Social Management Plan (ESMP) for the project. The ESMP should be in tabular form and should specify the predicted impacts, mitigation measures/enhancement measures. Also indicate the budget for the recommended

mitigation measures, specifications of who will be responsible for these measures and the schedule when these measures will take place.

7. Propose an Environmental and Social Management and Monitoring Plan by which all mitigation measures recommended in Environmental and Social Management Plan will be monitored. The Environmental and Social Monitoring Plan should include the activities, frequency of monitoring, the key monitoring indicators, resources required and the authorities responsible for monitoring the exercises.

8. Undertake stakeholder consultation to ensure key interested and affected stakeholders are involved in coming up with the ESMP including Government Departments. Incorporate their views in the report and indicate a record of consultations in the appendices as part of the report.

9. Submit 5 hard copies and a soft copy of the ESMP to the Acting Director General of Malawi Environment Protection Authority. Submit a copy of the ESMP to the District to Blantyre District council

10. Provide the details of the consultant in the appendices part of the report

Annex 2: Completed E & S Screening form for Mzedi access road

ANNEX 4: ENVIRONMENTAL AND SOCIAL SCREENING FORM (ESSF)

Environmental and Social Screening Form for the Screening of Potential Environmental and Social Impacts of MWSP-1 Activities

1. Introduction

This Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of planned construction, rehabilitation and expansion activities under MWSP-1. The form will assist in the identification of any environmental and social impacts and their mitigation measures. It will also assist in the determination of requirements for further environmental and social work as needed.

The form helps to determine the characteristics of the prevailing local bio-physical and social environment with the aim of assessing the potential impacts of the construction and rehabilitation activities on the environment by the activity.

The ESSF will also assist in identifying potential socio-economic impacts that will require mitigation measures and/or resettlement and compensation.

2. Guidelines for Screening

The evaluator should undertake the assignment after:

1. Gaining adequate knowledge of baseline information of the area.
2. Gaining knowledge of proposed project activities for the area.
3. Having been briefed / trained in environmental and social screening

The form is to be completed by the PIU Environmental and Social Specialists.

PART A: GENERAL INFORMATION

Sub project Name	CONSTRUCTION OF REINFORCED CONCRETE ACCESS ROAD TO MZEDI DUMPSITE
Estimated Cost (MK)	CONTINGENCY EMERGENCY RESPONSE (CERC- US $0)
Sub project Site	MZEDI AREA
Sub project Objectives	- PROVIDING EASY ACCESS TO MZEDI DUMPSITE
Proposed Main Activities:	- UPGRADING THE EXISTING ACCESS ROAD INTO ALL WHEATHER ACCESS ROAD TO MZEDI DUMPSITE
Name of Evaluator/s	1. CHIPO MAJONI (EH & SAFETY OFFICER)

1

	2. PAMELA BORIS – SOCIAL AND GENDER OFFICER 3. INNOCENT MUNA – CIVIL ENGINEER 4. WILLIAM CHINDZINGA – ASSISTANT EH & S OFFICER 5. JASCO NDOVI – COMMUNITY DEV. & LIASON OFFICER
Date of Field Appraisal	19 JUNE, 2023

PART B: BRIEF DESCRIPTION OF THE PROPOSED ACTIVITIES

Provide information on the type and scale of the construction/rehabilitation activity (e.g. area, land required and approximate size of structures)

- THE ROAD ACCESS IS ABOUT 1.2 KM IN LENGTH
- THE ACCESS WILL BE 6.5MIN WIDTH WITH 1M ON BOTH SIDES
- THERE WILL BE DRAINS ON BOTH SIDES OF THE ACCESS ROAD.
- THE ACCESS ROAD WILL HAVE A CAMBER OF 2.6%

Provide information on the construction activities including support/ancillary structures and activities required to build them, e.g. need to quarry or excavate borrow materials, water source, access roads, etc.

- APPLICATION OF 200MM GAVEL.
- APPLICATION OF 200 MM REINFORCED CONCRETE,
- INSTALLATION OF DRAINS ON BOTH SIDES.
- INSTALLATION OF ONE BOX CALVET

Describe how the construction/rehabilitation activities will be carried out. Include description of support/activities and resources required for the construction/rehabilitation.

- DEBRIS EXCAVATION AND DISPOSAL.
- COMPACTION OF THE SUB-GRADE TO 93% MAXIMUM DRY DENSITY
- COMPACTION OF THE GRAVEL TO 96% MAXIMUM DRY DENSITY.
- POURING CONCRETE OF CLASS 30/20.
- EXCAVATION OF OPEN DRAINS.
- LINING OF OPEN DRAINS USING CEMENT MOIDRED STONE MOSENY
- TESTS WILL BE CONDUCTED TO ENSURE QUALITY.

PART C: ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION OF THE SUB PROJECT SITE BRIEF DESCRIPTION

Category of Baseline Information	Brief Description
GEOGRAPHICAL LOCATION * Name of the Area (District, T/A, Village) * Proposed location of the sub project (Include a site map of at least 1:10,000 scale/or coordinates from GPS)	BLANTYRE-MACHINJIRI (M2E01) - LATITUDE: 15.8000 - LONGITUDE 35.0833
LAND RESOURCES * Topography and Geology of the area * Soils of the area * Main land uses and economic activities	- HILLY TERRAIN - LOAMY SANDY SOIL - DUMPSITE AND SCAVENGING.
WATER RESOURCES * Surface water resources (e.g. rivers, lakes, etc.) quantity and quality * Ground water resources quantity and quality	- NO - NO
BIOLOGICAL RESOURCES * Flora (include threatened/endangered/endemic species) * Fauna (include threatened/endangered/endemic species) * Sensitive habitats including protected areas e.g. nature reserves and forest reserves	- NO - NO
CLIMATE * Temperature * Rainfall	2022-2023 18°C - 27°C 1433mm/ANNUM
SOCIAL * Number of people potentially impacted * Type and magnitude of impacts (i.e. impact on land, structures, crops, standard of living) * Socio-economic overview of persons impacted	- 200 SCAVENGERS - VERY IMPACTED - 480,000 TO BENEFIT - LAND DEGRADATION WITH LOW IMPACT. - SOURCE OF EMPLOYMENT - DISPLACEMENT

PART D: SCREENING CRITERIA FOR IMPACTS DURING SUB-PROJECT IMPLEMENTATION, AREAS OF IMPACTS AND IMPACTS EVALUATION AND POTENTIAL MITIGATION MEASURES

- ~~SMALL~~ SCALE BUSINESS.

Screening Criteria for Social and Environmental Impacts

Item	Areas of Impacts			Impacts Evaluation						Potential Mitigation Measures
	Is this subproject site/activity within and/or will it affect the following environmentally sensitive areas?			Extent or coverage (on site, within 3-5km or beyond 5km)			Significance (Low, Medium, High)			
		No	Yes	On Site	Within 3-5km	Beyond 5 km	Low	Medium	High	
1.0	Screening Criteria for Social and Environmental Impacts									
1.1	National parks or game reserve	NO								
1.2	Wetlands	NO								
1.3	Productive traditional agricultural /grazing lands	NO								
1.4	Areas with rare, endangered or other interest flora or fauna	NO								
1.5	Areas with outstanding scenery/tourist site	NO								
1.6	Within steep slopes		YES		✓			✓		- INSTALLATION OF DRAINAGE - DRY SEASON CONSTRUCTION
1.7	Forested or near forest or will impact forest	NO								
1.8	Along lakes, beach or river	NO								
1.9	Near industrial activities	YES			✓			✓		- INFORM AUTHORITIES ABOUT CONSTRUCTION SCHEDULE - TEMP. TRAFFIC CONTROL
1.10	Near human settlements		NO							
1.11	Near cultural heritage sites		NO							
1.12	Within prime surface run off	YES		✓			✓			- STOCKPILE AWAY FROM WATER SOURCES - COMPACT & SPRAY WATER ON LOOSE SOIL

1.13	Will the subproject discharge to or otherwise impact water bodies?	NO								
2.0	Screening Criteria for Impacts during Implementation and Operation									
	Will the Implementation and operation of the subproject within the selected site generate the following externalities/ costs/impacts?									
2.1	Deforestation	NO								
2.2	Soil erosion and siltation		YES	✓			✓			-land CLEASING RESTRICTIO -USE OF SEDIMENTIAL TRAP
2.3	Siltation of watercourses, dams	~~NO~~	YES		✓		✓			- INSTALLATION OF SEDIMENTA TRAPS - COMPACT AND SPRAY WATER ON LOOSE SOIL
2.4	Environmental degradation arising from mining of construction materials		YES			✓	✓			- REINSTATE BORROW PITS - USE OF ALTERNATIVE CONSTRUCTION MATERIAL - AFFORESTATION
2.5	Damage to wildlife species and habitat	NO								
2.6	Increased exposure of communities to agrochemical pollutants	NO								
2.7	Hazardous wastes, (pipes, etc.), PCB's, pollution from unspent PV batteries	NO								
2.8	Nuisance - smell or noise	~~NO~~	YES	✓				✓		- CONSTRUCT DURING DAY TIME - PROVIDE INTERCEPTIO
2.9	Reduced water quality	NO								

2.10	Increase in costs of water treatment	NO								
2.11	Soil contamination		YES ✓				✓		- CONTAINING CONSTR UCTION WASTE	
2.12	Loss of soil fertility	NO								
2.13	Salinization or alkalinisation of soils	NO								
2.14	Reduced flow and availability of water	NO								
2.15	Long term depletion of water resources	NO								
2.16	Incidence of flooding	NO								
	Will the Implementation and operation of the subproject activities within the selected site generate the following socio-economic costs/impacts?									
3.0 Screening Criteria for Social and Economic Impacts										
3.1	Loss of land/land acquisition for human settlement, farming, grazing	NO								
3.2	Loss of assets, property, houses, agricultural produce, etc.	NO								
3.3	Loss of livelihood	NO								

3.4	Require a RAP or ARAP	NO								

3.5	Loss of cultural sites, graveyards, monuments	NO								
3.6	Disruption of social fabric		YES		✓		✓			- USE OF CODE OF CONDUCT - CONFIDENTIAL REPORTING
3.7	Interference in marriages for local people by workers	NO								
3.8	Spread of STIs and HIV and AIDS, due to migrant workers		YES	✓	✓			✓		- SENSITIZATION - IEC ON HIV/AIDS - DISTRIBUTION OF CONDOMS
3.9	Increased incidence of communicable diseases		YES	✓	✓			✓		- AWARENESS CAMPAIGN
3.10	Health hazards to workers and communities		YES	✓	✓				✓	- PROVISION OF PPE
3.11	Changes in human settlement patterns	NO								
3.12	Conflicts over use of natural resources e.g. water, land, etc.	NO								
3.13	Conflicts on land ownership	NO								
3.14	Disruption of important pathways, roads		YES			✓		✓		- DEVELOPMENT OF TRAFFIC MANAGEMENT PLAN
3.15	Increased population influx									

3.16	Loss of cultural identity	NO								
3.17	Loss of income generating capacity	NO								
4.0	Consultation (comments from beneficiaries and other project affected peoples)	-WELCOMED THE PROJECT AS IT WILL IMPROVE STATUS OF ACCESS ROAD TO MZED. -ASKED THE PST TO IMPLEMENT THE PROJECT BEFORE COMMENCEMENT OF RAINY SEASON								

PART E: OVERALL EVALUATION OF THE SCREENING PROCESS ON THE SITE AND PROJECT ACTIVITY

The screening aims at categorizing the sub-projects into one of the following environmental and social categories. The Environmental Specialist in charge of the screening will propose the environmental category in consultation with the Social Specialist as necessary. Screening will also help to propose whether a proposed sub program will further require a full-fledged Resettlement Action Plan (RAP), per procedures outlined in the Resettlement Policy Framework.

Category A: A UWSP sub-project would be categorized as A if it would likely result in one or more major adverse environmental impacts. Category A projects require a full ESIA. However, the UWSP is not expected to have any Category A subprojects.

Category B: UWSP Category B subprojects have potential environmental impacts that are less severe than under Category A and can readily be mitigated as follows:

Category B1: For UWSP Category B1 subprojects, no further environmental assessment work is required; however, the subproject must fully apply the relevant, generic mitigation measures specified in the ESMF, including the Environmental Rules for Contractors and Chance Finds Procedures. Examples of UWSP subproject types that are likely to be classified as Category B1 include:

- Installation of new household water connections
- Construction of communal water points(kiosk)
- Installation of new sewerage connections
- Construction of public toilets

Category B2: For UWSP Category B2 subprojects, further environmental assessment work is required, specifically the preparation of a separate

Environmental and Social Management Plan with tailored, site-specific environmental mitigation measures (not just the generic ones).

It is possible that for a few UWSP Category B2 subprojects--where in-depth, site specific fact-finding would be needed to ascertain the likely environmental (including social) impacts--a subproject-specific ESIA would also be required. The scope of such an ESIA would be limited to the environmental and related social issues of specific concern, as identified in the screening process. For any Category B2 subprojects with their own ESIA, the ESMP will comprise a portion of the ESIA.

Examples of UWSP subproject types that are likely to be classified as Category B2 include:

- Replacement/upgrading of existing water and sewer pipelines with larger diameter pipelines
- Construction of water transmission mains
- Construction of solar PVs for Blantyre pumping stations
- Construction of storage reservoirs (tanks)
- Rehabilitation and upgrading of sewage treatment plants
- Construction of solid waste management landfill

Category C: UWSP activities are classified as Category C if they do not involve civil works and if no significant environmental issue has been identified and no specific mitigation measures are required. In such cases, subproject implementation can proceed without reference to additional environmental requirements.

- Examples of UWSP Category C activities include:
- Water loss reduction measures
- City-wide sanitation marketing campaign
- Institutional capacity strengthening activities

The PIU Environmental and Social Specialists will be responsible for assigning the appropriate environmental category to the subprojects consistent with the requirements of ESSF, and based on the criteria provided in this ESMF.

If Resettlement Action Plans (RAPs) are prepared, these would be reviewed and approved by the Commissioner for Lands, consistent with the Resettlement Policy Framework as well as the World Bank, prior to initiating compensation and commencement of project activities

Completion by PIU	
Is This Project Likely To Need An ESIA	YES/ NO NO

Completion by MEPA	
Date Received from District Assembly:	

List A/B Paragraph Numbers	B2	Dated Reviewed:	
Date Exempted	N/A	Date of Submission of Project Brief	
Date Forwarded To MEPA	23 June 2023	Date of Submission of ESIA Reports	
Name & Signature of Environmental and/or Social Specialist/s		Date of Approval/Rejection	

NOTES:

- Once the Environmental and Social Screening Form is completed it is analyzed by the Environmental and Social Specialist/s from the PIU who will classify it into the appropriate category based on a predetermined criterion and the information provided in the form.
- All projects' proponents exempted from further impact assessment must be informed to proceed with other necessary procedures.
- Any project recommended for a specific ESIA will have to follow the procedures outlined in section 24 and 25 of the Environmental Management Act, and the Malawi Government's Guidelines for Environmental Impact Assessment Appendix C, page 32.

ANNEX 5: SANITATION SUBPROJECTS ENVIRONMENTAL AND SOCIAL CHECKLIST

Environmental & Social Checklist for Sanitation Sub-Projects

S/N	Potential Negative Environmental and Social Impacts	Tick if relevant	Possible Mitigation Measures	Tick if relevant	Responsible Person
1.0	Septic tanks				

Annex 3: Issues/ concerns raised by stakeholders and responses provided

No	COMMENT RAISED	RESPONSE GIVEN
1	**Project delay.** The stakeholders (private waste collectors and ward councilors) expressed concern that the initiative is delayed because rainy season is around the corner. They requested BCC to expedite the process and have the facilities constructed as soon as possible.	The Project secretariat will ensure that the construction works stick to the project duration. In addition, regular inspection will be scheduled to monitor work progress.
2	**Provision of an alternative access road during construction.** Stakeholders (private waste collectors) asked for provision of an alternative access road to the dumpsite during road construction works to allow operational of waste disposal vehicles at the site while the main road is under construction.	BCC assured them that during construction, the contractor will provide a diversion as temporary route for waste collection motor vehicles. Furthermore, the contractor will implement temporary traffic control measures, such as flaggers, signage, and barricades, to manage traffic along the entire access road
3	**Emission of dust during construction.** Stakeholders' entrance expressed concern on emission of dust from earth works and grading of alternative routes to the Dumpsite. In addition, dust may also be generated by construction vehicles and machinery hence there is need for dust suppression measures such as spraying water at least twice a day.	BCC assured the stakeholders that it will make sure the contractor sprays water at least twice a day to suppress dust emission. In addition will compact and spray water on loose soil in all areas where the soil structure is disturbed during construction phase to minimize air pollution (dust) and soil erosion.
4	**Spread of sexually transmitted infectious (STIs) including HIV & AIDS:** The community mostly pointed out that construction workers come to their area without their families which results in them engaging in sexual relationships with the locals.	The project will sensitize all employees and the community at large on the dangers of associated Sexually Transmitted Infections (STIs) including HIV/AIDS and other communicable diseases such as, cholera, Malaria, TB, etc. and their means of prevention and control. The project will distribute condoms to the workers and establish workers grievance redress committee and contractor will orient/brief workers on workplace code of conduct and sign a contract on appropriate behavior at work to show commitment.
5	**Accidents to workers:** The community at the site expressed concern that when people get injured at the construction site, they are left to seek treatment on their own and do not get any support from the contractors.	The project will develop an OHS plan, which aims to avoid, minimize, and mitigate the risk of workplace accidents. This would include training construction workers in safety, using safe machinery and equipment, and providing necessary personal protective equipment (PPE).

		It was also mentioned that it is a requirement that all contractors have insurance to cover injuries according to the laws of the country. Furthermore, the project will set up a GRM so that people can raise any complaints such as these.

Annex 4: Design drawings for the access road to Mzedi Dumpsite

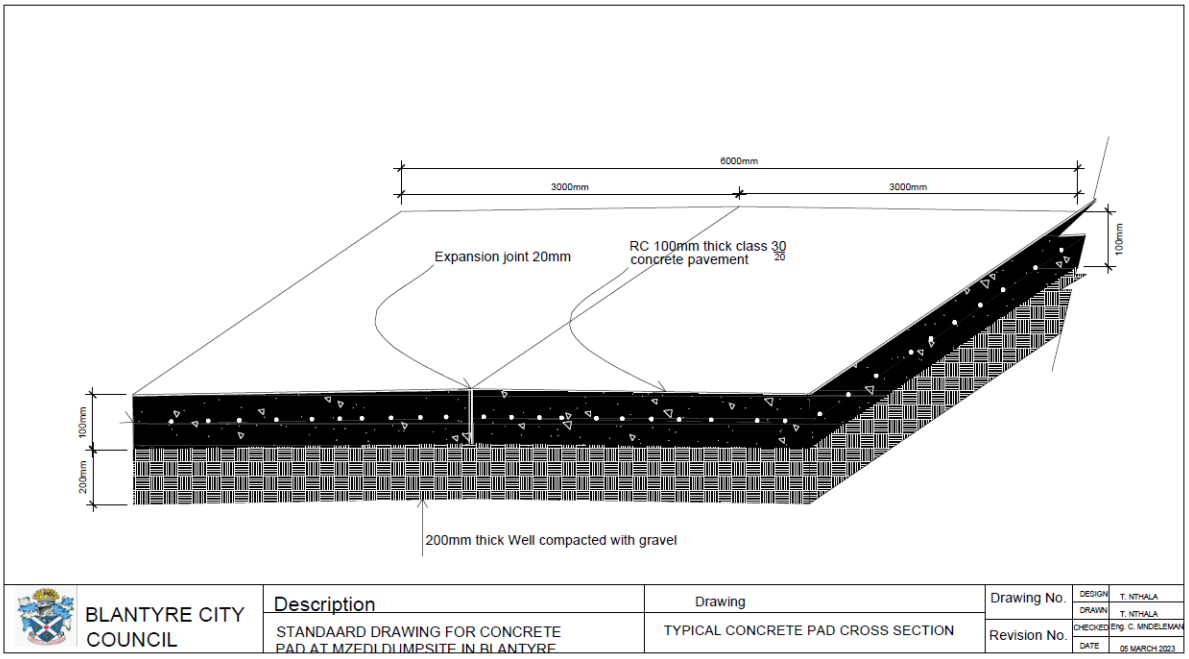

Figure 2: Drawing details for the access road to Mzedi Dumpsite

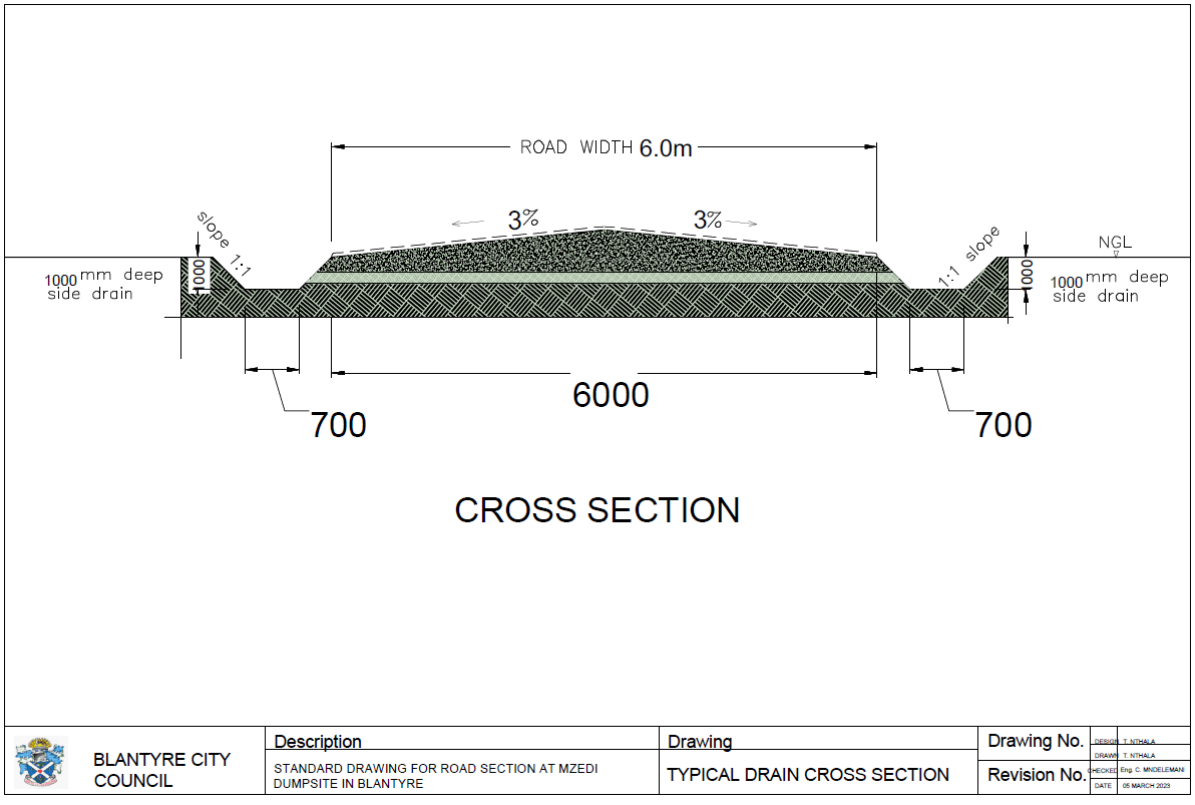

Figure 2: Cross section of the access road to Mzedi Dumpsite

Annex 5: Labour Management Plan

1.0. Introduction

MWSP is expected to utilize hired labour force during upgrading of access road to Mzedi Dumpsite. The Project recognizes that sound worker-management relationships, fair treatment of workers, promotion of gender equality and protection from Gender Based Violence/Sexual Exploitation and Abuse/Sexual Harassment (GBV/SEA/SH) and provision of safe and healthy working conditions enhances development benefits of a project. This generic Labour Management Plan (LMP) for the upgrading of Mzedi access road project is developed to guide/ help the contractor in preparation of specific LMP that will suit the nature, scope, and methodology to be used in delivering the project.

The objectives of this labour management plan are to:

- To promote safety, health, and welfare of workers at workplace.
- To promote fair treatment, non-discrimination, and equal opportunity for project workers.
- To protect project workers, including vulnerable workers such as women, persons with disabilities and migrant workers, contracted workers, and primary supply workers
- To prevent the use of all forms of forced labour and child labour.
- To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.
- To provide project workers with accessible means to raise workplace concerns.

This LMP applies to all Project workers whether full-time, part-time, temporary, or migrant workers. The LMP is applicable to the Project in the following manner:

1. People employed or engaged directly by PIU to work specifically in relation to the Project.
2. People employed or engaged by contractors to perform work related to the core function of the project, regardless of location.
3. People employed or engaged by the primary suppliers under this project.

2.0 Anticipated Labour Use in the Project

2.1 Characteristics of Project Workers

This project is expected to use contractors, consultants, and primary supply workers as human resources available at national, district and community levels.

a) Contracted Workers and Short-term Consultants

The project will engage contractors and short-term consultants to undertake certain assignments such as assessments, systems designs and construction activities. Both contracted workers and short-term consultants will be guided by specific contractual agreements between them and PIU. The timing of the scheduled works and deliverables will be stipulated in their respective contracts; with short-term consultants engaged on a fixed number of days depending on the type and amount of work. Under contractor, workers from the locality/ area of project impact should be given priority for both skilled and unskilled labour.

b) Migrant Workers

The project shall require the contractors to engage workers from the locality of the project's impact area**.** However, where skilled workers are not available in the locality, it is expected that workers

from nearby communities or other parts of the country or other country in case of expatriate labor will be involved.

c) Primary Supply Workers

Primary suppliers are formal businesses required to supply procured materials and/or produce materials subject to lofty standards as stipulated by the Project's procurement Unit. As part of the environmental and social assessment, any new supplier will be vetted regarding compliance with taxes, certification, licensing, and Public Liability Certificate. Only primary suppliers that meet the relevant requirements of this LMP, including identifying potential risks of child labor, will be involved to ensure that all workers who are at least 18 years old will be involved. Issues of forced labor and safety which may arise in relation to primary suppliers will also be under consideration.

3.0 Assessment of Key Potential Labour Risks

Significant use of labour is mostly expected to arise during construction and operation. However, during operation and maintenance, labour services will also be outsourced by private operators and BCC.

The safety and health risks to which the workers may be exposed from each type of work will therefore be assessed. Even the ability to prevent or eliminate such risks or, if the risk cannot be prevented or eliminated, measures to protect workers from exposure will be explored. This will be done through conduction of risk assessment.

a) Key Labour Risks

Potential risks that may arise from the nature of activities to be undertaken include:

- Occupational Safety and Health risks during construction and operation;(e.g., Slips and trips; Fall from height; Cuts and bruises from sharp objects; Ergonomic hazards due to lifting of heavy loads).
- Risk of communicable diseases including COVID-19, Malaria and Cholera to workforce.
- Non-compliance with labor laws and regulations by the contractors.
- Influx of migrant workers.
- Gender Based Violence (GBV), Sexual Harassment (SH), Sexual Exploitation and Abuse (SEA).
- Violence against Children; (Child labor, Defilement, Child Marriage).
- Risk of HIV, AIDS and STIs.
- Risk of exposure to hazardous materials and wastes
- Risk of excess exposure to noise and vibrations
- Increased competition over resources due to influx of labor
- Discrimination and exclusion of vulnerable groups.
- Labor conflicts and poor work conditions

The project will address these risks through the site-specific risk and hazard assessments that were conducted and incorporation of mitigation measures for the identified risks into the environmental and social management plan. Some mitigation measures include providing appropriate and adequate Personal Protective Equipment (PPE) to workers. The risk of child labour will be mitigated through certification of workers' age. This will be done by using the legally recognized documents such as National Identification Card. In circumstances where these documents are not

available, the Affidavit of Birth will be used. Further, awareness raising sessions will be conducted regularly to the communities to sensitize on prohibition and negative impact of child and forced labor. The table below summarizes mitigation measures for potential identified risks.

Item	Potential Risks	Mitigation measures
1	**Occupational Safety and Health Risks during construction**	• Provide appropriate Personal Protective Equipment (PPE) to workers. • Provide regular Occupational Health and Safety (OHS) training including safe work practices and emergency procedures to both old and new workers and training on task risk assessment and incident reporting. • Enforce the use of PPE by workers. • Provide appropriately equipped and accessible first-aid stations at the workplace. • Put appropriate warning signs in areas with elevated risk of safety. • Use of dust control methods such as covers, water suppression on loose materials and surfaces, or increased moisture content for open materials storage piles, to reduce particulate matter and dust exposure, • Develop Standard Operating Procedures (SOPs) to avoid risks, including putting in place an evacuation plan and drills to practice the procedure and plan. Provide firefighting equipment that is easily accessible and simple to use. • Double insulate / grounding all electrical equipment used in environments that are, or may become, wet; to ensure protected circuits. • Conduct detailed identification and marking of all buried electrical wiring prior to any excavation work. • Manage outdoor work, temperature-related stress by monitoring weather forecasts to provide advance warning of extreme weather, scheduling work accordingly and adjustment of work and rest periods according to temperature stress management procedures and safety awareness during storms e.g., prevention from lightning strike by avoiding shelter under trees among other things. • Incorporate rest and stretch breaks into work processes and conducting job rotation.

		• Put in place fall prevention / protection measures e.g., use of safety belts. • Facilitate the formation of Occupational Safety, Health Welfare Committee for the construction works. • Develop OHS Management Plan and ensure its full implementation during construction phase.
2	**Risk of communicable diseases. COVID 19, Cholera and Malaria to workforce,**	• Sensitize workers, on different communicable diseases and ways of preventing them. • Encourage workers and communities to go for voluntary screening/ medical check-up/testing. • Provide Information, Education and Communication materials on different communicable diseases. • Provide adequate supplies of potable drinking water. • Provide clean eating areas where workers are not exposed to hazardous or noxious substances including germs. • Provide adequate lavatory facilities. • Eliminate unusable impounded water. • Promote use of repellents • Provision of hand washing facilities and soap • Enforce the use of face mask. • Encourage social distance
3	**Non-compliance with labor laws and regulations by Contractors**	• All project workers including contractors' personnel should sign a Code of Conduct and contract before commencement of construction works, which contains among other issues, labor related laws and regulations; and • Sensitize workers on labor related issues and regulations to ensure that they comply.
4	**Increased risk of influx of migrant workers – Competition over local resources**	• Engage all non-skilled labor force from surrounding communities to minimize the risk of migrant workers and associated negative impacts. In situations that the required skills are found within the surrounding communities these should be given priority.
5	**Gender Based Violence**	• Sensitize workers and surrounding communities on prevention and response to Gender Based Violence. • Put in place GM that is GBV responsive and popularize it. • Provide equal employment opportunities to men, women, youth, and people living with disabilities. • Prepare, adopt, and implement worker's code of conduct.

	• Sexual Harassment, • Rape	• Advertise available works and be transparent in the employment process. • Sensitize workers and surrounding communities on issues of Sexual harassment and rape. • Put in place robust Grievance mechanism that is SEA responsive and make it known to workers and surrounding communities/ implement a Workplace Policy on Sexual Harassment.
	• Discrimination	• Provide equal opportunities to men, women, youth, and people living with disabilities.
6	**Violence against Children–**	• Sensitize surrounding communities on issues of violence against children. • Employ people that are aged 18 and above;
	•	•
	• Child labor	• Sensitize surrounding communities on issues of Child labor. • Employ people that are aged 18 and above and ensure national Identity is used during employment to verify the age. • Restrict under-aged to do business on the project site. • Restrict workers from buying merchandise from children. • Put in place and make known reporting mechanisms for child labour. • Display warning signage on child labour at strategic places
7	**Risk of contracting HIV and AIDS and other STIs - Risk extended to both workforce and local community**	• Sensitize workers, and surrounding communities on HIV and AIDS and other STIs. • Provide free condoms to workers; and • Provide Information, Education and Communication materials to workers.
8	**Risk of Contracting COVID-19**	• Raise awareness of COVID-19 best practices for construction site to workers. Implement COVID-19 best practices for construction sites.
9	**Sexual Exploitation and Abuse (SEA) – Both for workforce and local communities,**	• Prepare and implement GBV and SEA Action plan. • Carry out community sensitization. • Prepare, adopt, and implement workers code of conduct. • All workers to sign a code of conduct. • Conduct Toolbox Talks on SEA • Sensitize workers and surrounding communities on issues of SEA.

		• Restrict under-aged to do business on the project site. • GM should comprehensively integrate issues of SEA and ensure its responsive • Put in place and make known reporting mechanisms for SEA
10	**Discrimination and exclusion of vulnerable groups;**	• Development of Grievance Mechanism (GM). • Implement a deliberate policy for gender equality; and • Develop deliberate mechanism to monitor participation of vulnerable groups in all activities
11	**Labor disputes and conditions of employment.**	• Establishment of Workers Grievance Redress Mechanism (WGRM); and • Implementation of this LMP.
12	**Increased competition over resources due to influx of labor**	• Employ more locals. • Conduct sensitization of workers on the need to bring along their resources to avoid competition on the existing resource.
13	**Risk of exposure to hazardous materials and wastes**	• Avoiding and minimizing the use and release of hazardous materials, for example, non-hazardous materials can substitute asbestos in building materials. • Preventing uncontrolled releases of hazardous materials to the environment e.g., paint, oils etc. Indoor secure storage, and sealed containers rather than loose storage • Hazard communication and training programs to prepare workers to recognize and respond to workplace chemical hazards.
14	**Risk of exposure to excess noise and vibrations**	• Ensure noise exposure by workers should not exceed 85 dB (A) for more than 8 hours per day without hearing protection. • Choose equipment that is associated with low vibration and noise production, • Install vibration dampening pads or devices, • Limit duration of exposure of vibration per individual worker

4.0 Brief Overview of Labour Related Legislation

4.1 Occupational Safety Health and Welfare Act (1997)

The Occupational Safety Health and Welfare Act (1997) provides a framework for employment conditions in workplaces regarding safety, health, and welfare of workers. The Act directs the prevention of accidents occurring to persons employed or authorized to go into the workplaces or

the public; through implementation of identified mitigation measures for the identified potential hazards to safety and health. General safety facilities stipulated for most workplaces include the following: adequate ventilation, cleaning materials and cleanliness of workplaces, lighting, washing facilities, change rooms for workers, sanitary conveniences and first aid kits. Both employers and employees are sensitized on basic procedures for proper use and operations of the welfare and safety facilities within workplaces. Non–compliance or negligence with the use of work safety facilities is an offence under sections 82 and 83 of the acts. Penalties include a fine of up to MK200, 000.00- and 12-months imprisonment of the offenders.

Section 56 and 57 provide guidelines for prevention fire out breaks, and control of incidences of fire outbreaks within workplaces. Section 57 stipulates some recommended means of fire escapes from workplaces. Among the means are properly labeled exit points which must be kept free of obstruction, emergency escape doors and emergency assembly points. Section 58 stipulates the provisions of protective clothing (such as gloves, footwear, screens and goggles, earmuff and head covering) to protect workers from excessive exposure to nuisances with some work activities. And section 59 stipulates the provisions for breathing masks to employees against excessive emissions of dust and fumes.

In order, to ensure that the working environment is free of health and safety risks and hazards the project shall ensure that proper mechanisms are put in place such as proper documentation and reporting of accidents and provision of preventive and protection measures.

4.2 Employment Act (2000)

The employment Act of 2000 reinforces and regulates minimum standards of employment with the purpose of ensuring equity necessary for enhancing industrial peace, accelerated economic growth and social justice; and for matters connected therewith and incidental thereto. Part II of the Act states fundamental principles guiding the Act, and these include:

Section 4(1) - Prohibition against forced labour
Section 5(1) - Anti-discrimination
Section 6(1) - Equal pay
Section 7 - Remedies for infringement of fundamental rights

Part IV of the Employment Act prohibits child labour and provides restrictions on employment of young persons as stated in sections 21(1) and 22(1) as follows:

"*21. (1) subject to subsection (2), no person under the age of fourteen shall be employed or work in any public or private agricultural, industrial, or non-industrial undertaking or any branch thereof.*

22. (1) No person between the age of fourteen and eighteen years shall work or be employed in any occupation or activity that is likely to be - (Hazardous work)

(a) harmful to the health, safety, education, morals, or development of such a person; or
(b) prejudicial to his attendance at school or any other vocational or training programme."

Therefore, when employing people for the project's implementation, Contractor will have to ensure that the provisions of this Act are complied with.

4.3 The Labor Relations Act (1996)

The Labour Relations Act promotes sound labour relations through the protection and promotion of freedom of association, encourages effective collective bargaining and promotes orderly and expeditious dispute settlement, conducive to social justice and economic development.
Part V of the Act stipulates dispute settlement procedures by presenting ways and channels of dispute resolution. Furthermore, it encourages the establishment of internal dispute handling machinery as a primary platform to receive and handle workplace matters before the involvement of a third party.
Pertaining to this project, Contractor will utilize the Project's Grievance Redress Mechanism and facilitate the formation of Workers Grievance Redress Management Committees to provide an opportunity for reporting and settlement of grievances from workers. In addition, Occupational Safety, Health, and Welfare Committees shall be instituted at the construction site to promote contact and dialogue.

4.4 Workers Compensation Act (2000)

The Workers Compensation Act of 2000 provides for compensation for injuries suffered or diseases contracted by workers in the course of their employment or for death resulting from such injuries or diseases. Section 4 (1) states that if an injury, other than the contraction of a scheduled disease, arising out of and in the course of employment is caused to a worker, the employer shall, subject to this Act, be liable to pay compensation in accordance with this Act.

To comply with this Act, the Contractor will ensure that all eligible occupationally injured workers are compensated accordingly. Contractor will be required to report to the nearest Labor Office every occupational accident that incapacitates a worker from earning wages for at least 7 days within 21 days (about 3 weeks) of occurrence as stipulated in section 24 of Workers Compensation Act. To check Contractor's compliance with this regulation, workers under the Project and their safety committees will be sensitized to the Workers Compensation Act provisions.

4.5 Gender Equality Act (2013)

The Gender Equality Act, 2013, among other things, promotes gender equality, equal integration, influence, empowerment, dignity, and opportunities, for men and women in all functions of society, to prohibit and provide redress for sex discrimination, harmful practices, and sexual harassment. Section 7 of this Act sets a provision for workplace policy to address issues of sexual harassment. Sexual harassment may be in a form of physical conduct like rape, verbal conduct like comments on a worker's appearance and nonverbal conduct like whistling. The main objective of this section is to eliminate all forms of sexual harassment emanating from work environments. It encourages the formation of grievance redress mechanism where sexual harassment cases are to be reported and through which all perpetrators are disciplined accordingly. Since victims of abuse are at risk of becoming trapped in a cycle of abuse, matters of sexual harassment need to be dealt with seriously, expeditiously, sensitively, and confidentially. Employers have a mandate to protect all employees from sexual victimization, vengeance for reporting sexual grievances and false accusations.

To address all sexual harassment issues, Contractor will implement a Workplace Policy on Sexual Harassment as provided under part 7.1 of Gender Equality Act 2013. This Act requires that persons subjected to sexual harassment exhaust internal sexual harassment procedures before commencement of prosecution or civil proceedings in the court of law. In view of this, the project

will integrate GBV/ SEA/ SH into its GRM and implement mitigation measures using GBV Action Plan.

4.6 Gender Policy (2015)

The Gender Policy aims at guiding gender mainstreaming and women empowerment initiatives for attainment of gender equity and equality in Malawi. The policy emphasizes an inclusive approach in all developmental matters.

Policy Priority Area 7 talks of Gender Based Violence. The GBV which is especially violence against women, girls, and the vulnerable groups, has been recognized by the Malawi Government as a severe impediment to social wellbeing and poverty reduction. If national development is to be achieved, then eradication of GBV is critical. For this reason, the policy statement requires that: laws and policies be formulated and enforced to eliminate GBV and human trafficking; response and access to socio-economic services are improved to address gender-based violence and human trafficking; and knowledge, attitudes and practices on Gender Based Violence are improved.

To mitigate GBV during the implementation of the Project, the contractor shall be tasked to address the risks of GBV through; conducting compulsory training and awareness to workers advising them to refrain from unacceptable conduct toward community members, specifically women. These trainings can be repeated from time to time; enlighten workers about national laws that make sexual harassment and gender-based violence a punishable offence; and adopt a policy to cooperate with law enforcement agencies in investigating complaints about GBV.

Policy Priority Area (PPA) 5 talks of Gender in Governance and Human Rights. This PPA states of women's active participation in politics and decision-making positions is a right and ensures good governance, transparency, and accountability. Women and men should be equally represented in politics and decision-making positions to fully realize democracy and achieve sound governance and sustainable development in Malawi.

Deliberate actions need to be adopted to make sure that women and youth are included in decision making positions and in economic activities. For this reason, Contractor will give priority to women with construction skills to take part in civil works activities. In the same scenario, all committees for the project, will have a quota for women inclusion.

4.7 HIV/AIDS (Prevention and Management) Act (2017)

This Act make provision for the prevention and management of HIV and AIDS; to provide for the rights and obligations of persons living with HIV or affected by HIV and AIDS; to provide for the establishment of the National AIDS Commission; and to provide for matters incidental thereto or connected therewith.

This Act specifies the following among other issues.

- Responsibilities of Minister with regards to HIV/AIDS issues, prevention, and management
- Prohibition of harmful practices that can expose others to contracting HIV/AIDS
- Issues of Subjecting another to a harmful practice(s)
- HIV and AIDS discrimination
- Rights and duties of persons living with or vulnerable to contracting HIV.
- Rights of persons affected with HIV.
- Right to privacy and confidentiality

- HIV transmission and testing

Subject to section 26, a person who is living with HIV or vulnerable to contracting HIV, has right to (a) dignity, physical integrity, life, and health; (b) practice a profession of choice; (c) compensation associated with the restriction of his enjoyment of his rights; and (d) free medication, at a State medical institution, necessary for anti-retroviral therapy or treatment of an HIV related disease. Additionally, the law prohibits discrimination related to HIV or AIDS. This implies that even those living with HIV or vulnerable to HIV infection will be accepted to be employed within the project without discrimination. For those already infected, shall be allowed to access treatment according to law.

Furthermore, this Act, recognized modes of transmission of HIV as through (a) sexual activity; (b) mother to child during pregnancy, labour, delivery, or breastfeeding; (c) transfusion of infected blood; (d) transplant of an infected organ; (e) contact of broken skin or mucus membrane with infected blood, blood products or tissue; and (f) contact of broken skin or mucus membrane with contaminated wet objects. Relevant to this project, sexual activity as the main modes of transmission of HIV within the project site is recognized. The project should therefore sensitize the dangers of engaging in sexual activities and harassment among workers and with community members surrounding the work site. This shall include providing condoms to prevent infections in places where the project will be implemented.

The act also specifies modes of HIV testing to include (a) Voluntary Counseling and Testing; (b) routine testing; (c) diagnostic testing; (d) compulsory testing; and (e) any other mode of HIV testing that the Minister may prescribe. Efforts should be put in place to enable voluntary counseling and routine testing.

Through this Act, the Contractor will ensure that no worker is discriminated against or denied practicing a profession of choice due to their HIV status. Additionally, a copy of the HIV/AIDS workplace policy should be in place in all work sites. This policy will then facilitate actions for prevention and management of HIV/AIDS at workplace.

4.8 Malawi National HIV and AIDS Policy (2003)

The Malawi National HIV and AIDS policy's main goal is to prevent HIV/AIDS infections, to reduce vulnerability to HIV and AIDS, to improve the provision of treatment, care and support for people living with HIV and AIDS and to mitigate the socio-economic impact of HIV and AIDS on individuals, families, communities, and the nation.

Chapter 7 of the Policy observes that in workplaces unfair discrimination against people living with HIV and AIDS has been perpetuated through practices such as pre-employment HIV and AIDS testing, dismissal for being HIV and AIDS positive and the denial of employee benefits if known to be infected. HIV and AIDS affect every workplace. Absenteeism and death impact on productivity, employee benefits, production costs and workplace morale.

The project will have the potential to create job opportunities to the locals that will make them have disposable income and this can lead to sexual interaction between workers and with the surrounding communities which will probable cause spread of HIV and AIDS. As a way of implementing the Malawi National HIV and AIDS policy, Contractor will implement an HIV/AIDS workplace policy and prevention, treatment, care, support, and impact mitigation programmes as one way of effectively reducing and managing the impact of HIV and AIDS in the workplace.

4.9 Malawi Public Health (Coronavirus and Covid-19) Prevention, Containment and Management Rules (2020)

On 7 August 2020, the Government of Malawi gazette Public Health (COVID-19) prevention, containment and management rules which came into force on Saturday 8 August 2020. The rules contain general preventive measures to contain the escalation of COVID-19 in various sectors including the workplace. The measures stated in these COVID-19 rules include mandatory wearing of face masks in public places, physical distancing of at least one meter from each other and washing hands with soap. The measures also include restrictions on gatherings of more than fifty people except for national assembly and meetings to discuss COVID-19. Observations have shown that Workplaces are amongst places where COVID-19 spread has thrived and spread of COVID-19 among workers has been common.

During the Project implementation, the COVID-19 guidelines for construction site must be strictly followed at the site, including any other rules and regulations which may be introduced by Government in a bid to prevent and/or contain and manage COVID-19 spread among workers.

4.10 International Labour Organization (ILO) and United Nations (UN) Conventions

Malawi is a signatory to International Labor Organization (ILO) and United Nations (UN) Conventions. Such being the case, most of the provisions in the ILO Conventions are incorporated in Malawi's labor related legislation. These include:

- ILO Convention 87 on Freedom of Association and Protection of the Right to Organize.
- ILO Convention 98 on the Right to Organize and Collective Bargaining.
- ILO Convention 29 on Forced Labor.
- ILO Convention 105 on the Abolition of Forced Labor.
- ILO Convention 138 on Minimum Age (of Employment).
- ILO Convention 182 on the Worst Forms of Child Labor.
- ILO Convention 100 on Equal Remuneration.
- ILO Convention 111 on Discrimination (Employment and Occupation).
- ILO Convention 155 on Occupational Safety and Health
- ILO Convention 187 on Promotional Framework on Occupational Safety and Health

4.11 Labour and Working Conditions

This section outlines requirements on occupational safety and health for this project. It emphasizes non-discrimination and equal opportunity; provides for the treatment of direct, contracted, primary supply workers and officials of Contractor participating in the project. It also provides for protection of vulnerable workers such as women, persons with disabilities and children from labour. Additionally, it spells out the need for a grievance mechanism for the project workers as an accessible means to raise workplace concerns.

Regarding Occupational safety and health requirements, employers and supervisors are obliged to implement all reasonable precautions to protect the health and safety of workers. This LMP provides guidance and examples of reasonable precautions to implement in managing principal risks to occupational health and safety; and it is advisable that PPPC should hire contractors that have the technical capability to manage the occupational health and safety issues of their employees, extending the application of the hazard management activities through formal

procurement agreements. Preventive and protective measures should be introduced according to the following order of priority: (a) Eliminating the hazard by removing the activity from the work process. Examples include substitution with less hazardous materials, using different processes and ways of doing things, etc.; · (b) Controlling the hazard at its source: through use of engineering controls. Examples include local exhaust ventilation, isolation rooms, machine guarding, acoustic insulating, etc.; · (c) Minimizing the hazard through design of safe work systems and administrative or institutional control measures. Examples include job rotation, training safe work procedures, lock-out and tag-out, workplace monitoring, limiting exposure or work duration, etc. · (d)Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE. The application of prevention and control measures to occupational hazards should be based on comprehensive job safety or job hazard analyses. Training of designated members of project implementation committees responsible for overseeing occupational health and safety issues should therefore be an integral part of project implementation. The training should also include transfer of skills on how to set up OHS management plan/procedures for the project.

To ensure equal opportunity among workers, issues of discrimination based on gender, disabilities, and other issues e.g., disease are prohibited while supporting the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.

Work related Grievance mechanism is also a key component. GRM provides a platform for raising workplace concerns and its respective ways of redressing grievances. A grievance mechanism will therefore be provided for all workers under the project implementation. Measures will have to be put in place to make the grievance mechanism easily accessible to all project workers and design ways to address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned, without any retribution, and carried out in an independent and objective manner. The table below gives highlights of provisions under the national labour related pieces of legislation.

	Provision	**Labour Legislation**
1	Fundamental employee rights, non-discrimination	This is provided for under Part II of the Labour Relations Act (1996)
2	Contractual arrangements, terms and working conditions of workers	This is provided for under Part V and VI of Employment Act (2000)
3	Working hours	This is provided for under Part VI of Employment Act (2000) specifically Sections 36 which is on 'Normal working hours, weekly rest etc."; and Section 37 on 'Maximum daily working hours.
4	Salaries and wages and frequency of payments	This is provided for under Part VII of Employment Act (2000) specifically on Sections 50 to 55
5	Leave provisions – annual, maternity, sick and holidays	This is covered in Employment Act (2000) specifically under Part VI (sections 40,44,45,46 and 47)
6	Retrenchment/termination of contract arrangements	This is provided for Under Part V Sections 28, to 31 of the Employment Act of 2000, Employment (Amendment) Act 2010

7	Prohibition against all forms of child labour	This is provided for under Part IV of the Employment Act of 2000 on 'Employment on young persons' specifically in sections 21 to 24 and in Childcare, Protection and Justice Act of 2010.
8	Prohibition against forced labour	This is provided for under Part II of Employment Act (2000), specifically on section 4
9	Freedom or association and labor unions;	This is provided for under Part II of the Labour Relations Act (1996)
10	Dispute resolution/grievance management systems	This is provided for under Part V of the Labour Relations Act (1996)
11	Safety provisions	Covered under Part V and VI of the Occupational Safety, Health, and Welfare Act of 1997
12	Health and employee welfare provisions	This is provided for under Part IV and VI of the Occupational Safety, Health, and Welfare Act of 1997

5.0 Gender Based Violence and Sexual Exploitation and Abuse (GBV and SEA)

Gender-based violence is violence directed against someone on the basis of gender, it is rooted in gender inequality, and it is a human rights violation. It can affect both males and females, but majority of the victims are women and girls. It can involve physical, verbal, emotional, sexual and psychological abuse, threats, coercion and deprivation.

Sexual Abuse

The actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions. It includes sexual slavery, pornography, child abuse and sexual assault.

SEA

The actual or attempted abuse of someone's position of vulnerability (such as a person depending on you for survival, food rations, education, transport, or other services), differential power or trust, to obtain sexual favors, including but not only, by offering money or other social, economic, or political advantages. It includes trafficking and prostitution.

The subproject has potential to cause GBV, SEA and SH. SEA and harassment may take place at workplace when individuals who are charged with responsibility of employing or supervising others lure members of opposite sex to have sex with them in exchange for employment or some favors.

Other GBV/SEA incidences may arise especially in situations whereby particular workers have received salaries or wages and are forced to surrender the cash to spouses or cases of forced sexual relationships in return for employment. The payments may also be used to lure adolescents, students, and children into unsafe sexual practices.

The project will carry out GBV and SEA risk assessment at all specific project impact areas to develop and implement GBV/SEA action plans for mitigating GBV and SEA issues. The mitigation actions shall include regular sessions to create awareness of GBV/ SEA/SH and its negative effects among workers and nearby local communities. In all cases, the incidents of

GBV/SEA/SH will be reported and dealt with through a GRM procedure, which has protocols to manage information sharing and confidentiality of the survivors and alleged perpetrators.
Nevertheless, since GBV/SEA/SH cases are substantively different from other complaints that are typically handled through the normal workers or project grievance redress mechanisms, such cases will be managed though other channels within the project GRM depending on whether the offender is a worker or not. Overall, information will have to be treated as confidential. The specially formed GRM committee will be oriented on how to approach and refer GBV/SEA survivors to a safe and ethical GBV/SEA service provider. Consequently, some of the GBV/SEA cases such as those on rape which are criminal in nature will be reported to police directly and immediately. All cases, however, will be reported to the PIU within 48 hours (about 2 days).

6.0 Policies and Procedures

This section outlines the main policies and procedures to be followed during Project implementation, especially during construction and operations. When the need arises, this section will be updated.

6.1 General Policies and Procedures

The project implementation will be guided by all national labour related laws presented in Chapter 5 including the International Labour Organization (ILO) conventions to which Malawi is a party.

The principles and procedures presented below represent the basic requirements but should not be considered an exhaustive list of requirements. As specified in the legal framework presented in Chapter 5 of this document, employment of project workers will be based on the principles of non-discrimination and equal opportunity. There will be no discrimination regarding any aspects of the employment relationship, including recruitment, compensation, working conditions and terms of employment, access to training, promotion, or termination of employment.
The following minimum requirements shall therefore guide the recruitment and management of project workers:

- Recruitment procedures will be transparent, public, and non-discriminatory, and open with respect to ethnicity, religion, sexuality, disability, or gender.
- All vacancies for recruitment of skilled and unskilled workers, security personnel, contractors, and consultants, will be advertised through posts and public announcements in all the project impact areas e.g., notice boards, churches/ mosques, online and any other places deemed accessible by people. Clear job descriptions will be provided before recruitment and will explain the skills required for each post.
- All contract workers will have written contracts describing terms and conditions of work and will have the contents explained to them. Workers will sign the employment contract.
- Unskilled labour will be preferentially recruited from the affected communities:
- Where notice of termination of contract is applicable, the party to terminate the contract will give the other party notice prior to the date of contract termination in accordance with section 29 of Employment Act, 2000.
- The contracted workers will not be required to pay any hiring fees.
- Depending on the origin of the employer and employee, employment terms and conditions will be communicated in a language that is understandable to both parties.

- In addition to written documentation, an oral explanation of conditions and terms of employment will be provided to workers who may have difficulties in understanding the documentation.
- Interpretation will be provided for workers, as necessary. It is noted that language-related problems are not expected; and
- All workers will be at least 18 years old.

A worker's code of conduct will be developed clearly stating penalties for breach of conduct and implemented. The code of conduct aims at preventing and/or mitigating social risks in the project's context.

6.2 Occupational Health and Safety (OSH) compliance

The requirements of the Occupational Safety, Health, and Welfare Act, 1997 will be complied with through conducting site-specific risk assessments and development of appropriate risk prevention and mitigation measures (OHS management plan/procedures). Where risk is evident, the project will seek to eliminate, control, and minimize the hazard before prevention by provision of personal protective equipment (PPE). This will be coupled with training of workers by contractors on the use of PPE. The table below provides some of the mandatory PPE for specific workers:

Type of PPE		**Type of workers**
	Hard Hat/helmet	All construction workers
	Gum Boots/safety boots	All construction workers and Security Personnel
	Reflectors	All construction workers and Security Personnel
	Dust Masks	Construction workers particularly those involved in land clearing, trenching and excavation and concrete mixing
	Gloves	All Construction workers
	Earmuffs	Construction workers particularly operate heavy machinery including steel cutters, carpenters, etc.
	Safety Goggles	Construction workers particularly those involved in land clearing, trenching and excavation, concrete mixing, and welding
	Cloth or surgical masks	All workers in the Programme for control of spread of COVID-19
	First Aid Kit	Accessible to all workers
	Overalls/ Work suits	All construction workers
	Raincoats	All Security Personnel and other construction workers

During operations and maintenance, measures that deal with and/or prevent OHS risks will also have to be implemented. During this stage, the anticipated risks are those related to natural disasters/events or human-caused events (e.g., fires, etc.). It is therefore important to ensure that workplace structures should be designed and constructed to withstand the expected risks and area(s) should be designated for safe refuge, if appropriate. Standard Operating Procedures (SOPs) should also be developed for the project, including an evacuation plan.

6.3 Welfare Facilities on Construction Site

The contractor will be required to always ensure that the following minimum welfare facilities are provided at the construction site under the project:

- Constant supply and accessibility of safe drinking water.
- Availability of changing rooms and lockers for men and women.
- Shelter and facilities for rest.
- Sanitary and toilet facilities for men and women.
- Washing facilities.
- Canteen/facility for meals

6.4 Responsibilities and Reporting OHS Incidents and Accidents

Immediate reporting of OSH noteworthy events and accidents is an integral part of the project implementation as per the Occupational Safety, Health, and Welfare Act, 1997 and Bank's ESS 2. The Contractor is responsible for reporting incidents to all PIU and other relevant authorities within 48 hours (about 2 days).

With respect to reporting incidents and accidents, the following procedures must be followed:

- Promptly notify PIU of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, local communities, the public or workers.
- Provide sufficient detail regarding the incident or accident, indicating immediate measures taken or that are planned to be taken to address it, and any information provided by any contractor and supervising entity, as appropriate.
- Subsequently, as per the developer request, prepare a report on the incident or accident and propose any measures to prevent its recurrence.
- Notify the appropriate authorities within stipulated legislative periods after learning of the incident or accident with the submission of any required subsequent report.

Other than incident/accident-based reporting, regular reporting of OHS issues must be done. This can be done through preparing and submitting regular monitoring reports to the developer. This should be done in tandem with reporting of other aspects of the project e.g., status of implementation of the project, functioning of the grievance mechanism(s) etc.

7.0 Age of Employment

The Employment Act (2000) sets the minimum age of persons to enter employment in Malawi as 18. This is also stipulated in the International Labour Organization Convention (138) on minimum age. These two legal instruments prohibit the employment of underage children. However, according to Section 21 of the Employment Act, children between the ages of 14 and 18 are

allowed to participate in light work so long as it does not interfere with the child's education or harm the child's health or physical, mental, spiritual, moral, or social development. Under the Project, children under the age of 18 will **NOT** be employed to work in the project activities because the activities are not regarded as light work. National Identity card will be used to verify the age of workers. The following procedure will be followed if a child is found employed by contractors/suppliers:

- Underage workers identified will be removed; and
- The culprits of child labour shall be reported to relevant authorities where child labour issues are handled e.g.to the Labour Office.

All these conditions will be included in the codes of Conduct which will be signed by Contractors to ensure that the conditions are not only enforceable but are also legally binding. Further, awareness raising sessions will be conducted regularly to the communities to sensitize them on prohibition and negative impact of child and forced labour.

8.0 Contractor Management

The project anticipates contraction of construction service providers to be engaged in the construction. The contractors will have personnel who will be involved in the work in various institutions.

To ensure fair competition and transparency, the selection of contractors will be based on the Government of Malawi's Public Procurement and Disposal of Assets Authority (PPDA) procedures which regulate the engagement of contractors. This includes:

- Competitive bidding through transparent open advertising.
- Short listing and selection of contractors and
- Contractual signing.

Contractors will be required to develop and sign a contractors' ESMP that will also include issues of code of conduct, GBV, SEA, SH, child labour prevention and response, and GRM at contractor's worksite. Similarly, it will ensure that issues concerning subcontracting are done with the consent of the Government. In ensuring that there is compliance with the requirements of this LMP by contractors the project will regularly monitor and evaluate activities of contractors in line with the projects M & E and Environmental and Social Management framework (ESMF). The project will also strengthen awareness among workers to ensure that they are aware of their entitlements.

9.0 Code of Conduct

The code of conduct aims at preventing and/or mitigating social risks within the project's context. Social risks that may arise include GBV/SEA; SH; Discrimination; HIV/AIDS infection and prevention and Occupational Health and Safety.

Contractors who will be engaged under the project will be required to develop and implement a code of conduct that will commit them to create and maintain an environment which prevents social risks. The developed code of conduct will be reviewed by PIU. The contractor will be required to communicate clearly to all those engaged on the project the behaviors which guard against any form of abuse and exploitation to prevent social risks.

Annex 6: Chance Find procedure

Introduction

Chance Find Procedures outline, step by step, what needs to be done when projects come across archaeological sites, historical sites, remains and objects, including graveyards or individual graves during excavations or construction. This procedure responds to Environmental and Social Standard (ESS) 8, Cultural Heritage. This ESS addresses physical cultural resources defined as movable or immovable objects, sites, structures that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be in urban or rural settings and may be above or below the ground. The implication of this ESS in this project is that the road upgrading works will involve earth works, excavation of debris and trenches for the road drainage system. Therefore, it is probable that a physical cultural resource can be found, hence the need for a procedure to outline how this can be handled.

In case of any chance finding, the following procedure will be implemented:

a) Stop the construction or excavation activities in the chance find.
b) Delineate the discovered site or area.
c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities, or the Department of Antiquities take over.
d) Notify the Social Specialist of Malawi Water and Sanitation Project Implementation Unit or the Project Manager who in turn will notify the responsible officer in the Departments of Antiquities immediately (within 24 hours or less).
e) A responsible officer from the Department of Antiquities would protect and preserve the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings by the archeologists. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values.
f) Decisions on how to handle the finding shall be taken by the authorities responsible for the Department of Antiquities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration, and salvage.
g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Department of Antiquities to Blantyre Water Board; and
h) Construction work could resume only after permission is given from the responsible local authorities or department responsible for culture or antiquities concerning safeguard of the heritage.

Annex 7: Traffic Management Plan

Introduction

The upgrading of access road to Mzedi Dumpsite require significant movement of traffic to facilitate haulage of materials, movement of equipment, and deployment of project personnel from one point to the other to undertake various project related tasks and removal of waste from construction site to designated disposal site. Project traffic must use public roads, direct access routes, and community spaces for movement. In addition, the construction/ upgrading of the road will utilize a busy road (Blantyre Zomba Road) before branching into the Mzedi access road. Along the Mzedi access road a diversion route will be constructed to accommodate traffic (waste collection vehicles, waste pickers, etc.) to access the dumpsite which the road is being constructed, depending on situation, the Mzedi access road may be closed on one side/ section for construction activities and opened on the other side/ section for traffic to and from the dumpsite.

Therefore, there is potentially dangerous interaction between project activities and regular traffic (both automobiles and pedestrians), and this calls for a need for controlled traffic movements. It also calls for meticulous planning and control of all the project activities and project vehicles that will support the construction activities.

Key information/focus areas

- Purpose of the Traffic Management Plan
- Objectives of the TMP
- Activities
- Traffic and road safety risks
- Risks identification
- Traffic and road safety risk mitigation
- Risk management and control.
- Training
- Resources

Purpose

The purpose of this generic Transport Management Plan (TMP) to provide the contractor with reference material for preparation of specific TMP that will suit the nature, scope, and methodology to be used in the construction/ upgrading of the access road to Mzedi Dumpsite. This will be included/ annexed in the Contractor`s Environmental and Social Management Plan that will provide specific traffic and road safety risk details and provide measures to avoid, prevent, minimize, or eliminate the risks.

Objectives

- To protect workers and the public from traffic hazards that may arise from the project.

- To minimize disturbance to the road users (motorist, cyclists, and pedestrians) while undertaking the project activities
- To manage potential adverse impacts on traffic flows
- To instill discipline in the project operators and drivers.
- To ensure all project automobiles are in good working order and protect the environment from pollution.

Activities

- Project vehicles deliver construction materials such as cement along the access road.
- Vehicles and heavy machines driving to and from the site, as well as on-site.
- Heavy machines operating on the construction site.
- Heavy machines moving materials to construction site.
- Pedestrians to and from the site and on-site.
- Individuals riding/cycling to and from the work site or within the project perimeter.
- Project vehicles collect refuse/ waste from the work site.
- Project vehicles using the same road used by Pedestrians, cyclists, motorists.
- Construction of diversion route along the same Mzedi access road
- Closing one section of the Mzedi access road for construction activities and open the other section for traffic to and from the dumpsite.

Risks

The contractor will have to identify sources of risks, areas of impacts, events, and their causes, and their potential consequences. The following are some of the major hazards/risks and key receptors based on expected project site, project activities and implementation:

- Cyclist's and Pedestrian's behavior.
- Public transport.
- Populated areas.
- Heavy and overloaded vehicles.
- Operation of heavy plants and vehicles.
- Traffic access into and out of the main roads.
- Unlicensed/inexperienced drivers.
- Poor vehicle condition.
- Absence of or faded or vandalized warning signs.
- Presence of waste pickers on the road as they are trying to access the dumpsite.
- Unfamiliar routes (diversions) and

Risk identification.

There are so many ways of identifying traffic and road safety. One of the ways to first to look at the nature of work/ activities, the environment in which the work is to be undertaken and groups of people or properties to be affected at various stages/ phases of the project. The table below provides some of the groups that would be affected and guides questions to establish the risk.

Table 1: Guiding Questions for Identifying Overall Project Traffic and Road Safety Risk

At Risk Group	During Project Implementation Phase	During Project Operation Phase
Project Workers	- What are the operating speeds and traffic environment at project's constructions areas? - Are the workers protected from traffic by safety barriers? (e.g., if construction workers are near traffic and operating speeds are not managed down to 30km/h, in the absence of safety barriers effectively protecting workers the risk is high). - What is the complexity of civil work? - What is the level of traffic enforcement in the country in general, and the project area in? - particular?	Should be recognized that these issues apply during construction as well as for maintenance work during road operations
Affected Communities	- Who are the affected-communities and where they are located relative to the project road or sites? - How much exposure will be affected- communities have to construction traffic, not just at the work site but on haul routes, etc.? - Are there particularly vulnerable sites such as schools and hospitals affected by the construction site or haul routes? - What will be the impact on mobility and accessibility of communities given current usage? and mobility needs?	The extent to which infrastructure improvements can mitigate any increase in speeds is likely to rise. Provision of facilities to protect vulnerable users. How the mobility and accessibility of communities will be affected during the operation phase

Road Users	- To what extent will construction impact on road users, particularly vulnerable ones (i.e., pedestrians, cyclists, motorcyclists)? - Does the current level of traffic enforcement create a general deference atmosphere leading to general compliance with traffic regulations?	- Baseline FSI risk along the project roads-and FSI risk from improved facilities Road safety management capacity and institutional framework - Road safety infrastructure facilities - Speed management potential. - Vehicle safety levels - Use of restraint systems by occupants - Post-crash care - Traffic growth and composition
Overall Project Traffic and Road Safety Risk	- Summarize the Risks during project Implementation focusing on highest risk areas	- Summarize the Risks during Project Operation focusing on highest risk areas

Risk mitigation measures

To prevent negative interference with the communities, pedestrians, motorists, and others road users the contractor shall implement mitigation measures which include but not limited to the following.

a. **Community/public sensitization about the project** – use meetings, signposts to communicate to the public about the work being undertaken. A Health and Safety Officer available in every work section shall also communicate with those who may ask about the work being undertaken.
b. Put hoarding fence, **cones, and barrier tapes** to demarcate areas where project employees are working and ensure that no other persons except project employees access the areas.
c. All project vehicles including those that bring construction materials or collect waste from the work site shall be driven at a speed not more than **40 km/h** in all populated /crowded areas.
d. The contractor shall have **a spotter** to guide vehicles that will bring construction materials and collect waste from the work site when the access road is busy/ congested.
e. Install speed humps on both diversion route and the actual Mzedi access road to control vehicular speed.
f. Sensitize road users (waste pickers, private waste collector, BCC staff working at the dumpsite and project workers about traffic safety e.g. to observe and comply with traffic signs available on both diversion routes and actual Mzedi access road.
g. The contractor shall utilize and put additional **traffic signs especially at the work site** to alert road users of the works being undertaken and at the same time advising them on the need to control the speed of their automobiles.

h. Where possible the contractor will put **spotters** to guide and direct traffic, especially in places where the construction works have caused the creation of a single lane to allow traffic passage whilst work is being undertaken.
i. **Traffic, Health, and Safety Signposts** – the contractor will prepare signposts cautioning workers to observe traffic as they work close to the road. This signpost shall also highlight rules and required PPE and behaviors whilst working.
j. **Safe passage of heavy vehicles** – Project vehicles shall not be allowed to move around or come to the worksite during peak traffic hours (especially when people are going or knock-off from work). All required materials to be used on the worksite shall be delivered during off-hours. When there is an urgent need for a vehicle to come to the worksite during peak traffic hours, the driver shall report to the supervisor to arrange for a spotter (in a reflective vest) to guide the vehicle to the required destinations.

Traffic and road Safety Risk management and control During Construction

Construction activities themselves should usually be considered a high-risk. Working close to busy roads or busy roadsides poses significant risks to workers and other road users because of changed roadway conditions, disrupted traffic flow, limited working space, and movement of construction and public vehicles near workers and work site. Consequently, the safe and effective management of traffic and the process needed to keep road-users safe during construction, is an essential requirement.

Table 2: Risk Table for Managing Traffic During Construction

HIERACHY OF SAFETY CONTROLS *Consider the practicability of control measures, from left to right.* *Select the most predictable given the circumstances and level of hazard record the reason if a higher-level control measure is not considered practical*			
Safety hazard/ risk factors	Elimination / Substitution	Isolation/ Engineering	Administrative (Behavioral)
• Clearance to traffic • (Clearance between the edge of a lane carrying traffic and the worksite. Roadworks vehicle, equipment and pedestrians	• Road closure • Detour onto other roads. • Sidetrack past the works	• barriers • Lane closure adjacent to work area. • Vehicle-mounted attenuators	• Speed reduction. • Warning signs/ Variable Message Signs (VMS) • Delineation of travel path

• High speed through worksite	• Road closure • Detour onto other roads. • Sidetracks past the roadworks	• Safety barriers • Lane closure adjacent to work area. • Portable traffic signals • Vehicle mounted attenuators	• Speed reduction. • Warning signs/ VMS • Traffic controller • Temporary road humps
• Poor advance sight distance to worksite (<200 meters)	• Road closure • Traffic diversion past the works	• Vehicle mounted attenuators. • Lead and/ or tail vehicle(s)	• Extra advance warning signs/VMS • Speed reduction. • Delineation of travel path
• Poor observation by motorists of directions/ instructions	• Road closure • Traffic diversion past the works	• Lane closure adjacent to work area. • Portable traffic signals	• Speed reduction. • Police presence • Extra signs/VMS • Temporary road humps • Re-assess information provided
• Narrow pavement width with no escape route (<2.9 meters width)	• Road closure • Traffic diversion past the Works	• Safety barriers	• Speed reduction. • Delineation of travel path
Safety hazard/ risk factors	Elimination / Substitution	Isolation/ Engineering	Administrative (Behavioral)
• Presence of workers at the worksite	• Road closure • Traffic diversion past the works	• Safety barriers • Increased separation from vehicular traffic	• Speed reduction. • Warning signs • Delineation of travel path and worksite
• Excavation adjacent to traffic	• Road closure • Traffic diversion past works	• Different construction method • Safety barriers	• Speed reduction. • Delineation of travel path

Training

a. **A**ll employees including drivers/ operators to be extra careful when working at the project site and travelling to and from the site. Only certified and experienced drivers/ operators to drive/ operate a project vehicle/ machine.
b. **Safety training - all employees, including drivers, shall attend weekly safety training.** Drivers shall complete a checklist of their automobiles daily and report on any deviation/ gap from the checklist for immediate corrective measures. All employees shall have a toolbox talk daily focusing on several topics including community relations, COVID-19, HIV/AIDS, safety, GBV, SAE, SH, etc. just to mention a few.

Resource

The contractor shall ensure that resources are available to implement traffic and road safety risk mitigation measures by incorporating the relevant budget parameters highlighted in this ESMP into the quantity bills (BoQ).

Annex 8: Occupational Health and Safety Plan

1.Introduction

The Malawi Water and Sanitation Project acknowledges that the Construction/ upgrading of access road to Mzedi Dumpsite will have impacts on safety on people's lives in various settings, including work, family, and society. The project emphasizes the importance of continuously improving working conditions, preventing risks that may lead to accidents or incidents, and effectively managing the work environment. This generic Occupation Health and Safety (OHS) Plan is prepared to guide/ help the contractor in preparation of specific OHS plan that will take into consideration the nature, scope, and methodology to be used in delivering Mzedi Access Road Project.

2.1. Legal requirements

The Occupational Safety, Health, and Welfare Act (1997) places the responsibility for worker safety, health, and welfare on employers, while employees are also expected to take reasonable care of their own and others' safety. BWB and BCC has developed an Occupational Health and Safety Plan for the construction activities of falling under upgrading of access road to Mzedi Dumpsite in compliance with legal requirements. The plan includes provisions for personal protective equipment (PPE), first aid, and registration of the construction camp as a workplace, as mandated by relevant sections of the Act.

3.0. Measures and Actions for Risk Prevention

3.1. Hazard Identification, Risk Assessment and Determining Controls

The Contractor will carry out hazard and risk assessments for each of the project activities. The results of these assessments will be incorporated into the hazard register of the assessment of hazards and risks for the project's execution. Hazard and risk assessments will be carried out for a given set of works or work area. Risk assessment reviews are critical processes that must be completed before each activity on site. Project hazard and risk review sessions will be established and included in our planning. These sessions may include some or all the following methods for managing hazards and risks.

A formal hazard review will be performed on any work that can affect or create a principal hazard. A principal hazard is associated with catastrophic risk and can cause multiple fatalities, significant environmental damage or adversely affect the plant operation.

3.2. Critical Works

Critical works are those that have high potential of causing serious incidents. The following works fall into the category of critical works:

- Working at height.
- Excavations (≥1.5m)
- Hot works.
- Confined space works.
- Lifting operations.

All critical work will be issued a work permit by the safety officer before commencement, when necessary.

3.3. Hierarchy of Risk Control

A hierarchy of control measures to eliminate or minimize the risk should be followed in the following order of priority:

Firstly, try to eliminate the hazard. If this is not possible, prevent or minimize exposure to the risk by one or a combination of:

- Substituting with a less hazardous material, process, or equipment
- Redesigning equipment or work processes
- Isolating the hazard
  (Note: These measures may include engineering methods)

As a last resort, when exposure to the risk is not (or cannot be) minimized by other means:

- Introduce administrative controls.
- Use appropriate Personal Protective Equipment (PPE)

3.2. Remedial Action Items

The Hierarchy of Control will be used when deciding upon the action to be taken to eliminate or reduce the risk of a hazard. The most appropriate form of control is elimination with the least effective being the PPE.

3.3. Initial risk assessment

Risk analysis will be required and done for all activities. It is developed with the document risk and opportunities register.

4.0. Implementation and Operation

4.1. Resources, Roles, Responsibility, Accountability and Authority

An organizational chart detailing the management structure for the project shall be compiled as required by the Health and Safety specification. All the activities will be defined, namely, resources, roles, and responsibilities on the Method Statements for each activity.

The project leaders shall provide strong, visible leadership and commitment, and ensure that this commitment is translated into the necessary resources; to develop, operate and maintain the Health and Safety Management System and to attain the policy and strategic objectives. Management shall ensure that full account is taken of QHSE Policy requirements and shall provide support for all actions taken to protect health and safety.

All project leaders will create and sustain a project culture that supports the health and safety Management System based on:

- Giving Health and Safety priority status over other primary project objectives. Management, through effective leadership, shall visibly recognize and reward when and where this is successfully applied. Clear guidelines and supporting behaviors shall be established to enable management to act without hesitation in support of this strategy.
- I believe in the management's desire to improve health and safety performance. Targets shall be set for improvement in all areas of Health and Safety. These targets will necessarily include both input (lead) indicators and output (lag) indicators. Some characteristics of the

effective performance indicators that fully support and guide the implementation of the Project Health and Safety System are: “measurability,” “trend ability” and “target ability.”

- Acceptance of individual responsibility and accountability for health and safety performance. Health and safety performance shall be included as a factor in the appraisal and reward of staff. Expected health and safety performance and behaviors for individuals shall be established. The consequences of success or failure to achieve these performances and behavior expectations shall be clearly defined and the application of these outcomes demonstrated.
- Participation and involvement at all levels in the health and safety process development. Employees of both the project and its subcontractors will be involved in the creation and maintenance of such supportive culture.
- All the Subcontractors appointed for the Project shall be compiled on the Project Subcontract Appointment Register and this document shall be the base for the induction planning for subcontractors.

All project leaders shall pursue effective leadership through.

- Ownership
- Planning of tasks and resources within the framework of policy and objectives
- Resource allocation.
- Assignment of responsibilities; authority and accountability (standards, job descriptions).
- Support for innovation (reward for innovation).
- Coordination of planning across the project and agreed delegation of actions (action planning process).
- Ensuring that decisions are followed through, and performance assessed against predetermined criteria (Project Management Review Group, close out of actions and Key Project Indicators (KPI’s).
- Determining the effectiveness of the project’s management system (management review – progress reports).
- Identifying, planning, and implementing opportunities for improvement (audit schedule, actions plan).
- Communication of the project values and policies unambiguously throughout the organization and ensuring understanding and acceptance of these (letters and workshops).
- Ensuring that all work is done safely; being prepared to delay or stop activities where controls are not in place to manage identified hazards or unsafe conditions that exist where there is a danger to the persons concerned or others.
- Ensuring that employees identify hazards and plan work before commencement to ensure that it is carried out safely.

Safety Culture and Leadership

- Leadership plays a crucial role in instilling safety culture.
- Visible felt leadership in H&S motivates employees to take part in H&S.

What employees expects from leadership?

- If you stop a task for a safety reason, we will back you up.

- If you mention a safety concern, we will address it promptly. It will not go into a black hole.
- If there is an injury, we will conduct an Incident Investigation in such a way that the person is NOT blamed. We need to learn so that we can eliminate the next injury.

What message should leadership convey to employees?

- If it is not safe, do not do it, and do not have your co-worker do it either.
- If you see something that is unsafe, speak up immediately, there, and then, to your supervisor, no matter whom - no matter what.
- If you are not sure of something or do not understand something, speak up and ask.

4.2. Competence, Training and Awareness

The health and safety training goal for MWSP-1 is to provide a mechanism for contractors to understand health and safety hazards, and how to protect themselves and others. Safety and health training programs include determining the training needs for employees. All the training is designed for the type of work and potential hazards employees may be exposed to. All the contractor's employees will be thoroughly trained to perform their jobs safely and productively. Contractors' training will be documented and reviewed as necessary to ensure consistent safe and healthy work practices. All training will be recorded on the Attendance Register. Contractors-workers' training will be documented and reviewed as necessary to ensure consistent safe and healthy work practices. Training topics will be changed according to the progress of the work and the relevant safety-related events identified on the work fronts.

4.3. Induction

Induction courses are presented to those who partake in the project's activities. All individuals will be requested to sign a compliance register on the Attendance Register at the end of the induction course. Course material is presented to the individuals for constant personal repetition and inquiry prevention.

4.4. Safety Meetings

The project safety team is a group that represents the interests of workers throughout the worksite. The team will include the most senior person in each discipline alongside a worker representative. Any daily problems reflected in the safety management system must be immediately reported through the people responsible.

Safety committee meetings will be conducted monthly. The minutes of the meetings will be distributed to all participants as well as to all non-present personnel to ensure communication to all personnel on the worksite.

4.8. Toolbox Talks

Each day before the start of a work shift, a Toolbox talk will be held. All site personnel will be involved in these meetings where the issues arising at other management and safety meetings will be communicated. Toolbox meetings will focus on discussion of hazards specific to the relevant area of the Project and any recent workplace incidents.

The themes will be changed according to the progress of the work and the relevant safety related events identified in the work fronts.

4.9. Communication, Participation and Consultation

In the monthly report, the Safety and Health Monitoring Report will be presented with all information related to safety and health performance. Communication on issues related to safety management is one of the fundamental elements to promote a safe working environment on the project site. Regular structured meetings are necessary to ensure that effective communications take place between project management and workers.

4.10. Housekeeping

- Sitework should be performed during daylight hours.
- Good housekeeping must be maintained in all project areas.
- Common paths of travel should be established and kept free from debris or the accumulation of materials.
- Keep access to aisles, exits and emergency equipment free from any obstruction.
- Specific areas should be designated for the storage of materials.
- Tools, equipment, and materials shall be stored in an orderly manner.
- As work progresses, unessential materials must be neatly stored or removed from the work area.
- Waste shall be removed from the site area and disposed of correctly.
- All spills shall be quickly cleaned up.

4.11. Personal Protective Equipment

The project and its subcontractors must provide their workers with PPE in accordance with the client's requirements. The following should form part of the PPE:

- Helmets.
- work suit/ coverall.
- High visibility vests.
- Protective Gloves.
- Dust Masks.
- Ear Protector.
- Boots.
- Eye protectors where drilling or grinding will be done.
- PPE identified in the risk assessment of the activity to be carried out, e.g., use of adequate hearing protection when using vibrating plates.

The distribution of PPE to workers, subcontractors or visitors must be documented in the PPE distribution form, ensuring that the people that received PPE will be informed about the use, maintenance, and limitations of the delivered PPE.

4.12. First Aid Management

Contractors will provide possible first aid boxes in or near workplaces. These must be accessible for the provision of first aid to victims in the workplace. The project must ensure that the first aid boxes' contents are in accordance with the minimum and adequate requirements by local legislation. This must be done in consideration of the type of expected accidents, the nature of the activities carried out, and the number of workers in the places of work.

The place where the first aid box (es) will be located will be clearly marked, as well as the identification of the person responsible for the same. All injuries involving cuts, open wounds or the like occurring in places where dangerous, toxic, corrosive or similar substances and / or preparations are manufactured, processed, used, or handled, must be reported and the victim cannot resume before the wound has not been washed at least with water and soap or diluted disinfectant.

4.13 Existing Overhead and Underground Services

Plan and manage work near electric overhead power lines so that risks from accidental contact or proximity to the lines are adequately controlled. Safety precautions will depend on the work and will be essential even when work near the line is short. Safety can be achieved by a combination of measures:

- Planning and preparation
- Eliminating the danger
- Controlling the access
- Controlling the work

Way leaves must be obtained from the electrical department if work is to be performed in the area that has underground electrical cables. Risk assessment must be carried out to identify all potential risks.

4.14 Intoxicated persons

- Subject to Local Legislation, the Contractor shall not permit any person who is or who is under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.
- Subject to Local Legislation, no person at a workplace shall be under the influence of or have in his or her possession or partake of or offer any other person intoxicating liquor or drugs.
- The Contractor shall, in the case where a person is taking medicines, only allow such person to perform duties at the workplace if the side effects of such medicine do not constitute a threat to the health or safety of the person concerned or other persons at such workplace.
- The consumption of and the possession without permission of any intoxicating substance, excluding prescribed medication and then only when certified by a medical practitioner, is prohibited by the provisions of the company policy.
- When an employee is found to have the substance in their possession, they will be taken to the police station for investigation.
- When an employee is found to be under the influence of substances, he/she will be taken to hospital for medical examination.
- Any employee found to have exceeded the company's legal blood concentration levels will be disciplined in line with the company's business code of ethics.

5.0 Emergency and Contingency Plan

As per the Emergency Response, Incident, Investigation and Reporting Procedure; the site accident and incident plan must incorporate the technique of search and rescue and first aid application. The contractor must ensure that the location and emergency contact number of the nearest hospital or clinic is defined and communicated.

All employees entering the site shall have completed and hold a valid Induction, in accordance with the Attendance Register at the end of the induction course. All people other than project employees entering a site shall complete the Visitors Entry Control. Visitors to any project-controlled work area must comply with the health and safety requirements as stated to them.

5.1 Public safety

Care will be taken regarding access control of the construction site, which will be maintained during the construction activities. Sufficient hoarding will be placed around the project site with the necessary symbolic safety signs posted. Unauthorized personnel will not be entertained within the area of responsibility during this project.

5.2 Community Safety

There is need to establish and maintain an effective health and safety management system for the communities around the project site/ area ensuring the following key requirements:

- Maintaining Water Quality and availability.
- Structural Safety of Project Infrastructure.
- Life and Fire Safety (L&FS).
- Traffic Safety.
- Transport of Hazardous Materials.
- Communicable Diseases.
  Community notification shall be sent if a local community may be at risk from a potential emergency arising at the facility with details of the nature of the emergency including protection details.

6.0 Monitoring Program

All employees shall undergo medical fitness assessments for construction work if required by the client or local legislation. These evaluations will be conducted by occupational health practitioners. All substances should be classified according to the severity of the risk(s) they pose. The health and safety indicators will be registered on the Safety Health Status Report.

Contractors shall subject its OHS activities to monitoring by Project management Team, Department of Occupation Safety, Health and Welfare, Malawi Environment Protection Authority (MEPA) to ensure compliance to the relevant national and local legislation and any other requirements.

Contractors shall introduce Safety Health and Environment (SHE) Compliance Register that will be used as a guideline and the compliance status of each requirement will be entered 'the compliance status column.' Where a non-compliance is reflected, this must be raised as a non-conformance in the Non-conformance System and the procedure for corrective and preventive measures followed.

Incident reporting and investigation will be in accordance with the Emergency Response, Incident, Investigation and Reporting Procedure, and recorded on the incident investigation Report, focusing on:

- A process to review the effectiveness of incident investigation action plans.
- The conducting of first – aid needs and emergency response risk assessments.
- A return-to-work program (restricted duties), rehabilitation program, trauma counselling and Processes to ensure the appropriate authorities are notified in the event of a reportable incident.

Annex 9: Grievance Mechanism

Introduction

Malawi Water and Sanitation project acknowledges that grievances, issues, and concerns may rise while undertaking the construction/ upgrading of access road to Mzedi Dumpsite from earth to concrete standard. The project's procedures for the redress of grievances and complaints are explained in detail here. The grievance and complaints about expropriation, resettlement, construction activities, social issues and any other subjects related to the project from the start of project till the end of the monitoring should be redressed for effective implementation. In this respect, all grievances and complaints will be recorded and processed in all stages of the project implementation.

The Aim of the Grievance Redress Procedure

The aim of Grievance Redress Procedure is to settle or redress any individual grievance or complaint of PAPs promptly, fairly, and as much as possible in a manner that is acceptable to all parties. The general approach is to seek a solution to the problem in the earliest stage and avoid taking complaints to courts for redress. The following should be considered in application of this approach:

- Provide straightforward and accessible ways to PAPs for making complaints or resolving any disputes that may arise due to the project,
- Identify and implement appropriate and mutually acceptable actions to address complaints,
  • Ensure that complainants are satisfied with outcomes of the corrective actions,
- Avoid the tendency to resort to judicial proceedings.

To address Gender Based Violence, SEA/ SH/VAC, the GRM Committee will be required to:

- Protecting the confidentiality of survivors, recognizing them as principal decision-makers in their own care and treating them with agency, dignity, and respect for their needs and wishes.
- Adopt risk-based approaches that aim to identify key risks of GBV and to undertake measures to prevent or minimize harm.
- Engage community partners—local leaders, civil society organizations, gender, and child advocates— as resources for knowledge on local level risks, effective protective factors, and mechanisms for support throughout the project cycle particularly for workers in the vicinity of schools and other places where women and girls would gather (markets, rivers).
- Adapt and adjust mitigation measures to respond to the unique drivers and context in any given setting.
- Ensure operations integrate mechanisms for regular monitoring and feedback to track effectiveness and to build internal knowledge of what works to prevent, mitigate, and respond to GBV/SEA/SH/VAC; and
- Assist the GBV/SEA/SH survivors to access support from the victim support unit.

- The Committee should have at least 2 GBV/SEA/SH Champions and ensure they are sensitized on how to report incidents to service providers who have the capacity to handle GBV/SEA/SH issues.

Grievances are useful indicators of a project performance. Many grievances may point out a need to adjust work practices or procedures to mitigate adverse impacts or conflicts with the PAPs. In this respect, the effectiveness of the related procedures will be evaluated in all stages of implementation.

Duties and Responsibilities

There will be three levels in the grievance management procedure. The first level being the Community Grievance Committee, then the City/District Grievance Redress Committee and the last one will be the Project Grievance Committee after which external remedies will be sought if the complainant is still not satisfied.

The best solutions to conflicts are achieved through localized mechanisms that consider specific issues as well as cultural context, local customs, and the project conditions. It is therefore in this regard that the project will use existing city/district institutional structures in the management of grievances. The Grievance Redress Mechanism system shall be established at three levels. The Community Grievance Redress Committee (CGRC), the City/District Grievance Redress Committee (C/DGRC), the Project Grievance Redress Committee (PGRC) and then external remedies through the formal courts or other legally accepted preferred options. The PGRC shall be the topmost and last internal tribunal in handling grievances. The public shall be well sensitized to the existence of these structures. However, for every Project workplace where implementation shall be taking place, there shall be an additional committee known as the Workers Grievance Redress Management Committee (WGRMC). This committee will manage all issues raised by the workers in their work and report directly to the PIU when grievances have not been settled.

Types of Grievances

The anticipated types of grievances likely to include but not limited to:

- ,
- Disruption or damages to local roads,
- Closure of passageways,
- Nuisance from dust, noise, and vibration,
- Increase in the traffic load,
- Health problems, injuries, and accidents,
- Misconduct of project personnel/workers, and
- Unfair selection practice of employees for project-related jobs.
- Gender Based Violence
- Sexual harassment
- Sexual Exploitation and Abuse
- Child labour and Abuse
- Violence Against Children

Procedure for Receiving and Responding to Complaints, Grievances, Appeal and Claiming Process

All types of complaints, appeals and claims related to the project will be received by the GRCs are stipulated in the SEP and as indicated below:

Step 1: Contact and Dialogue between the complainant and the 'respondent'. Where applicable and possible, the first step in the GRM should be contact and dialogue to reach an amicable position before it is formally lodged with a GRC. For example, an aggrieved worker and a contractor can dialogue to find an amicable solution. Or PAPs can first approach the concerned implementing agency ('accused' office) to try and reach a negotiated position or for guidance on the matter at hand. A third party (e.g., local leaders) can be engaged to mediate the process. Regardless of the outcome, the issue can be reported to the relevant committee for record purposes.

Step 2: Lodge a complaint. The PAPs should formally lodge a complaint with the relevant Grievances Redress Committee. For example, if the issue concerns several villagers in a village, the complaint should be lodged with the Community Grievances Redress Committee. Where the complaint is against Blantyre City Council, for example, grievances can be lodged with the National Project Grievances Redress Committee. At each level of the Grievances Redress Committee, there will be a Grievance Log and Resolution Form to record the complaint. Each grievance will be assigned a number. The Secretary of the Committee will complete the Form or will help the complainant to fill in the Form. Both the Secretary and the Complainant and their witnesses (one for the Committee and one for the Complainant) will sign the Form (Complaint section of the Form) to confirm that what has been recorded is true reflection of the grievance as reported by the Complainant. A copy of the Form shall be forwarded to the Project Implementation Unit for record purposes.

Step 3: Assessment, Response and Closure. Within 7 days of receiving a complaint, the Grievance Redress Committee will meet to consider the grievance and provide a response to the complaint. The Committee shall assess whether the complaint or grievance is related to MWSP activity project or not. For non-MWSP related grievances, the Committee will advise appropriate institutions with which to lodge the complaint. For MWSP complaints or grievances, the Committee shall first make necessary follow-ups to establish the truth of the matter and confirm that the complaint is genuine. The outcome of the analysis shall be communicated to the Complainant.

The Committee shall be required to complete the Resolution section of the Grievance Log and Resolution Form to provide a clear decision that has been arrived at in respect to the complaint. A copy of the Form shall be forwarded to the Project Implementation Unit for record purposes.

Where the grievance involves two parties (e.g., a project contractor and a worker or a community or in the case of corruption allegations), a Hearing can be arranged as a matter of natural justice to accord both parties to present their side of the story. The outcome of the analysis of the Hearing by the Committee shall be communicated to both parties (the Complainant and the 'Respondent).

Closure. Within 7 days of receiving response from the Grievance Redress Committee, the complainant, shall be required to sign the Closure section of the Grievance Log and Resolution Form to confirm that the response is satisfactory, and that the grievance is resolved and closed. Where the grievance involves two parties (e.g., a project contractor and a worker or a community or in case of corruption allegations), both the Complainant and the Respondent,' shall be required to sign the Closure section of the Grievance Log and Resolution Form. A copy of the form shall be forwarded to the Project Implementation Unit for record purposes. An electronic database will be established for this purpose.

Step 4: Appeal. Within 7 days of receiving response from the Grievance Redress Committee, the Complainant, or the 'Respondent', shall be required to sign the Appeals section of the Grievance Log and Resolution Form to confirm intention to appeal to the next higher Grievances Redress Committee. The Committee retains a copy while another copy is given to the complainant to present to the appeal Committee (the next higher Committee). A copy of the Form shall be forwarded to the Project Implementation Unit for record purposes.

GRIEVANCE COMPLAINT FORM

SUB PROJECT NAME
……
CONTACT NUMBER 01895000

1. Complainant's Information		
Names and Titles (Dr/Mr./MS/Mrs.)	Addresses:	E-mail:
	Contact Tel.	Location:
Please indicate how you prefer to be contacted (e-mail, mobile, etc.):		
2. Description of the problem:		
3. How are you affected:		
(a) What harm do you believe the MWSP/World Bank-financed project caused or is likely to cause to you?		
(b) Why do you believe that the alleged problem resulted from the MWSP activities?		
(c) Do you have any other supporting documents that you would like to share as proof of the alleged problem?		

4. Previous Efforts to Resolve the Complaint		
Please tick the relevant box [√] (a) Have you raised your complaint with any other authorities? No□ Yes □		
I. **If Yes** (Please, provide the following details): When?		
ii. How and with whom were the issues raised?		
iii. Please describe any response received from and/or any actions taken by the project level grievance mechanism. Please also explain why the response or actions taken are not satisfactory.		
(b) **If No**, why?		
(i) How do you wish to see the complaint resolved?		
5. Name of the person recording the complaint:	**Signature:**	**Date:**

GRIEVANCE RESOLUTION FORM MWSP

SUB PROJECT NAME:

……

CONTACT NUMBER **01895000**

RESPONDENT DETAILS		**COMPLAINANT DETAILS**	
Full name		Full name	
Address:		Address:	
Phone No.		Phone No.	
Email:		Email:	
Date of complaint resolved		Location	
SUMMARY OF RESOULTION			
(a) Brief description of Complaint:			

(b) Brief description of Resolution			
SIGNATURES			
Respondent Signature		**Complainant** Signature	
Name of Respondent		Name of Complainant	
Date		Date	
Designation			
Witness Signature		**Witness** Signature	
Name of Respondent's Witness		Name of Complainant's Witness	
Date		Date	

Annex 10a: Incident Reporting Form

Part B: To be completed by Contractor and submitted to client within 24 hours.

B1: Incident Details			
Date of Incident:	**Time:**	**Date Reported to PIU:**	**Date Reported to WB:**
Reported to PIU by:	**Reported to WB by**:	**Notification Type**:	
Full Name of Main Contractor:		**Full Name of Subcontractor**:	

B2: Type of incident (please check all that apply)
Fatality ☐ Lost Time Injury ☐ Displacement Without Due Process ☐ Child Labor ☐ Acts of Violence/Protest ☐ Disease Outbreaks ☐ Forced Labor ☐ Unexpected Impacts on heritage resources ☐ Unexpected impacts on biodiversity resources ☐ Environmental pollution incident ☐ Dam failure ☐ Other ☐

see definitions attached to this form.

B3: Description/Narrative of Incident

Please replace text in italics with brief description, noting for example:

I. *What were the conditions or circumstances under which the incident occurred (if known)?*

II. *Are the basic facts of the incident clear and uncontested, or are there conflicting versions?*

III. *What are those versions?*

IV. *Is the incident still ongoing or is it contained?*

V. *Have any relevant authorities been informed?*

B4: Actions taken to contain the incident

Short Description of Action	**Responsible Party**	**Expected Date**	**Status**

For incidents involving a contractor:
Have the works been suspended (for example, under GCC8.9 of Works Contract)? Yes ☐; No ☐;
Trading name of Contractor (if different from B1):

Please attach a copy of the instruction suspending the works.

B5: What support has been provided to affected people
•

Definitions of Incident Types

The following are incident types to be reported using the environmental and social incident response process:

Fatality: Death of a person(s) that occurs within one year of an accident/incident, including from occupational disease/illness (e.g., from exposure to chemicals/toxins).

Lost Time Injury: Injury or occupational disease/illness (e.g., from exposure to chemicals/toxins) that results in a worker requiring 3 or more days off work, or an injury or release of substance (e.g., chemicals/toxins) that results in a member of the community needing medical treatment.

Acts of Violence/Protest: Any intentional use of physical force, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, deprivation to workers or project beneficiaries, or negatively affects the safe operation of a project worksite.

Disease Outbreaks: A disease over normal expectation of number of cases. Disease may be communicable or may be the result of unknown etiology.

Displacement Without Due Process: The permanent or temporary displacement against the will of individuals, families, and/or communities from the homes and/or land which they occupy without the provision of, and access to, appropriate forms of legal and other protection and/or in a manner that does not comply with an approved resettlement action plan.

Child Labor: An incident of child labor occurs: (I) when a child under the age of 14 (or a higher age for employment specified by national law) is employed or engaged in connection with a project, and/or (ii) when a child over the minimum age specified in (I) and under the age of 18 is employed or engaged in connection with a project in a manner that is likely to be hazardous or

interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development.

Forced Labor: An incident of forced labor occurs when any work or service not voluntarily performed is exacted from an individual under threat of force or penalty in connection with a project, including any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements. This also includes incidents when trafficked persons are employed in connection with a project.

Unexpected Impacts on heritage resources: An impact that occurs to a legally protected and/or internationally recognized area of cultural heritage or archaeological value, including world heritage sites or nationally protected areas not foreseen or predicted as part of project design or the environmental or social assessment.

Unexpected impacts on biodiversity resources: An impact that occurs to a legally protected and/or internationally recognized area of high biodiversity value, to a Critical Habitat, or to a Critically Endangered or Endangered species (as listed in IUCN Red List of threatened species or equivalent national approaches) that was not foreseen or predicted as part of the project design or the environmental and social assessment. This includes poaching or trafficking of Critically Endangered or Endangered species.

Environmental pollution incident: Exceedances of emission standards to land, water, or air (e.g., from chemicals/toxins) that have persisted for more than 24 hrs. or have resulted in harm to the environment.

Dam failure: A sudden, rapid, and uncontrolled release of impounded water or material through overtopping or breakthrough of dam structures.

Other: Any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion. Any repeated non-compliance or recurrent minor incidents which suggest systematic failures that the task team deems needing the attention of Bank management.

Annex 10b: Incident Reporting Form

Part C: To be completed by Contractor (following investigation & submitted to client within 4 days of incident occurrence)

C1: Investigation Findings
Please replace text in italics with findings, noting for example: *I. where and when the incident took place,* *II. who was involved, and how many people/households were affected,* *III. what happened and what conditions and actions influenced the incident,* *IV. what were the expected working procedures and were they followed,* *V. did the organization or arrangement of the work influence the incident,* *VI. were there adequate training/competent persons for the job, and was necessary and suitable equipment available,* *VII. what were the underlying causes; where there any absent risk control measures or any system failures,*

C2: Corrective Actions from the investigation to be implemented (To be fully described in		
Action	**Responsible Party**	**Expected Date**

Part C cont.: To be completed by Contractor (following investigation)

C3a: Fatality/Lost time Injury information

Immediate cause of fatality/injury for worker or member of the public (please check all that apply)

1. Caught in or between objects ☐ 2. Struck by falling objects ☐ 3. Stepping on, striking against, or struck by objects ☐ 4. Drowning ☐ 5. Chemical, biochemical, material exposure ☐ 6. Falls, trips, slips ☐ 7. Fire & explosion ☐ 8. Electrocution ☐ 9. Homicide ☐ 10. Medical Issue ☐ 11. Suicide ☐ 12. Others ☐
***Vehicle Traffic:* 13. Project Vehicle Work Travel ☐ 14. Non-project Vehicle Work Travel ☐ 15. Project Vehicle Commuting ☐ 16. Non-project Vehicle Commuting ☐ 17. Vehicle Traffic Accident (Members of Public Only) ☐**

Name	Age/DOB	Date of Death/Injury	Gender	Nationality	Cause of Fatality/Injury	Worker (Employer)/Public

[2]See definitions attached to this form.

C3b: Financial Support/Compensation Types (To be fully described in Corrective Action Plan template)

1. Contractor Direct ☐ 2. Contractor Insurance ☐ 3. Workman's Compensation/National Insurance ☐ 4. Court Determined Judicial Process ☐ 5. Other ☐ 6. No Compensation Required ☐			
Name	**Compensation Type**	**Amount (US$)**	**Responsible Party**

C4: Supplementary Narrative

Definition of fatality/injury immediate causes

1. **Caught in or between objects:** caught in an object; caught between a stationary object and moving object; caught between moving objects (except flying or falling objects).
2. **Struck by falling objects:** slides and cave-ins (earth, rocks, stones, snow, etc.); collapse (buildings, walls, scaffolds, ladders, etc.); struck by falling objects during handling; struck by falling objects.
3. **Stepping on, striking against, or struck by objects:** stepping on objects; striking against stationary objects (except impacts due to a previous fall); Striking against moving objects; Struck by moving objects (including flying fragments and particles) excluding falling objects.
4. **Drowning:** respiratory impartment from submersion/emersion in liquid.
5. **Chemical, biochemical, material exposure:** exposure to or contact with harmful substances or radiations.
6. **Falls, trips, slips:** falls of persons from heights (e.g., trees, buildings, scaffolds, ladders, etc.) and into depths (e.g., wells, ditches, excavations, holes, etc.) or falls of persons on the same level.
7. **Fire & explosion:** exposure to or contact with fires or explosions.
8. **Electrocution:** exposure to or contact with electric current.
9. **Homicide:** a killing of one human being by another.
10. **Medical Issue:** a bodily disorder or chronic disease.
11. **Suicide:** the act or an instance of taking, or attempting to take, one's own life voluntarily and intentionally.
12. **Others:** any other cause that resulted in a fatality or injury to workers or members of the public.

Vehicle Traffic

13. Project Vehicle Work Travel: traffic accidents in which project workers, using project vehicles, are involved during working hours and occur during paid work.
14. Non-project Vehicle Work Travel: traffic accidents in which project workers, using non-project vehicles, are involved during working hours and occur during paid work.
15. **Project Vehicle Commuting:** traffic accidents in which project workers, using project vehicles, are involved while travelling to (I) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration.
16. **Non-project Vehicle Commuting:** traffic accidents in which project workers, using non-project vehicles, are involved while travelling to (I) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration.
17. **Vehicle Traffic Accident (Members of Public Only):** traffic accidents in which non-project workers/members of the public are involved in an accident while travelling for any purpose.

Annex 11: Contractor`s monthly reporting form

MALAWI WATER AND SANITATION PROJECT (MWSP-1)

Insert photo here

MONTHLY SAFEGUARDS PROGRESS REPORT

DATE

Executive Summary
Table of content
List of Figures
List of Tables
Acronyms
Introduction

SAFEGUARDS ACTIVITIES DURING THE REPORTING PERIOD

Sn	All Planned activities	Implemented	Progress
1.			
2.			

Sn	Planned but not implemented	Reason for delay	Actions to be taken	Timeline
1				
2				
3				

CAPACITY BUILDING ACTIVITIES

Date	**Target Group**	**Training Title**	**Participants**		**Total**
			Male	**Female**	

COMMUNITY ENGAGEMENT

Activity	**Target audience**	**Number of Participants (M/F)**

GRIEVANCE REGISTERED AND HOW THEY WERE RESOLVED

Sn	Stakeholder	Nature of Grievance (s)	Total Grievances	Status	Remarks/ Comment(s)
	(e.g. institution, community members, local leaders, etc.)			Resolved/ unresolved	

INCIDENTS REGISTERED AND HOW THEY WERE RESOLVED

#	Stakeholder involved	Nature of Incident	Cause of incident	Status	Remarks/ Comment(s)
	community members, employee			closed/ opened	

CHALLENGES

Challenge	Mitigation Measures

PLANNED ACTIVITIES FOR THE NEXT IMPLEMENTATION PERIOD

Sn	Activity	Lead	Timelines

PHOTOS TAKEN IN THE REPORTING PERIOD