

**THE ENVIRONMENTAL AND SOCIAL IMPACT
ASSESSMENT (ESIA) REPORT FOR THE
PROPOSED CONSTRUCTION OF KAGERA RIVER
GIRLS SECONDARY SCHOOL TO BE LOCATED
ON PLOT NO.2, BLOCK “A” AT RWAMBAIZI
VILLAGE, KANONI WARD, KARAGWE DISTRICT
IN KAGERA REGION**

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EXECUTIVE SUMMARY

Introduction

The Government of United Republic of Tanzania (URT) in collaboration with the World Bank has prepared the Secondary Education Quality Improvement Project (SEQUIP). The objectives of SEQUIP are to increase access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. In summary, activities under SEQUIP will be structured into four main components:

Component 1: Empowering Girls through Secondary Education and Life Skills

1.1 Creating Safe Schools: Implementation of the Safe Schools Program including:

- i. Trained school guidance and counselling teachers;
- ii. Students' life skills training through girls' and boys' clubs by the guidance and counselling teachers; In-service training of secondary school teachers on the teacher code of conduct and gender sensitive pedagogical approaches;
- iii. Training of school heads and School Boards on GBV, safe school issues etc.;
- iv. School and classroom monitoring system for early identification of and intervention on girls at risk of drop out; and
- v. Community-based mechanism for safe passage to school.

1.2 Promoting Girls' Completion of Secondary Education through Quality Alternative Education Pathways including:

- i. Setting up an ICT-enabled system for tracking girls dropping out at national and district level to provide key information for AEP planning and implementation.
- ii. Alternative Education Centers and LGAs undertaking local outreach activities to out-of-school girls in the community which will include activities such as AEP center-organized community meetings, information via local radio, flyers and brochures.
- iii. Enhancing access to Alternative Education Pathways through (i) expansion of the network of AEP centers; and (ii) tuition fee subsidies for vulnerable girls.
- iv. A quality package for strengthening student learning in Alternative Education Pathways will also be implemented
- v. Environmental and Social Management Framework –Tanzania - Secondary Education Quality Improvement Project (SEQUIP)

Component 2: Digitally Enabled Effective Teaching and Learning

2.1 Effective Teaching and Learning

- i. Minimum package of critical teaching and learning resources for all schools: This package consists of an adequate number of textbooks and teacher guides in core subjects (English, Math and Sciences).
- ii. Equitable, gender-balanced teacher deployment to schools
- iii. In-service teacher training/continuous professional development (CPD) to improve classroom teaching practice for secondary English, Mathematics and Science teachers
- iv. Evaluate student learning in lower secondary to provide opportunities for remedial use: to allow for targeted early intervention to prevent girl dropout due to learning difficulties

2.2 Digitally-enabled Teaching of Math Sciences and English:

- i. Development of an ICT in Education Strategy and plan for secondary education.
- ii. Digital content and connectivity package to facilitate the teaching of English, Mathematics and Science in phases.

Component 3: Reducing Barriers to Girls' Education through Facilitating Access to Secondary Schools

Expansion of the secondary school network to substantially reduce the distance to secondary schools through an expansion of the secondary school network, especially in rural areas. SEQUIP will disburse project funding on the basis of the number of schools in each LGA meeting minimum infrastructure standards

Support upgrading existing secondary schools with the minimum infrastructure package (number of classrooms/students, adequate WASH facilities; multi-purpose science labs, electricity, etc.) with the objective is that at least 50 percent of all existing schools in all LGAs will meet the minimum standards set.

Component 4: Technical Assistance, Impact Evaluation and Project Coordination Environmental and Social Management Framework –Tanzania - Secondary Education Quality Improvement Project (SEQUIP). SEQUIP will be jointly implemented by the Ministry of Education, Science and Technology (MoEST) and the President's Office, Regional Administration and Local Government (PO-RALG).

Tansheq Limited, a NEMC registered environmental consulting firm with offices at House No. 83 Wakulima/Ngano Rd, Hananasif Estate and P.O. Box 31517 Dar es Salaam, has been contracted by Po-RALG as Implementing Supporting Team (IST).

Project Location and Accessibility

The proposed project site is administratively located at Rwambaizi village, Kanoni ward in Karagwe-District- Kagera Region and is surrounded by vegetation and hills though its 1km apart from Rwambaizi Secondary School. **Error! Reference source not found.** displays the location map of the proposed project area in Karagwe District, Kagera Region.

The project site can be accessed through Bukoba-Kyaka-Bugene road which does not need any improvements since it's a tarmac road and Omugakorongo-Murongo road whereas this requires improvement since it's an earth but so far TARURA has included it in the budget hence it's to be improved soon with tarmac.

The proposed site is located 1km from Rwambaizi Secondary School and about 23km from the district council office.

Project Description

The school construction and design will consist of a required infrastructure package based on the school construction and maintenance strategy (e.g. number of classrooms/students, adequate WASH facilities, especially important for girls; multi-purpose science labs, electricity, etc.). The construction package will involve the following buildings;

Classrooms

The classrooms are designed following Education Bulletin number 1 of 2007 that directs capacity of each classroom level, 30 students for advance and 40 students for ordinary level. However, schedule of materials indicates each classroom will be having capacity of 40 students.

Construction will be undertaken in two phases. The first phase will involve construction of 12 classrooms within six blocks followed by the second phase that will involve the construction of 6 classrooms which will be of 3 different designs (2 classrooms with office, 2 classrooms with toilet and a 2 classrooms block).The proposed project development will adhere to the fire and rescue force directives for public premises.

The Education Global Practice Africa Region report prepared by World Bank provides the following directives; Student classroom ratios of 50:1 or less, student to functioning latrine ratio of 25:1 for girls and 30:1 for boys, at least one multipurpose science laboratory, student textbook ratios in mathematics and science subjects of 1:1, teacher: teacher guide availability of 2:1.

Laboratories

Education Bulletin number 1 of 2007 explain the capacity and set up of laboratory building for each level is 40 students, The scheduling of materials will adhere the bulletin as the following laboratory rooms will be constructed;

- Physics and geography lab
- Chemistry and biology lab,
- ICT room which is to be constructed in the second phase, and
- Domestic science

Administration block

The bulletin indicate for the school having capacity of 1000 student plus need to have not less than 40 teachers excluding other staffs such as school bursar, secretary etc. The administrative building will be constructed as an elevated building whereas only one (1) building will be constructed.

Toilets

The proposed toilet facility will comprise of one block with 16 holes to be constructed standalone as scheduling shows with estimates of one (1) hole for twenty (20) people, nevertheless, some of classrooms will be having sanitary rooms as designed, dormitory, and dining hall will also be having sanitary rooms.

The development of sanitary facilities is necessary to ensure the surrounding environment is well-managed and ensuring social well-being and practical operation of the school since human dignity is directly linked to access of safety and hygienic sanitation.

Dining hall

The Dining Hall is a pivotal gathering space on School's campus and is emblematic of The Family Boarding School ideal. The school will be having enough dinning space to all students since it is a boarding school thus meal will be served. According to the designs of the dining hall, it has the capacity of 2000 students.

Staff houses

The teachers' houses are designed to attract teachers out to the countryside, as well as to increase teachers morally to perform their duties unlike if they are coming far from the school. The design considers the staff house to have one (1) master bedroom, two (2) bedrooms/ one (1) master bedroom, three (3) bedrooms with Public toilet, Sitting room/dining, Kitchen and Store. Four (4) of the staff houses will be constructed.

Dormitories

Dormitories are places where students stay. The student housing must also aim to provide healthy and acoustically pleasant environments for the protection, comfort, and productivity of the students. The dormitories are designed as per provided to meet the SEQUIP objectives having a capacity to accommodate 120 students. For phase one five (5) buildings will be constructed while for phase two four (4) buildings.

Library

The library is important because it affects cultures, it affects innovation, and it affects individuals. Because of all this, library architecture has the responsibility to enhance these effects by providing a knowledge center that is inspirational and conducive to good communication and teaching interactions.

According to designs, the library to be constructed will accommodate 52 students for readings and the computer learning room will accommodate 8 students.

Sick bay

A sick bay provides a dedicated space for students who may feel unwell or require immediate medical attention. It will serve as a primary point of care within the school premises, allowing for timely assessment and treatment of minor illness or injuries.

Incinerator

This will provide a safe and efficient means of disposing waste specifically biomedical waste such as used sanitary pads, medical supplies and other potentially hazardous materials.

Other components that will be constructed within school compounds area are Playgrounds, Water tunnel, Water tank (hippo) and its pillars), Manhole and gully trap, Walkway & Paving.

Project activities

Main activities of the project include preconstruction, Construction, Operations, and decommissioning.

Mobilization phase/Pre-Construction Activities

The mobilization phase of the project, which is estimated to take average of maximum three months, will entail the following activities:

- Establishment of construction of camps, material and equipment storage areas, materials processing yards, including sanitation facilities. The following activities will be involved during establishment of the camp.
 - Bush clearing.
 - Construction of Material and equipment storage areas
 - Construction of sanitation facilities
 - Installation of electrical infrastructure
 - Installation of water and wastewater infrastructure
- Identification of naturally-occurring material borrow sites (sand, fill, gravel borrow and quarry sites),
- Identification of sources of water for domestic and construction works

Construction Phase

The construction phase of the project, which is estimates to take 12 month for each of the phase one and will encompass following major activities:

- Earth works to facilitate widening and re-alignment of the road. Earth works will entail the following activities:
 - a) Clearing and grubbing (clearing of vegetation, including trees).
- Extraction of naturally occurring construction materials. This will include:
 - b) Excavation and transport of natural sand, gravel, and sub-base materials to construction sites
 - c) Stone quarrying (including blasting), crushing and transport of crushed aggregates to construction sites
 - d) Transport and handling of fuel, lubricants etc. from their sources to the project site
- Transport of construction materials from source to site such as roof, steel, woods, nails, rope

Operation phase

The maintenance activities of the Overall, SEQUIP will contribute to increasing total enrolment in secondary school by 1.8 million students and increase the number of girls graduating from both secondary schools and alternative secondary education pathways.

Decommissioning Phase

After completion of construction, all the utilities which were used shall be reverted to the Municipal Director who will decide on their future use. The main activities during demobilization phase, will engross the following:

- Collection and disposal of storage facilities such as pallets, packing, boxes
- Collection and disposal of construction materials and waste such as waste oil, sewage, solid waste (plastics, wood, metal, papers, etc.) at the workshop, site office etc. to authorized dumpsite
- Restoration of material borrow pit areas to safer condition

Project Cost

Total Project Cost is four billion Tanzanian shillings

Legal Framework

Relevant sectorial and cross-sectorial policies that provide directives on how projects should be operated

In/on concerned natural resources and sensitive ecosystems are:

- i. The National Energy Policy, 2015
- ii. Education and training policy, 2014
- iii. The National Environmental Policy, 2021
- iv. The Occupational Health And Safety Policy 2009
- v. The National Employment Policy, 2008
- vi. The National Research And Development Policy, 2010
- vii. The National Biotechnology Policy, 2010

Key legislation, which PO-RALG must adhere to during implementation of this project, includes:

- I. The Education Act, Cap.353.
- II. The Law Of The Child Act, Cap. 13 R.E 2019
- III. The Engineers Registration Act, Cap 63
- IV. The Architects And Quantity Surveyors Act, Cap 267
- V. The Workers Compensation Act, Cap 263
- VI. The Persons With Disabilities Act, Cap 183
- VII. The Occupier Liability Act, Cap 64
- VIII. The standard Act, Cap. 130
- IX. The Environmental Management Act, Cap 191
- X. The Water Resources Management Act, Cap 331
- XI. The Forest Act, Cap 323 R.E 2022
- XII. The Electricity Act, Cap 131
- XIII. The Local Government (District Authorities) Act, Cap,287
- XIV. The Local Government (Urban Authorities) Act, Cap,288
- XV. The Fire And Rescue Force (Safety Inspection And Certificates) Regulations, 2008 As Amended In 2017
- XVI. The Fire And Rescue Force (Fire Precautions In Buildings) Regulations, 2015
- XVII. The Environmental Management (Control And Management Of Electrical And Electronic Equipment Waste) Regulations, 2021

Stakeholder Involvement and Participation

The Consultants identified organizations, groups, and individuals considered to be key stakeholders that

Might be impacted by the project components or have influence on the project.

- Region Academic Officer, (RAO), Regional Community Development Officer (RCDO).
- District Executive Director (DED) in Karagwe District, District Environmental Management Officer (DEMO) and District Secondary Education Officer (DSEO)
- Ward Exevutive Officer (WEO)
- Local Fundi

Stakeholders Opinions and Concerns

The stakeholder consultations identified both positive opinions and negative concerns. Stakeholders had positive opinions of the project in terms of:

- Contractor should increase speed of construction so as the school to start operation.

Stakeholders were concerned about:

- Roads need construction so as to easier transportation especially during rainy seasons
- The students should be very protected since the school is far from the city thus the students are isolated from human settlements
- For the case of fire precaution, the dormitories/hostels are always a challenge when it comes to fire accidents in schools so much attention should be put there such as fire alarms and smoke detectors

ENVIRONMENTAL AND SOCIAL IMPACTS

The following impacts were identified in the various project development stages such as mobilization and construction, operational as well as decommissioning stage. These impacts were as follows:

Mobilization/Construction Stage:

- Loss/disturbance of biodiversity and threatened species
- Atmospheric emissions from engines of vehicles
- Dust and noise pollution from mobilization vehicles.
- Public health hazards and safety from construction of supportive infrastructure.
- Land disturbance.
- Roads accidents of the moving vehicles

Operation Stage:

- Disruption of air quality from emissions of exhaust and fugitive gases
- Disturbance to surrounding communities due to increased noise levels
- Aesthetic degradation, environmental pollution and outbreak of diseases and injuries due to improper management of surrounding hazardous and non-hazardous solid waste materials
- General health and safety impacts
- Increased population density

Socio – Economic Aspects:

- A more educated workforce in the country
- Decrease in unemployment rates
- Increase in income levels resulting to benefit to the government from taxes provided
- Women empowerment
- A more balanced and diverse demographic landscape with improved gender representation and opportunities for women in the respective regions and country

Decommissioning Stage:

- Abandoned infrastructure.
- Unemployment.
- Loss of revenue to the government

Enhancement of Positive Socio-Economic Impacts:

- Employment and training especially during construction
- Increased income/revenue/induced development.
- Increased income by utilization of local resources.
- Support to local social services and livelihood.

PROJECT ALTERNATIVES ANALYSIS

Different options were considered for the project. Analysis of alternatives compares reasonable alternatives to the proposed project site, technology, design, and operation in terms of their potential environmental and social impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements.

It also states the basis for selecting the particular project designs proposed and justifies recommended emission levels and approaches to pollution prevention and abatement.

Alternatives considered for this project were the following

- a) No-Go alternative,
- b) Design and technological considerations
- c) Location alternative
- d) Energy alternative
- e) Water alternative

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental Impact Assessment for the proposed construction of Kagera River Girls Secondary School, has identified a number of impacts that are likely to arise during construction and operation stage of the proposed project.

The EIA has examined bio-physical, socio-economic and cultural effects of the proposed activity from site clearance, school construction and the school operation.

The real benefits of the proposed project can result only if the risks of the identified adverse impacts are minimized. This can be accomplished through implementation of adequate preventive and mitigation measures by formulating policies to cover them accordingly.

Environmental Management Policy

This will ensure that Project management and staffs are carrying out their activities with the highest regard to the natural environment and sustainable utilization of environmental resources therein. The policy should therefore cover the following, among other issues:

- Ensure that all Project activities operate within legal requirements of all relevant national legislation
- That there are continuous environmental improvement and performance through monitoring of Project activities;
- Ensure that utilization of natural resources is optimal with measures in place to ensure resource availability for future generation;
- Awareness creation to the surrounding community regarding sustainable utilization of natural resources, protection of sensitive ecosystems and bio-diversity maintenance for communal livelihood; and
- Balancing between natural resource use, environmental conservation and economic development.

Occupational Health and Safety Policy

It is developed for this project so as enable establishment of appropriate measures that ensure that the health, safety and welfare of all users is cared for as well as the health requirements of the local community in which the project is located. The policy should highlight on the following, among others:

- Medical examination of workers;
- Sanitation in the Project area;
- Proper liquid and solid waste management and disposal;
- Emergency preparedness;
- Fire safety;

- Necessity and availability of personal protective equipment
- Risk minimization of accidental damage to the community and environment

Community Relations Policy

The Local Community Policy are developed by management of the Project to ensure that the management of the project develops and maintains sound relations with all stakeholders on mutual respect and active partnership. The policy should highlight on ways the management should:

- Work with the local community and relevant government departments and agencies to achieve sustainability of the project;
- Come up with ways of enhancing information flow from management to the community and Project stakeholders, and vice versa;
- Community capacity building; and
- Active engagement of the local community in all Project activities that impact on the local community.

With regard to environmental management during the pre-construction, construction, operation and decommissioning phase of the project, the principal responsibilities of each party as described below. For certain aspects of the programme, assistance will be needed from the Local Government Authorities and the NEMC (mainly in the form of guidance and advice and in project monitoring).

ENVIRONMENTAL MONITORING PLAN

This report contains a detailed plan to monitor the implementation of mitigation measures and the impacts of the project during its execution. This plan includes a cost estimate for carrying out the proposed monitoring plan.

COST BENEFIT ANALYSIS AND RESOURCES EVALUATION

Environmental cost benefit analysis is assessed in terms of the negative and positive impacts. Furthermore, the analysis is considering whether the impacts are mitigatable and the costs of mitigating the impacts are reasonable. As it has been mentioned in Chapters 7 and 8, the potential benefits of the project, in terms of economic advancement and social benefit are substantial.

The environmental impacts are reasonably mitigatable. So to mitigate negative impacts, when compared to the required data are relatively small.

Social Cost Benefit Analysis

The benefits from project development can be judged in terms of employment, social welfare, education development, infrastructure development and the local economy (wages, goods and services). Thus, there will be a substantial spread of the benefit within the community through the provision of food, accommodation and other regular services to the employees and students.

Furthermore, the upgrading, development and maintenance of local infrastructure are benefits that will extend far beyond the project's scope and lifetime.

DECOMMISSIONING

Decommissioning is the last phase of project life. It involves terminating project activities and operations and rehabilitating site to or close to its original state. It is anticipated that the project shall continue as long as there is a demand for a project, however, individual components of the project shall be decommissioned as need be.




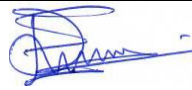
CONCLUSION

The project will have both positive and negative impact to the environment and the local communities along it. Measures have been proposed to enhance impacts which are positive to the environment and the local people.

For those impacts that are negative, mitigation measures have been proposed to avoid or abate them to the extent possible for the purpose of maximizing benefits of the school project and minimizing detriments of the project intervention to the communities.

Overall, the project shall act as a catalyst for positive change in the surrounding communities by improving education, infrastructure and social well-being, and by involving and engaging the local residents, the project can have a lasting impact and contribute to the overall development of the region.

LIST OF REGISTERED EXPERTS INVOLVED IN CONDUCTING THE STUDY

S/ N	Experts	Specialty	Signatures	Expert Registration Number
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4.	Erick Gagalla	Environmental expert		EC/EE- EIA/2021/0076
Other Experts Involved in the Study				
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2.	Veronica Msolla	Environmental Officer		
3.	Asia Abibu	Environmental Officer		
4.	Yerusalem Mwaipopo	Environmental Engineer		
5.	Joachim Marawitl	Environmental and GIS Expert		

ACRONYMS AND ABBREVIATIONS

ADB	African Development Bank
AEP	Alternative Education Program
AIDS	Acquired Immune Deficiency Syndrome
ARAP	Abbreviated Resettlement Action Plan
CBOs	Community Based Organisations
CDP	Community Development Program
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
dB	Decibels
DC	District Commissioner
DED	District Executive Director
DEMO	District Environment Management Officer
DEO	District Education Officer
DOE	Director Of Environment
DP	Development Partner
DRC	Democratic Republic of Congo
EBRD	European Bank for Reconstruction and Development
EIA	Environment Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPFIs	Equator Principle Financial Institutions
ESCP	Environmental and Social Commitment Plan
ESDP	Education Sector Development Plan
ESF	Environment and Social Framework
ESIA	Environment and Social Impact Assessment
ESMP	Environment and Social Management Plan
ESS	Environment and Social Standards
FI	Financial Intermediaries
FYDP	Five Year Development Plan
GBV	Gender Based Violence
GCA	Game Controlled Areas
GCLA	Government Chemistry Laboratory Authority

GCS	Geographic Coordinate System
GDP	Gross Domestic Product
GIIP	Good International Industry Practices
GS Pipe	Galvanized steel
HIPC	Heavily Indebted Poor Country
HIV	Human Immunodeficiency Virus
ICT	Information and Communications Technology
IFC	International Finance Institution
IPF	Investment Project Financing
ISO	International Organization for Standardization
IST	Implementing Supporting Team
IUCN	International Union for Conservation of Nature
LGAs	Local Government Authorities
LPG	Liquefied Petroleum Gas
MoEST	Ministry of Education, Science and Technology
NAPA	National Adaptation Programme Of Action
NEMC	National Environment Management Council
NEP	National Environment Policy
NGOs	Non-Governmental Organisations
NOx	Oxides of Nitrogen
O	Oxygen
OHS	Occupational Health and Safety
OIP	Other Interested Parties
OP	Operational Policy
OPC	Ordinary Portland Cement
OSHA	Occupational Safety and Health Authority
OSPAR	Oil Spill Prevention Administration And Response
PAP	Project Affected People
PDO	Project Development Objectives
PLONOR	Pose Little Or No Risk
PM	Particulate Matters
PoRALG	President office, Regional Administration and Local Government
PPE	Personal Protective Equipment

PVC	Polyvinyl Chloride
RAO	Region Academic Officer
RAP	Resettlement Action Plan
RAS	Region Administrative Secretary
RC	Region Commissioner
REMO	Region Management Officer
REO	Region Education Officer
RUWASA	Rural Water Supply & Sewerage Authority
SEP	Stakeholder Engagement Plan
SEQUIP	Secondary Education Quality Improvement Project
SO ₂	Sulfur dioxide
TANESCO	Tanzania Electric Supply Company
TDV	Tanzania Development Vision
ToR	Terms of Reference
URT	United Republic of Tanzania
VEC	Valued Environmental Component
VEO	Village Executive Officer
VOCs	Volatile Organic Compounds
WB	World Bank
WBMS	World Bureau of Metal Statistics
WEO	Ward Executive Officer
WHO	World Health Organization

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CHAPTER ONE

1 INTRODUCTION

1.1 Background

The Government of the United Republic of Tanzania (URT) in co-operation with the World Bank developed the Secondary Education Quality Improvement Project (SEQUIP). The objectives of SEQUIP are to increase access to secondary education, provide responsive learning environments for girls and in result, improve completion of quality secondary education for girls and boys.

Although access to and completion of primary education has improved over the last decade and substantial progress has been made in secondary education, secondary student enrolment rates of girls and boys are still very low in Tanzania compared to other East African countries. The share of secondary students of the relevant school age population enrolled was only 28 percent in 2018, compared to 68 percent in Kenya, despite the recent enrolment surge. Secondary school attendance was 28 percent for girls and 27 percent for boys.

The three main challenges in secondary education are:

- (i) Access to and completion of quality secondary education for girls and boys.
- (ii) A safe, supportive learning environment to keep girls in school longer and delay early marriage; and
- (iii) Effective and clear Alternative Education Pathways (AEP) to enable girls and boys who drop out of lower secondary school, for various reasons including early pregnancy, to finish the lower secondary education cycle and enter upper secondary schools

The proposed project intends at enhancing the secondary education through delivery point's improvement by increasing access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys

The implementing Government Agencies are Ministry of Education, Science and Technology (MoEST) and the President's Office – Regional Administration and Local Government (PO-RALG). Both Ministries are responsible for implementation of school-level education activities through the Local Government Authority (LGA). One of the key components to be implemented through SEQUIP is facilitating access to secondary schools and bringing schools closer to communities. The project plans to support construction of 1000 new schools and rehabilitation of additional facilities at existing secondary schools.

The project specifically has the following components.

- Component 1: Empowering Girls Through Secondary Education and Life Skills
- Component 2: Digitally Enabled Effective Teaching and Learning
- Component 3: Reducing Barriers to Girls' Education through Facilitating Access to Secondary Schools
- Component 4: Project Coordination, Monitoring and Evaluation

The Secondary Education Quality Improvement Project (SEQUIP) focuses on enabling young girls to continue their secondary education despite social and economic barriers. More generally, SEQUIP aims to improve the completion of quality, learner-friendly secondary education for girls and boys. In 2018, 1,025,629 girls and 965,242 boys attended lower secondary school.

However, in the same year, a further 134,000 children, half of whom were girls, qualified to continue their schooling but were unable to because of lack of spaces in government secondary schools. Drop-out rates are high for both boys and girls with a quarter of students leaving before they complete their lower secondary schooling. In 2017, about 5,500 girls were not able to continue with their secondary education due to adolescent pregnancy and early motherhood. SEQUIP contributes to addressing these key challenges by:

- (i) Creating a gender sensitive, learner-friendly school environment through investing in supportive structures in the school and community including trained school guidance counsellors, stronger links with the community through Parent Teacher Associations and life skills training.
- (ii) Supporting female students to avoid dropping out of secondary school due to pregnancy through measures that include:
 - (a) Encouraging community awareness of risks for girls;

- (b) Supporting safe passage and reducing the distance to schools to lower the risks of gender-based violence on the way to and from school; and supporting girls who become pregnant to access recognized, quality Alternative Education Pathways (AEPs) to obtain lower secondary certification and continue with upper secondary education or post-secondary education.
- (c) Improving the quality of secondary school teaching and learning environments through the hiring of additional qualified teachers in core subjects and providing textbooks in core subjects.
- (d) Increasing the number of secondary school spaces through the construction of new classrooms that meet minimum infrastructure standards and supporting the expansion of the school network to bring schools closer to communities.
- (e) Using innovative digital technology to facilitate mathematics and science teaching and improve learning.

These SEQUIP interventions are aligned with the Government's Education Sector Development Plan (ESDP) (2016/17–2020/21) and related strategies. SEQUIP design also draws on lessons learned from previous and ongoing World Bank and Development Partner (DP) support to education in Tanzania. Overall, SEQUIP will contribute to increasing total enrolment in secondary school by 1.8 million students and increase the number of girls graduating from both secondary schools and alternative secondary education pathways.

Over its lifetime, the Project directly benefits about 6.5 million new and existing secondary school students, including 3.2 million girls. 1 SEQUIP helps more girls' transition from lower to upper secondary education, including girls who had to leave lower secondary government schools due to pregnancy

1.2 Project Objectives

The Program's objective is to increase access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. The project interventions will:

- (i) Create a safe, gender sensitive and learner-friendly school environment,
 - (ii) Provide good quality alternative education opportunities for secondary school drop-outs including young mothers;
 - (iii) Improve the quality of secondary education by improving teacher skills, reducing class sizes and providing adequate teaching and learning materials;
 - (iv) Use innovative digital technology to improve mathematics and science teaching and;
 - (v) Increase access to secondary education by providing more schools closer to the homes of children.
- Over the project's lifetime, 6.5 million children (3.1 million girls) will benefit from project interventions and an additional 900,000 children are expected to successfully complete their secondary education.

A need and evidence-based approach was used in identification and selecting locations and schools that will benefit

1.3 Scope of the Study

The ESIA was conducted in accordance to the guidelines laid down by the Environment Management Act of 2004, and its regulations as well as the World Bank requirements as provided in the Environmental and Social Framework which goes down to the ten environmental and social standards. In its undertaking, the key consideration among others included the following:

- To ensure that environmental considerations are explicitly addressed and incorporated into the decision-making process, with the aim to anticipate and avoid, minimize, or offset the adverse significant biophysical and social effects of the proposed project; and to protect the capacity of natural systems and ecological processes to maintain their functions.
- To promote development that is sustainable and optimizes resources use and management opportunities.

1.4 Land requirement for the project

Land is public property and rights to the land are issued in the form of residential leases and certificates of rights to occupancy. The construction of new schools in Karagwe required enough land. Site selection was important in minimizing the extent of resettlement including that of informal land owners and or users who were present in an area prior to the selection of a site for a school.

The proposed land in Karagwe was previous owned by the village government of Rwambaizi and when they received the proposal of school construction from the district council they held a meeting and agreed to provide 74 acres for the project implementation where the Regional Land and District Land Commissioners were responsible for taking measurements which guided the preparation of a title deed. As per construction directives from PO-RALG, specific land size requirement is 5 acres in rural areas and 3 acres in urban areas. But Dar es Salaam like other region has put aside about 27 acres for the construction.

1.5 Project boundaries

The following criteria may be used to classify the planned school project's area of influence;

- The entire Karagwe district neighborhood
- The network of access roads that will be connected to the project area in order to move equipment, construction materials, and trash during various phases of the project.
- sources of construction materials such as aggregate, sand, and cement. All of these areas could be seen as being inside the project's borders because of the potential effects on them.

It is clear from looking at these spheres of influence that will be connected to the project site that the project's border may be viewed in terms of physical, temporal, and institutional boundaries.

1.5.1 Spatial boundaries

Spatial boundaries are crucial to decide on whether impacts are likely to occur at local, regional, national or international level. The construction of Kagera River Girls Secondary School will have minor implications that could be felt at the direct influence area (Rwambaizi Village) and at the indirect influence are (Karagwe District along with Kagera Region). In the case of this project, the core impact area consists of surrounding communities and institutions.

1.5.2 Temporal boundaries of the project

The duration and reversibility of effects are referred to as temporal boundaries. Depending on the project period (i.e., pre-construction, construction, operation, and decommissioning phases), certain effects may be transient, while others may be more long-lasting. For instance, the usage of equipment like bulldozers during the construction phase would result in noise and dust pollution, which will vanish as soon as the construction is over yet the school's presence will remain for many years to come.

1.5.3 Institutional boundaries of the project

The institutional boundaries refer to those administrative and institutional boundaries in which the project lies and interacts. These can be determined from the legislations, ministries/departmental mandates. The project area is in Karagwe District within Kagera Region.

There is a long chain of authority in the local government, with three intermediate levels between the Regional Administrative levels to the Street (Mtaa)/ village Chairman. Each administrative unit is governed by its own council, responsible for environmental measures. Therefore starting from the President's Office-Regional Administration and Local Government then comes the project proponent – Karagwe District Council. The project proponent (Karagwe District Council) will need to interact with the regional, divisions, wards and village administrative levels.

When it comes to fulfilment of other legal obligations there are institutional frameworks, including Vice President's office which houses with the following hierarchies:

- Minister of Environment responsible for issuing the Environmental Clearance Certificate for the project to be implemented.
- Division of Environment (DOE), which coordinates environmental management activities like coordination of environmental policy and advises the minister on issuing environmental clearance or EIA approvals.
- National Environment Management Council (NEMC), which is responsible for coordinating the Environmental Impact Assessments, Monitoring and Auditing.

1.6 Rationale of the Project

The primary objective of the program is to address the pressing need for improved access to secondary education, particularly for girls, in the Kagera region. The initiative aims to establish a conducive and responsive learning environment that encourages girls' enrollment and ensures the completion of quality secondary education. Currently, the Kagera region faces a challenge as it only has two private girls' secondary schools. This scarcity necessitates the implementation of the project to fill the gap and meet the growing demand for secondary education among girls in the region. Notably, the sole existing government girls' secondary school, Rugambwa secondary school, situated in Bukoba Municipal, falls short in accommodating the increasing number of girls seeking secondary education in Kagera. Therefore, the project serves as a crucial response to this educational gap, providing a practical solution to enhance access, inclusivity, and the overall quality of secondary education for girls in the region.

1.7 Study Approach and Methodology

The approach to this exercise was structured to cover the requirements under the Environment Impact Assessment and Audit Regulations, 2005. It involved largely an understanding of the project background, the preliminary designs, and the implementation plan as well as commissioning.

In addition, baseline information was obtained through physical investigation of the project site areas, desktop studies, and public consultations with members of the community in the project areas, survey, photography, and discussions with the project Proponent.

The methodology used in this study follows specific procedures and guidelines set by the EIA & Audit Regulations of 2005. The study adopted the approach of conducting Impact Assessment which is closely related to the flowchart in Figure 1-1.

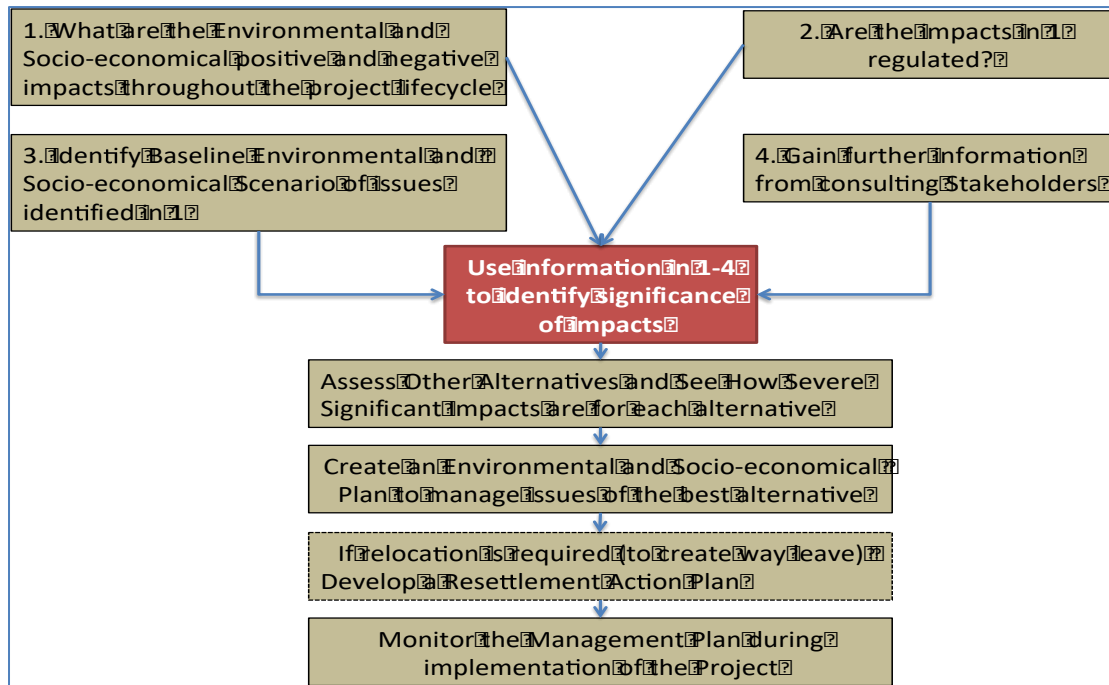


Figure 1-1: Impact Assessment Process

1.7.1 Issues Associated with the Proposed Project

Environmental and social Issues associated with school construction activities were identified based on previous history and detailed project activities. These are detailed in **Chapter 2**.

1.7.2 Regulatory Framework with Associated Issues

Description the relevant regulations and standards governing environmental quality, health and safety, protection of sensitive areas, sitting, land use control as detailed in **Chapter 3**.

1.7.3 How the Situation is Currently (Baseline Situation)

To gauge the extent of impact, it is crucial to establish the status quo (**Error! Reference source not found.**). The consulting team conducted the baseline study of the current level of impacts. This involved a specialized study on flora and fauna, air, soil and water.

It also covered socioeconomic issues, noise, and vibration etc. The aim of ascertaining the baseline it to appreciate to what extent the proposed project can alleviate or exacerbate the current situation. Issues from Key Stakeholders

This EISA also reports on the following:

- A list of stakeholders consulted together with a stakeholder analysis.
- The method used to get their views and issues of concern raised.
- Issues raised by the stakeholders and the way they were addressed.
- Records of stakeholder meetings, communications, and comments.

1.7.4 Assessment of Impacts (Both Good and Negative)

This critically reviews and analyses interaction between the proposed project and the existing environment. In this analysis, the consultant distinguished between significant positive and negative impacts, direct and indirect impacts, and immediate and long-term impacts. Impacts, which are unavoidable or irreversible, are also identified. Wherever possible, impacts are described quantitatively in terms of environmental costs and benefits.

1.7.5 Consideration of Alternatives

This environmental assessment also involved an analysis of reasonable alternatives to meet the ultimate project objective. This analysis included any alternatives examined while developing the proposed project, and that from an environmental, socio-cultural, or economic point of view may be sounder than the proposed project. This also includes the 'no action' alternative, which assesses environmental conditions without project.

It describes how the alternatives compare in terms of potential impacts, costs, suitability under local conditions, as well as institutional, training, and monitoring requirements. To the extent possible, costs and benefits of each alternative are quantified, incorporating the estimated costs of any associated mitigating measures. Finally, this report described the reasons for selecting the proposed project over the other alternatives.

1.7.6 Developing an Environmental Management Plan

This report recommends feasible and cost-effective measures to prevent or reduce any significant negative impacts to levels that are acceptable. This involves:

- Estimating the impacts and costs of those measures, and of the institutional and training requirements to implement them.
- Preparing a management plan including proposed work programs, budget estimates, schedules, staffing and training requirements, and other necessary support services to implement the mitigating measures.
- A management plan also covering the decommissioning phase of the project.

1.7.7 Developing an Environmental Monitoring Plan

This report contains a detailed plan to monitor the implementation of mitigation measures and the impacts of the project during its execution. This plan includes a cost estimate for carrying out the proposed monitoring plan.

1.8 Content of the Report

This report is designed to meet the requirements of Regulation 18 of Environmental Impact Assessment and Audit Regulations (United Republic of Tanzania, 2005) and as per the process of conducting ESIA. This introductory chapter is followed by the subsequent chapters as detailed in Table 1-1.

Table 1-1: Content of the Report

Chapter	Description
1. Introduction	<ul style="list-style-type: none">• Overview and objective of the study, methodology and outline of the report.
2. Project Background and Description;	This chapter describes: <ul style="list-style-type: none">• The executing entities of the project and their respective roles in the project• The project's geographic location, preferably illustrated with appropriate maps

Chapter	Description
	<ul style="list-style-type: none"> • Summary of the project (project objective(s), expected results/outcomes, outputs and main activities) • Implementation arrangements.
3. Policy, Administrative and Legal Framework;	Describe the policy, legal and administrative framework within which the project takes place and identify any laws and regulations that pertain to environmental and social matters relevant to the project. This includes regulations about environmental and/or social impact assessments to which the project must adhere as well as laws implementing host country obligations under international law. If applicable. Where pertinent, consider legal frameworks for promoting gender equality. Flag any areas where the project might fall short on compliance.
4. Baseline or Existing Conditions;	The main purpose of this section of the ESIA report is to provide an understanding of current environmental and social conditions that form the baseline against which project impacts can be predicted and measured during project implementation. For moderate-risk projects that require only a partial ESIA and no scoping study, this section also provides an opportunity to substantiate the results of the ESMS screening by confirming potential impacts and/or identifying other potential impacts.
5. Stakeholder Identification and Analysis	<p>The purpose of the stakeholder identification and analysis is to understand potential impacts on stakeholders and to clarify who should be involved in the ESIA process and how. This should be able to elaborate:</p> <ul style="list-style-type: none"> • stakeholders' interests in and expectations from the project; • how they might influence the project (positively or negatively); • a first appraisal or estimation of how their livelihoods could be impacted by the project (positively or negatively); and • How they should be involved in the ESIA based on the information in the three items above.
6. Assessment of Impacts and Identification of Alternatives	<p>This step is the heart of the ESIA; it itemizes and describes the identified impacts, makes predictions in terms of their probability, and assesses their significance. When analyzing the risks not only direct impacts should be taken into consideration but also indirect impacts such as inadvertent knock-on effects or cumulative effects that materialize through interaction with other developments, impacts occurring at the project site or within the project's wider area of influence and impacts triggered over time</p> <p>The purpose of the analysis of alternatives is to identify other options, including not implementing the project, to achieve the project objectives and compare their impacts with the original proposal. This step is required only for high-risk projects where the identified impacts are very significant.</p>
7. Impacts Management or Environmental Mitigation Measures	A main output of the ESIA process is a strategy for managing risks and mitigating impacts. The identification of mitigation measures is done in consultation with affected groups and is guided by the mitigation hierarchy. The mitigation hierarchy implies that all reasonable attempts must first be made to avoid negative social or environmental impacts. If avoidance is not possible without challenging the conservation objective of the project, measures should be taken to minimize the impacts to acceptable levels and address remaining residual impacts with adequate and fair compensation measures.
8. Environmental and Social Management Plan	This is a risk management strategy is documented in an Environmental and Social Management Plan (ESMP) that describes: the mitigation measures developed during the ESIA, an implementation schedule and required resources and responsibilities. The technical and operational feasibility, cultural adequacy and sustainability of proposed measures must be demonstrated as well as requirements for capacity building and institutional strengthening, where relevant.

Chapter	Description
9. Environmental and Social Monitoring Plan	The ESMP should also indicate how the measures designed to avoid impacts will be monitored for effectiveness.
10. Resource Evaluation or Cost Benefit Analysis	This chapters intends to internalize all costs associated with management of environmental and social impacts while comparing with the benefits which could be derived from implementation of the project
11. Decommissioning;	How decommissioning of the project shall be affected and restoration of the site
12. Summary and Conclusions	An overview of the study as well as conclusion from experts regarding the findings
13. References	List of all sources of information used in the report
14. Appendices	Detailed descriptions which are important for the study but cannot be included in the main body

CHAPTER TWO

2 PROJECT BACKGROUND DESCRIPTION

2.1 Overview

The Project Development Objectives (PDOs) to increase access to secondary education provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. SEQUIP will contribute to addressing key challenges to girls and boys accessing education and this school will definitely target girls for their studying excel. The project aims to reduce distance to government target: 3km (or 45 minutes)

The project will contribute to increasing the total number of students in secondary education including Alternative Education Pathways (AEP) by 250,000. It will directly benefit about 1.8 million secondary school students, including 920,000 girls, 95% of whom are enrolled in lower secondary. SEQUIP will help more girls' transition from lower to upper secondary education, as girls are underrepresented at this level.

2.2 Project Location and Accessibility

The proposed project site is administratively located at Rwambaizi village, Kanoni ward in Karagwe- District-Kagera Region and is surrounded by vegetation and hills though its 1km apart from Rwambaizi Secondary School. **Error! Reference source not found.** displays the location map of the proposed project area in Karagwe District, Kagera Region.

The project site can be accessed through Bukoba-Kyaka-Bugene road which does not need any improvements since it's a tarmac road and Omugakorongo-Murongo road whereas this requires improvement since it's an earth but so far TARURA has included it in the budget hence it's to be improved soon with tarmac.

The proposed site is located 1km from Rwambaizi Secondary School and about 23km from the district council office.

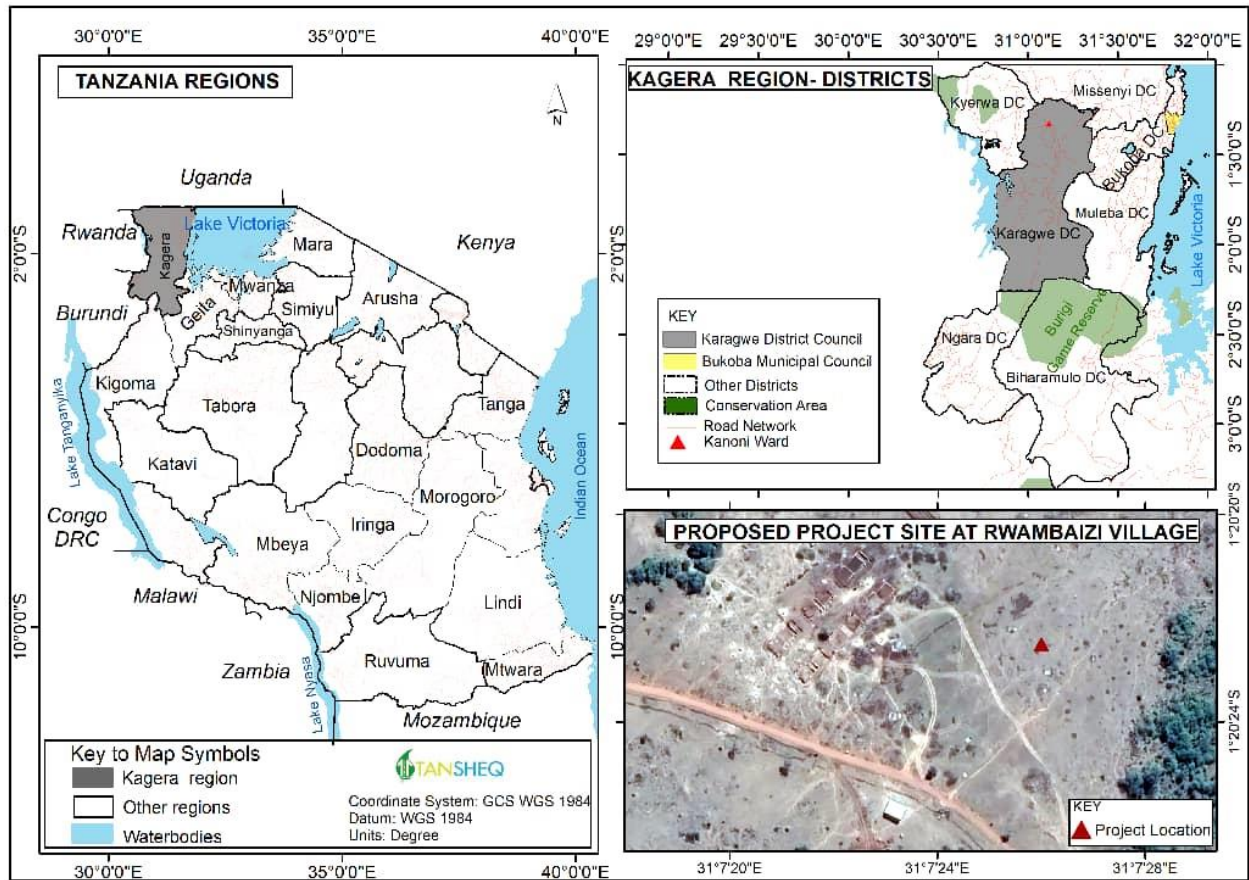


Figure 2-1: Proposed project site (Source: Tansheq, 2022)

2.3 Current Situation in vicinity proposed site.

2.3.1 Proposed project

The proposed project is at the 40% of work progress on site as some buildings within the project site are at the finishing stage such as 12 class rooms that are already constructed in a percentage of 92%.

Also the construction of administration block is at 46% while Biology and Chemistry laboratories (30%), Physics and Geography laboratories (30%), dormitories (26%), dining room (20%), staff houses (45%), generator room (29%) and incinerator room (30%). Figure 2-2 shows the current status and progress within the site.



Figure 2-2: Current Situation at the Proposed Site

2.3.2 Surroundings

The proposed site for the girls' school in Rwambaizi village is situated within the settlement and is characterized by its surroundings, which include lush vegetation and hills. To provide a coherent understanding, it can be stated that the school is enveloped by diverse features: to the west, it shares a border with Mr. Dionizi Kabagambi and Anthony Balaire; to the east, it is adjacent to village land; to the south, the borders are marked by Mr. Stanlaus Baganda and Kawa Bibagamba, while to the north, the proximity is with Rwambaizi Secondary School which is 1km away from the proposed site. This geographical context illustrates the various neighboring elements that frame the proposed school site, combining natural features like vegetation and hills with specific land and property borders, offering a comprehensive picture of its surroundings as shown in Figure 2-3.



Figure 2-3: Surrounding environment in the vicinity of the proposed project site

2.4 Project Activities

The envisaged project activities can be broadly categorized in three phases as listed in Table 2-1;

- Mobilization and Construction
- Operational phase

- Decommissioning phase

Table 2-1: Project activities

Project Phase	Activities
Mobilization Phase	<ul style="list-style-type: none"> • Bush clearing. • Site levelling • Site marking • Temporary camp/shed for office
Construction phase	<ul style="list-style-type: none"> • Excavation of trenches for foundation • Alignment of blocks for Foundation • Concrete mixing • Setting up main door frame and other room door frames • Wall construction until window frame base • Setup ventilators for exhaust fans, bathroom ventilators if needed • Slabs formworks for Floors • Bar bending work for beams and roof • Electric pipes setup inside roof • Clear any blockage in the roof pipes • Laying electric pipes in the walls and setup electric boxes • Tiles laying on the floors and bathroom walls • Plastering of roof and walls indoors and outdoors • Finishing outside and plumbing work and tank • Painting • Electric wiring and switches setup • Compound wall/fence • Firefighting system installation • Water drainage system • Air cooling system installation
Operation phase	<ul style="list-style-type: none"> • Teaching services • Movement within dormitories, classrooms, dining, laboratory, offices and washrooms • Meeting and Conferences • Health. Safety and security as well as social issues.
Decommissioning phase	<ul style="list-style-type: none"> • Expansion and maintenance

2.5 Project Planning and Design

2.5.1 Overview

Project planning and all designs are prepared as per SEQUIP design and the overall objectives for the development is specified in the Environmental and Social Management Framework (ESMF). The design of the Girls' Regional School consists of required infrastructure package based on the school construction and maintenance strategy (e.g. number of classrooms/students, adequate WASH facilities, multi-purpose science labs, electricity, etc.).

The proposed construction of the school will be having both ordinary and advanced level with capacity of accommodating students between 1000 and 1100 students. The construction package will involve the following facilities:

2.5.2 Mobilization/pre-construction Activities

The mobilization phase of the project, which took average of maximum three months, entailed the following activities:

- Establishment of construction of camps, material and equipment storage areas, materials processing yards, including sanitation facilities. The following activities will be involved during establishment of the camp.
 - Bush clearing.
 - Construction of Material and equipment storage areas
 - Construction of sanitation facilities
 - Installation of electrical infrastructure
 - Installation of water and wastewater infrastructure
- Identification of sources of construction materials (borrow pits and quarry sites),
- Identification of sources of water for domestic and construction works

2.5.2.1 Materials required during Mobilization Phase

The following materials were required during mobilization phase of the project:

- Cement, sand, and aggregates for block and concrete works
- Water for general construction works and dust abatement
- Timber, galvanized iron sheets, paints, nails, etc. for roofing.
- Electrical works: conduits, cables, fittings
- Cement, galvanized iron sheets, nails, fence wire, electrical and plumbing utilities will mainly be obtained from either Dar es Salaam, while sand, aggregates, and timber will be obtained locally.

2.5.2.2 Equipment Required During Mobilization Phase

The major equipment that were required during mobilization phase of the project included:

- Bull dozers/motor graders, excavators for site clearing, excavation, and grading of the storage facilities construction at site
- Light duty vehicles and trucks for the transport of construction materials, small machines and staff
- Water pumps, block making machines, stationery concrete mixers and trans mixers, etc. for making of blocks and concrete mixes for concrete works
- Electric power generator(s)

2.5.2.3 Waste Generated During Mobilization Phase

Mobilization phase of the project generated waste as shown in Table 2-2.

Table 2-2: Waste likely to be generated During Mobilization Phase

Aspect	Solid Waste	Liquid Waste	Gaseous Waste
Site clearing and excavation	Earth, green cutting	None	Generation of air pollutants (dust)
Construction of foundation(s): block/concrete works	Concrete, blocks, hessian cement bags	Water slurry, wash-down water	None
Construction of the main Storage room	Cement bags, mortar, steel reinforcements, nails, timber, iron sheet waste, etc.	Concrete slurry	Paint
Installation of electrical infrastructure	conduit pipes, cables	None	None

Aspect	Solid Waste	Liquid Waste	Gaseous Waste
Installation of water infrastructure	PVC and GS pipes	None	None
Labor force	Plastic bottles/ bags, food waste	Sanitary waste	None
Servicing of construction equipment	Used batteries, used tyres, used metals parts, used oil and fuel filters, empty oil drums	Waste oil	None

2.5.2.4 Treatment and Disposal of Waste Generated During Mobilization Phase

The treatment methods for the waste generated during mobilization phase shall be based on re- using, recycling, burying, or burning, and on-site treatment.

- During site clearing, top soil and green cutting were disposed of in old borrow pits or other areas approved by the Engineer
- Concrete and cement blocks waste were disposed of in borrow pits during their reinstatement as approved by the Engineer.
- Metal waste such as GS pipes, nails, reinforcement bars, and used equipment parts were disposed of by recycling. They were collected and stored; until enough quantities were obtained before being disposed of by the Contractor. The Engineer approved the metal scraps disposing companies.
- Degradable materials such as paper cement bags and paper boxes were treated on site by controlled burning.
- Non degradable waste such as plastic, PVC pipes, and plastic bottles were collected and transported and given freely to plastic factories where they will be recycled.
- Used batteries, empty metals drums, used oil filters were disposed of through approved disposing companies.
- Temporary pit latrines to be constructed at active mobilization sites (campsites) for the disposal of sanitary waste.

2.5.3 Construction phase

The construction phase of the project, which is estimated to take 12 months for each of the phases encompassed following major activities:

- Earth works to facilitate widening and re-alignment of the road. Earth works entailed the following activities that were clearing and grubbing (clearing of vegetation, including trees).
- Extraction of naturally occurring construction materials. This included:
 - a) Excavation and transport of natural sand, gravel, and sub-base materials to construction sites
 - b) Stone quarrying (including blasting), crushing and transport of crushed aggregates to construction sites
 - c) Transport and handling of fuel, lubricants etc. from their sources to the project site
 - d) Transport of construction materials from source to site such as roof, steel, woods, nails, rope
- Construction of the facilities required for school operation such as class rooms, dormitories, sanitary facilities, laboratories etc. which are further elaborated below;

2.5.3.1 Classrooms

The classrooms are designed following Education Bulletin number 1 of 2007 that directs capacity of each classroom level, 30 students for advance and 40 students for ordinary level. However, schedule of materials indicates each classroom will be having capacity of 40 students.

Construction will be undertaken in two phases. The first phase will involve construction of 12 classrooms within six blocks followed by the second phase that will involve the construction of 6 classrooms which will be of 3

different designs (2 classrooms with office, 2 classrooms with toilet and a 2 classrooms block) (Appendix VI). The proposed project development will adhere to the fire and rescue force directives for public premises.

The Education Global Practice Africa Region report prepared by World Bank provides the following directives; Student classroom ratios of 50:1 or less, student to functioning latrine ratio of 25:1 for girls and 30:1 for boys, at least one multipurpose science laboratory, student textbook ratios in mathematics and science subjects of 1:1, teacher: teacher guide availability of 2:1.

2.5.3.2 Laboratories

Education Bulletin number 1 of 2007 explain the capacity and set up of laboratory building for each level is 40 students, The scheduling of materials will adhere the bulletin as the following laboratory rooms will be constructed;

- Physics and geography lab
- Chemistry and biology lab,
- ICT room which is to be constructed in the second phase, and
- Domestic science

Drawings of the following are shown in Appendix VI.

2.5.3.3 Administration block

The bulletin indicate for the school having capacity of 1000 student plus need to have not less than 40 teachers excluding other staffs such as school bursar, secretary etc. The administrative building will be constructed as an elevated building whereas only one (1) building will be constructed and its drawings are obtained in Appendix VI.

2.5.3.4 Toilets

The proposed toilet facility will comprise of one block with 16 holes to be constructed standalone as scheduling shows with estimates of one (1) hole for twenty (20) people, nevertheless, some of classrooms will be having sanitary rooms as designed, dormitory, and dining hall will also be having sanitary rooms. Drawings obtained in Appendix VI.

The development of sanitary facilities is necessary to ensure the surrounding environment is well-managed and ensuring social well-being and practical operation of the school since human dignity is directly linked to access of safety and hygienic sanitation.

2.5.3.5 Dining hall

The Dining Hall is a pivotal gathering space on School's campus and is emblematic of The Family Boarding School ideal. The school will be having enough dinning space to all students since it is a boarding school thus meal will be served. According to the designs of the dining hall, it has the capacity of 2000 students and they are obtained in Appendix VI.

2.5.3.6 Staff houses

The teachers' houses are designed to attract teachers out to the countryside, as well as to increase teachers morally to perform their duties unlike if they are coming far from the school. The structure considers the staff house to have one (1) master bedroom, two (2) bedrooms/ one (1) master bedroom, three (3) bedrooms with Public toilet, Sitting room/dining, Kitchen and Store as shown in Figure 2-4. Four (4) of the staff houses will be constructed.

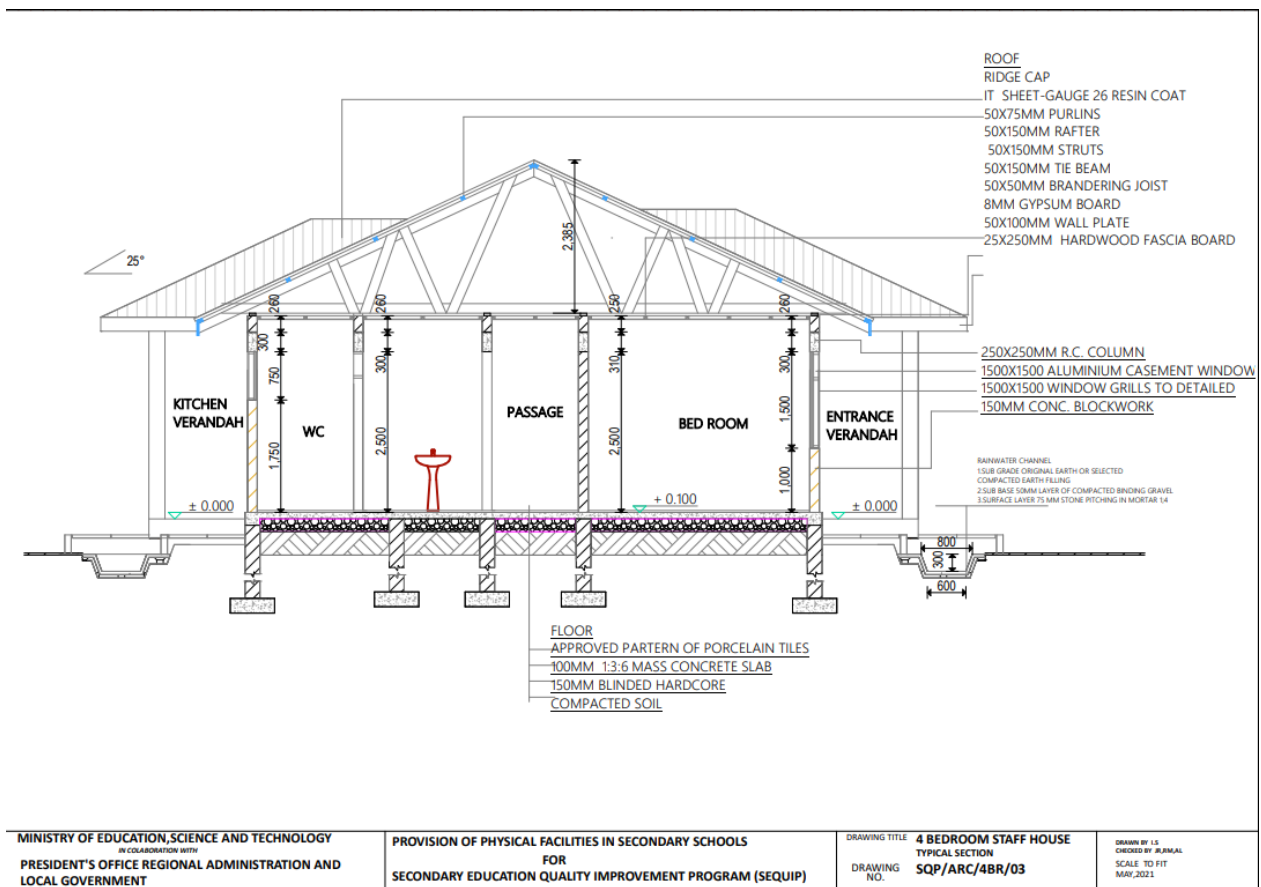


Figure 2-4: Staff-house structure

2.5.3.7 Dormitories

Dormitories are places where students stay. The student housing must also aim to provide healthy and acoustically pleasant environments for the protection, comfort, and productivity of the students. The dormitories are designed as per provided to meet the SEQUIP objectives having a capacity to accommodate 120 students. For phase one five (5) buildings will be constructed while for phase two four (4) buildings. The drawings are attained in Appendix VI.

2.5.3.8 Library

The library is important because it affects cultures, it affects innovation, and it affects individuals. Because of all this, library architecture has the responsibility to enhance these effects by providing a knowledge center that is inspirational and conducive to good communication and teaching interactions.

According to designs, the library to be constructed will accommodate 52 students for readings and the computer learning room will accommodate 8 students. The drawings are illustrated in Appendix VI.

2.5.3.9 Sick bay

A sick bay provides a dedicated space for students who may feel unwell or require immediate medical attention. It will serve as a primary point of care within the school premises, allowing for timely assessment and treatment of minor illness or injuries. Drawings are attained in Appendix VI.

2.5.3.10 Incinerator

This will provide a safe and efficient means of disposing waste specifically biomedical waste such as used sanitary pads, medical supplies and other potentially hazardous materials. Drawings attained in Appendix VI.

The proposed project will have two incinerators which will be located far from residential houses and all school facilities. However they will be nearby dormitories as well as toilets.

As per Tanzania Bureau Standards and WB EHS Guidelines, the incinerator shall have two chambers: Primary and secondary chambers. It will meet the following design criteria:

- It shall be capable of destructing waste into ashes by 95%.
- Fuel burners shall be used.
- Emission shall conform to national and international standards
- Design, selection and efficiency of incinerators shall conform to TZS1681, TZS 1682, and TZS 1683 respectively

The incinerator is built on site will use locally available materials (aggregate, sand, cement, Blocks, morram, Refractory fire cement, steel, Fuel pipe Stainless, fuel tape etc.). It has a secondary combustion chamber to reduce harmful emissions.

When residual combustible gases reach the secondary combustion chamber they meet a further supply of air and undergo secondary combustion, raising the temperature even higher, and reducing the gases to stable compounds such as carbon dioxide. The incinerator is loaded at start-up and may then be re-loaded from time to time while in operation.

The incinerator will operate with natural draught, requires fuel to start and takes time to reach operating temperature from cold. It is therefore best operated for long periods, not less than four hours at a time. It is not suitable for operation in a closed room. Smoke will be emitted whenever the loading door is opened. A roof may be fitted to protect the operator from rain, but only minimum walls.

The walls of the incinerator will never become dangerously hot to touch, even during operation, because of the double walls and sand infill between the walls.

Generally, waste incineration at schools focuses on the disposal of non-recyclable and non-compostable waste, such as certain types of plastics, papers, and other materials that cannot be effectively recycled or composted.

It is recommended to install a controlled air incinerator, also known as a controlled air combustion incinerator. This type of incinerator ensures efficient and controlled combustion of waste materials.

The incinerator should have an appropriate capacity to handle the waste generated by 1000 students. A recommended capacity for this school would be a small-scale incinerator with a capacity of approximately 50-100 kilograms per hour.

The quantity of waste to be incinerated will depend on the waste generation rate of the school. Based on an average waste generation rate per student, an estimate of 0.5 kilograms of waste per student per day can be used. Therefore, the incinerator should have the capacity to handle approximately 500 kilograms to 1000 kilograms of waste per day.

To ensure the safety of the school and nearby residential areas, it is recommended to place the waste incinerator at a sufficient distance from both the school and residential areas.

2.5.3.11 Playgrounds

These hold significant importance for the holistic development of students. They provide a dynamic and interactive space where students can engage in various, physical, cognitive and emotional activities. These will involve football ground, global goal, handball, netball, volleyball, basketball and a running track pitch.

2.5.3.12 Water tanks along with a water tunnel

Additionally, the proposed project intend to construct the two water storage tanks as the separate structures which will be ground tanks and elevated water tanks. For ground water tank, the project will use the reinforced

concrete of grade 20 with $f_{cu}=20\text{N/mm}^2$ at 28 days of age while reinforcements shall be high tensile steel with $f_y=460\text{N/mm}^2$ and the nominal cover to the reinforcements.

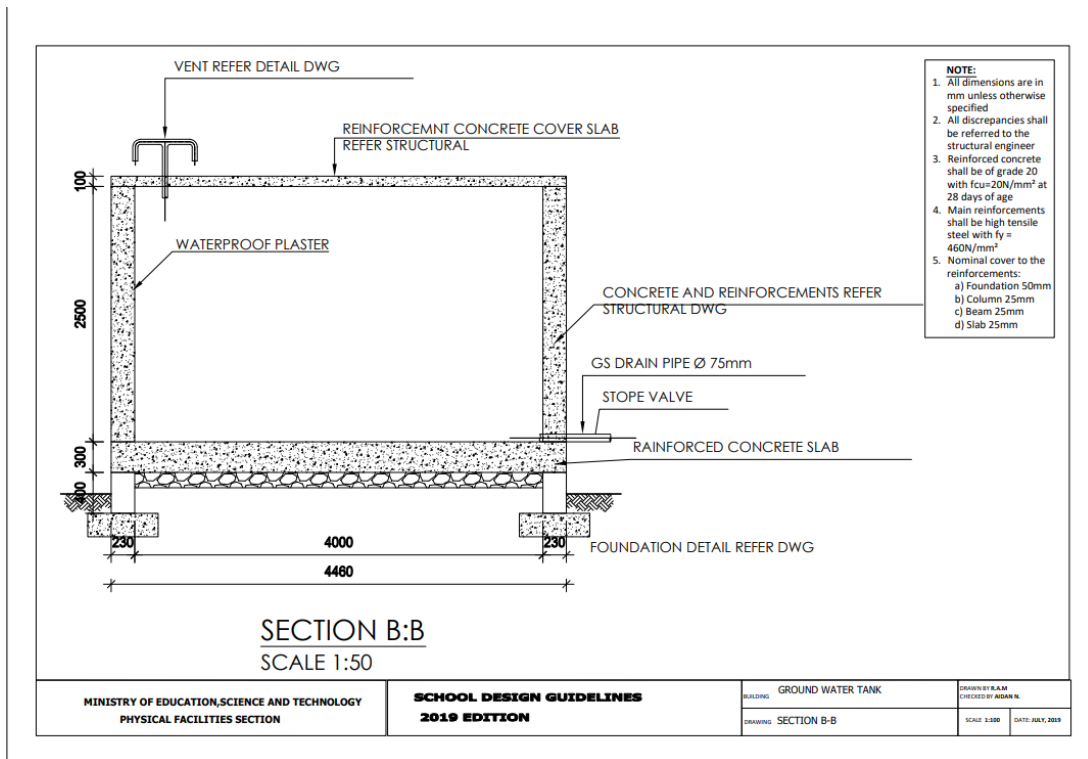
- Foundation 50mm
- Column 25mm
- Beam 25mm
- Slab 25mm

The proposed project opted for overhead (-elevated) tank to allow the natural flow of water by gravity within the entire area of the school. Not only flow but also will be used in fire protection. In designing this elevated tank, the following were observed:

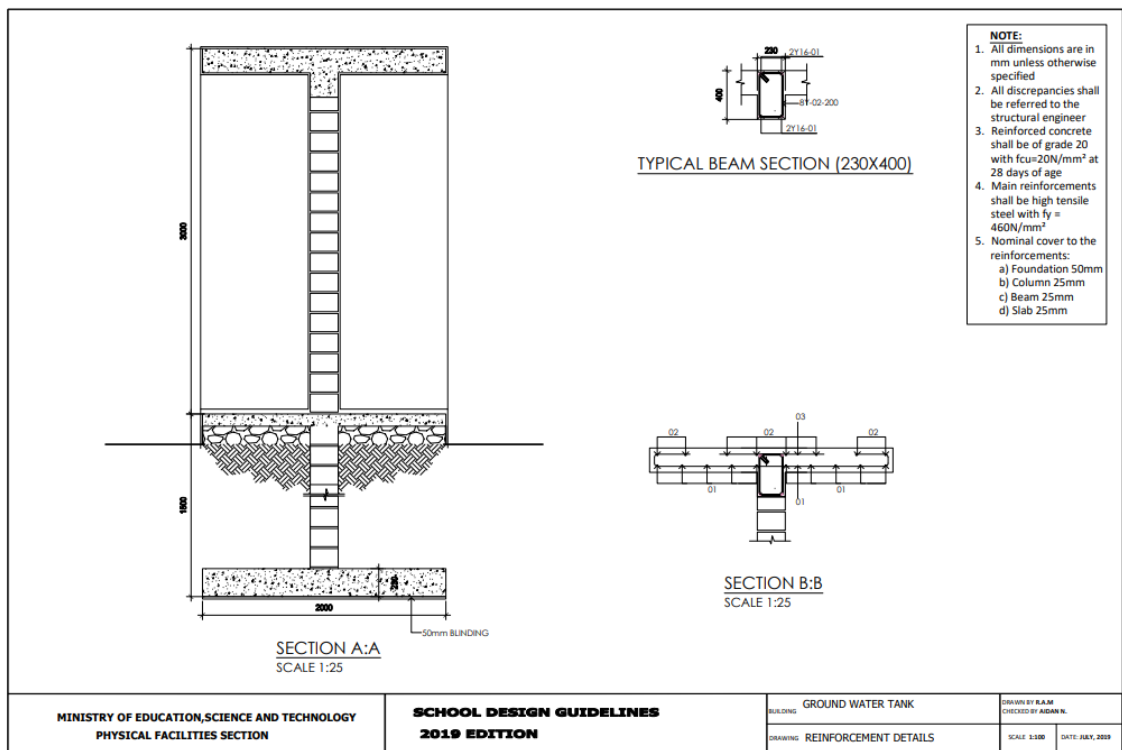
- Thickness of wall
- Free board 0.3m
- Lower slab thickness
- Bottom ring beam
- Size of braces
- Column size
- Number of column
- Staging height
- Height of tank
- Zone factor

Water tunnels of 1050m which are essential components of water supply systems used to connect either elevated water storage tanks or ground-level water storage tanks will be installed. These will serve a crucial function in ensuring a consistent and reliable flow of water to meet the needs of the school.

Figure 2-5, shows the structure for ground tank and elevated tank to be constructed for water supply within the proposed school accordingly, the elevated tank discourage the use of pump in distributing water within the school.



a) Ground water tank structure



b) Elevated water tank structure
Figure 2-5: Water storage tanks designed for the project

Other components that will be constructed within school compounds area are, Manhole and gully trap, Walkway & Paving. Table 2-3 shows the summary of buildings will be constructed.

Table 2-3: Summary of buildings to be constructed

CONSTRUCTION			
No	buildings	No. of Buildings	No. of rooms
First construction phase			
1	Building with 2 classrooms	2	4
2	Building with 2 classrooms and one office	3	6
3	Building with 2 classrooms and 2 toilets	1	2
4	Building with Physics laboratory and Geography room	1	2
5	Building with Chemistry and Biology laboratory	1	2
6	Administration Building	1	1
7	Toilet building for students (girls)	1	16
8	Generator Room	1	1
9	Dining Hall	1	1
10	Teacher's house (3 rooms)	1	5
11	Teacher's house (2 in 1)	1	4
12	Dormitories @ 120	5	Cubicle 15
surrounding activities			
1	Water Tunnel (1050m)	1	1
2	Waste incinerators	1	1
3	Waste incinerators	2	2
4	Underground water storage tanks (32,000 liters)	2	2
5	Water tank (hippo) and its pillars	2	2
6	Manhole and gully trap	1	

CONSTRUCTION			
7	Walkway & Paving		
second construction phase			
1	building with 2 classrooms	2	4
2	Building with 2 classrooms and 1 office,	3	6
3	ICT Room	1	1
4	Library	1	1
5	Master's Houses (3 Rooms)	4	
6	Dormitories @ 120 Students	4	Cubicle 15



Figure 2-6: Various Facilities to be constructed with the General layout in 3D

2.5.4 Materials Required During Construction Phase

During the project construction, the following materials (Table 2-4) were required, these are few of the materials that will be used but other materials and their quantities for each school facility that will be constructed are provided under the website of PO-RALG:

Table 2-4: Materials required During Construction Phase

SN	Material	Usage	Possible Source
1.	Ordinary Portland Cement (OPC) and Pozollana Portland Cement (PPC)	For construction purposes.	Twiga cement (Dar es salaam), Tanga cement (Tanga), and Mbeya cement (Mbeya)
2.	Sand	Production of mortar and general concrete works	Stone crusher dust and sand pits (to be established by contractor)
3.	Crushed aggregate	Concrete works (Structural works) and construction	Locally available
4.	Steel reinforcement bars	Reinforced concrete works construction of structures,	Kagera /imported
5.	Steel shutters and form works	Concrete works	Kagera
6.	Soft timber	Production of timber formworks and shutters	Locally
7.	Nails	Nails for fixing timber form works	Kagera
8	Water	Drinking, concrete works, dust suppression	RUWASA and surrounding water sources

2.5.5 Waste Generated During Construction Phase

The waste generated during construction phase of the project resulted from operation of construction and equipment maintenance. The waste that were generated during construction phase of the project are shown in Table 2-5.

The estimated amount of waste to be generated within a week is 856kg which includes all waste such as Paper, Litter, Paper litter, Plastic bottles/bags, Aluminum cans, Food wastes and Plastic and glass (containers), used tyre, metal (used parts), plastic and cable parts, used lead-acid batteries which will be disposed as per WB EHS Guideline and Tanzanian Regulations.

Table 2-5: Waste generated during cconstruction phase

Aspect	Solid Waste	Liquid Waste	Gaseous Waste	Hazardous Waste	Electronic Waste
Operations of On-site					
	Paper	Sanitary waste	-	Paint cans	
	Litter	-	-	Solvent containers	
	Packaging waste	-	-	-	
	Paper litter	Sanitary waste	-	-	
	Plastic bottles/bags	-	-	-	
	Aluminium cans	-	-	-	
	Food waste	-			
	Construction debris			Biohazard waste (medical waste)	
Machinery and equipment Maintenance					

Aspect	Solid Waste	Liquid Waste	Gaseous Waste	Hazardous Waste	Electronic Waste
		Waste oil and grease, battery acid (dilute] sulphur ic acid)	-	Gases that are compressed, liquefied, or dissolved under Pressure may be hazardous. Flammable liquids including oil, grease and petroleum compounds are also	Damaged machinery parts
	-	Lubricant, coolants (radiator fluid), hydraulic fluid, waste water)	-	Lubricants, hydraulic fluid	

2.5.5.1 Waste sorting protocol

Proper waste sorting and management is essential to minimize environmental impacts, promote sustainability and comply with waste management regulations. The following waste sorting protocol outlines the procedures to be adhered to for effective waste segregation, collection and disposal;

1. Pre-construction phase
 - a) Waste Management Plan
 - Create a thorough waste management plan that covers disposal techniques, recycling possibilities, and waste reduction tactics.
 - Determine the contractors or suppliers in charge of handling various sorts of waste collection and disposal.
 - b) Site Preparation
 - Create specific waste storage spaces with containers that are properly labelled for the various waste streams.
 - Install signs and posters that offer advice on sorting and separating waste.
2. Construction Phase
 - a) Waste identification
 - Train construction workers and subcontractors on waste sorting procedures.
 - Different waste streams, such as wood, concrete, metal, plastic, cardboard, hazardous waste, etc., should be distinctly identified and labelled.
 - b) Waste Segregation
 - Make sure that waste is sorted at the point of generation, using distinct bins or containers for various waste kinds.
 - Separate bins should be available for recyclable and non-recyclable waste.
 - Place hazardous garbage in appropriate containers that adhere to safety rules, such as paint, chemicals, and batteries.
 - c) Storage and collection
 - To avoid cross-contamination, empty and clean garbage containers often.
 - Contact authorized waste management service companies to arrange regular waste collection and disposal.
 - d) Documentation
 - Keep track of all the waste that was produced, separated, and disposed of while building was taking place.
 - Keep track of the amounts of waste that are recycled, utilised, and disposed of.
3. Post-construction Phase
 - a) Final sorting and disposal
 - During the last stage of clean-up, give sorting waste top priority.
 - To ensure proper disposal or recycling, separate recyclables, recoverable objects, and hazardous garbage.
 - b) Reuse and recycling
 - Determine whether things, such as extra building materials, furniture, or equipment, may be recycled or utilized again.

- To guarantee that recyclable materials are disposed of properly, coordinate with recycling facilities.
- c) Waste disposal
- Waste that cannot be recycled along with hazardous waste should be disposed of in accordance with local laws.
 - For proper treatment of construction debris, enter into a contract with licensed trash disposal services.

2.5.5.2 Treatment and Disposal of Waste Generated During Construction Phase

All waste generated at the project site which do not require special handling (bio-degradable waste) will be disposed of to District council designated site. The other waste which require special handling (non-biodegradable waste) shall be handled by the contractor under the supervision of Karagwe District Council.

2.5.6 Operation phase

Administrative tasks including students' registration, staffing, infrastructure maintenance and coordination with other education authorities will contribute to increasing total enrolment in secondary school by 1.8 million students and increase the number of girls graduating from both secondary schools and alternative secondary education pathways.

2.5.6.1 Material and equipment required during operation phase

During school operation, various materials and equipment are needed in supporting the educational, administration and residential aspects of the school including but not limited to;

- Classroom supplies such as textbooks, notebooks, writing materials (pens, pencils and erasers), rulers, calculators, blackboards, chalks, education posters and various teaching aids essential for classroom instruction and student learning.
- Laboratory equipment for science subjects such as microscopes, test tubes, beakers, Bunsen burners, lab coats and other essential materials are required to facilitate practical learning.
- Sports Equipment such as balls, nets, goal posts and sports uniform to support physical activities.
- Dormitory furnishings such as beds, mattresses, bed sheets wardrobes, and appropriate lighting fixtures to support students' accommodation.
- Dining hall supplies such as tables, chairs, serving utensils, plates, bowls, cutlery and kitchen appliances will be needed to facilitate meals for the students and staff.
- Library resources such as books, reference materials, educational magazines and comfortable seating is important for students' academic and personal development.
- IT infrastructure such as computers, printers, scanners, projectors, internet connectivity and software applications are necessary for administrative tasks, computer classes and accessing educational resources.
- Maintenance and cleaning supplies such as brooms, mops, cleaning agents, trash cans, gardening tools and maintenance equipment to ensure cleanliness of the school premises.
- Security system, emergency response equipment such as fire extinguishers and alarm systems may be necessary to ensure safety within the school premises.
- Sick bay supplies such as medical supplies, medications, first aid kits, diagnostic equipment, furniture and amenities for the aim of meeting the health and safety needs of the students and staff.

For chemistry and biology laboratories, various chemicals and reagents are used to perform experiments and scientific investigations including;

- Acids such as hydrochloric acid, sulfuric acid, nitric acid and acetic acid used for pH adjustments, titrations and chemical reactions.
- Bases such as sodium hydroxide, potassium hydroxide, and ammonium hydroxide used for pH adjustments, neutralizations and precipitation reactions.
- Solvents such as water, ethanol, acetone and methanol used for dissolving substances, cleaning equipment and preparing solutions.
- Indicators such as phenolphthalein, bromothymol blue, and litmus paper used in determining acidity or alkalinity of a solution.

- Enzymes such as amylase, lipase and catalase used in biology laboratories for studying enzymatic reactions and biochemical processes.
- Stains and dyes such as methylene blue, iodine and eosin used to visualize cells, tissues and specific structures in biological samples.
- Various salts such as sodium chloride, potassium nitrate and calcium carbonate used in experiments and preparation of solutions.
- Oxidizing and reducing agents such as hydrogen peroxide, potassium permanganate and sodium metabisulfite used in chemical reactions.
- Preservatives, chemicals such as formaldehyde and ethanol used for biological specimen to prevent decay and microbial growth.
- Culture Media Components like agar, peptone, and nutrient broth used for preparing culture media for micro-organisms growth.

2.5.6.2 Wastes generated during operation phase

The waste generated during the operation phase of the project is a result of different activities taking place during the operational phase of the project. The waste generated during the project's operation phase are

- Solid waste from the dining hall, kitchen, laboratories, classroom, office, dormitories etc.
- liquid waste from sanitary facilities, laboratories, canteens, and kitchens
- Hazardous waste such as used sanitary pads, bio-medical waste, expired chemicals along with used chemical containers
- Electric waste such as damaged computers and other electronic appliances from the ICT laboratory

The dormitories, office, classroom, dining hall, laboratories and resting areas will be supplied with dustbins, complete with waste separation option. The storage capacity will be one week and waste will then be collected for final disposal at to District council designated site. A private company may be employed to deal with solid waste management.

2.5.6.3 Waste Sorting Protocol

The following waste sorting protocol outlines the procedures to be adhered to for proper waste segregation, collection, and disposal within the school premises;

1. Waste management plan

A comprehensive waste management plan should be prepared meeting the specific needs of the school operation. The plan should involve the following elements;

○ Waste streams

Determine the different waste streams that are frequently produced at the school, including paper, plastic, food waste, and hazardous items such as the used laboratory reagents, sanitary pads, damaged computers etc.

○ Waste segregation

Establish garbage bins or containers with distinct markings or color-coding for each waste stream and in order to ensure correct trash segregation, provide instructions through signage and posters.

○ Education and awareness

To raise knowledge of the value of waste sorting and its effects on the environment among students, staff, and visitors, frequent educational programs and campaigns should be conducted, encouraging them to take an active part in recycling and waste reduction programs.

- Training

Teachers, janitors, and cafeteria workers should all receive training on waste sorting techniques and how to use designated waste bins.

2. Waste segregation guidelines
 - a) Paper waste
 - Sort paper waste into appropriate bins, including cardboard, printouts, and used books.
 - To cut down on paper waste, encourage double-sided printing and digital alternatives.
 - b) Plastic waste
 - Put plastic packages, bottles, and containers in their respective recycling bins.
 - Encourage the use of reusable alternatives rather than single-use plastics.
 - c) Food waste
 - Establish composting systems to collect food waste from the cafeteria or kitchen.
 - d) Hazardous waste
 - Establish detailed processes for the secure disposal of hazardous waste, including used chemicals, batteries, sanitary pads and electronic waste.
 - Ensure hazardous waste is collected separately and disposed of following local regulations and guidelines.
3. Waste collection and disposal
 - a) Collection
 - To avoid odors, pests, and cross-contamination within school premises, regular emptying and cleaning of garbage containers should be done.
 - Train janitorial staff on proper waste collection procedures and schedules.
 - b) Disposal
 - Contract with authorized waste management companies or local authorities to collect and dispose of waste in an environmentally responsible manner.
 - Make sure non-recyclable waste is disposed of correctly and that recyclable items are sent to recycling facilities.
 - c) Monitoring and evaluation
 - Regularly monitor waste management practices, including waste sorting compliance, waste quantities, and disposal methods.
 - Analyze the waste sorting protocol's effectiveness and make the required modifications to enhance waste management procedures.

2.5.6.4 Treatment and Disposal of Waste Generated During Operation Phase

Solid waste management;

For solid waste management, the school can adopt use of the incinerator for management of waste like papers, packaging materials from offices, classrooms, school compounds, and dormitories apart from using it only for biomedical waste from the sick bay and used sanitary pads. Food waste from kitchen and dining halls can be used as manure for variety of plantations that will be present during school operation. For waste from laboratories such as expired chemicals, chemical containers, damaged computer parts, the school heads will segregate the waste from other non-hazardous waste and contact authorized waste management authorities for collection and proper disposal.

Liquid waste management

Waste water drainage systems from all facilities within the school premises will be connected directly to the septic tanks though waste water drainage systems from laboratories specifically the chemistry and biology laboratories should be installed separately to allow treatment before being connected to the septic tanks. These septic tanks will be designed by the Karagwe District Council officials whereas the designs and the construction costs will be handled by the district itself.

2.5.7 Decommissioning Phase

After completion of construction, all the utilities that were used shall be reverted to the Municipal Director who will decide on their future use. The main activities during demobilization phase will engross the following:

- Collection and disposal of storage facilities such as pallets, packing, boxes
- Collection and disposal of construction materials and waste such as waste oil, sewage, solid waste (plastics, wood, metal, papers, etc.) at the workshop, site office etc. to authorized dumpsite
- Restoration of material borrows areas to safer condition.

2.5.7.1 Materials required During Demobilization Phase

Materials required during demobilization phase will include fuel for the operation of equipment, soils and tree seedlings for reinstatement of borrow pits. During this phase, labor, water, and energy will also be required.

2.5.7.2 Equipment Required During Demobilization Phase

The equipment required during demobilization phase will include vehicles and trucks for transport of waste.

2.5.7.3 Waste Generated During Demobilization Phase

The following waste will be generated during demobilization phase of the project:

- Hazardous waste such as used lubricants (oil and grease), empty plastic bottles, etc.
- Plastic and paper packing
- Used equipment parts

2.5.7.4 Treatment and Disposal of Waste Generated During Demobilization Phase

The treatment methods for the waste generated during construction phase will depend on whether they are degradable, non-degradable, hazardous, or non-hazardous. Depending on the nature of the waste, the waste will either be re-used, re-cycled, buried, or burnt.

2.5.7.5 Lifespan of the project

The Project Lifecycle is the sequence of phases through which a project progresses. It includes initiation, planning, execution, and closure therefore this project will take 12 months for both the first and second phase. Nevertheless, with reference to construction schedule and material life span such as steel bricks the project life time will be 50 years followed by maintenance.

2.5.7.6 Decommissioning of Individual Components of the Project

Individual components of the project may be rendered redundant due to wear and tear or become obsolete due to technological advancement.

These shall be removed after an environmental audit is conducted and a device appropriate environmentally friendly way (Environmental Management Plan, EMP) to deal with them. Emphasis shall be on repairing so that parts can be reused or recycled of materials from defunct components to salvage important metals.

2.6 Environmental and Social Management Framework

The ESF instruments that have been prepared for SEQUIP incorporate measures for project site Selection and to ensure designs and school construction align with the ESF requirements.

It has been agreed that civil works will follow building standards acceptable to the World Bank and required under the ESF; taking into account structural safety, universal access, changes in the standard drawings, water source availability and quality, efficient use of materials (wood) to reduce pressure on natural resources, Water and Sanitation for Health (WASH) and solid waste management at the schools, among other risks identified as

part of the due diligence process. Site selection for school construction is very important to avoid possible direct and indirect environmental and social impacts and lack of water sources for construction and during operation.

2.6.1 Health and Safety

As the ESMF directives, the campaign has been conducted with the utmost regards for occupational health and safety requirements of local authorities, management system, and of recognized industry standards. As a rule, all activities that present a risk to employees, contractors, and or neighboring communities are planned, and controls are implemented to limit exposure.

In addition, a Permit to Work system is in effect for risk-specific activities that is working at height. All EHS incidents, observations, near misses, etc. will be reported and investigated to prevent recurrence during construction phase and the proper way of reporting and registration during the operation phase will be employed as well. Regular emergency evacuation drills will be connected to test the training and response capacity of the workforce at the site during all phases of the project.

Occupational health and safety issues for further consideration in multi-storey office building (consisting of one floor) construction and operation phases includes Fire and collapse and Slippery.

2.6.1.1 Fire

The project shall be designed, constructed, and operated according to standards for the prevention and control of fire hazards.

The most effective way of preventing fires is to avoid any source of fires inside the building, store reasonable weight of equipment and instruments at the top floor of the building such as water storage tanks should be designed according to the construction standards and considering building materials such as fire detector alarms should be placed in all buildings.

2.6.1.2 Collapse.

The result analysis showed that the major factors responsible for building collapse are usage of substandard building materials, non-involvement of relevant and qualified professionals, defective design, and poor maintenance culture Poor Workmanship/Supervision Natural Occurrences.

The remedies to mitigate the problems are but not limited to The professional bodies which through their government regulatory bodies, need to ensure effective monitoring to control quackery and ensure violators are punished, building and construction permit should also be adhered and lastly ensuring the use of professional people during construction etc.

2.7 Project Associated Facilities

ESIA studies vary in scope and type of analysis, depending on the characteristics of the proposed project. In doing so, each element of a project should be analyzed for its potential to affect the environment and/or society during each phase of the project (including construction, operation, and decommissioning).

ESIAs address a project's environmental and social costs and benefits, including an appraisal of the economic implications of the proposed project. The ESIA should consider the project as designed, in addition to potential alternative options (including that of no action).

In addition to the direct effects outlined above, the possible interactions between different environmental components (indirect effects) should also be considered, together with the impacts that could occur in conjunction with other activities taking place in the near vicinity at the same time (cumulative effects). The construction of school in Kagera region-Karagwe district has identified the following activities in the category of associated facilities.

- Utilities (water and electricity)

- Access roads
- Water channels for storm water
- Car parking

2.7.1 Access Roads

The development of access roads is necessary providing access to staff and students within the school during operation. Access route design must consider several factors, including existing ground strength, expected weather condition.

2.7.2 Utilities Systems (Water and Energy)

2.7.2.1 Power Supply

The proposed project will use electricity from the National Grid (TANESCO), whereas the district council is responsible for pulling the electrical wires to the respective project site and installation within the school premises.

2.7.2.2 Water Supply

The project will require water for different activities for the project Water will be required for construction activities such as concrete works, earthworks, laying of some of the pavement layers, dust suppression, as well as domestic purposes at the camps. The amount of water required during the construction of the project estimated to be 18000 litres per day this use of water will be for both construction and dust suppression .during construction. Domestic use at the construction site will depend on the number of people and the project expect to recruit about 50 local people and 10 personnel. The estimated amount of water to be consumed for 60 people is estimated to be 3600litres per day. Thus, the the amount of water required during constructed is 21,600 litres per day. The water will be taped from RUWASA.

During operation phase, Water will be used for domestic uses, cleaning and for sanitation which will depend on the number of the student to be admitted to school at the specific time.. Initially, for the first intake about 1060 students will be enrolled and 60 staff (teachers) will be employed. Thus, the estimated water usage for 1000 students is 63,600 liters per day. This means that each student will use approximately 60 liters per day, which includes drinking water, washing clothes, bathing, and flushing after using the restroom.

2.7.3 Water channels for storm water

The development of water channels for storm water is necessary preventing water accumulation within the school compounds and easier movement and prevent water accumulation within the school premises.

2.7.4 Parking area

The development of parking areas is necessary for the project implementation to avoid congestion problems for inhabitants of neighboring properties and ensure safety issues for visitors and staff.

2.8 Project Cost

Total Project Cost is four billion Tanzanian shillings

2.9 Manpower

Both skilled and unskilled labor are required in the mobilization and construction phase of the project, which will include: Civil Engineers for construction activities and Manual workers are needed for caring sand, gravels, cement, bricks and other related activities at the project site.

During operation phase of the proposed school the following will be recruited for daily activities in order to run the school smoothly; teachers, librarians, laboratory technicians, Cooks, Matrons, Security officers and; other staff for various activities required for operation of a boarding school.

CHAPTER THREE

3 POLICY, LEGAL, AND ADMINISTRATIVE FRAMEWORK

3.1 Introduction

The objective of this chapter is to describe the policy, legal and administrative framework within which the project takes place and identify any laws and regulations that pertain to environmental and social matters relevant to the project.

This includes regulations about environmental and/or social impact assessments to which the project must adhere as well as laws implementing host country obligations under international law. Explain the requirements of any co-financing partners, if applicable. Where pertinent, take into account legal frameworks for promoting gender equality. Flag any areas where the project might fall short on compliance.

3.2 The Constitution of Tanzania, 1977-1995 (as revised)

The Constitution of the United Republic of Tanzania 1977 - 1995 (revised 1997) recognizes the basic rights and equality entitled, without any discrimination, protection and equality of all persons before the law. The United Republic of Tanzania is committed to the conservation of the country's natural environment as is evident through the Constitution and various Mission Statements.

Article 21 of the Constitution reads:

- Take part in matters related to governance of the country, every citizen of the United Republic is entitled to take part in matters pertaining to the governance of the country, either directly or through representatives freely elected by the people, in conformity with the procedures laid down by, or in accordance with, the law.
- Every citizen has the right and the freedom to participate fully in the process leading to the decision on matters affecting him, his well-being or the nation.”
- Article 24 of the Constitution reads:
- “Subject to the provisions of the relevant laws of the land, every person is entitled to own property, and has a right to the protection of his property held in accordance with law.”
- Article 27 of the Constitution reads:
- “Every person has the duty to protect the natural resources of the United Republic, the property of the state authority, all property collectively owned by the people, and also to respect another person's property.”
- “All persons shall be required by law to safeguard the property of the state authority and all property collectively owned by the people, to combat all forms of waste and squander, and to manage the national economy assiduously with the attitude of people who are masters of the destiny of their nation.”

3.3 National Development Vision 2025 and National Five-Year Development Plan 2021/22–2025/26

The Tanzania National Development Vision of 2025 outlines the long-term development g

oals and aspirations of the country. While the specific details of the Vision may vary, as the Vision evolves over time, we can explore how a project of girl's school construction in whole of Tanzania aligns with the broader principles and objectives outlined in the Vision. Here are some key points to consider:

1. **Quality Education:** The National Development Vision of 2025 emphasizes the importance of quality education for all Tanzanians. Constructing a girls' school aligns with this objective by providing access to quality education specifically for girls. The project contributes to the overall goal of ensuring inclusive and equitable education, fostering human capital development, and equipping girls with the knowledge and skills necessary to contribute to Tanzania's development.
2. **Gender Equality and Empowerment:** The National Development Vision recognizes the importance of gender equality and women's empowerment as crucial components of development. A project of constructing a girls' school directly aligns with this objective by promoting gender equality in education and providing opportunities for girls to access quality education. The project helps to bridge gender gaps, empowers girls with knowledge and skills, and contributes to their social and economic empowerment.
3. **Human Capital Development:** The National Development Vision emphasizes the development of human capital as a key driver of sustainable development. Constructing a girls' school contributes to this objective by investing in the education and development of girls. By providing them with quality education, the project enhances their knowledge, skills, and capabilities, thereby contributing to the development of a skilled and productive workforce that can drive Tanzania's socio-economic growth.
4. **Inclusive Development:** The National Development Vision emphasizes the importance of inclusive development that leaves no one behind. A project of constructing a girls' school aligns with this objective by ensuring that girls, who may face social and economic barriers to education, are included and provided with equal opportunities. By promoting access to education for all, the project contributes to reducing inequalities and fostering inclusive development in Tanzania.
5. **Sustainable Development:** The National Development Vision underscores the need for sustainable development practices to ensure long-term socio-economic and environmental sustainability. A project of constructing a girls' school can incorporate sustainable design principles, such as energy-efficient infrastructure, renewable energy sources, and environmentally friendly construction materials. Additionally, the project can integrate sustainability concepts into the school curriculum, promoting environmental awareness and stewardship among students.

3.4 Relevant Policies

3.4.1 National Environmental Policy (2021)

The overarching governing Tanzania's environmental management are the National Environmental Policy (NEP) of 2021 and the Environmental Management Act (EMA) of 2004.

This Policy is a supreme national framework for environmental management in the country. It recognizes the role of sectoral policies in pursuit of effective environmental conservation and sustainable socio-economic development. In view of that, the envisioned achievements of this Policy depend on mainstreaming and implementation of relevant environmental measures in the respective sectoral policies.

The Overall Objective of this policy is to provide a national framework for guiding harmonized and coordinated environmental management for the improvement of the welfare of present and future generations.

The project will adhere to this policy by implementing several key measures including; conducting an Environmental Impact Assessment which will help identify potential environmental risks and propose appropriate mitigation measures throughout the project phases, use of sustainable construction practices, such as using environmentally friendly materials, promoting energy efficiency, and implementing waste management strategies especially for electronic waste during school operation, engaging with local communities and stakeholders throughout the project, addressing their concerns, and involving them in decision making process.

3.4.2 Education and Training Policy 2014

This Education and Training Policy of 2014 is the result of the revitalization and finally the cancellation of the Education and Training Policy (1995), Policy on Vocational Education and Training (1996), Policy on National Higher Education (1999) and Information Technology Policy and Communication for Primary Education (2007). The vision of this policy is having an educated Tanzanian with knowledge, skills, competencies, abilities and positive attitudes to be able to contribute in bringing about the development of the Nation. The policy focuses on various aspects of education, including access, equity, quality, and relevance whereas implementation of this project will assist in supporting the policy's goals. Here are some points to consider;

1. **Access and Equity:** The policy emphasizes the need to ensure access to education for all, regardless of gender or socio-economic background. By constructing a girls' school, the project aims to address the gender disparity in education and provide increased access to quality education specifically for girls. This aligns with the policy's goal of promoting equity and inclusivity.
2. **Gender Equality:** The policy highlights the importance of promoting gender equality in education. The project's focus on constructing a girls' school directly addresses this aspect by providing girls with an environment that encourages their participation and supports their educational needs. It contributes to creating equal opportunities for girls in accessing education.
3. **Quality Education:** The policy emphasizes the provision of quality education that meets national and international standards. The project should ensure that the girls' school meets the required infrastructure standards, including classrooms, libraries, laboratories, and other facilities, to deliver quality education. Adequate teaching and learning resources, trained teachers, and an appropriate curriculum should be considered to conform to the policy's objective of quality education.
4. **Inclusive Education:** While the project focuses on girls' education, it should also consider the broader objective of inclusive education. This means ensuring that girls with disabilities, girls from marginalized communities, and other vulnerable groups have equal opportunities to access education in the school. Creating an inclusive environment that accommodates diverse needs conforms to the policy's commitment to inclusivity.
5. **Community Engagement:** The policy emphasizes the importance of involving the community in education. The project will engage relevant stakeholders, such as parents, local leaders, and community members, to ensure their participation and support. Collaboration with the community can help address cultural, social, and economic factors that may affect girls' education and contribute to the sustainability of the project.

3.4.3 The National Research and Development Policy, 2010

The Tanzania National Research and Development Policy of 2010 primarily focuses on promoting research and development activities to drive socio-economic development in the country. We can analyze how such a project aligns with the broader objectives and principles outlined in the policy. Here are some key points to consider:

1. **Human Capital Development:** The policy emphasizes the importance of human capital development through research and education. By constructing a girls' school, the project contributes to enhancing human capital by providing girls with access to quality education and empowering them with knowledge and skills. This aligns with the policy's objective of investing in education and human resource development.

2. **Gender Equality and Empowerment:** The policy highlights the need for gender equality and women's empowerment. The construction of a girls' school directly supports these objectives by providing a conducive learning environment that addresses gender disparities in education. It empowers girls by giving them equal opportunities to access education, develop their potential, and contribute to the country's development.
3. **Research and Innovation:** The policy encourages research and innovation to drive development in various sectors. While the construction of a girls' school may not directly involve research activities, the project can support research indirectly. For example, it can serve as a platform for educational research and pilot innovative approaches to improve girls' education, which can contribute to the overall research and development agenda of the country.
4. **Socio-economic Development:** The policy aims to foster socio-economic development through research, innovation, and technology transfer. By constructing a girls' school, the project contributes to long-term socio-economic development by investing in human capital and promoting gender equality. Educated girls are more likely to become active participants in the workforce, which can lead to economic growth and poverty reduction.

3.4.4 ICT Policy for Basic Education 2007

The achievement of the objectives of Tanzania's education policies and education development programs. As stated in the education policy of 1995, the overall aims of education in Tanzania are, among other things:

“To promote the acquisition and appropriate use of literary, social, scientific, vocational, technological, professional and other forms of knowledge, skills and understanding for the development and improvement of man and society.”

In 2001, the education sector development program (ESDP) was launched, to realize the objectives of education policies by addressing critical issues, including ICT. The main objectives of this programme include: to decentralize management of educational institutions; to improve the quality of education, both formal and non-formal; to promote access and equity to basic education; and to promote science and technology. Special mention is made of the need to improve and expand girls' education, to ensure access to education by special social and cultural groups, to give appropriate education to children with disabilities, and to provide education facilities to disadvantaged areas.

3.4.5 National Biotechnology Policy, 2020

The Tanzania National Biotechnology Policy of 2010 primarily focuses on regulating and promoting the safe and responsible use of biotechnology for the country's socio-economic development. We can explore how such a project aligns with the broader principles and objectives outlined in the policy. Here are some key points to consider:

- **Capacity Building:** The biotechnology policy emphasizes the importance of building capacity in biotechnology research and development. The project will contribute to capacity building indirectly by providing a conducive educational environment by investing in the education of girls, including subjects related to science, technology, and biology, thus fostering interest and potential in biotechnology and related fields.
- **Sustainable Development:** The biotechnology policy underscores the need for sustainable development through the responsible use of biotechnology. The project will adopt environmentally conscious practices during the construction phase by including use of sustainable building materials, implementing energy-efficient infrastructure, and considering waste management

practices. By incorporating sustainable practices, the project will align with the broader principles of sustainable development advocated in the policy.

3.4.6 National Gender Policy, 2000

The Tanzania National Gender Policy of 2000 aims to promote gender equality and women's empowerment in all aspects of society, including education. A project of constructing a girls' school in Tanzania aligns with the key principles and objectives of this policy in the following ways:

1. **Access to Education:** The Gender Policy emphasizes the importance of providing equal access to education for girls. By constructing a girls' school, the project directly addresses the need for inclusive education by creating a safe and supportive learning environment specifically tailored to the needs of girls. This promotes equal access to quality education and supports the policy's objective of gender equality in education.
2. **Empowering Girls:** The Gender Policy highlights the importance of empowering girls through education. By constructing a girls' school, the project provides an environment that promotes the empowerment of girls by fostering their self-esteem, confidence, leadership skills, and educational attainment. This aligns with the policy's goal of empowering girls to become active participants in society and decision-making processes.
3. **Elimination of Gender-Based Violence:** The Gender Policy emphasizes the need to eliminate gender-based violence, including violence against girls in educational institutions. By constructing a girls' school, the project can prioritize creating a safe and secure environment that protects girls from any form of violence, harassment, or discrimination. This aligns with the policy's objective of ensuring the safety and well-being of girls.
4. **Community Engagement and Awareness:** The Gender Policy encourages community engagement and awareness on gender issues. The project will involve engaging community stakeholders, parents, and local leaders to promote the importance of girls' education and gender equality. By fostering community support and raising awareness about gender-related challenges and opportunities, the project aligns with the policy's goal of promoting gender equity in society.

3.4.7 Cultural Policy, 1997

The Tanzania National Cultural Policy of 1997 aims to preserve, promote, and develop Tanzanian culture while ensuring that cultural diversity is respected and protected. We can analyze how such a project aligns with the broader principles and objectives outlined in the cultural policy by considering the following:

- **Community Engagement:** The cultural policy encourages community participation and engagement in cultural activities. The project will involve the local community, cultural experts, and traditional leaders in the planning and implementation process. This collaboration will ensure that the school's activities and programs respect and incorporate local cultural practices and knowledge fostering community ownership and promoting the transmission of cultural values and traditions.

3.4.8 The Wildlife Policy of Tanzania, 2007

The Tanzania National Wildlife Policy of 2007 primarily focuses on the conservation, management, and sustainable use of wildlife and their habitats. The policy puts emphasis on environmental conservation, including protection of habitats and biodiversity. When constructing a girls' school, it will be essential to consider the environmental impact and adopt sustainable practices such as including site selection that

minimizes disruption to wildlife habitats, implementing erosion control measures, and incorporating green building techniques to reduce the ecological footprint of the project.

3.4.9 Antiquities Policy of 2008

The Tanzania National Antiquities Policy of 2008 focuses on the preservation, protection, and management of the country's archaeological and historical heritage. The policy points out cultural heritage protection where during project implementation, it is important to ensure that the project does not encroach upon or disturb any known or potential archaeological sites or cultural heritage locations. Prior site surveys and assessments will be conducted to identify and avoid any potential impacts on cultural heritage resources.

3.4.10 National Forest Policy, 1998

The overall goal of the National Forest Policy (1998) is to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations. We can explore how such a project aligns with the broader principles and objectives outlined in the forest policy. Here are some key points to consider:

- The forest policy emphasizes the importance of environmental conservation, including the protection and sustainable use of forest resources. When constructing a girls' school, it will be crucial to consider the environmental impact of the project by adopting sustainable construction practices, such as using certified sustainable building materials, minimizing deforestation or habitat destruction, and incorporating energy-efficient and environmentally friendly.
- The forest policy highlights the need for reforestation and afforestation efforts to increase forest cover and restore degraded areas. The project can align with this objective by incorporating tree planting programs within the school compound or surrounding areas. This will contribute to restoring the local ecosystem, enhancing biodiversity, and promoting a culture of environmental stewardship among the students.
- The forest policy aims to ensure that forest resources contribute to sustainable development. The project of constructing a girls' school can indirectly contribute to this goal by empowering girls through education. Educated girls are more likely to become environmentally conscious citizens who can contribute to sustainable practices, promote environmental conservation in their communities, and make informed decisions related to the sustainable use of forest resources.

3.4.11 National Water Policy, 2002

The main objective of the Policy is to develop a comprehensive framework for sustainable development and management of the nation's water resources. Specifically, on the environment the objective is to have a water management system that protects the environment, ecological system, and biodiversity. The policy emphasizes that water related activities will have to be planned to enhance or to cause least detrimental effects on the environment. Here are some key points showing how the project aligns with the broader principles and objectives outlined in the water policy;

- The water policy emphasizes the importance of providing safe and reliable water supply to all individuals. When implementing the project, it is essential to ensure access to clean water for drinking, sanitation, and hygiene facilities. The project should incorporate adequate water infrastructure, such as boreholes, wells, or connections to water supply systems, to provide a sustainable and sufficient water source for the school.
- The water policy emphasizes the importance of maintaining water quality and improving sanitation. The project should include appropriate sanitation facilities, such as gender-segregated toilets, handwashing stations, and proper wastewater management systems. It should also ensure that

water sources and storage facilities are clean and free from contamination, aligning with the policy's objective of providing safe water for all.

3.4.12 Sustainable Industrial Development Policy, 1996 (SIDP)

The Tanzania National Sustainable Industry Development Policy of 1996 focuses on promoting sustainable industrial development, including economic growth, environmental protection, and social development. Here are some key points showing how the project aligns with the broader principles and objectives outlined in the sustainable industry development policy;

- The project of constructing a girls' school can indirectly contribute to economic development by providing employment opportunities during the construction phase and generating long-term benefits through improved education and empowerment of girls. Educated girls can positively impact economic growth and development through their participation in the workforce and contribution to the country's human capital.
- The sustainable industry development policy recognizes the importance of social development and inclusive growth. The project of constructing a girls' school aligns with this objective by providing access to education for girls, promoting gender equality, and empowering young women. Education is a crucial component of social development, as it helps break the cycle of poverty, improves health outcomes, and enables individuals to participate fully in society.
- The sustainable industry development policy emphasizes the importance of building human capacity and skills development. The project can contribute to capacity building by providing educational opportunities for girls, enhancing their knowledge, skills, and capabilities. By investing in education, the project promotes human capital development, which is crucial for sustainable industrial growth and social progress.

3.4.13 National Energy Policy, 2015

The Policy, among others, focuses on utilization of various energy resources in a sustainable and environmentally friendly manner. The Policy recognizes that energy is a prerequisite for the proper functioning of all sub-sectors of the economy. . Here are some key points showing how the project aligns with the broader principles and objectives outlined in the energy policy;

- The energy policy emphasizes the importance of providing access to modern and affordable energy services for all. When constructing a girls' school, it is crucial to ensure access to reliable and sustainable energy sources. The project can incorporate energy-efficient design principles, utilize renewable energy technologies such as solar panels or biogas systems, and prioritize energy access for lighting, cooking, and other energy needs within the school premises.
- The energy policy promotes energy efficiency measures to minimize energy waste and improve energy productivity. The project can adopt energy-efficient building practices and technologies, such as insulation, efficient lighting systems, and energy-efficient appliances. By incorporating energy-efficient features, the project can reduce energy consumption, lower operating costs, and contribute to the policy's objective of promoting energy efficiency.
- The energy policy encourages the utilization of renewable energy sources to diversify the energy mix and reduce dependence on fossil fuels. The project can incorporate renewable energy technologies, such as solar panels or wind turbines, to generate clean and sustainable energy for the school. This aligns with the policy's objective of promoting renewable energy development and reducing greenhouse gas emissions.

3.4.14 National Transport Policy, 2003

The Tanzania National Transport Policy of 2003 aims to develop a safe, efficient, and sustainable transport system that supports economic growth and social development. We can explore how such a project aligns with the broader principles and objectives outlined in the transport policy. Here are some key points to consider:

- The transport policy emphasizes improving accessibility to education and social services. When constructing a girls' school, it is important to consider the location and accessibility of the school site. The project should be situated in an area with good transportation links, such as roads or public transportation, to ensure that students can easily access the school and that it is accessible to the surrounding communities.
- The transport policy prioritizes safety in all modes of transport. When planning the project, safety considerations should be taken into account, such as road design and traffic management around the school. Adequate measures should be put in place to ensure the safety of students, including safe pedestrian pathways, and road crossings.
- The transport policy encourages the integration and intermodal connectivity of different transport modes. Although not directly related to the construction phase, the project can consider the connectivity of the school with other modes of transportation, such as public transportation terminals or cycling infrastructure. This can facilitate easy access to the school for students and staff using various transport modes.

3.4.15 Construction Industry Policy, 2003

The Tanzania Construction Industry Policy of 2003 aims to promote sustainable and efficient construction practices, enhance industry standards, and stimulate economic growth within the construction sector. We can see how such a project aligns with the broader principles and objectives outlined in the construction industry policy. Here are some key points to consider:

- The construction industry policy emphasizes the importance of quality construction standards and practices. When implementing the project during construction phase, it is essential to adhere to recognized building codes and regulations, ensuring that the school meets safety, durability, and functionality requirements. The project should employ qualified professionals and contractors with relevant expertise and experience in constructing educational facilities.
- The construction industry policy encourages the use of local resources, materials, and labor to promote local economic development and employment opportunities. The project can prioritize the engagement of local suppliers, contractors, and labor, where feasible, to contribute to local job creation and skills development. This can also foster a sense of ownership and community involvement in the project.
- The construction industry policy emphasizes compliance with relevant laws, regulations, and standards. The project should ensure that all construction activities adhere to applicable building codes, health and safety regulations, and environmental guidelines. Regular inspections and quality control measures should be implemented to ensure compliance throughout the construction process.

3.4.16 National Health Policy, 2007

The health policy emphasizes the need for adequate infrastructure and facilities to support quality healthcare services. When constructing a girls' school, attention should be given to creating a healthy and conducive environment. This includes ensuring proper ventilation, clean water supply, sanitation facilities, and hygiene practices within the school premises. Creating a safe and healthy physical environment contributes to the overall well-being of students and staff.

3.4.17 Occupational Health and Safety Policy 2008

The main objectives of OHS Policy are to reduce the number of work-related accidents and diseases in Tanzania. This required the adoption and implementation of a culture to prevent OHS hazards by Government, Employers and Employees. The effective prevention of work - related accidents and ill- health will have enormous social and economic benefits. These include improvements in productivity and competitiveness and the quality of life of the working population.

During the construction phase of the project, it is crucial to prioritize the safety of workers, contractors, and visitors. The project should comply with safety regulations and best practices, such as providing appropriate personal protective equipment (PPE), implementing safety protocols, conducting regular safety inspections, and promoting awareness and training programs for all construction personnel.

3.4.18 National Land Policy, 1995

The National Land Policy of 1995 aims at developing a coherent and comprehensive framework that defines land tenure and enables proper management and allocation of land in urban and rural areas.

Among other things, the Policy advocates the protection of land resources from degradation, for sustainable development. The policy addresses several environmental issues such as land use planning, which take into consideration the land capability, ensures proper management of land resources, promotes resource sharing and multiple land use techniques in areas of conflicting land use, and involve community in resource management, land use and conflict resolution. The land policy also emphasizes the conservation and sustainable management of natural resources. When constructing a girls' school, the project can consider environmental conservation measures, such as preserving existing vegetation, minimizing deforestation, and implementing erosion control measures.

3.4.19 National Human Settlements Development Policy, 2000

The Policy stresses on the need for ensuring that human settlements are kept clean and pollution effects of solid and liquid waste do not endanger the health of residents. The policy advocates for a set of environmental quality standards of gaseous emissions from industries and vehicles. This has to be ensured during the construction phase so as to ensure no environmental pollution to the surrounding community.

The policy also focuses on the development of necessary infrastructure in human settlements. When constructing a girls' school, the project can contribute to infrastructure development by providing the necessary facilities such as classrooms, libraries, laboratories, and sanitary facilities. The project can also consider the availability of basic amenities such as water supply, electricity, and sanitation services in the school premises.

3.4.20 National HIV/AIDS Policy (2001)

The overall goal of this policy is to provide for a framework for leadership and coordination of the national multi-sectoral response to the HIV/AIDS pandemic. This includes the formulation by all sectors of appropriate interventions which will be effective in preventing transmission of HIV/AIDS and other sexually transmitted infections, protecting and supporting vulnerable groups, and mitigating the social and economic impacts of HIV/AIDS.

The policy also recognizes gender inequality as a key driver of the epidemic and emphasizes the importance of gender equality and empowerment in HIV/AIDS prevention and care. A project of constructing a girls'

school aligns with this objective by providing a supportive and empowering environment for girls to thrive. This includes promoting gender equality in education, addressing gender-based violence, and empowering girls with knowledge and skills to protect themselves from HIV infection. For project sustainability PO-RALG will have to closely observe the above policy.

3.4.21 National Economic Empowerment Policy (2004)

The Tanzania National Economic Empowerment Policy of 2004 aims to promote economic growth, reduce poverty, and enhance the economic participation of all citizens, particularly marginalized groups. We can assess how such a project meets the broader principles and objectives outlined in the economic empowerment policy. Here are some key points to consider:

- The economic empowerment policy recognizes the importance of education and skills development in empowering individuals to participate in the economy. Constructing a girls' school aligns with this objective by providing access to quality education for girls, which can enhance their knowledge, skills, and capabilities. By investing in girls' education, the project contributes to their economic empowerment, as education is a key factor in reducing poverty and improving economic opportunities.
- The economic empowerment policy emphasizes the need to generate employment opportunities for all citizens, including women and youth. When constructing a girls' school, the project can contribute to employment generation by engaging local labor and contractors. This creates job opportunities for the local community, stimulates economic activity, and promotes income generation.
- The economic empowerment policy highlights the importance of gender equality and social inclusion in economic development. A project of constructing a girls' school aligns with this objective by promoting gender equality in education and empowering girls to participate actively in the economy. The project can ensure equal access to resources, opportunities, and support for girls, creating an environment that is inclusive and supportive of their economic empowerment.
- The economic empowerment policy emphasizes community development as a means of reducing poverty and improving livelihoods. The project can contribute to community development by engaging with local communities, fostering partnerships, and considering community needs in the planning and implementation of the school construction. This can include involving local stakeholders in decision-making processes, utilizing local resources, and supporting community initiatives for economic development.

3.4.22 National Employment Policy (2008)

The major aim of this policy is to stimulate national productivity, to attain full, gainful and freely chosen productive employment, in order to reduce unemployment, underemployment rates and enhance labour productivity. Relevant sections of this policy are (i) accelerating and making the pattern of economic growth more employment intensive ii) Balancing the number of new entrants and the proportion that can get paid employment iii) Improvement and Transformation of the Informal Sector for creating decent jobs iv) Enhancing the promotion of youth employment v) Reducing rural unemployment and underemployment and rural to urban migration. This project implementation will enable to meet the objective in various sections of the policy as in all phases of the project implementation recruitment of labour force is required.

3.5 Legal Framework

3.5.1 Environmental Management Act (2004), Cap. 191

The Environmental Management Act No. 20 of 2004 is the principal legislation governing environmental management in the country. The Environmental Management Act (EMA) recognizes "...the right of every citizen to a clean, safe and healthy environment, and the right of access to environmental resources for recreational, educational, health, spiritual, cultural and economic purposes."

Thus, the EMA "provides a legal framework for coordinating harmonious and conflicting activities by integrating those activities into overall sustainable environmental management systems by providing key technical support to Sector Ministries."

Section 81, subsection 1 in Part VI of the EMA requires a project proponent or developer to undertake an Environmental Impact Assessment (EIA) at his/her own cost prior to commencement or financing of a project or undertaking. The EMA prohibits any development to be initiated without an Environmental Impact Assessment (EIA) Certificate. PO-RALG through undertaking this study complies with the requirement of the law.

3.5.2 The Education Act, Cap. 353 of 1978

The act aims to provide a legal framework for the development, management, and regulation of education in Tanzania, with a focus on promoting quality education, inclusivity and equitable access for all.

The project complies with the act as it has ensured the designs and construction of the school facilities meet the standards and requirements specified for educational institutions such as providing adequate classrooms, laboratories, libraries and other necessary infrastructure to support the educational needs of the students.

Furthermore, the project aligns with the objectives of the act of "promoting gender equality" by constructing a girls secondary school thereby addressing gender differences in access to education and creating supportive and inclusive environment for girls to pursue their education.

3.5.3 Person with Disability Act, Cap.183 of 2010

The act aims to protect the rights and interests of persons with disabilities and ensure their full participation in all aspects of life, including education.

The project complies with the act as it has ensured that the school's infrastructures and facilities are designed and constructed in a manner that easier accessibility and mobility.

3.5.4 Water Resource Management Act, Cap. 331 of 2009

The Water Resource Management Act emphasizes the sustainable use and allocation of water resources. When constructing a girls' school, it is important to consider the water needs of the project and ensure efficient water use practices. The project should obtain the necessary permits or water rights for water abstraction and comply with regulations related to water allocation and management. It should also prioritize water conservation measures, such as using water-efficient fixtures and promoting water-saving practices within the school premises.

3.5.5 The Land Act, [Cap. 113 R. E. 2019]

The Land Act emphasizes land use planning as a means to ensure sustainable and orderly development. When constructing a girls' school, it is important to consider land use planning regulations and obtain the necessary approvals or permits for the project. The project should align with the designated land use plans and conform to zoning regulations to ensure appropriate land use within the designated area.

Also, the Act addresses land tenure and ownership, recognizing various forms of land rights, including customary, statutory, and public land. When undertaking a construction project, it is essential to clarify land ownership and obtain the necessary legal documentation and consent from the relevant landowners or authorities. The project should comply with regulations related to land acquisition, ownership, and transfer to ensure that the land for the girls' school construction is acquired lawfully and in accordance with the Act.

Furthermore, the Land Act emphasizes the need to consider environmental factors in land management. When constructing a girls' school, it is crucial to assess and minimize potential environmental impacts. The project should avoid environmentally sensitive areas, such as wetlands or protected areas, and implement measures to mitigate soil erosion, deforestation, or other adverse environmental effects.

3.5.6 The Village Land Act, [Cap 114 R. E. 2019]

The Act highlights the need for community involvement and consent in matters related to village land. When undertaking a construction project, it is crucial to engage with the relevant village authorities and consult with the local community. This engagement ensures that the project aligns with the aspirations and needs of the community, and any necessary permissions or consents are obtained in accordance with the Act.

Furthermore, the Village Land Act promotes infrastructure development for the benefit of the community. Constructing a girls' school contributes to infrastructure development in the village, providing educational facilities for girls and promoting equal access to education. The project should align with the broader development objectives of the village and contribute to the overall socio-economic well-being of the community.

3.5.7 The Land Acquisition Act [Cap 118 R. E.2019]

The Land Acquisition Act allows for land acquisition for public purposes, which can include the construction of educational facilities such as girls' schools. PO-RALG conforms to the Act since the project clearly demonstrate its public purpose and contribution to the public welfare by providing education opportunities to girls within respective region.

3.5.8 Forest Act, (Cap. 323 R.E) of 2022

The Forest Act emphasizes the conservation and restoration of forest resources. When undertaking a construction project, it is important to minimize the impact on forested areas. Implement measures to prevent soil erosion, protect existing trees, and promote reforestation and afforestation efforts within the project site or in nearby areas. The project should also consider using sustainable construction practices that minimize the use of forest resources and promote environmental conservation.

3.5.9 The Local Government (district Authorities) Act, [Cap 287 R. E. 2002] and ‘The Local Government (Urban Authorities) Act, [Cap 288 R. E 2002]

The Local Government Acts of 2002 form an important legal basis for rural councils and rural authorities, which were reintroduced in the early 1980 and consist of Act No. 7 relating to District Authorities and Act No.8 relating to Urban Authorities. These Acts establish and regulate district councils, township authorities and village authorities. Important provisions are the subdivision of districts into divisions and wards and the establishment of ward development committees along with procedures for implementation of schemes and programs at ward level.

Section 118 deals with protection and management of the environment in addition to the First Schedule (Section 118 (4)) of Act No. 7. The District Councils are hereby required to take necessary measures to control soil erosion and desertification; to regulate the use of poisonous and noxious plants, drugs or poisons, regulate and control the number of livestock; maintain forests, manage wildlife, ensure public health, and provide effective solid and liquid refuse management.

If construction commences it will be the Developers responsibility to obtain permission from the District Councils for the disposal of solid and liquid waste. In addition, District council will also oversee and regulate the use and prevent the misuse or waste of, or any interference with, water.

3.5.10 Occupational Health and Safety Act, 2003

The Occupational Health and Safety Act of 2003 deals with the regulation of health, safety, and welfare of workers. Some of the provisions of this Act are relevant to the project. The Act covers economic activities in constructions, agriculture, commerce, and offices. In case of occupational accidents/illness, it is the responsibility of the labor department in the ministry to ensure the victim get compensated by the insurer of the employer. Moreover, the victim may also claim for work-injury benefit should he/she be a member of a social security scheme.

The OSHA is of particular importance for contractors that construct the proposed facility, and they should be aware of their obligations regarding the workforce health and safety measures stipulated in this Act. There are specific Safety procedures and guidelines to be followed by both workers and their respective employers to ensure a Safe and conducive working environment.

3.5.11 Public Health Act No. 1 of 2009

The Act addresses environmental health concerns, including the control of pollution and environmental hazards. When undertaking a construction project, it is important to assess and mitigate potential environmental health risks. This includes managing construction waste properly, preventing contamination of water sources, and controlling air and noise pollution. Compliance with environmental regulations and standards is crucial to align with the Act's provisions.

3.5.12 Wildlife Conservation Act No 5 of 2009

The Act focuses on the conservation of biodiversity and the sustainable use of wildlife resources. When undertaking a construction project, it is important to assess and mitigate potential impacts on biodiversity. This includes avoiding the destruction of natural habitats, minimizing disturbance to wildlife, and adopting sustainable construction practices that minimize environmental impacts.

3.5.13 The HIV and AIDS (Prevention and Control) Act, Cap 431 of 2008

The Act prohibits discrimination against individuals living with HIV/AIDS and promotes efforts to reduce stigma. When constructing a girls' school, it is essential to create an inclusive and non-discriminatory environment. This includes developing policies that protect the rights of students and staff living with HIV/AIDS and fostering an atmosphere of acceptance, understanding, and support.

3.5.14 Industrial and Consumer Chemicals (Management and Control) Act, Cap. 182, 2003

The Act provides guidelines for the management and disposal of hazardous substances and waste. During the construction process, it is important to identify and manage any hazardous substances used, ensuring compliance with the Act's requirements for safe handling, storage, and disposal. This includes implementing proper waste management practices to minimize environmental pollution and health risks.

3.5.15 The Employment and Labor Relation Act, Cap. 366 R.E of 2019

The Act promotes occupational safety and health in the workplace. When implementing the project, it is important to prioritize the safety and well-being of the workers involved in the construction process. This includes providing a safe working environment, adhering to occupational health and safety standards, and implementing appropriate safety measures to prevent workplace accidents and injuries.

Nevertheless, the Act prohibits discrimination in employment based on various grounds, including gender. When undertaking a project in all phases, it is crucial to ensure equal employment opportunities for all workers, regardless of their gender. This includes promoting gender equality in hiring practices, providing equal pay for equal work, and fostering a work environment that is free from gender-based discrimination.

3.5.16 The Fire and Rescue Force Act, Cap 427 of 2007

The Act requires compliance with building codes and regulations related to fire safety. When undertaking a construction project, it is crucial to follow the approved building plans and ensure that the design and construction of the girls' school comply with fire safety standards. This includes proper compartmentalization, sufficient evacuation routes, and adequate fire-resistant materials.

Also, the Act promotes the development of emergency response plans. When constructing a girls' school, it is important to develop an emergency response plan that outlines procedures for handling fire incidents, evacuation plans, and communication protocols. This plan should be shared with staff, students, and relevant authorities to ensure a coordinated and efficient response in case of a fire emergency.

Furthermore, the Act establishes the Fire and Rescue Force as the responsible authority for fire prevention and control. When undertaking a construction project, it is essential to collaborate with the Fire and Rescue Force and seek their guidance and support. Engaging with fire authorities during the planning and construction phases can help ensure compliance with fire safety standards and regulations.

3.5.17 Urban Planning Act, 2007

The Act aims to promote sustainable urban development and regulate the planning, development, and management of urban areas.

The project aligns with the Act by considering key aspects of urban planning and development, such as land use planning, environmental considerations, infrastructure provision, public participation, and compliance with regulations which were effectively done before selection of the project site.

3.5.18 The Contractors Registration Act, Cap. 235, 1999

The Act requires contractors registered with the Contractors Registration Board (CRB) to engage in construction activities. When undertaking a project of girl's school construction, it is important to ensure that the contractor involved in the project is registered with the CRB so as to meet the necessary qualifications, standards, and requirements set by the Act.

The Act also emphasizes the importance of quality assurance and adherence to construction standards. When constructing a girls' school, it is important to ensure that the contractor follows the relevant building codes, regulations, and standards. This includes using appropriate construction materials, employing skilled workers, and implementing quality control measures throughout the construction process.

Nevertheless, the Act also encourages compliance with labor laws and regulations related to employment, wages, and working conditions. When engaging contractors and subcontractors, it is important to ensure that they comply with labor laws, provide fair wages, adhere to safety regulations, and follow proper employment practices.

3.5.19 Architects and Quantity Surveyors Act, 2010

The act aims to regulate the architectural and quantity surveying professionals in Tanzania, promoting the highest levels of competency, ethics and accountability.

To comply with the Act, TAMISEMI have involved registered architects in developing plans and specifications for the schools to be constructed ensuring compliance with building codes, safety regulations and aesthetic considerations.

Along with architects, TAMISEMI has engaged registered quantity surveyors to provide expert advice on cost estimation, budgeting and financial management throughout the construction process.

3.5.20 Standard Act Cap. 130 of 2009

The Tanzania National Standards Act of 2009 establishes the legal framework for standardization activities in Tanzania. We can explore how such a project aligns with the broader principles and objectives outlined in the Act. Here are some key points to consider:

1. **Adherence to Construction Standards:** The Act emphasizes the importance of adherence to standards in various sectors, including construction. When undertaking a project of girl's school construction, it is important to ensure that the construction process follows relevant construction standards and codes. This includes using appropriate building materials, following structural design guidelines, and implementing quality control measures to ensure compliance with established standards.
2. **Relevant National Standards:** The Act establishes the Tanzania Bureau of Standards (TBS) as the national standards body responsible for setting and enforcing standards in various sectors. When constructing a girls' school, it is important to consult relevant national standards that apply to the construction industry. This includes standards for building materials, structural design, fire safety, electrical systems, plumbing, and other relevant aspects of the construction project.

3. **Certification and Conformity Assessment:** The Act promotes certification and conformity assessment of products and processes to ensure quality and safety. When undertaking the construction project, it may be necessary to obtain certification for certain materials or components used in the construction process. This includes verifying that the materials meet established standards and have undergone appropriate testing and evaluation.
4. **Stakeholder Engagement:** The Act encourages stakeholder engagement in the standardization process. When undertaking the project, it is important to engage with relevant stakeholders, such as the Tanzania Bureau of Standards, architects, engineers, and other professionals involved in the construction industry. This promotes collaboration, knowledge sharing, and adherence to established standards throughout the project.
5. **Compliance with Occupational Health and Safety Standards:** The Act also emphasizes the importance of occupational health and safety standards. When constructing a girls' school, it is important to comply with relevant occupational health and safety standards to ensure a safe working environment for the construction workers and future occupants of the school.
6. **Quality of Education:** The Act promotes the use of standards to ensure the quality of products and services. In the context of a girls' school, the Act can be interpreted as encouraging adherence to educational standards to ensure a high-quality education for students. This includes complying with curriculum standards, teacher qualifications, teaching methodologies, and assessment practices as prescribed by the relevant educational authorities.
7. **Health and Safety Standards:** The Act emphasizes the importance of health and safety standards in various sectors. When operating a girls' school, it is crucial to comply with relevant health and safety standards to provide a safe and secure learning environment for students and staff. This includes ensuring proper sanitation facilities, fire safety measures, first aid provisions, and appropriate security arrangements.
8. **Compliance with Education Regulations:** The Act indirectly aligns with education regulations set by the Ministry of Education or relevant authorities. When operating a girls' school, it is important to comply with the applicable regulations related to school operations, student welfare, teacher-student ratios, class sizes, and other aspects of educational administration.

3.6 National Regulations

3.6.1 Environmental Impact Assessment and Audit Regulations, 2005 amended in 2018

The EIA process is described under the Environmental Impact Assessment and Audit Regulations No. 349 of 2005 ('the EIA Regulations') promulgated in terms of the EMA Sections 82(1) and 230(2) (h) and (q). The objectives of the NEMC are to undertake the enforcement, compliance, review and monitoring of EIA in terms of the EMA, including the facilitation of the public participation process in environmental decision-making.

The regulations provide the basis for undertaking EIAs and Environmental Audits for various activities, which require mandatory EIAs, but also activities that require registration and may or may not require EIA. Part three of the EIA and Audit Regulation, deals with project registration and screening procedures, part four deals with the EIA and part five deals with the Environmental Impacts Statement. If the EIA is found to be satisfactory and the residual environmental impacts of the proposed project acceptable according to part six of the EIA and Audit regulations, NEMC recommends the Minister for Environment to issue an Environmental Certificate for the Project as annotated in part 7 of the EIA and Audit regulations.

Referring to Environmental Management Act (EMA) 2004, and the first schedule of The Environmental Management (Environmental Impact Assessment and Audit) (Amendment) Regulations (United Republic

of Tanzania, 2018) which details types of projects requiring and not requiring EIA, this project falls in Type A which are requiring a mandatory EIA.

Type A Projects are likely to have significant adverse environmental impacts and that in-depth study is required to determine the scale, extent and significance of the impacts and to identify appropriate mitigation. In the list of Type, A Projects.

It should be noted that this assessment will also include a substantial social component and therefore is termed as an Environmental and Social Impact Assessment (ESIA). The EMA guides environmental management and is administrated by the National Environmental Advisory Committee, the Directorate of Environment and the NEMC. At the end of the ESIA process an environmental impact statement (EIS) is produced in accordance with the requirements of section 86 of the EMA and Part IV of the EIA Regulations. The Minister's decision regarding the project will be informed by NEMC's recommendations based on the information emerging from this Environmental and Social Impact Assessment (ESIA) process and EIS provided in the final ESIA report

3.6.2 The Land (Compensation Claims) Regulations 2001

The Land Regulations 2001 were promulgated in terms of the Land Act, Act No. 4 of 1999 sections 12 & 179. The form of compensation is stipulated in Section 10 (1) of the Land Regulations 2001. Furthermore, the Regulations list the entities that are eligible for compensation and/or resettlement.

If the person does not agree with the amount or method of payment or is dissatisfied with the time taken to pay compensation, he /she may apply to the High Court. The High Court shall determine the amount and method of payment and determine any additional costs for inconveniences incurred.

3.6.3 Environmental Management (Water Quality Standards) Regulations, 2007

Tanzania National Environmental Management (Water Quality Standards) Regulations of 2007 aims to ensure the protection of water resources and promote a healthy environment. These regulations establish standards for the quality of water resources and aim to prevent water pollution and degradation. In the context of the project, compliance with these regulations would involve implementing measures to safeguard water quality within the school premises and surrounding areas.

This includes proper management of wastewater and sewage, ensuring adequate sanitation facilities, and implementing measures to prevent contamination of water sources. Additionally, the project would need to adhere to guidelines for rainwater harvesting, water conservation, and sustainable water use practices. By adhering to the regulations, the project can contribute to the preservation of water resources, promote environmental sustainability, and provide a safe and healthy learning environment for the students attending the girls' school.

3.6.4 Environmental Management (Soil Quality Standards) Regulations, 2007

These regulations establish standards for soil quality and aim to prevent soil degradation and contamination. In the context of the project, compliance with these regulations would involve implementing measures to protect the soil during construction activities, such as erosion control and sedimentation management. It would also require proper waste management to prevent soil pollution and adopting sustainable practices for landscaping and gardening.

Additionally, the project would need to ensure proper soil management within the school premises, including the use of appropriate fertilizers, soil conservation techniques, and responsible land use practices. By

adhering to the regulations, the project can contribute to the preservation of soil quality, promote environmental sustainability, and provide a conducive learning environment for the students attending the girls' school.

3.6.5 Environmental Management (Quality Standards for Controlling Noise and Vibrations Pollution) Regulations, 2015

These regulations establish standards for controlling and managing noise and vibrations to protect human health and well-being. To comply with these regulations, the project would need to implement measures to minimize noise and vibrations during the construction phase, such as using appropriate construction techniques, employing noise barriers, and scheduling noisy activities during non-school hours.

Once operational, the project would need to ensure that noise levels within the school premises comply with the established standards, including the use of soundproofing materials, maintaining equipment and machinery in good condition, and implementing noise control strategies where necessary. By adhering to these regulations, the project can create a peaceful and suitable environment for learning, promoting the well-being and academic performance of the students attending the girls' school.

3.6.6 Environmental Management (Air Quality Standards) Regulations, 2007

These regulations establish standards for air pollutants and aim to prevent and mitigate air pollution. To comply with these regulations, the project would need to implement measures during the construction phase to minimize dust, emissions, and other air pollutants generated from construction activities.

Once operational, the project would need to ensure that the school premises maintain air quality within the prescribed standards. This includes adequate ventilation, proper maintenance of heating and cooling systems, and the use of eco-friendly practices such as minimizing indoor air pollutants and promoting energy efficiency.

By adhering to the regulations, the project can contribute to a healthier learning environment, reducing respiratory health risks and fostering a conducive atmosphere for the students attending the girls' school.

3.6.7 Environmental Management (Solid waste management) Regulations, 2009

The regulations require the project to adopt measures to minimize waste generation, promote waste separation at source, and ensure proper handling, storage, and disposal of solid waste.

The construction phase of the project should prioritize waste reduction through efficient construction practices such as minimizing packaging materials and reusing or recycling construction waste whenever possible. During the operation phase, the project should establish waste management systems that include adequate waste collection, segregation, and disposal methods. This may involve setting up designated waste collection points, implementing recycling programs, and collaborating with local waste management authorities for proper disposal of non-recyclable waste.

By adhering to these regulations, the project can contribute to the sustainable management of solid waste, minimize environmental pollution, and promote clean and healthy environment within the school premises and its surrounding areas.

3.6.8 Environmental Management (Hazardous Waste Control and Management)) Regulations, 2021

These regulations establish standards for hazardous waste control and management and aim to provide safe handling, storage, and disposal methods. Once operational, the project would need to ensure that the management of laboratory chemicals are conducted at designated sites or plants in accordance with the Industrial and Consumer Chemicals (Management and Control) Act. This includes disposal of chemical waste in an environmental sound manner and ensuring that the waste are collected by personnel with collection and transportation permits issued under these regulations.

3.6.9 Environmental Management (Control and Management of Electrical and Electronic Equipment Waste)) Regulations, 2021

The main objective of these regulations is to provide for and promote proper management of e-waste to protect human health and environment while ensuring sustainable development. In all phases of the project, the following shall be observed with regard to the regulations;

- Ensuring that the e-waste are separated at the source from other categories of the waste
- Ensuring safe custody of such e-waste in a way that may not endanger human health and environment

3.6.10 Environmental Management (Control of Ozone Depleting Substances) Regulations, 2007

These regulations aim to protect the ozone layer and prevent the release of ozone-depleting substances (ODS) into the environment. To conform to these regulations, the project must adhere to specific requirements. First, it should ensure that the construction materials used, such as insulation materials and cooling systems, do not contain or use ozone-depleting substances.

Additionally, the project should prioritize energy efficiency and environmentally friendly practices to reduce the need for cooling systems that rely on ODS. This can be achieved through the use of energy-efficient building designs, insulation, and renewable energy sources.

3.6.11 Environmental Management (Registration and Practice of Environmental Experts) Regulations, 2021

The Regulations aim to ensure to ensure that environmental assessments and management plans are carried out by competent professionals to safeguard the environment and promote sustainable development.

To comply with the regulations, the proponent has engaged TANSHEQ Limited a registered environmental and engineering consulting firm who possess the necessary expertise and qualifications in environmental impact assessment and management.

3.6.12 Environmental Management (Prohibition of Plastic Carrier Bags and Plastic Bottle Cap Seals) Regulations, 2022

The regulations aim to reduce plastic waste, protect the environment, and promote sustainable alternatives.

The project should prioritize use of eco-friendly and biodegradable materials for packaging and avoid the use of plastic carrier bags and plastic bottles within the school premises. This could be achieved by

promoting the use of reusable bags, such as cloth or paper bags, and encouraging students and staff to bring their own reusable water bottles instead of single use plastic bottle.

By conforming to these regulations, the project contributes to reduction of plastic pollution, supports a cleaner environment and fosters a culture of sustainability within the school premises and surrounding community.

3.6.13 Environmental Management (Biosafety) Regulations, 2009

These regulations aim to ensure the safe handling, use, and transfer of genetically modified organisms (GMOs) and other biotechnology products to protect human health and the environment. To conform to these regulations, the project must adhere to several requirements. Ensure that any potential use or handling of GMOs or biotechnology products within the school premises complies with the regulations. This includes obtaining the necessary permits and approvals from the competent authorities, such as the National Environment Management Council (NEMC), before introducing GMOs or biotechnology products into the school environment.

3.6.14 Environmental Management (Fees and Charges) Regulations, 2021

A project involving the construction of a girls' school in Tanzania will conform to environmental regulations, particularly the Environmental Management (Fees and Charges) Regulations of 2021, through diligent adherence to environmental standards and legal requirements. The project likely undergoes an Environmental Impact Assessment, a crucial process that assesses and mitigates potential environmental impacts. Obtaining the necessary permits from respective regulatory authorities ensures compliance with specific standards, and any associated fees or charges are addressed responsibly. Waste management (both solid and liquid) practices are a key consideration, encompassing proper disposal methods and potential fees related to waste handling.

3.7 The World Bank Environmental and Social Framework (ESF)

3.7.1 World Bank Environmental and Social Standards

The World Bank's Environmental and Social Framework sets out the Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity. The E&S Framework comprises of: (1) Vision for Sustainable Development, which sets out the Bank's aspirations regarding environmental and social sustainability; (2) The World Bank Environmental and Social Policy for Investment Project Financing, which sets out the mandatory requirements that apply to the Bank; and (3) The Environmental and Social Standards, together with their Annexes, which set out the mandatory requirements that apply to the Borrower and projects.

The World Bank Environmental and Social Policy for Investment Project Financing sets out the requirements that the Bank must follow regarding projects it supports through Investment Project Financing. The Environmental and Social Standards set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts and mitigation measures associated with projects supported by the Bank through Investment Project Financing.

The E&S standards are expected to: (a) support Borrowers in achieving good international practice relating to environmental and social sustainability, (b) assist Borrowers in fulfilling their national and international environmental and social obligations; (c) enhance non-discrimination, transparency, participation,

accountability and governance; and (d) enhance the sustainable development outcomes of projects through ongoing stakeholder engagement.

The ten ESSs as per the WB ESF are: ESS 1: Assessment and Management of Environmental and Social Risks and Impacts; ESS 2: Labor and Working Conditions; ESS 3: Resource Efficiency and Pollution Prevention and Management; ESS 4: Community Health and Safety; ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement; ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities; ESS 8: Cultural Heritage; ESS 9: Financial Intermediaries; and ESS 10: Stakeholder Engagement and Information Disclosure. Given the nature of activities of this project, with the exception of ESS 9: Financial Intermediaries almost all the ESSs will be relevant. **Table 3-1** summarizes the Environmental and Social Standards (ESSs) that project entities responsible for the project implementation will apply during entire project cycle.

Table 3-1: The World Bank Environmental and Social Standards (ESS) Applicable to Project and Associated Instruments

S/N	Instrument for project implementation	The Environmental and Social Standards (ESS)	Purpose/Objectives	Reason for its Application in the Project
1.	Environmental and Social Management Framework (ESMF)	ESS1: Assessment and Management of Environmental and Social Risks and Impacts	<p>Identification of adverse impacts and respective mitigation measures</p> <p>Enable screen and follow-up of remedies achieved through application of prevention, mitigation, and compensation measures</p> <p>Enable allocation of responsibilities and resources to implement required mitigation measures</p>	Sets out the Region's 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 (IPF), in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).
2		ESS2: Labour and Working Conditions	<p>Ensure the healthy and safe working environment during projects implementation.</p> <p>Ensure the provision of fair working conditions.</p>	Recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Developer 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.
3		ESS3: Resource Efficiency and Pollution Prevention and Management	<p>To promote the sustainable use of resources including energy, water and raw materials.</p> <p>To avoid or minimize generation of hazardous and non-hazardous wastes.</p>	Recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle.
4		ESS4: Community Health and Safety	To manage potential risks to the community during construction and operation of school infrastructures.	Addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of the developer to avoid or minimize such risks and impacts, with particular attention to people who, because of their circumstances, may be vulnerable

S/N	Instrument for project implementation	The Environmental and Social Standards (ESS)	Purpose/Objectives	Reason for its Application in the Project
5	Resettlement Policy Framework (RPF)	ESS5: Land Acquisition, Restriction on Land Use and Involuntary Resettlement	To avoid or minimize involuntary resettlement and to avoid forced eviction To mitigate unavoidable adverse impacts from land acquisition and restrictions on land use.	The Environmental and Social Standard on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement (ESS5), requires Borrowers to: • Avoid or minimize involuntary resettlement by exploring project design alternatives • Avoid forced eviction • Mitigate unavoidable adverse impacts from land acquisition or restrictions on land use through timely compensation for loss of assets at replacement cost and assisting displaced persons in their efforts to improve, or at least restore, livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher
6		ESS6: Biodiversity Conservation and Sustainable Management of Living Resources	The SEQUIP project will avoid adverse impacts on biodiversity, habitats and ecosystem services. When avoidance of adverse impacts is not possible, the Borrower will implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in ESS1 and with the requirements of the ESS6.	Recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development and it recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. ESS6 also addresses sustainable management of primary production and harvesting of living natural resources and recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples, who's access to, or use of, biodiversity or living natural resources may be affected by implementation of the project.
7		ESS 7: Sub-Saharan Historically Underserved Traditional Local Communities	To enable VGs to participate in project activities while taking care of their sociocultural interests and hindrances	Ensures that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities. ESS7 is also meant to avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.

S/N	Instrument for project implementation	The Environmental and Social Standards (ESS)	Purpose/Objectives	Reason for its Application in the Project
8		ESS8: Cultural Heritage	To enhance conservation of cultural heritage in both forms; tangible and intangible cultural heritage. To conserve ecological and socially sensitive places from possible impacts of project implementation.	Recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle.
9		ESS9: Financial Intermediaries	To set out how the FI will assess and manage environmental and social risks and impacts associated with the subprojects it finances To promote good environmental and social management practices in the subprojects the FI finances.	Recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on a number of considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI.
10.	Stakeholder Engagement Plan	ESS10: Stakeholder Engagement and Information Disclosure	To develop a systematic approach to stakeholder engagement to develop good relationships and gather their views on issues that could affect them. To provide stakeholders with a mechanisms through which to raise grievances.	Recognizes the importance of open and transparent engagement between developer and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

3.7.2 Project Classification According to the World Bank ESF

According to the WB ESF, The Bank will classify all projects (including projects involving Financial Intermediaries (FIs)) into one of four classifications: **High Risk, Substantial Risk, Moderate Risk or Low Risk**. In determining the appropriate risk classification, the Bank takes into account relevant issues, such as the type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the Borrower (including any other entity responsible for the implementation of the project) to manage the environmental and social risks and impacts in a manner consistent with the ESSs. Other areas of risk may also be relevant to the delivery of environmental and social mitigation measures and outcomes, depending on the specific project and the context in which it is being developed.

These could include legal and institutional considerations; the nature of the mitigation and technology being proposed; governance structures and legislation; and considerations relating to stability, conflict or security. The Bank will disclose the project's classification and the basis for that classification on the Bank's website and in project documents. The Bank will review the risk classification assigned to the project on a regular basis, including during implementation, and will change the classification where necessary, to ensure that it continues to be appropriate. Any change to the classification will be disclosed on the Bank's website.

3.8 Other World Bank Instruments Applicable for SEQUIP

Environmental and Social Framework - Guidance Notes for Borrowers¹¹; The World Bank has developed several Guidance Notes to ensure the governments (borrowers) comply with the World Bank Environmental and Social Standards. These guidance are public documents that be accessed in the World Bank website¹². Among the applicable guidance notes for SEQUIP are:

3.9 International Agreements, Conventions and Treaties

Tanzania has ratified or acceded to a large number of international treaties and conventions. Among those the following are relevant to the project.

3.9.1 The 1991 Bamako Convention

On the ban of the Import in Africa and Control of Trans boundary Movement and Management of Hazardous waste within Africa was ratified in 1993.

3.9.2 The 1989 Basel Convention

On Control of Trans-Boundary Movements of Hazardous Waste and their Disposal. The project shall adhere to both Bamako and Basel conventions to ensure that the ships do not bring into the country hazardous waste by strictly abiding to the cargo declaration formalities.

3.9.3 1996 Convention on Biological Diversity,

Developer must cooperate with other related contracting parties for the conservation and sustainable use of biological diversity. Article 14 of the Convention concerns impact assessments and minimizing adverse impacts.

3.9.4 ILO Minimum Age Convention (C138), 1973,

The Convention is concerned with minimum age for admission to employment. The minimum age stated in Article 2 (3) of the Convention is not less than 15 years or 18 years' dependent on the nature of the work. The Convention prohibits child labor with a view to achieving the total abolition of child labour worldwide. Members of the Convention are committed to pursuing national policies that have been designed to ensure effective abolition of child labour and to increase progressively the minimum age for admission to employment or work to a level consistent with the fullest physical and mental development of young persons. During construction and implementation of SEQUIP project the Contractor will abide by the provisions of this Convention.

3.9.5 Labour and Working Conditions

- To establish, maintain and improve the worker-management relationship.
- To promote the fair treatment, nondiscrimination and equal opportunity of workers, and compliance with national labour and employment laws.
- To protect the workforce by addressing child labour and forced labour.
- To promote safe and healthy working conditions, and to protect and promote the health of workers.

3.9.6 Resource Efficiency and Pollution Prevention

- To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities
- To promote more sustainable use of resources, including energy and water
- To reduce project-related GHG emissions

3.9.7 Community, Health, Safety and Security

- To anticipate and avoid adverse impacts on the health and safety of the affected community during the project life from both routine and non-routine circumstances
- To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the affected communities

3.9.8 Land Acquisition and Involuntary Resettlement

- To avoid or, when avoidance is not possible, minimize displacement by exploring alternative project designs
- To avoid forced eviction
- To anticipate and avoid or, where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected
- To improve, or restore, the livelihoods and standards of living of displaced persons
- To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites

3.9.9 Biodiversity Conservation and Sustainable Management of Living Natural Resources

- To protect and conserve biodiversity
- To maintain the benefits from ecosystem services
- To promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities

3.9.10 Indigenous Peoples

- Indigenous people must be identified and treated in the manner that their well-being is not affected by the project.

3.9.11 Cultural Heritage

- To protect cultural heritage from the adverse impacts of project activities and support its preservation
- To promote the equitable sharing of benefits from the use of cultural heritage

3.10 International Convention

3.10.1 Convention against Discrimination in Education (1960) ratified by United Republic of Tanzania in 1978-12-08

Article 2 (a) of convention stated the establishment or maintenance of separate educational systems or institutions for pupils of the two sexes, if these systems or institutions offer equivalent access to education, provide a teaching staff with qualifications of the same standard as well as school premises and equipment of the same quality, and afford the opportunity to take the same or equivalent courses of study.

3.10.2 International Covenant on Economic, Social and Cultural Rights, 1966

Article 13 (2)(a) of this convention emphasizes that "Primary education shall be compulsory and available free to all; and (2)(b) Secondary education in its different forms, including technical and vocational secondary education, shall be made generally available and accessible to all by every appropriate means, and in particular by the progressive introduction of free education".

3.10.3 Universal Declaration of Human Rights, 1948

Article 26 of this declaration states that "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all based on merit".

3.10.4 Convention on the Rights of the Child, 1989

The Convention recognize the right of the child to education and with a view to achieving this right progressively and on the basis of equal opportunity. Where in Article 28(1) (a) of the convention stated that "Make primary education compulsory and available free to all". Also this convention emphasizes in international cooperation in

education sector stated in Article 28 (3) promote and encourage international cooperation in matters relating to education, in particular with a view to contributing to the elimination of ignorance and illiteracy throughout the world and facilitating access to scientific and technical knowledge and modern teaching methods.

3.10.5 Convention on the Rights of Persons with Disabilities, 2006

Article 28 (2) (a) of the convention emphasizes the right of persons with disabilities to education which stated “Persons with disabilities are not excluded from the general education system on the basis of disability, and that children with disabilities are not excluded from free and compulsory primary education, or from secondary education, on the basis of disability”.

3.11 Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) are a set of global goals for fair and sustainable health at every level from planetary biosphere to local community. The aim is to end poverty, protect the planet and ensure that all people enjoy peace and prosperity, now and in the future. **Table 3-2** below shows the Sustainable development goals which are relevant to this project.

Table 3-2: Sustainable Development Goals (MDGs)

Goal	Target
Goal 1: End poverty in all its form everywhere	Target 1.1 By 2030, extremely eradicates poverty to all people everywhere, currently measured as people living on less than \$ 1.25 a day Target 1.4 By 2030, ensure that all women and men, in a particular the poor and the vulnerable have equal rights to economic resources, as well as access to basic services, ownership and control over land and other form of property, inheritance natural resources, appropriate new technology and financial services include microfinance
Goal 3: Ensure health lives and promote for all at all stage	Target 3.5. Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunity for all	Target 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and Goal-4 effective learning outcomes Target 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
Goal 5 : Achieve gender equality and empower all women and girls	Target 5.1 End all forms of discrimination against all women and girls everywhere Target 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation
Goal 6: Ensure access to water and sanitation to all	Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

Goal	Target
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.	Target 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services
Goal 13: Take urgent to combat climate change and its impact	Target 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries Target 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Goal 14: Conserve and sustainably use of oceans, seas and marine resources	Target 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
Goal 15: Sustainable manage forest, combat, desertification, halt reserve land degradation, halt biodiversity loss	Target 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally Target 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

3.12 Institutional Framework

Authorities, institutions and sectors directly or indirectly related to the project development have been identified geographically by political boundaries as well as through regulations, institutional mandates and structures. These entities are adequately consulted in the ESIA process as prescribed through the institutional framework for environmental management. The relevant institution for handling EIA requirements is the NEMC with input from the District Environment Management Committees; Ward Committees and Street Committees.

According to the EMA of 2004 the institutional set-up for environmental management from a national level to village level includes:

- Minister Responsible for Environment;
- Director of Environment (DOE);
- National Environmental Management Council (NEMC);
- Sector Ministries;
- Regional Secretariats;
- Local Government Authorities, District, and Town Councils;
- Township, Village, Ward; Neighborhood (Kitongoji); and
- Street (Mtaa).

The DOE and NEMC are the main regulatory bodies for environmental management in Tanzania whilst the other sector ministries and agencies, play an important role in implementing and enforcing environmental decree. The environmental management functions of each institution are outlined in the Environmental Management Act.

3.12.1 Minister Responsible for Environment

The Minister is overall responsible for matters relating to environment and in that respect be responsible for articulation of policy guidelines necessary for the promotion, protection and sustainable management of environment in Tanzania.

The Minister may issue general guidelines to the Sector Ministries, Government Departments, the Council, National Environment Advisory Committee, City, Municipal or District Environmental Management Committee, agency or any other public or private institution necessary for the purposes of implementation of or giving effect to the provisions of EMA.

The Minister may designate and shall, where appropriate, direct any of the before mentioned institutions and within specified time, to perform any function or do any activity or desist from performing any function or doing any activity as a result of which the environment or part of it is or may be seriously endangered or detrimentally affected.

3.12.2 Director of Environment (DOE)

The DOE heads the Office of the Division (Directorate) of Environment under the Office of the Vice President and is responsible for coordination, monitoring and assessment of various environmental activities. The DOE is responsible to coordinate various environment management activities being undertaken by other agencies and promote the integration of environment considerations into development policies, plans, programmes, strategies, projects and undertake strategic environmental assessment with a view to ensuring the proper management and rational utilization of environmental resources on a sustainable basis for the improvement of the quality of human life in Tanzania.

3.12.3 National Environment Management Council (NEMC)

The object and purpose for which the Council is established is to undertake enforcement, compliance, review and monitoring of environmental impact assessment and in that regard, shall facilitate public participation in environmental decision making, exercise general supervision and coordination over all matters relating to the environment assigned to the Council, under the EMA or any other written law.

The Director General of NEMC is appointed by the President. The Council and the Board of Directors consist of:

- A Chairperson appointed by the President;
- The Director of Environment;
- Seven members appointed by the Minister; and
- The Secretary to the Council (Director General).

3.12.4 Sector Ministries

An environmental sector sits within each Ministry. The duties of the sector include:

- Responsibility for ensuring compliance by the sector Ministry with the requirements of this Act;
- Responsibility for ensuring all environmental matters contained in other written law falling under sector ministry are implemented and report of their implementation is submitted to the Director of Environment; and
- Liaising with the Director of Environment and the Council on matters involving environment and all matters with respect to which cooperation or shared responsibility is desirable or required under this Act.

3.12.5 Regional Secretariats

The Regional Secretariat is responsible for co-ordination of all advice on environmental management in their respective regions and liaison with the Director of Environment and the Director- General on the implementation and enforcement of this Act. The Regional Secretariats are headed by a Regional Environment Management Expert. The expert is responsible for advising the local authorities on matters related to the implementation and enforcement of the EMA. Furthermore, the expert links the region with the Director of Environment and Director General of NEMC.

3.12.6 Local Government Authorities

A local government Environmental Management Officers are designated or appointed at each City, Municipal, District and Town Council. The responsibilities of the Environmental Management Officers among others, include:

- Ensuring enforcement of EMA;
- Advising the Environment Management Committee on all matters relating to environment;
- Promoting environmental awareness relating to protection of the environment and the conservation of natural resources;
- Gathering and managing information on the environment and the utilization of natural resources;
- Preparing periodic reports on the state of the environment;
- The preparation, review and approval of environmental impact assessments for local investment by-laws on environmental management and on sector specific activities related to environment; and reporting to the Director of Environment and the Director General on the implementation of the EMA.
- The Environment Management Committee is responsible for functions set out under the Local Government Act. In addition, they perform functions as prescribed by the EMA and they may be assigned by the Minister to carry out directives related to the promotion and enhancement of sustainable management of the environment.

The Township Environment Management Committees are responsible for:

The proper management of the environment in respect of the area in which they are established;

- Performing duties as assigned under EMA or by the Minister or Council;
- Carrying out directives given by the Minister to promote and enhance sustainable management of the environment; and
- Performing any functions as set out under the Local Government (District) Authorities Act.

3.12.7 Ward/Mtaa/Kitongoji Level

The District Council designates an Environment Management Officer for each administrative area of a township, ward, village, kitongoji (neighbourhood/hamlet) and mtaa (street). The Environmental Management Officers are responsible for coordinating all functions and activities related to the protection of environment within their designated areas.

CHAPTER FOUR

4 BASELINE CONDITIONS

4.1 Introduction

The purpose of this Chapter is to provide a brief description of the physical and social environment in the project site which could potentially be affected by positive and negative impacts of the project discussed in Chapter 6. These information were mainly obtained from secondary data specifically the social economic profiles of the respective district municipals. Though, primary data attained during site visits were also applicable in this chapter. Impacts of lesser importance were screened out during scoping phase to ensure that the ESIA is focused on the potentially significant impacts.

The process of environmental baseline investigations included the combination of some/all the following tasks:

- An appropriate combination and balance of desktop studies, field surveys, site information collection and technical consultation.
- Consideration of all available documentary records, research papers and other relevant information.
- Use of recognized survey and analysis techniques.
- Identification and provision of appropriate (preferably quantitative) descriptions of the baseline environmental conditions.
- Identification of key environmental features that may enhance, constrain, or limit the direction and rate of environmental change.
- Explanation of links, interactions, and dependencies between environmental components.
- Verification of desktop and other information by systematic field surveys.
- Acknowledgement of the implications of gaps and limitations in information and data.

4.2 Project Core Area

This project was implemented in Kagera region, Karagwe District in Kanone ward, Rwambaizi village. Kagera region is among the administrative regions in Tanzania with land area of 35,686 square kilometers. The region is bordered by Lake Victoria, Mwanza region and Mara region to the East, Geita region and Kigoma region to the South, Rwanda to the West, Uganda to the North and Burundi to the South west. Th regional capital city is Bukoba. Kagera Region is the fifteenth largest region occupying about three percent of Tanzania Mainland's total area of 883,600 sq.km.

Karagwe District Council is one of the eight Councils of Kagera Region covering an area of 4,500 Km² out of which 4,342 km² is dry land and 158 km² is surrounded by water. The Council is bordered to the District of Kyerwa and Misenyi to the North, the Republic of Rwanda and Kyerwa district to the West, the Districts of Ngara and Biharamulo to the South and Muleba, Bukoba and Misenyi Districts to the East as shown in Figure 4-1. The distance from Karagwe to the Regional Headquarter (Bukoba) is about 108 km.

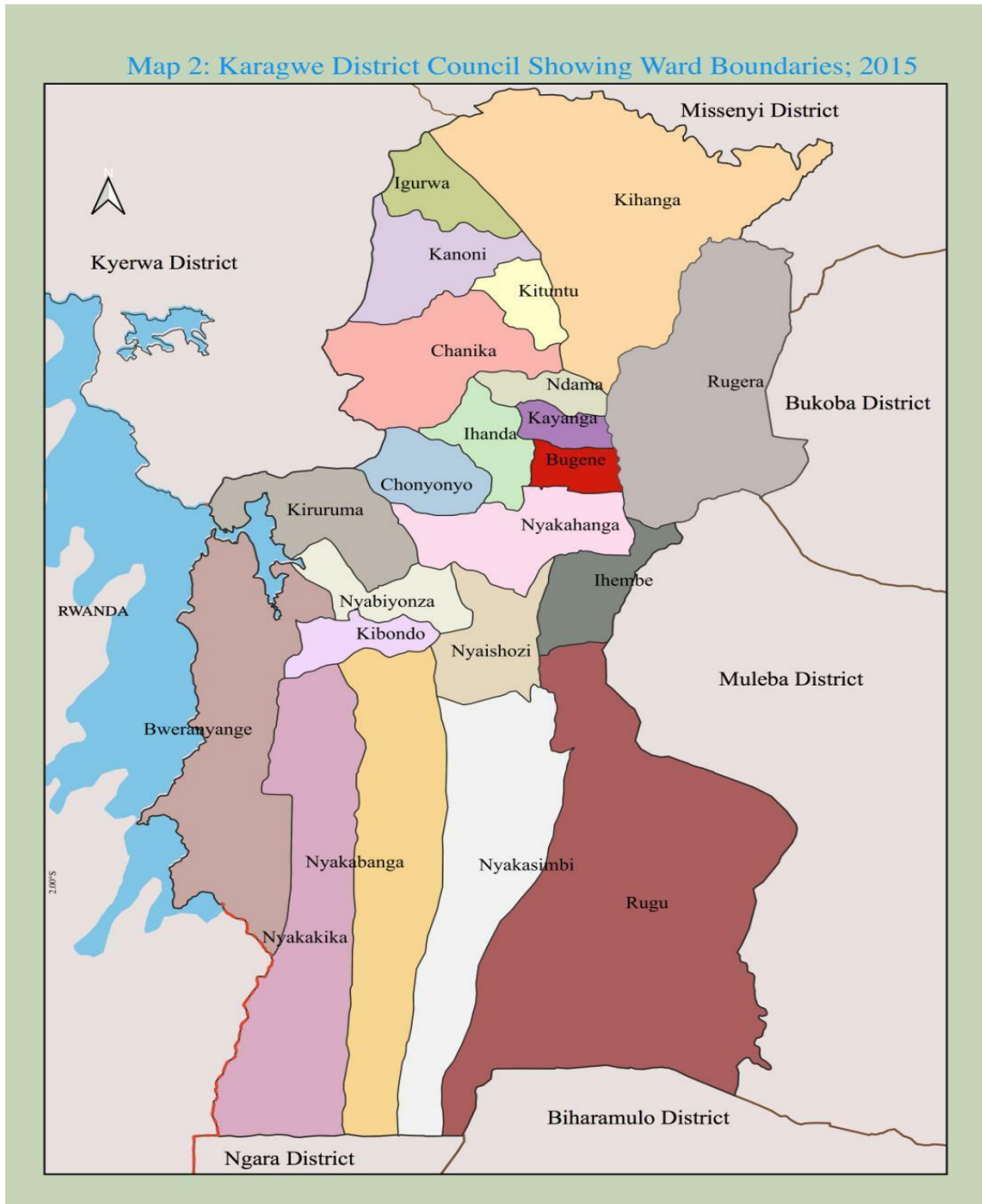


Figure 4-1: Karagwe District council map showing Ward boundaries (Karagwe District Council Socio-Economic Profile, 2015)

4.3 General Conditions

4.3.1 Current Land Uses and Activities at the Proposed Project Site

The proposed land site which is located in Rwambaizi village was once a property of the village government with a size of 74 acres. The project area so far has 12 class rooms that are already constructed in a percentage of 92% as shown in **Error! Reference source not found.** and there proceeding with finishing construction of a dministration block (46%), biology and chemistry laboratories (30%), physics and geography laboratories (30%), dormitories (26%), dining room (20%), staff houses (45%), generator room (29%) and incinerator room (30%).



Figure 4-2: Existing situation of the project site (Tansheq Site Visit, November 2022)

4.3.2 Displacement and Relocation

No people relocation was envisaged for this location.

4.3.3 Neighboring Residences (Location and Distance from the Proposed Project)

The location is not surrounded by human settlement rather it's surrounded by hills and vegetation and Rwambaizi Secondary School which is 1km from the project site.



Figure 4-3: Surrounding environment to the project area (Tansheq Site Visit, November 2022)

4.4 Socio-economic Baseline

4.4.1 Background

A development envelope (Area of Interest - AOI) is situated at Rwambaizi Village, Kanoni Ward, Karagwe District, and Kagera Region. Details of the study area for the Social Impact Assessment (SIA) is in Table 4-1.

Table 4-1: Study Areas for the SIA

Study Area	Definition	Areas included for this project
Site-specific study area	Area likely to experience impacts associated with project infrastructure and activities	The project footprint, excluding the access roads, etc. (to be defined at the conclusion of the scoping phase)
Local study area	Areas likely to experience impacts related to population influx, etc.	The neighboring settlements in Kanoni ward and Rwambaizi village
Regional study area	Area likely to experience economic impacts of the project	Karagwe (since most of the development envelope falls within this district). This is set against the backdrop of Kagera Region and Tanzania as a whole

4.4.2 Administrative Set up

Administratively Karagwe District consists of five divisions namely Bugene, Kituntu, Nyaishozi, Nyabiyonza and Nyakakika which in turn comprises of 23 Wards, 77 Villages and 629 Hamlets. 5 wards are situated in Prospective Kayanga Township and 18 wards are in rural area. Looking at land area, Bugene Division covers the largest part of land of the council, about 26.3 percent followed by Kituntu Division with about 21.6 percent of the total land area. Nyakakika has the smallest land area in the council constituting only 13.8 percent.

Table 4-2: Land Area and Administrative Units (Wards, Streets, Villages and Hamlets) by Division, Karagwe District Council Socio-Economic Profile; 2015

Division	Land Area (Sq.m)	No. of wards	No. of villages	No. of Hamlets	Percent of Land Area
Bugene	1,140	7	13	127	26.3
Nyakakika	600	3	11	111	13.8
Nyabiyonza	732	4	16	85	16.9
Kituntu	937	5	22	168	21.6
Nyaishozi	933	4	15	138	21.5

Total	4,342	23	77	629	100
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Source: District Executive Director's Offices, (Administration Department), Karagwe District Council, 2017

4.4.3 Demographic Condition

Kagera region is divided into eight administrative councils, Karagwe DC, Bukoba DC, Muleba DC, Biharamulo DC, Ngara DC, Bukoba MC, Missenyi DC and Kyerwa DC affiliated with wards with a population of 2,989,299 (1,530,019 females and 1,459,280 males). Considering the project will be implemented in Karagwe district among all the districts thus population development in Karagwe district as well as related information and services will be provided.

Karagwe
385,744 (191,186 males, 194,558 females) Population Census, 2022 4,500 km ² Area Karagwe District: district in Kagera Region, Tanzania

Table 4-3: Population by Wards in Karagwe District

Council/Ward	Population			Sex Ratio	Number of Households	Average Household Size
	Both Sexes	Male	Female			
Karagwe District Council	385,744	191,186	194,558	98	93,366	4.1
1. Igurwa	12,522	6,224	6,298	99	2,822	4.4
2. Kanoni	23,140	11,620	11,520	101	5,359	4.3
3. Kihanga	19,713	10,319	9,394	110	5,343	3.7
4. Kituntu	12,194	5,820	6,374	91	2,924	4.2
5. Chanika	18,574	9,146	9,428	97	4,539	4.1
6. Kayanga	28,248	13,588	14,660	93	7,805	3.6
7. Bugene	26,608	12,991	13,617	95	7,560	3.5
8. Ndama	6,513	3,203	3,310	97	1,561	4.2
9. Rugera	11,010	5,676	5,334	106	2,442	4.5
10. Nyakahanga	15,979	8,104	7,875	103	3,855	4.1
11. Ihanda	7,990	3,886	4,104	95	2,023	3.9
12. Chonyonyo	18,596	9,399	9,197	102	4,241	4.4
13. Ihembe	9,871	5,008	4,863	103	2,257	4.4
14. Nyaishozi	13,759	6,594	7,165	92	3,301	4.2
15. Rugu	18,043	9,068	8,975	101	4,023	4.5
16. Nyakasimbi	16,364	8,141	8,223	99	3,671	4.5
17. Nyakakika	19,457	9,565	9,892	97	4,469	4.4
18. Nyakabanga	19,947	9,888	10,059	98	4,633	4.3

19.	Kibondo	12,965	6,408	6,557	98	3,112	4.2
20.	Bweranyange	23,164	11,448	11,716	98	5,427	4.3
21.	Nyabiyonza	12,325	6,072	6,253	97	2,945	4.2
22.	Kiruruma	15,923	7,823	8,100	97	3,724	4.3
23.	Kamagambo	22,839	11,195	11,644	96	5,330	4.3

Source: NBS, 2022

4.4.4 Ethnic Composition

The main indigenous ethnic group is the Haya tribe. Other groups with significant numbers of persons are the Nyambo, Hangaza, Subi, Ha, Sukuma, Nyarwanda, Zinza, Rundi and the Kerewe. The Hangaza, Subi and Sukuma are found in all the councils while the Ha and Kerewe are mainly in Karagwe, Ngara and Biharamulo district councils. The Nyarwanda on the other hand are mainly in Kyerwa and Muleba district councils. The Sukumas who are mainly herders are found in Kyerwa, Muleba, Ngara, Biharamulo and Karagwe district councils.

4.4.5 Education sector

4.4.5.1 Primary education

By 2015, Karagwe district had a total number of 117 primary schools, out of which there is an average of 5.1 schools per ward and an average of 1.5 schools per village. With regards to consultation with the WEO and VEO, in Rwambaizi village there are 3 primary schools and 7 primary schools in Kanoni ward.

4.4.5.2 Secondary education

By 2015, Karagwe district had a total number of 19 secondary schools out of which there is an average schools per ward and an average of 4 schools per village. With regards to consultation with the WEO and VEO, in Rwambaizi village there is 1 secondary school (Rwambaizi Secondary School) and 2 secondary schools in Kanoni ward.

4.4.6 Health sector

Kagera Region has made remarkable achievements in the health sector reflected by increased number of facilities, from 142 in 1980 to 219 in 2001 and 297 in 2015. For instance in Kagera Region the number of dispensaries increased from 118 in 1980 to 189 and 244 in 2015.

The number of health centers increased from 13 in 1980 to 18 in 2001 and 32 in 2015, while the number of hospitals increased from 11 in 1980 to 21 in 2015.

In spite of the achievement reached so far in health sector, the Region lags behind in the implementation of the health policy which requires each ward to have a health center and a dispensary in each Village or Mtaa.

Considering the comments from the WEO and VEO, there is still deficiency of health facilities both at the ward and village level since there is only one (1) government hospital at the ward level and 1 health center (Rwambaizi Health Centre) at village level which is privately owned by the church.

4.4.7 Economic Activities

61% of manpower are engaged in private sector, 35% are self-employed and 4% are employed in public sector. The activities engaged are private companies, institutions, business, petty traders, fishing, livestock keeping and agricultural activities.

4.4.7.1 Agriculture sector

Agriculture is the major economic activity in the District. The predominant farming system is subsistence under rain-fed conditions, practiced by over 90% of the population. Major crops grown are banana, beans and maize for local consumption. Coffee (Robusta), maize and Irish potatoes are the main cash crops. The average farm size is two (2) hectares per household; the limitation being availability of fertile soils.

There are three main farming systems in Karagwe. These are Kibanja, Kikamba and Rweya. The Kibanja system comprises of banana plot normally inter cropped with coffee, beans, maize and other annual crops and tree species. The Kikamba system is practiced in the periphery of Kibanja and is used for cultivation of annual crops and sometimes left fallow. The soils in the Kikamba are of medium quality. Rweya system is found in areas of poor quality land and mostly used for provisional farming of mulching grasses, as well as fodder and tree planting. The main coffee marketing organization is the Karagwe District Cooperative Union (KDCU), though there are other private coffee buyers.

4.4.7.1.1 Irrigation schemes

Karagwe has enormous potential areas for irrigation. The water of small Lakes like Lake Burigi, Lake Lwakajunju; the Kagera River are all enormous sources. This is in addition to enormous groundwater potentials. The enormous irrigation that has been carried out is at Kagera Sugar Company, in this area irrigation is carried out as a matter of course in the production of sugar cane through advance technologies of Centre pivot.

There are also minor traditional irrigation practices which bring some water to banana, coffee, fruits and vegetables. Apart from Kagera Sugar Company, another irrigation activities are conducted at Mwisu Irrigation scheme.

4.4.7.2 Livestock sector

Livestock keeping is the second most important economic activity after agriculture. There are distribution of estimated livestock by species in each ward of Karagwe District Council in 2015. Goats (94,475) were the leading in numbers for large and medium size livestock followed by cattle (87,610) and pigs (7927). STATISTICS also show that there was a large population of poultry especially indigenous chicken and significant population of improved chicken for both broilers and layers.

Analysis among the wards shows that Chanika (11,081 cattle) was leading in cattle population while Ndama ward had the least number of cattle of 534. Most populous goat's population of 31,600 were observed in Nyakahanga ward and the least populous goat's population of 204 were seen in Ihanda ward. On the other hand, concentration of pigs was highest (1,413) in Nyakabanga ward whilst the lowest of 43 in Nyabishonza ward. Sheep were mostly found in Kamagambo (709) than in any other ward. Looking at poultry population which comprises of indigenous, broilers and layers, Rugu ward is very rich in indigenous chicken (23,000) while Kayanga has the largest number of improved chicken (broilers and layers) at 1,843 in 2015.

4.4.7.3 Fisheries sector

Tanzania is one of the largest fishing Country in Africa. According to FAO; it is ranked in the top ten countries in terms of total capture fisheries production. Inland production is from water bodies. The main location of fishing activities in Karagwe District Council is Rugu, Bweranyange, Kamagambo, Nyaishozi, and Kanani, Nyakahanga, and Rugera wards. The statistics show that the district council had 257 fishing licences, 257 fishermen and 11

registered fishing vessels and 95 unregistered fishing vessels. Rugu, Bweranyange and Kamagambo were leading in the sector.

4.4.7.4 Beekeeping

Beekeeping is widely practiced in Karagwe area especially to communities living adjacent to natural vegetation. However in Karagwe, there are modern beekeeping groups who associate in beekeeping activities. Medium scale and small operators are likely to benefit most because of the individual care required to service each beehive. From 2011 to 2015, Karagwe District Council had a total of 26,996 traditional beehives which on average 5,399.2 traditional beehives per annum were introduced in the beekeeping industry.

Number of traditional beehives were in increasing trend and reached the peak of 8,666 (32.1 percent) in 2015. Looking at traditional beehives at ward level, (28.18 percent) of the total beehives were in Bweranyange with a total of 7,607 traditional beehives, Rugu (2,540) was the second ward in number of traditional beehives.

The statistics shows that from 2011 to 2015 Karagwe District Council had a total of 9,954 modern beehives which on average 1,990.8 modern beehives per annum were introduced in the beekeeping industry. Number of modern beehives were in increasing trend and reached the peak of 2,637 (26.5 percent) in 2015. At ward level, Kihanga ward led in number of modern beehives.

4.4.7.5 Tourism sector

The tourism sector is another attraction to investors in the region where it's an economically viable area. The region has three National Parks which are Burigi - Chato, Ibanda and Rumanyika where wild animals such as Zebra, impala, water buck, buffalo, elephant, giraffe, leopards, hippos and crocodiles can be found.

Apart from those, Karagwe District Council is one of the unique destinations in Kagera Region that has yet been discovered by many. The Kimisi and Burigi Game Reserves are favorable for walking safaris, bird watching is part of tourism and beautiful camping sites for hunters from Europe and United States every year to hunt Lions, Buffaloes, elephants, Zebras, Giraffes being the main attraction. The chieftom palace located at Bweranyange ward about 47 km from Karagwe town is where the German and British explorers met with the traditional/local leaders.

Karagwe is centered between the Akagera National Park in Rwanda, Queen Elizabeth National Park in Uganda and Rubondo Island National Park to the West of Lake Victoria. There is every reason to justify the establishment of inter- territorial tours between Uganda, Rwanda and Serengeti in Tanzania.

Advertising tourism potentials through mass media such as organizing investors' forum are among the strategies that can make tourism potentials known to the public. Moreover, initiatives taken to promote tourism in Karagwe District Council should go hand in hand with improvement of road infrastructures as well as financial and accommodation services.

4.4.8 Economic infrastructure

4.4.8.1 Road network

The total road network for Karagwe District Council in 2015 was 1,394.7 kilometer out of which 276.9 km (19.8%) of the total road network are district roads, 67kms (4.8%) are Regional roads, and 1,050.8 km (75.3%) were feeder roads and no trunk roads in the District. This implies that the largest part of road network in Karagwe District Council is feeder roads. Nyakahanga Ward had the longest road network (109 km) in the council followed by Bweranyange Ward with 88 km.

4.4.8.2 Telecommunication services

In Karagwe District Council there is a moderate availability of internet and telephone services for both cellular phone and land line based telephone services and postal services. In 2015, the council had two radio stations with no television stations. The council was having 11 internet café and 3 post offices. However, in 2015 the Council had access to mobile phone services which include Tigo, Vodacom, Airtel, Zantel, Halotel and TTCL Mobile.

4.4.9 Sources of Energy

Karagwe utilizes major sources of energy in its daily operations, TANESCO's national grid. The project may cause the increase in energy demand due to number of people that will be accommodated. Though, electricity is still a challenge at the project site due to the land scape of the area and a challenge of presence of hard rocks.

4.4.10 Sanitation and water supply

The main source of water for Karagwe residents specifically Rwambaizi village is managed by Rural Water and Sewerage Authority (RUWASA). In Karagwe district , rural water supply has reached about an average of 67 percent through which households have access to clean and safe drinking water from different sources.

4.4.10.1 Waste Management

Solid waste management in Rwambaizi village is done by incineration of wastes in an incinerator at Rwambezi Health Center and this will be adopted during project implementation.

4.4.10.2 Liquid Waste Management

The project will adopt septic tank and soak away pit for waste water management therefore its anticipated that this result to changes in Rwambaizi village.

4.5 Physical- Geographical Environment

This is a very hilly area whose altitude ranges from 800 to 1,500 m and annual rainfall 1,100 to 1,300 mm. Soils are deep, dark reddish brown to red sandy clay loams and vegetation is woodlands.

4.5.1 Climate

Karagwe District Council normally receives adequate annual rainfall. The rainfall pattern is bi-modal, which occurs between September to December every year (Long rains) and March to April/May (short rains). The quantity of rainfall received tends to differ from place to place depending on the altitude of the locality, with lowlands recording relatively less rain than the highlands. According to records, rainfall averages between 1,040 mm and 1,200 mm annually.

The mean and maximum temperature ranges between 25 and 28 degrees Celsius during the hot season and between 13 and 15 degrees Celsius during the cold periods which are experienced during the months of March, April and May. The months of June, July and August are the hottest months with an average temperature of about 26 degrees Celsius. The district council is situated at an altitude ranging between 1,500 meters and 1,800 meters above sea level while lowlands and wetlands range between 1,150 meters and 1,450 meters above sea level.

4.5.2 Soil and Topography

Soil condition in the council favors production of various crops like maize, beans, cassava, species, sweet potatoes etc. The soil can be classified into four distinguished soil types that are clay, sand, loam and clay loams. However, soil fertility has been deteriorating due to continuous cultivation. Fortunately, farmers have been made aware of this situation and a number of measures are being taken including the use of farmyard manure. The land is flat but associated with few hills. Seasonal streams are also found in the eastern part of the council. Physical features of the council include a number of man-made water bodies mainly charco dams located at Kihanga and Kahundwe.

The altitude of Karagwe District Council ranges from 1,500 and 1,800 meters above sea level while valley bottoms and wetlands are 1,150 and 1,450 meters above sea level and the council has bimodal rainfall pattern which consists of short and long rains. The councils' mean temperature is 26°C. This climatic condition favors the production of various agricultural crops. Basing on the climatic condition as explained above, the council has two main Agro Economic zones which are Northern and Southern Zones

4.5.3 Hydrological and Geological Characteristics

Karagwe District Council, situated in the expansive northwest region of Kagera, exhibits distinctive hydrological and geological characteristics. The area encompasses a diverse terrain of sandy, clay, loam, and clay loam soils, interspersed with (rock) hills. Elevation levels range between 1,150 and 1,800 meters above sea level, creating a varied topography that includes valleys and wetlands. The hydrological landscape is marked by two main lakes, Rwakajunju and Burigi, complemented by the Kagera and Mwisa rivers, forming alluvial flood plains. These water bodies play a crucial role in meeting the escalating demand for water supply, serving industrial, agricultural, fishing, and domestic needs within the council.

Additionally, the Kagera River originates in the Rwanda hills to the west of Karagwe, flowing through Bweranyange and Kihanga Wards before converging its waters into Lake Victoria. The Rwakajunju Lake, fed by the River Kagera, encompasses Nyabiyonza, Kamagambo, and Kiruruma Wards, while the second lake, Burigi, draws its source from the Kagera River, extending from the Kimisi Game Reserve and surrounding Nyakasimbi, Rugu, Bugene, and Kihanga Wards before contributing its waters back to the Kagera River via the Mwisa River. This intricate network of water bodies and geological formations defines the unique hydrological and geological characteristics of Karagwe District Council.

4.6 Biological environment

4.6.1 Flora

The district is estimated to have about 168 hectares of forestry land, which is 2.8% of the land area. According to the statistic the District has no natural Forest, however about 2260 hectares are forests, individual plantations and have been deteriorating from time to time due to highly demands of forest products. The biodiversity loss particularly of the indigenous tree species (Mipingo, Migwata, Misubata and Miyuguyu) are lost mainly due to socio economic activities.

4.6.2 Fauna

Currently, some of the large mammals such as Thomson gazelle, grants gazelle, southern bush pig, olive baboon, vervet monkey and waterbuck have started to disappear due to loss of their habitat.

4.7 Air quality within the project area

4.7.1 Ambient air quality data

The consulting team conducted the actual monitoring of air quality at the project site using an Aeroqual Outdoor Air Quality Test Kit. This is a complete outdoor air monitoring kit for the measurement of criteria air pollutants and VOCs.

Features Aeroqual's proven Series 500 portable monitor with interchangeable sensor heads, measuring particulate matter (PM_{2.5}, PM₁₀), four gas pollutant gas sensors (NO₂, O₃, CO, VOCs), and a combined temperature and relative humidity sensor.

Suitable for use during wide area air quality surveys, personal exposure monitoring, and as part of a short-term fixed monitoring network. The equipment and collected data are shown respectively.



Figure 4-4: Ambient Air Quality Monitoring equipment used at the project site (Tansheq Site Visit, November 2022)

4.7.1.1 Description of Sources and levels of project emission

Heavy construction is a source of dust emissions that may have substantial temporary impact on local air quality. Emissions during the construction of a building are associated with land clearing, drilling and blasting, ground excavation, cut and fill operations (i.e., earth moving), and construction of a particular facility itself. Table below shows the emission generating activities;

Table 4-4: Sources and levels of project emissions

ACTIVITIES	EMISSIONS
Site clearance and site levelling	Dust (PM _{2.5} , PM ₁₀), CO ₂ , NO ₂
Vehicle movement	Dust (PM _{2.5} , PM ₁₀), CO ₂ , NO ₂
Excavation of trenches for foundation	Dust (PM _{2.5} , PM ₁₀)
Waste (liquid and solid)	CH ₄ , CO ₂
Painting of buildings	Volatile organic compounds (VOCs)

4.7.1.2 Monitoring data within the project site

The most noted sources of gaseous emissions within the sites were from operating automobiles and generators as electricity isn't yet available at the project site. Referring to the results summarized in **Error! Reference source not found.**, all locations were recorded with carbon monoxide (CO) gaseous emission levels ranging from 0.0 to 2

ppm at all measured locations. Maximum CO emissions levels of (2.1 ppm) was recorded nearby administration block, this was contributed by movement of the vehicles.

Also locations were recorded with nitrogen dioxide (NO₂) gaseous emission levels ranging from 0.0 to 0.08ppm at all measured locations and other locations was recorded with NO₂ emissions levels within limits. Furthermore maximum NO₂ emissions levels of (0.08 ppm) was recorded.

The low level of dust recorded within the site this is due to the fact that during monitoring of the sites, no dusty activities were being executed. The Local Standard: EMR (AQS), 2007] states that, the ambient particulate matter guideline for PM10 size shall not exceed 60–90 µg/Nm³ (0.05–0.116 mg/kg).

On the other hand, the World Health Organization (WHO: 2005) Air Quality Guideline states that, the ambient dust emission levels for PM_{2.5} and PM₁₀ should not exceed 25 µg/m³ and 50 µg/m³ respectively for 24–hour mean.

By comparing the results with the standard, it is evident that the assessed locations were recorded with PM_{2.5} and PM₁₀ ambient particulate matters are within the ceiling limit as the detailed findings of dust levels measured at all locations

Furthermore, comparing the averaged results summarized in Table 4-5 with national EMR [(AQS), 2007] standards and International standards WHO [2005], it is evident that, the results are below the ceiling limits was not mentioned as detailed findings of ambient gaseous levels measured are presented accordingly.

Table 4-5: Air quality monitoring results

LOCATION	CO ppm	NO ₂ ppm	O ₃ ppm	VOC ppm	SO ₂ ppm	PM _{2.5} ppm	PM ₁₀ ppm
Project Area	1.8	0.032	0.00	0.00	0.004	0.005	0.035
Section A	0.5	0.016	0	0.00	0.021	0.009	0.010
Section B	1.3	0.010	0	0.06	0	0.011	0.021
Section C	1.8	0.09	0	0.00	0	0.000	0.011
Section D	1.7	0.08	0	0.00	0.01	0.005	0.013
Tanzania Standard [TZS 845:2005]	20	0.1	0.0	10	0.05	0.05- 0.08	0.05- 0.116

All data monitored were below standards with low detectable level so are of no significant. However, the data measured will be used for monitoring project intrusion during project implementation so as to trace how the project has affected the air quality.

4.8 Noise and Vibration

The noise and vibration survey was conducted in terms of the provisions of International Finance Corporate Guidelines of 2007 (The measurement and rating of environmental noise with respect to annoyance and to speech communication) as well as Environmental Management (Noise and Vibration Standards) Regulations of 2015.

The following instruments were used in the noise and vibration survey as they are displayed in

- Sound Level meter – Lutron SL 4023SD;
- Free field microphone – Electric Condenser Microphone; and
- Sound Calibrator (94/114dB) – SC – 942.
- Vibration meter – VB8206SD

On taking measurements, the meter was set to the “A” weighed measurement scale, which enables the meter to respond in the same manner as the human ear. The “A” scale is applicable for workplace compliance testing, environmental measurement, and workplace design and law enforcement.

For, noise measurement the meter was held approximately 1.5 m above the ground surface and at least 0.5 m away from hard reflecting surfaces such as walls. A set of four readings were taken per point for averaging. The equipment used and data collected are shown in Figure 4-5.

During operation phase, the project site will not be sensitive to noise pollution since the area will be surrounded with vegetation as explained in the current situation of the project site.



Figure 4-5: Noise and vibration level meters used to collect data on the project site (Tansheq Site Visit, November 2022)

Table 4-6: Noise and Vibration data

Location	Noise Level [dBA]	Vibration [mm/s]
Project Site	53	2.1
Station 1	45	3.1
Station 2	48	0.2
Station 3	50	0.5
Station 4	40	2.4
Tanzanian Standards TZS: [1471: 2015]	60-70	5

The noise and vibration level survey was executed during the day on the 6th October 2022 at 1300hrs. In this survey, 12:00 to 14:00 represented the daytime period.

The Noise level was measured over a representative sampling period, exceeding 30 minutes at a point for different location in the vicinity of the proposed site as the result is presented in Table 4-6

CHAPTER FIVE

5 STAKEHOLDERS IDENTIFICATION AND INVOLVEMENT

5.1 Introduction

This chapter describes the main stakeholders that have been identified and contacted to date as well as their main concerns regarding the proposed development.

Stakeholders are identified as “those people and institutions that have an interest in the successful design, implementation and sustainability of the project and will either be negatively, positively or not at all impacted by the proposed development”. ESS 10 of the Environmental and Social Framework directs borrower to assess the level of stakeholder interest and support for the project and enable stakeholder’s views to be taken into account during project design and environmental and social performance together with ensuring that appropriate project information on environmental and social risks and impacts are disclosed to stakeholder’s in a timely, understandable, accessible and appropriate manner and format.

Also, Section 89 of the Environmental Management Act (EMA, 2004) provides directives on public participation and its importance to ESIA. Furthermore, section 17 of the EIA Regulations provides details and procedures for public participation in the ESIA process.

Stakeholder participation aims to involve processes whereby all those with a stake in the outcome of a project actively participate in decisions on planning and management. Stakeholders may share information and knowledge, and contribute to the project, to enhance the success of the project and hence ultimately their own interest.

5.2 Stakeholder Engagement Process

The Constitution of United Republic of Tanzania recognizes the sovereignty of the people and that people possess the power to guide development within their areas either directly or indirectly. The public should therefore be involved in the evaluation process because the Environment Management Act (2004) demands it to be so.

The main objectives of the stakeholder engagement process are to:

- Inform the stakeholders about the proposed project and provide opportunities for influencing/amending the plans;
- Collect stakeholders’ views on the proposed project including potential positive/negative impacts the stakeholders may associate with the project
- Get an idea of Stakeholders’ preferred approaches to implementation of the project;
- Get local knowledge on any sensitive areas within the project area of influence (physical, environmental, cultural or proposed facilities); and
- Get expert advice on land use/ area zoning, water availability and supply, power and road infrastructure

Stakeholder consultation is initiated mainly during the scoping phase as various stakeholders are identified and then proceed throughout the EIA process. There are different levels of public participation. Table 5-1 shows the categories of public participation according to the goals.

Table 5-1: Levels of Public Participation

LEVELS OF PUBLIC PARTICIPATION GOALS	
Inform	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.
Consult	To obtain public feedback for decision-makers on analysis, alternatives and/or decisions.

LEVELS OF PUBLIC PARTICIPATION GOALS	
Involve	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered in decision-making processes.
Collaborate	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.
Empower	Inclusion of the public in the decision-making processes.

The team put in place a stakeholder engagement process, which helps to:

- Identify and involve all potentially affected stakeholders
- Generate a good understanding of the project amongst those that was affected
- Identify issues early in the project cycle that may pose a risk to the environment, project or its stakeholders
- Ensure that mitigation measures are appropriate (implementable, effective, and efficient)
- Establish a system for long-term communication between the project and communities that is of benefit to all parties.

The primary goal of the Stakeholder Engagement Process is to ensure **transparency and involvement** of individuals, groups and organizations affected by and/or interested in the project (to be called as stakeholders) in assessing and managing the potential environmental and social impacts of the project, and to provide relevant, timely and accessible information in an appropriate and understandable format (e.g., Project Information Document).

We discuss the different steps to be taken in the next sections. The process was reported in the stakeholder engagement plan.

The **Stakeholder Engagement Plan** is the public document, which presents plans for stakeholder engagement, consultation, and disclosure, and is to be updated for each phase of the project. Parts of the report need to be published through ESIA (public involvement and disclosure). The main purpose of this document is to:

- Define the consultation approach for stakeholders,
- set up a process to address public views and/or concerns,
- Identify resources and responsibilities for implementation and monitoring of the consultation program, and
- Set up a grievance mechanism for local stakeholders.

It consists of the following information:

- Introduction (project information, project program, summary of potential environmental and social impacts);
- National and international requirements;
- Consultation undertaken to date;
- Stakeholders.
- Disclosure of information and public consultation.
- Grievance management;
- Resources and responsibilities;
- Reporting; and
- Annexes: comment/complaint form; complaint action form

The purpose of the **SEP** is to engage with organisations and people who may be affected by the project(s) or who may be interested in the Project, as mentioned above. Each stakeholder will need a different level of engagement. Throughout the process, we will make clear the level for the respective stakeholder and take the necessary steps.

5.3 Stakeholder

Stakeholders are individuals or groups who are affected or likely to be affected by the project (project affected parties PAP) and who may have an interest in the project and/or the ability to influence its outcome, either positively or negatively (other interested parties OIPs).

The identification of stakeholders under project will be based on (a) their roles and responsibilities; (b) possible influence/interest on the project; and (c) their particular circumstances they may be disadvantaged or vulnerable in different ways from each other. Stakeholders' analysis involves identifying the stakeholder groups that are likely to affect or be affected by proposed project components and sorting them according to the potential impact the activities will have on them.

The preliminary stakeholder analysis has identified the various interests of stakeholder groups and the influence these groups may have on the project. The analysis also shaped the design of stakeholder consultation events and how to engage them. Stakeholders' interest is determined based on the extent to which they may be involved in implementing elements of the project, likelihood in being impacted (positively or negatively) or in which they may benefit from components

5.4 Stakeholder Identification and Consultation

Tansheq team started with stakeholder consultations in October 2022. The below bullets capture the process undertaken to date:

- Introductory meeting with RC (Region Commissioner) RAS, (Region Administrative Secretary) Region Education Officer, (REO), REMO,(Region Environment Management Officer) in Kagera region
- District Executive Director (DED), DEO, DEMO in Karagwe district
- Initial meeting with village government, Ward officials including WEO at Rwambaizi village, Kanoni Ward
- Meeting with communities around the proposed project area.

Each representative had an opportunity to state their understanding of what is proposed, and they fully support the project and said that they welcomed the team to undertake the requisite study.

5.4.1 Institutional Stakeholders

Institutional stakeholders were identified based on their involvement in decisions that might affect the proposed development or the stakeholder.

The Institutional stakeholders include:

- Ministry of Home Affairs (Tanzania Fire and Rescue Force- Kagera Office)
- Ministry of Labour and Employment (Occupational Safety and Health Authority, OSHA- Mwanza Office)
- Regional Government Regional Commissioner (RC- Kagera) RAS, (Region administrative Secretary) and District Executive Director (DED-Karagwe); and
- Local Government (Kanoni Ward/ Rwambaizi village).

5.4.2 Other Stakeholders

Individual stakeholders refer to those occupying, owning, living, or working within the AOI and surroundings that may be impacted upon resulting from project implementation.

They include:

- Landowners

- Farm owners
- Residents/house owners affected village.

5.4.3 Vulnerable group

Means a group of people who, due to their characteristics and circumstances, are likely to suffer more adverse impacts of natural disasters than other groups in the community.

Vulnerable Person means any person who by reason of age, infirmity, illness, disability or any other circumstance is in need of care or attention. Vulnerable groups associated to SEQUIP area:

- Age group (Children & elders)
- Indigenous
- Physical challenged group
- Women/Sexuality (Gender issue)

5.5 Main Concerns and Comments of Stakeholders

The comprehensive list of all stakeholders consulted is in **Appendix I**. Main concerns and comments from the consultation process raised by stakeholder to date are in Table 5-2.

Table 5-2: Stakeholder Consultation Views

Name of Stakeholders	Place	Dates	Comments, views and concerns from the stakeholders	Response from the Proponent
Albert Chalamila (RC), Toba Nguvila (RAS), Khalifa Shemahonge (AAS_ELIMU), Isaya Tendega (AAS-EP), Eng. K.A .Fuko (AAS-IF), Colman John (Ag. REMO)	Regional Office	28/11/2022	<ul style="list-style-type: none"> • They are aware about the project as the project is already being implemented and it's at the construction stage • The school has been named as Kagera River Girls Secondary School • Roads need construction so as to easier transportation especially during rainy seasons • The students should be very protected since the school is far from the city thus the students are isolated from human settlements • Landscape and types of rocks present at the project site is a challenge for project implementation specifically during construction as lot of costs have been inquired during foundation • Design layouts should be differentiated depending on the landscape of the specific region's project site 	

Name of Stakeholders	Place	Dates	Comments, views and concerns from the stakeholders	Response from the Proponent
Adv. Wilson Nyamundo (Ag. DED), Dr. Agness Mwaifuge (Ag. DHSMO), Procesious Rweyendera (DEMO), Megwa Maduhu (Engineer), Melkon Komba (DPLO), Rajabu Khasim (M/Asili), Joachim Njiara (DSEO)	Karagwe District	29/11/2022	<ul style="list-style-type: none"> • They are aware of the project taking place and they held a meeting with the local government authorities regarding land acquisition for project implementation • There is a challenge of availability of electricity at the project site thus rendering it difficult for the contractor during construction hence they have using generators since construction 	•
Eng. Kabula (DM-TARURA)	TARURA	29/11/2022	<ul style="list-style-type: none"> • Roads are in good condition at the moment. • The roads will be improved by next year where they will be involved in the 2023-2024 budget for TARURA 	•
Insp. Peter Mmbare (DFO)	Fire-Karagwe	29/11/2022	<ul style="list-style-type: none"> • He is aware of the project as he sees the construction going on everyday • For the case of fire precaution, the dormitories/hostels are always a challenge when it comes to fire accidents in schools so much attention should be put there such as fire alarms and smoke detectors • Doors and windows should open outside and shouldn't be constructed by steel. • Fire hydrants should be in excessive amount apart from fire extinguishers • Every building within the school compound should have fire extinguishers and fire blankets 	• Included as mitigation measures for General health and safety hazards.
Mr. Ishengoma	Technician-RUWASA	29/11/2022	<ul style="list-style-type: none"> • Water infrastructures have already reached the project site • Septic tank and soak away pits will be used for waste water management at the project site though currently 	•

Name of Stakeholders	Place	Dates	Comments, views and concerns from the stakeholders	Response from the Proponent
			there is a challenge of the hard rocks present at the site area	
Florian Rwamafa (Diwani), Kawuru Rubambula (WEO), Madaia Kaisi (Ward Education Officer)	Kanoni ward	29/11/2022	<ul style="list-style-type: none"> • They know about the project as they were informed by the district council through a meeting • Contractor should increase speed of construction so as the school to start operation • Trees should be planted during project operation to prevent soil erosion since the project sit is a steep slope 	<ul style="list-style-type: none"> • Included as mitigation measures for loss/disturbance of biodiversity.
Sylvan Bazimula (VEO), George Lugemalira (Village Chairperson)	Rwambaizi village	29/11/2022	<ul style="list-style-type: none"> • They know about the project through the meeting held by the district council • Contractor should increase speed of construction so as the school to start operation • The community of Rwambaizi village will learn waste water management from the project 	<ul style="list-style-type: none"> •



Figure 5-1: Consultation and site visit at Kagera River Girls Secondary School in Rwambaizi village

5.6 Way Forward

Issues raised by stakeholders shall be assessed on their veracity and included in environmental and social impacts assessment. During the Environmental and Social Impact Assessment process, all stakeholders including public and community participated accordingly. All issues raised during consultation will be detailed responded in the stakeholder engagement plan.

From the consultations, it can be concluded that people are positive about the project as it will generate more employment, enhance business opportunities, education development and social development. Stakeholder Engagement Plan shall be updated and implemented through all phases of the project.

CHAPTER SIX

6 ASSESSMENT OF IMPACTS AND IDENTIFICATION OF ALTERNATIVES.

6.1 Introduction

This section includes expected environmental and social impact assessment during the entire lifecycle of the school construction project. Methods used for impact assessment, as well as quantitative and qualitative criteria were developed to unify and standardize the assessment system, which ensures the objectivity of the assessment. Impact assessment methodology preparation was based on the recommendations of the World Bank and other International Financial Institutions (EBRD, IFC, and ADB).

The following scheme will be used for environmental and social impact assessment of the planned activities:

6.1.1 Step I: Determination of basic impact types

Determination of the impact is based on general analysis of activities, which may be important for these types of projects. This is incorporated in Chapter 2.

6.1.2 Step II: Study of the environmental baseline – search and analysis of the existing information

Analysis of the socioeconomic and environmental status quo of the project affected. This shall also involve identification of the receptors, which are expected to be affected by the planned activities, determination of sensitivity of the receptors

6.1.3 Step III: Characterization and assessment of the impact

Impact character, probability, significance other characteristic determination by considering the sensitive receptors, description of the expected changes in the environment and assessment of their significance. This is covered in this Chapter.

6.1.4 Step IV: Determination of the mitigation measures

Significant impact mitigation, prevention, or compensating measure determination. This is detailed in subsequent Chapter 8.

6.1.5 Step V: Residual impact assessment

Determination of the expected value of change in the environment after implementation of the mitigation measures

6.1.6 Step VI: Monitoring and management strategy development

Monitoring the effectiveness of the mitigation measures is needed to ensure, that the impact must not exceed the predetermined values, effectiveness of the mitigation measures must be confirmed, or the necessity of the corrective measures must be identified.

Table 6-1: Sources, Receptors and Magnitude of Environmental Impact all Planned Phases

Receptor \ Phase	Construction	Operation	Maintenance	Decommissioning
Air				
Soil				
Water				
Flora				
Fauna				
Protected area				
Landscape & visual impact				
Land ownership				
Infrastructure				
Traffic flow				
Cultural heritage				
Socioeconomic				

Key

Negative	Positive
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Table 6-1 gives information about sources, receptors and magnitude of environmental impact for construction and operation phase of the proposed school structures.

6.2 Impact Receptors and their Sensitivity

Implementation of the works may cause such qualitative and quantitative characteristic changes of socioeconomic, physical and biological resources in the impact area, such as:

- Socioeconomic baseline
- Air quality and acoustic background of the environment.
- Soil stability and quality.
- Capacity and quality of surface and groundwater.
- Visual changes of the landscapes.
- Flora and fauna baseline.

The population, which may be impacted by the planned activity, includes people living, working, or involved in other activities (e.g., vocation, travel) nearby the designed facility. Facility staff is considered as a potential sensitive receptor.

Receptor sensitivity is related to the impact volume and ability of the receptor to counteract the change or restore after the change, as well as with its relative ecological, social, or economic value.

6.2.1 Impact Characterization

To estimate environmental impact major impact factors are identified for mobilization, commissioning, decommissioning, and demobilization phases. Anticipated impact is assessed according to the following classification:

- **Character** – positive or negative, direct, or indirect.
- **Magnitude** - insignificant, low, medium, high or very high.
- **Likelihood** – low, medium, or high risk.
- **Impact area** – working site, project area or region.

- **Duration** – short, mid, or long-term.
- **Reversibility** – reversible or irreversible.

That is, for both project phases and for each potential impact has been determined anticipated alteration of environment and its character, area and duration of impact, reversibility, and likelihood of occurrence; based on this information has been defined significance.

Some impact types were estimated quantitatively. Assessment of impact on environmental elements is based on relevant environmental quality standards, whenever appropriate. If qualitative assessment was impossible impact was estimated based on its characteristics and elaborated criteria

The criteria applied for environmental and social impact assessment is given in the below table. They are developed only for those receptors, which may experience significant changes.

6.3 Impact Assessment Methodology

The purpose of conducting an environmental impact assessment is to identify and assess the significant effects that are expected to happen compared to the current baseline conditions (as shown in Figure 6-1). This evaluation concentrates on the most important issues that are likely to have an impact, while disregarding concerns that are considered insignificant. The effects can be either beneficial or detrimental to the environment.

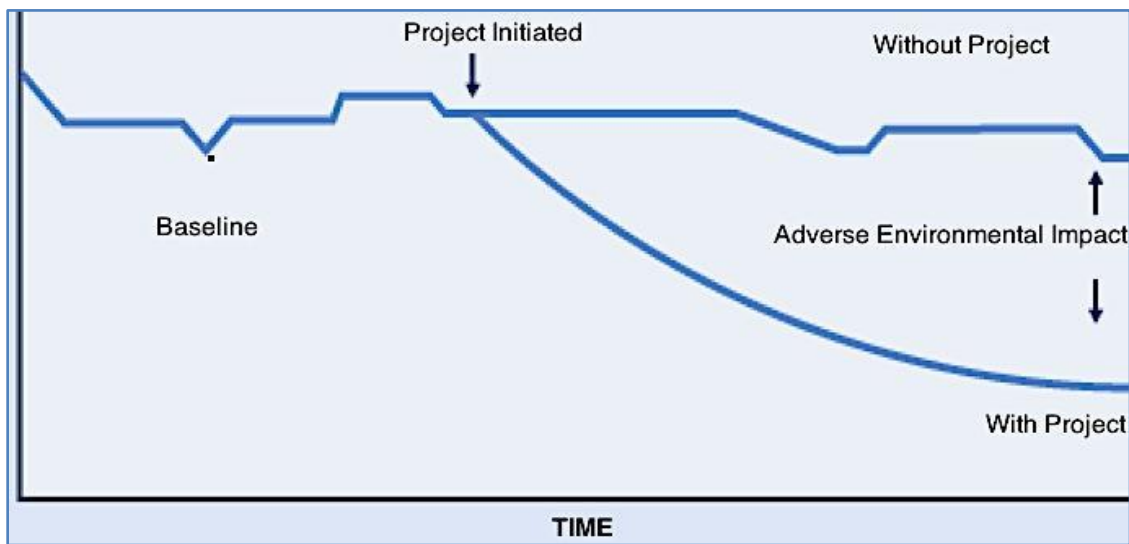


Figure 6-1: An Environmental Impact

The general method for assessing environmental impacts shall be developed based on the criteria in of the **Annex III of EU-EIA Directive (2014/52/EU)**. The primary goal of using this method is to ensure that assessments are conducted using precise and well-defined terms, and to enhance transparency in the process. The aim is to suggest potential measures to mitigate the impacts and determine any remaining effects to assist in decision-making. Table 6-2 describes when mitigation measures are expected with a view to reducing a given environmental impact.

Table 6-2: Degree of Remedial Measures (Annex III of EU-EIA Directive, 2014/52/EU)

Magnitude of impact	Mitigation Measure
Major impact	Impact considered of sufficient importance to consider whether the project should be changed or whether mitigation measures should be made to reduce this impact
Moderate impact	Impact of a magnitude where mitigation measures are considered
Minor impact	Impact of a magnitude where it is not likely that mitigation initiatives are necessary.
Negligible impact and no impact	Impacts considered so negligible that they are not relevant to take into consideration when implementing the project

A few criteria forms parts of the assessment of environmental impacts. Table below lists the most significant criteria. The likelihood of occurrence or the risk of an environmental impact-taking place has been divided into three groupings in the **Error! Reference source not found.**; however, as is most often the case in r aspect of impacts on the natural environment, this division will be more varied and detailed.

Table 6-3: List of Criteria for Assessment of Environmental Impacts (Annex III of EU-EIA Directive (2014/52/EU))

Criteria	Factor
Importance of the issue	<ul style="list-style-type: none"> • Importance to international interests • Importance to national interests • Importance to regional interests • Importance to local interests • Importance in respect of the area with direct impact • Negligible or not important
Persistence	<ul style="list-style-type: none"> • Permanent impact (non-reversible) in the life of the project • Temporary for >5 years • Temporary for 1-5 years • Temporary for <1 year
Likelihood of occurrence	<ul style="list-style-type: none"> • High (>75 %) • Medium (25-75 %) • Low (<25 %)

Furthermore, it is important to consider whether the impact is caused directly by the project or indirectly as a derived effect of a direct impact. **Cumulative impacts** must also be assessed; determining the impact from combined activities or other projects locally or regionally Table 6-4, Table 6-5 and Table 6-6 indicate

the process of assessing the magnitude of individual environmental impacts relating to a project. The following is a description of the Table:

Column 1 states the degree of disturbance: The extent of the disturbance is assessed as high, medium or low. The determination of this is based on the potentially severity of the impact, looking at the impact on some specific issues (e.g. a species), not considering the Importance of the issue, the likelihood of occurrence, or the persistence.

Column 2 assesses whether the issues (e.g. species, habitat, etc.) is important to international, national/regional or entirely local nature conservation interests.

Column 3 indicates the likelihood that the assessed disturbance occurs.

Column 4 shows the persistence of the impact. By combining these four factors the magnitude of impact is found in **Column 5**.

Table 6-4: Assessment of Degree of Impact (High Degree of Disturbance) (Based on Annex III of EU-EIA Directive, 2014/52/EU)

Degree of Disturbance	Importance	Likelihood of Occurrence	Persistence	Magnitude of Impact
High	International Interest	High (>75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Major
			Short Term (0-1 years)	Moderate
		Medium (25-75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Major
			Short Term (0-1 years)	Moderate
		Low (<25%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
	National or Regional Interest	High (>75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Moderate
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Low (<25%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
	Local Interest (important for the area directly affected or for the immediate surrounding)	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Negligible
			Short Term (0-1 years)	Negligible
Negligible/Not Important	High (>75%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	
	Medium (25-75%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	
	Low (<25%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	

Table 6-5: Assessment of Degree of Impact (Medium Degree of Disturbance) (Based on Annex III of EU-EIA Directive, 2014/52/EU)

Degree of Disturbance	Importance	Likelihood of Occurrence	Persistence	Magnitude of Impact
Medium	International Interest	High (>75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Moderate
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Low (<25%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
	National or Regional Interest	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
	Local Interest (important for the area directly affected or for the immediate surrounding)	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible or none
Low (<25%)		Permanent (>5 years)	Minor	
		Temporary (1-5 years)	Minor	
		Short Term (0-1 years)	Negligible or none	
Negligible/Not Important	High (>75%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	
	Medium (25-75%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	
	Low (<25%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	

Table 6-6: Assessment of Degree of Impact (Low Degree of Disturbance) (Based on Annex III of EU-EIA Directive, 2014/52/EU)

Degree of Disturbance	Importance	Likelihood of Occurrence	Persistence	Magnitude of Impact
Low	International Interest	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
	National or Regional Interest	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
		Medium (25-75%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
	Local Interest (important for the area directly affected or for the immediate surrounding)	High (>75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Medium (25-75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
Low (<25%)		Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	
Negligible/Not Important	High (>75%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	
	Medium (25-75%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	
	Low (<25%)	Permanent (>5 years)	Negligible or none	
		Temporary (1-5 years)	Negligible or none	
		Short Term (0-1 years)	Negligible or none	

6.4 Potential Impacts Identification and Analysis

The potential impacts for the proposed project will be analyzed based on the interactions between project activities and environmental and social receptors.

Table 6-7: Potential Environmental and Social Impact of Project by Phases

Activity	Receptor	Impact Source	Description of Impact
<p>Mobilization phase</p> <ul style="list-style-type: none"> • Arrangement of construction site including water supply, sanitation and power supply • Parking of materials and special equipment • Material delivery and stocking. • Road arrangement rehabilitation 	<ul style="list-style-type: none"> • Atmospheric air • Soil • Water • Flora • Fauna • Infrastructure • Population and personnel 	<ul style="list-style-type: none"> • Vehicle movement • Land clearing and vegetation removal • Temporary development of infrastructure (access roads, storage areas and utilities) • Waste from the construction activities 	<ul style="list-style-type: none"> • Emission of dust and exhaust due to transportation • Emissions of diesel generators • Dust produced by ground works • Noise and vibration (machinery) • Noise (personnel) • Soil pollution (spilt fuel/oils, waste) • Soil tramping due to traffic • Damage of topsoil • Temporary change of land ownership type • Water pollution by split fuel/oils, sediments and waste (whenever construction operations occur next to surface waters) • Damage, clearance and tramping of vegetation (direct impact) • Damage of vegetation due to emissions, fuel/oil spills (indirect impact) • Fauna disturbance by personnel and vehicles • Impact of electric transmission line /electromagnetic field on fauna and other receptors (personnel, population) • Impact on downstream fauna due to surface water pollution throughout construction operations • Impact of electric transmission line /electromagnetic field on fauna and other receptors (personnel, population) • Waste – solid, liquid • Community disruptions • Impact on infrastructure (e.g. road cover)
<p>Construction phase</p>	<p>Atmospheric air</p>	<ul style="list-style-type: none"> • Vehicle • Building machinery • Diesel generators • Adhesives, solvents, paints and coatings 	<ul style="list-style-type: none"> • Respiratory issues for workers and nearby communities • Discomfort to nearby communities
	<p>Soil</p>	<ul style="list-style-type: none"> • Vehicle building machinery • Excavation and earth moving activities 	<ul style="list-style-type: none"> • Soil compaction • Disturbance of soil ecosystem • Soil contamination and pollution • Loss of topsoil • Soil erosion

Activity	Receptor	Impact Source	Description of Impact
		<ul style="list-style-type: none"> • Improper handling and disposal of construction material waste • Frequent foot traffic 	
	Water	<ul style="list-style-type: none"> • Excavation, grading and land clearing • Improper handling and disposal of construction materials • Obstruction of drainage channels or streams • 	<ul style="list-style-type: none"> • Alteration of water flow patterns • Destruction of aquatic habitats • Soil erosion and sedimentation
	Flora and Fauna	<ul style="list-style-type: none"> • Vehicle/building machinery • Personnel 	Direct impact (collision, disturbance) Temporary and permanent fragmentation of habitats Noise and vibration
	Population and personnel	Vehicle/building machinery	<ul style="list-style-type: none"> • Dust and exhaust • Noise • Disturbance due to landscape alternation • Possible traumatism of personnel during works • Opportunity to employ local population for construction operations or associated service (positive effect)
Operation	Soil	Waste (Ash from incinerator, used and expired laboratory reagents)	Soil pollution in case of improper waste management specifically ash after incineration
	Water	Waste water	Water pollution in case of improper liquid waste management from sanitary and laboratory activities
	Flora	Improper handling of storm water run-off and chemical use for pest control	Water lodging and disruption of ecological balance
	Population and personnel	Water and Sanitation	Outbreak of diseases to both students and surrounding community when there is inadequate water supply and poor waste management within the school premises

Activity	Receptor	Impact Source	Description of Impact
Maintenance service/repairs			Impact of maintenance services /repairs will depend on specifics and volume of work and operation area. Possible impact of maintenance service will be similar to those of similar activities done during construction
Decommissioning			There are two possible options: 1. Conservation – in this case all the existing structures are to be preserved. Territory should be enclosed and protected. 2. Decommissioning – in this case all the infrastructure and equipment should be dismantled, waste removed/land filled, tunnel closed and territory cultivated. Though after lifespan period usually instead of liquidation the system is thoroughly rehabilitated and the object continues operation. In case of decommissioning proper acting plan should be worked out. Anticipated impact will be similar to the potential impact of construction. Special attention should be paid to waste management including hazardous waste. Cultivation plan for the area should be designed.

6.4.1 Mobilization/ Construction phase

6.4.1.1 Loss/disturbance of biodiversity

During the mobilization and construction phase of Kagera River Girls Secondary School in Kagera region, there can be potential impacts on biodiversity and the natural environment. The clearing of land, excavation, and construction activities may result in the direct loss or alteration of habitats for various plant and animal species.

The destruction or fragmentation of natural habitats can lead to the displacement or loss of indigenous flora and fauna. This can disrupt ecological processes and negatively impact the local biodiversity. Additionally, the use of heavy machinery, noise, and dust generated during construction activities can further disturb and displace species.

This impact is considered to be direct negative of short-term duration with moderate significance.

6.4.1.2 Disturbance of air quality and effect on human health due to emissions of exhaust and fugitive gases

Emissions from combustion of diesel in machineries and equipment during the construction phase. The major pollutants will be CO, NO_x, CH₄, NO₂, O₃ and SO₂ and these will be monitored accordingly for which various points will be identified and the measurement will be taken by S500 Aeroqual Air Quality Monitor.

Construction facilities and materials will be transported to the proposed project site using trucks from various places in Kagera. Transportation of these facilities and materials have the potential to emit pollutants such as CO₂, NO_x, SO_x, and particulate matters which may have an impact on the ambient air quality resulting to an impact on global warming and effect on human health to workers on duty. Considering the size of the project being small it is assumed that at least 3 trucks will be used to mobilize construction facilities and materials.

This impact is considered to be direct negative of short-term duration with moderate significance.

6.4.1.3 Communication interference, stress, fatigue due to increased noise levels from construction vehicles and machinery

During the mobilization and construction phase of Kagera River Girls Secondary School in the Kagera region, there may be potential noise impacts. The activities involved in the construction process, such as excavation, foundation work, heavy machinery operation, and transportation of construction materials, can generate significant noise levels.

The mentioned noise impacts can affect both the immediate vicinity of the construction site and surrounding areas. Nearby residents may experience increased noise levels, leading to potential disturbances and inconvenience.

Any unwanted sound (“noise”) produced as a result of construction activities is expected to be intermittent and of relatively short duration, and will be limited to those periods during which construction activities are occurring. The contractor shall ensure that the vehicles and machinery undergo routine maintenance and outsourced vehicles and machinery shall be checked for compliance with applicable regulations. Vehicles shall be controlled by ensuring that they all have functioning mufflers.

Furthermore, to ensure that the neighboring residents are not disturbed by frequent movement of vehicles, mobilization of construction material shall mainly be done during the day. The noise levels will be assessed and measured by Lutron SL4033SD Class 1 Sound Level Meter. From which the obtained data will develop the noise limit zones to safeguard the workers and community.

This impact is considered to be direct negative, of short term duration with moderate significance.

6.4.1.4 Public Health

During the mobilization and construction phase of Kagera River Girls Secondary School in Kagera region, there may be potential public health impacts. These impacts can arise from various factors associated with the construction activities and the surrounding environment.

One of the primary concerns is the potential for air pollution. Construction activities often generate dust and emissions from machinery, vehicles, and construction materials. The release of particulate matter and harmful gases can contribute to poor air quality in the vicinity of the construction site. This can have negative health effects, particularly for vulnerable individuals such as children, the elderly, and those with respiratory conditions.

Additionally, noise pollution from the construction activities can also impact public health. Prolonged exposure to excessive noise levels can lead to stress, sleep disturbances, and other adverse health effects, including cardiovascular issues.

The impacts are considered to be indirect negative of long term duration with high significance.

6.4.1.5 Injuries and fatal accidents due to occupational health and safety issues

During the mobilization and construction phase of Kagera River Girls Secondary School in Kagera region, there are potential occupational health and safety impacts that need to be considered. The construction industry carries inherent risks, and it is essential to prioritize the well-being and safety of the workers involved in the project.

Construction activities involve various tasks, such as excavation, heavy machinery operation, lifting and handling of materials, and working at heights. These activities can expose workers to hazards such as falls, accidents, electrical risks, and exposure to harmful substances. It is crucial for the project to adhere to occupational health and safety regulations and guidelines to minimize these risks and ensure a safe working environment.

The impacts are considered to be direct negative of long term duration and of high significance

6.4.1.6 Degradation of natural beauty, outbreak of diseases and injuries due to improper management of surrounding waste materials (Solid and Liquid Waste)

During the mobilization and construction phase of Kagera River Girls Secondary School, there may be potential impacts related to solid and liquid waste. Construction activities often generate various types of waste, including construction debris, packaging materials, and wastewater.

Solid waste can accumulate from excavation, and general construction activities. Without proper waste management practices in place, this waste can contribute to environmental pollution and pose health and safety risks. It is important for the project to implement appropriate waste management strategies, such as segregating waste, recycling materials when feasible, and disposing of non-recyclable waste at authorized waste disposal facilities.

Liquid waste can be generated from activities such as concrete mixing, equipment cleaning, and site dewatering. If not properly managed, liquid waste can contaminate soil and water bodies, leading to adverse environmental and health effects. The project should establish measures to collect, treat, and dispose of liquid waste in accordance with local regulations and best practices.

This impact is considered to be indirect negative of short term duration and of moderate significance

6.4.1.7 Road accidents from moving trucks

During the mobilization and construction phase of Kagera River Girls Secondary School in Kagera region, there can be potential risks of road accidents. The increased movement of heavy construction vehicles, equipment, and materials can pose hazards to both construction workers and the general public.

The transportation of construction materials and equipment to the project site may involve the use of large trucks and other vehicles, which can increase traffic congestion and the likelihood of accidents. The presence of construction vehicles on the roads, combined with the disruption caused by ongoing construction activities, can create unsafe conditions for motorists, pedestrians, and workers.

Therefore, this impact is considered indirect negative of long term duration and of moderate significance.

6.4.1.8 Employment Opportunity

During the mobilization and construction phase of Kagera River Girls Secondary School in Kagera region, there are potential employment opportunities that can arise. Construction projects typically requires a diverse workforce, including skilled and unskilled labor, engineers, architects, and other professionals. The project can contribute to the local economy (Rwambaizi Village and Kanoni Ward) by creating employment opportunities for individuals in the surrounding communities.

By engaging local labor, the project can provide job opportunities and income generation for the local population. This can help alleviate unemployment rates and improve the economic well-being of individuals and families in Kagera region. Additionally, the project can enhance skills and capacity development within the construction sector, empowering workers with valuable experience and expertise.

This impact of employment opportunity is considered to be direct positive of short-term duration and of high significance.

6.4.2 Operation Phase

6.4.2.1 Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases

During the operation of Kagera River Girls Secondary School in Kagera region, there can be potential air pollution impacts. These impacts are primarily associated with the transportation activities and energy consumption within the school premises.

Transportation-related air pollution can result from the daily commute of teachers, and staff to and from the school. Depending on the mode of transportation chosen, emissions from vehicles can contribute to air pollution and have adverse effects on air quality.

Another significant source of air pollution during the operation phase is the energy consumption within the school premises. Traditional energy sources, such as fossil fuels, can contribute to air pollution through the emission of greenhouse gases and particulate matter.

The impact of air pollution is considered to be indirect negative of long-term duration and of moderate significance

6.4.2.2 Disturbance of surrounding community due to increased noise levels

During the operation of Kagera River Girls Secondary School in Kagera region, there can be potential noise pollution impacts. These impacts are primarily associated with the activities and operations within the school premises.

The operation of a school involves various sources of noise, including student activities, teaching and learning activities, playgrounds, and transportation. The increased presence of students and staff within the school can contribute to an overall increase in noise levels, which can potentially disturb the surrounding community (Rwambaizi Village).

This impact is considered to be indirect negative of long term duration and of moderate significance.

6.4.2.3 Aesthetic degradation, environmental pollution and outbreak of diseases and injuries due to improper management of surrounding hazardous and non- hazardous solid waste materials

During the operation of Kagera River Girls Secondary School in Kagera region, there can be potential solid waste impacts. These impacts are primarily associated with the daily activities and operations within the school premises.

The operation of a school generates various types of solid waste, including food waste, paper and cardboard, plastic packaging, and other non-biodegradable materials such as sanitary pads, laboratory apparatuses and reagents. Improper management of these waste can lead to environmental pollution, health hazards, and aesthetic degradation of the physical area.

Hazardous waste can include materials such as laboratory chemicals, electronic waste, batteries, fluorescent bulbs, and other substances that can pose a risk to human health to both the students, staff and surrounding community (Rwambaizi Village) and the environment if not properly managed.

This impact is considered to be direct negative of long term duration and of high significance.

6.4.2.4 Aesthetic degradation, environmental pollution and outbreak of diseases and injuries due to improper management of surrounding liquid waste

During the operation of Kagera River Girls Secondary School in Kagera region, there can be significant impacts associated with liquid waste. Liquid waste includes wastewater generated from various sources such as kitchen, toilets, cleaning activities, and other daily operations within the school.

If not properly managed, liquid waste can have adverse effects on the environment and public health. Improper disposal or untreated wastewater can contaminate water bodies, including rivers, lakes, and groundwater sources, leading to pollution and the spread of waterborne diseases. It can also negatively impact aquatic ecosystems and the biodiversity they support such as the present in the project site area.

This impact is considered to be direct negative of long term duration and of high significance.

6.4.2.5 General health and safety impacts

During the operation of Kagera River Girls Secondary School in Kagera region, there can be significant impacts associated with general health and safety.

One significant health concern is indoor air quality, which can be affected by poor ventilation, the presence of dust and allergens. Inadequate ventilation and the accumulation of pollutants can lead to respiratory issues and allergies among students and staff. Another important aspect is sanitation and hygiene. Insufficient access to clean toilets, handwashing facilities, and proper waste management can contribute to the spread of diseases and compromise personal hygiene practices.

Accidents and injuries are also potential hazards in schools. Slippery floors, unsafe playground equipment, mishandling of laboratory apparatuses and chemicals and inadequate safety measures can increase the risk of accidents, resulting in injuries among students. Fire safety is another crucial consideration, as the lack of proper fire prevention and emergency response plans can jeopardize the safety of individuals within the school premises.

Furthermore, the ergonomics of the learning environment should be addressed. Poorly designed furniture, improper workstation setups, and lack of ergonomic considerations can lead to musculoskeletal issues and discomfort among students and staff. Security is also a concern, with the potential for unauthorized access, bullying, or other safety threats that can affect the overall well-being of students.

This impact is considered to be indirect negative of long term duration and of high significance.

6.4.2.6 Benefit to the Government

The operation of the school generates economic benefits for the government. The presence of a well-functioning educational institution attracts students from the local community (Rwambaizi Village) and neighboring areas (Karagwe District Council). This results in increased enrollment, which can lead to the generation of revenue through school fees and other related income sources. These financial resources can be utilized by the government to further improve the quality of education, invest in educational infrastructure, and enhance the overall educational system in the region.

Therefore, this impact is considered direct positive of long term duration and of high significance.

6.4.2.7 Employment Opportunities

During the operation of Kagera River Girls Secondary School in Kagera region, there can be significant employment opportunities. Once the school is completed and operational, it requires a diverse range of staff to facilitate its day-to-day functioning. These employment opportunities can benefit the local community (Rwambaizi Village and Kanoni ward) by providing jobs and contributing to the local economy.

The operation of a girl's school involves various positions, including teaching staff, administrative personnel, support staff, security personnel, and maintenance workers. These roles offer employment opportunities for individuals with different skills and qualifications, including teachers, administrators, cleaners, and security personnel. By hiring local residents for these positions, the project can provide job opportunities and contribute to the livelihoods of individuals in Kagera region.

Moreover, the school's operation can create indirect employment opportunities in related sectors. Local businesses may benefit from supplying goods and services to the school, such as food, stationery, uniforms, and maintenance materials. This can stimulate economic activity and foster the growth of small businesses within the community (Rwambaizi Village).

This impact of employment and training is considered direct positive of long term duration and of high significance.

6.4.2.8 Impacts associated with demographic change

During the operation of Kagera River Girls Secondary School in Kagera region, there are several impacts associated with demographic change. Firstly, the establishment of a new school attracts students from the surrounding areas, which can lead to an increase in the local population (Kanoni ward and Karagwe District Council). Families may choose to move closer to the school to ensure easy access to education for their children. This influx of families can result in changes in the demographic composition of the region, such as increased population density and changes in age distribution.

Also, the presence of a girl's school can contribute to empowering young girls and women, leading to changes in their social and economic roles within the community. Education plays a crucial role in promoting gender equality and empowering women to participate actively in society. By providing access to education for girls, the school project can result in increased female participation in various sectors, including employment, leadership positions, and decision-making processes. This can lead to a more balanced and diverse demographic landscape, with improved gender representation and opportunities for women in the region.

Furthermore, the operation of the girl's school can have long-term impacts on the overall development and growth of the region. Access to quality education has the potential to enhance the skills and capabilities of individuals, leading to improved job prospects and economic opportunities. As a result, the region may experience positive demographic changes, such as a decrease in unemployment rates, an increase in

income levels, and a more educated workforce. These changes can contribute to the overall development and prosperity of the community.

This impact is considered direct positive of long term duration and of high significance

6.4.3 Decommissioning Phase

In case of decommissioning the following impacts may happen;

6.4.3.1 Degradation of the urban landscape, health hazards and danger to the public as illegal activities are attracted as a result of abandoned infrastructures

During the demolition phase of a girl's school construction project in Kagera region, there may be impacts associated with abandoned infrastructures. These abandoned infrastructures, if not properly managed and repurposed, can have negative consequences for the surrounding environment and community.

One of the main impacts is the visual blight caused by abandoned structures. These abandoned buildings can create an unsightly appearance in the area, affecting the aesthetic value of the surroundings.

Also, abandoned infrastructures can become safety hazards. Without proper maintenance and security measures, these structures may deteriorate over time, leading to structural instability and potential risks such as collapsing walls or roofs. These hazards pose a threat to public safety, especially if the abandoned infrastructures are accessible to unauthorized individuals, including children.

Furthermore, the presence of abandoned infrastructures can attract illegal activities and contribute to social issues. Such structures may become hotspots for vandalism, squatting, or illicit activities, which can further degrade the surrounding environment and pose risks to the community's well-being.

This impact is considered indirect negative of long term duration of high significance

6.4.3.2 Loss of revenue to the government

This phase can result in the temporary cessation of economic activities and revenue generation in the affected area.

Businesses operating in the demolished structures may experience disruptions or even closure during this phase, leading to a decline in their revenue. This, in turn, can result in a decrease in tax contributions to the government. Additionally, the demolition phase itself may involve the displacement of informal businesses or street vendors who rely on the affected area for their livelihoods. As a result, these individuals may experience income loss, which affects their ability to pay taxes and contribute to the government's revenue stream.

The impact is considered to be direct negative of long-term duration and of high significance.

6.4.3.3 Unemployment

During the demolition phase of a girl's school construction project in Kagera region, there may be impacts associated with unemployment. The demolition process often leads to the displacement of workers who

were employed in the buildings or structures being demolished. This displacement can result in temporary or even long-term unemployment for these individuals.

Loss of job is considered direct negative of long-term duration since survival of the people is very important here the impact is considered to be of high significance.

6.4.3.4 Injuries and fatal accidents

During the demolition phase of a girl's school construction project in Kagera region, there may be impacts associated with injuries and fatal accidents. Demolition work involves the dismantling, removal, and disposal of existing structures, which can be inherently hazardous if not managed properly. The presence of heavy machinery, falling debris, and unstable structures can increase the risk of accidents and injuries for both workers and nearby individuals.

This impact is considered indirect negative long term of high significance

6.4.4 Cumulative Impacts

Cumulative impacts refer to the collective and synergistic effects of multiple activities and actions over time, which can have a cumulative effect on the environment, society, and the economy.

During the mobilization phase, cumulative impacts may arise from the assessment of various site options, land-use changes, and infrastructure development. These impacts could include changes to the natural landscape, loss of biodiversity, and altered ecological processes. It is important for the project to consider the cumulative effects on the local environment and ecosystems to minimize negative consequences.

During the construction phase, cumulative impacts can arise from increased noise, air and water pollution, traffic congestion, and the generation of solid waste. These impacts can affect nearby communities, public health, and local infrastructure.

During the operation phase, the cumulative impacts can include increased demand for resources such as water and energy, as well as ongoing traffic and noise disturbances. These impacts can strain local infrastructure and services, affecting the quality of life for nearby communities.

6.4.5 Residual impacts

A project of girl's school construction in the Kagera region can result in residual environmental and social impacts that persist even after the completion of all project phases. These residual impacts may include long-term changes to the local ecosystem, such as loss of biodiversity and alteration of natural habitats, which can take years or even decades to recover. The construction and operation activities can also lead to the accumulation of pollutants in the soil, water, and air, which may have lasting effects on the surrounding environment and potentially impact human health.

In terms of social impacts, the project may leave behind residual challenges such as disrupted community dynamics, changes in social structures, as the school will attract lots of small businesses in the respective street. This can result in a loss of cultural heritage, displacement of communities, and changes in traditional livelihoods. The project may also leave behind physical infrastructure that requires ongoing maintenance and management, which can pose financial and operational challenges for local authorities specifically the Karagwe District Council. Table 6-8 presents the identified residual impacts.

This impact is considered to be negative, direct long term and of moderate significance.

Table 6-8: Identified Residual Impacts

S N	Stage	Nature	
		Positive	Negative
1	Mobilization		<ul style="list-style-type: none"> • Biodiversity loss • Habitat loss and/or alteration • Habitat fragmentation
2	Construction		<ul style="list-style-type: none"> • Change in landscape and aesthetics
3	Operation	<ul style="list-style-type: none"> • Employment creation • Provision of education • Minimization of vulnerability to girls 	
4	Decommissioning		<ul style="list-style-type: none"> • Loss of employment

6.5 Ergonomics impacts

Ergonomics is the way you use your body to work and fitting the job or task to you to reduce your risk of injury. These musculoskeletal injuries develop slowly over time and occur in the soft tissues of your body like the nerves, tendons, muscles, ligaments and joints. Generally, the greater the exposure to a single risk factor or combination of risk factors, the greater the probability of an ergonomic injury or illness, also called Work-Related Musculoskeletal Disorders (WMSD). The big three ergonomic risk factors are

- Force (how much you lift/push/pull),
- Repetition (how often you perform the task), and
- Posture (body position).

Other potential ergonomic risk factors include vibration, contact stress, sustained exertions, and cold temperatures. Examples of these injuries are low back strain, carpal tunnel syndrome, and tendonitis. These injuries are called musculoskeletal disorders or MSDs.

This impact is likely to occur to all phases of the project cycle, mobilization, implementation and decommissioning phases.

6.6 Activity Risk Assessment

Risk Assessments are elaborated for all tasks performed at the work fronts, detailing the steps and frequency of the task, the known hazards and the appropriate precautionary measures, procedures/work releases, controls, environmental and industrial hygiene methods, collective and personal protective equipment to minimize or eliminate hazards.

The purpose of the Risk Assessment is to make it a routine to verify the safety items before the start of any activities, assisting with the detection and prevention of risks of accidents and with task planning. **Error! Reference source not found.** show the risk assessment criteria

Table 6-9: Risk Assessment

S/N	Impact & Aspect Description	Nature	Magnitude	Extension	Duration	Significance of Impact	Probability of Occurrence	Risk
Mobilization/Construction phase								
1	Loss of biodiversity due to bush clearing	Direct	High	DIA	Long-term	Major	Definite	Significant Risk
2	Effect on human health due to change in ambient air quality caused by emissions from exhaust gases and dust from vehicles and earth works	Direct	Very high	I/A	Short-term	Major	Probable	Significant Risk
4	Soil erosion due to bush clearance	Direct	Very low	R/A	Short-term	Minor	Probable	Low Risk
5	Climate change (global warming) due to emissions from vehicle movement, bush clearance	Indirect	Medium	N/A	Long-term	Minor	Probable	Low Risk
6	Degradation of natural beauty, greenhouse emissions and outbreak of diseases due to mismanagement of waste generated (solid and liquid waste) from construction materials, bush clearance and sanitary facilities	Direct	High	DIA	Short-term	Major	Definite	Significant Risk
7	Employment Opportunities (activities will require man power)	Direct	High	N/A	Short-term	Major	Definite	Negligible Risk
8	Injuries and fatal accidents to workers due to heavy duties taking place	Direct	Medium	DIA	Long-term	Major	Probable	Significant Risk
9	Public health and hazard (due to emission of dust and performance of heavy duties)	Direct	Medium	N/A	Long-term	Major	Probable	Significant Risk
10	Hearing impairment, stress, headaches, fatigue due to noise and vibration pollution from transportation of material and equipment	Direct	Low	DIA	Short-term	Minor	Probable	Low Risk
Construction Phase								
1	Loss of biodiversity due to site clearing	Direct	Medium	I/A	Long-term	Major	Definite	Significant Risk
2	Effect on human health due to change in ambient air quality caused by emissions from exhaust gases and dust from vehicles and earth works	Direct	High	DIA	Short-term	Major	Probable	Significant Risk
3	Hearing impairment, stress, headaches, fatigue due to noise and vibration from vehicle movement, equipment and material used during construction	Direct	Low	DIA	Short-term	Minor	Probable	Low Risk

S/ N	Impact & Aspect Description	Nature	Magnitude	Extension	Duration	Significance of Impact	Probability of Occurrence	Risk
4	Injuries and fatal accidents to workers due to heavy duties	Direct	High	DIA	Long-term	Major	Definite	Significant Risk
5	Public health and hazard (due to emission of dust and performance of heavy duties)	Direct	Medium	IIA	Short-term	Moderate	Probable	Low Risk
6	Employment Opportunities (activities will require man power)	Direct	High	NIA	Long-term	Major	Definite	Negligible Risk
7	Degradation of natural beauty, greenhouse emissions and outbreak of diseases due to mismanagement of waste generated (solid and liquid waste) from construction materials, bush clearance and sanitary facilities	Direct	High	DIA	Short-term	Major	Definite	Significant Risk
8	Unemployment due to decommissioning of construction activities	Indirect	Medium	NIA	Short-term	Moderate	Definite	Low Risk
Operation Phase								
1	Employment Opportunities due to recruiting of teachers and other staff for school operation	Direct	High	NIA	Long-term	Major	Definite	Negligible Risk
2	Loss of biodiversity	Direct	High	DIA	Long-term	Major	Definite	Significant Risk
2	Degradation of natural beauty, greenhouse emissions and outbreak of diseases due to mismanagement of waste generated (solid and liquid waste) from sanitary facilities, classrooms, offices, Dormitories, dining area and other areas within the school compound	Direct	High	IIA	Long-term	Major	Definite	Significant Risk
3	Health and safety (due to fire outbreak and poor housekeeping within the school compounds)	Direct	Medium	DIA	Long-term	Moderate	Probable	Significant Risk
5	Benefit to the government through taxes from the employed staff(economically and man power)	Indirect	High	NIA	Long-term	Major	Very low	Negligible Risk
Decommissioning Phase								
1	Degradation of the urban landscape and danger to the public as illegal activities are attracted due to abandoned infrastructure as a result of the project decommissioning	Indirect	Medium	DIA	Medium-term	Minor	Probable	Low Risk
2	Unemployment due to decommissioning of the project	Direct	High	NIA	Short-term	Minor	Definite	Negligible Risk
3	Degradation of natural beauty, injuries due to solid waste from dismantling of buildings	Direct	Low	DIA	Long-term	Minor	Very low	Low Risk

6.7 Identification of Alternatives

6.7.1 Introduction

The EMA EIA regulations of 2005 requires that alternatives be identified during the scoping process. An important function of the Scoping Phase is to screen alternatives to derive a list of feasible alternatives that need to be assessed in further detail in the ESIA Phase. The environmental impact statement shall contain an assessment of impacts of the identified alternatives. According to the EMA EIA regulations, analysis of alternatives includes project site, design and technologies and reasons for preferring the proposed site, design, and technologies. An alternative can be defined as a possible course of action, in place of another, that would meet the same purpose and need.

6.7.2 Project Site Alternative

The selection criteria for the location depends on the availability/ease access and ownership of the proposed land parcel for Kagera region. In that regards various economic considerations which include the feasibility of the project in terms of financial and technical perspectives have been considered to select the project location.

Furthermore, the location shall not require demolition of property (houses and other infrastructure) to pave way for the construction and accessibility of the project site. In that regards, alternative location shall not be further considered in the EIS. Alternatives analysis in this project considered the following:

- f) No-Go alternative,
- g) Design and technological considerations
- h) Location
- i) Energy alternative
- j) Water and waste management alternative

6.7.3 No-Go alternative

The assessment of alternatives must always include the “no-go” option as a baseline against which all other alternatives must be measured. The option of not implementing the activity must always be assessed and to the same level of detail as the other feasible and reasonable alternatives.

The no-go will see the status quo activities persist without the construction on the proposed site. The “no-go” option is taken to be the existing rights on the property, and this includes all the duty of care and other legal responsibilities that apply to the owner of the property.

6.7.4 Design and technological considerations

The schools design will consider several aspects which were previously not part of the school design system. The current design which will be implemented will utilize the standardized updated design from the MoE which will be customized when implemented.

The designs prepared so far are prototypes to be utilized in specific site in this case the school to be constructed in Rwambaizi Village-Kanoni ward. The utilization of prototype will involve the fit in exercise to include all experts in the respective district.

6.7.5 Energy Alternative

The proposed project will use electricity from national grid supplied by TANESCO and generator (diesel) in case of electricity interruption as the sources of energy for lighting, warming/heating and running the office accessories. Since these sources are very reliable and all machines/equipment/accessories use the kind of these energy only. The school is advised to implement use of solar energy as a backup source of energy for lighting during electricity cut-off and disturbances by installing solar panels.

The proposed project will cook by using firewood and charcoal due to availability and cost of them. However, natural gas is advised for environmental friendly reasons, though it will be used for cooking in teachers' houses.

6.7.6 Water Management Alternative

The proposed project has two alternatives to source water apart from drawing water from RUWASA. The project is advised to install rain water harvest materials during operation phase so as to prevent water costs and ensure conservation of water for water scarcity periods.

6.7.7 Location

The selection of project location was conducted prior to conducting ESIA this has been identified as a limitation in this study however the same was conducted utilizing a checklist developed by the clients safeguard team in the same line for projects which were not developed.

The consulting team had a chance of raising issues for alternation of the selected site. The site selection was conducted while considering the following:

- Location of the site
- School character such as Estimated number of students, Estimated number of classrooms Estimated number of teachers needed, Will the school have
- Environmental character such as water, vegetation, terrain fauna
- Social character Land Tenure, Land Use, Who are the neighbors of this plot of land, Vulnerable Groups
- Type of community Urban
- Geographical location
- Demand of water per total estimated number of students: (l/s/day)
- Materials Use and Need
- The site is located within a protected area, designated by government (national park, natural reserve, world heritage site etc.)?

CHAPTER SEVEN

7 ENVIRONMENTAL AND SOCIAL MITIGATION AND ENHANCEMENT MEASURES

7.1 Introduction

This chapter provides a summary of mitigation measures of those impacts which are considered of moderate to high significance, by matching the predicted impact, possible mitigation measure, the target levels, responsible entity and approximate cost. It also presents a detailed plan to monitor the implementation and success of the mitigation measures.

For each impact identified assessed in this study, mitigation measures will be proposed to reduce and/or avoid negative impacts and enhance positive impacts. Typical mitigation measures are detailed in Table 7-1.

Table 7-1: Impact Mitigation Measures

Approach	Example
Avoid	Change of site details, to avoid important ecological or archaeological features
Reduce	Filters, precipitators, noise proof, dust, enclosures, visual screening, wildlife corridors, and changed time of activities
Minimize	Minimize emissions and waste generation
Replace	Regenerate similar habitat of equivalent ecological value in different location
Restore	Site restoration after construction

These mitigation measures will be incorporated into an Environmental Management Plan (EMP) to facilitate implementation during the mobilization, construction, operational and decommissioning phases.

The EMP forms part of the final ESIA report as it forms part of the authorization and thus its implementation will become binding on the project applicant and any contractors, should this project be authorized.

7.2 Mobilization/Construction Phase

7.2.1 Loss/disturbance of biodiversity

- i. Implementation of measures such as habitat restoration and reforestation programs in areas where vegetation has been cleared during the school operation.
- ii. The council shall involve its experts for advice and for potential flora stocks for re-generation of disturbed vegetation in plant areas

7.2.2 Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases

- i. Implementing effective dust control measures, such as applying water or dust suppressants on unpaved roads, stockpiles, and construction sites.
- ii. Promoting the use of cleaner fuels and emission control technologies for construction machinery such as generators and vehicles.
- iii. Regular monitoring of air quality during the construction phase is important to identify any potential exceedances of air quality standards and promptly address the sources of pollution.

7.2.3 Communication interference, stress, fatigue due to increased noise levels from construction vehicles and machinery

- i. The contractor should adhere to relevant noise regulations and guidelines set by the authorities.
- ii. Limiting the duration and intensity of noisy activities during sensitive hours.
- iii. The contractor should also consider scheduling noisy activities during periods when they would cause the least disruption to nearby residents and businesses.

7.2.4 Public Health from poor housekeeping and waste management

- i. Implementing dust control measures such as water spraying or covering loose materials to minimize dust emissions.
- ii. Using low-emission equipment and vehicles can help reduce air pollution
- iii. Scheduling and managing construction activities to minimize disruptions and noise levels during sensitive hours, particularly in close proximity to residential areas
- iv. Furthermore, the contractor should prioritize regular monitoring and assessment of air quality and noise levels to ensure compliance with relevant standards and guidelines.
- v. Prepare site waste management plan prior to commencement of construction works
- vi. Designate appropriate waste storage areas,
- vii. Develop collection and removal schedule,
- viii. Institute system for supervision and monitoring, and
- ix. Unusable construction waste to be disposed of at an approved dumpsite.

7.2.5 Injuries and fatal accidents due to occupational health and safety issues

- i. The contractor should implement proper safety protocols, including providing personal protective equipment (PPE) to workers and ensuring its proper use.
- ii. Regular inspections of the construction site should be conducted to identify and address any safety concerns promptly.
- iii. Effective communication and engagement with workers and contractors are crucial to fostering a culture of safety.
- iv. Furthermore, the contractor should have clear emergency response procedures in place to handle any accidents or incidents that may occur during the construction phase.

7.2.6 Road accidents from moving trucks

- i. Designation of proper access routes to the construction site, ensuring clear signage and road markings, and establishing appropriate speed limits.

- ii. Construction vehicles should be operated by trained and licensed drivers who adhere to safe driving practices.
- iii. The contractor should also consider implementing safety protocols such as regular vehicle maintenance, inspections, and monitoring to ensure that the construction vehicles are in good working condition and meet safety standards.
- iv. Adequate lighting and visibility measures should be in place, especially during nighttime construction activities, to enhance road safety.

7.3 Operation Phase

7.3.1 Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases

- i. The school can adopt renewable energy sources, such as solar panels and gas to meet the energy needs of the school such as lighting and cooking.
- ii. The school should prioritize energy-efficient designs and equipment within the school. This can involve the use of energy-efficient lighting systems, insulation materials, and energy-saving appliances.
- iii. The school can promote sustainable transportation options such as organizing carpooling initiatives for their staffs.
- iv. Develop a comprehensive cleaning program that includes regular dusting, vacuuming, and cleaning of surfaces to minimize dust, allergens, and contaminants. Use environmentally friendly and non-toxic cleaning products.
- v. Regular monitoring of air quality and implementation of appropriate air pollution control measures should also be undertaken.

7.3.2 Noise emissions

- i. Installation of soundproofing materials in classrooms and common areas to reduce internal noise transmission.
- ii. Strategic planning of school facilities, such as locating noisy areas away from residential areas or utilizing buffer zones, can help minimize the impact on nearby communities.
- iii. Proper maintenance of equipment and facilities within the school premises can also contribute to noise reduction.
- iv. Regular monitoring of noise levels and compliance with relevant noise regulations and standards should be prioritized. This can involve periodic assessments and inspections to ensure that noise pollution levels remain within acceptable limits.

7.3.3 Waste Generation

- i. Establishment of waste segregation systems, encouraging composting initiatives for the kitchen waste, and providing sufficient waste bins and collection points throughout the school premises.
- ii. The school should establish dedicated storage areas for hazardous waste such as laboratory chemicals, faulty electrical appliances, ensuring they are secure, properly labeled, and equipped with appropriate safety measures.
- iii. The school should also establish partnerships with authorized entities to ensure the waste is handled and disposed of in compliance with environmental regulations.
- iv. Designate bins specifically for the disposal of sanitary pads. These bins should be placed in female restrooms and other private areas, and they should have lids to maintain hygiene and provide privacy.

- v. Recycling or re-use of the ash obtained after incineration of waste especially the sanitary pads after testing and analyzing the chemical components of the ash such as use in construction or soil amendments.

7.3.4 Wastewater Generation

- i. Proper separation and segregation of different types of liquid waste should be implemented to ensure appropriate treatment and disposal. This can involve separate systems for black water (from toilets), greywater (from sinks and showers), and other liquid waste streams such as water from laboratories.
- ii. Construction of water channels for the control of storm water within the school premises
- iii. Regular analysis of waste water from laboratories

7.3.5 General health and safety

- i. Establishment of a comprehensive health and safety policy.
- ii. Conducting regular inspections to identify and mitigate any potential hazards, such as faulty electrical systems, structural weaknesses, or unsafe equipment within the school premises.
- iii. Adequate emergency preparedness plans should be in place, including fire safety measures, first aid provisions, and clear evacuation procedures.
- iv. The school should prioritize maintaining a clean and hygienic environment to prevent the spread of diseases and ensure the availability of adequate sanitation facilities.
- v. Promoting health and wellness among students should also be a focus, with initiatives like health education programs, access to clean drinking water, and appropriate waste management practices.
- vi. Implement security measures such as fencing of the school premises. Establish anti-bullying policies and procedures to address and prevent bullying incidents.

7.4 Decommissioning Phase

7.4.1 Abandoned infrastructure

- i. PO-RALG and other project stakeholders should develop a comprehensive demolition plan that includes proper disposal or recycling of materials, as well as strategies for repurposing or redeveloping the vacant spaces that will be created.
- ii. Creating initiatives to transform the abandoned structures into community assets, such as recreational areas, community centers, or affordable housing projects.

7.4.2 Unemployment

- i. Ensuring that all staff are members of the National Social Security Fund and the employees should ensure that the developer's contributions are made.

7.4.3 Safety hazards

- i. Effective communication and coordination among project stakeholders, including contractors, workers, and relevant authorities, are vital for maintaining a safe working environment.

- ii. Implementation of fire alarms and smoke detectors specifically within dormitory areas to swiftly detect and alert occupants in the event of a fire hazard. This enhances early warning and evacuation procedures, reducing the risk of injuries or fatalities.
- iii. Strategic placement of fire hydrants at multiple locations throughout the school premises, complemented by a sufficient number of fire extinguishers. This ensures a comprehensive and quick response to potential fire incidents, allowing for effective suppression and control.
- iv. Installation of fire extinguishers and fire blankets in every building within the school compound. This broadens the coverage for immediate response to fire emergencies, empowering occupants to take swift action to suppress small fires before they escalate, and providing additional safety measures.
- v. It is crucial for the contractor to prioritize safety measures and adhere to strict guidelines and regulations by implementing comprehensive safety protocols, providing appropriate personal protective equipment (PPE), conducting thorough risk assessments, and ensuring proper training for workers to significantly reduce the likelihood of accidents and injuries during the demolition activities.

CHAPTER EIGHT

8 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

8.1 Introduction

This chapter layouts the systematic plans packaged as the Environmental and Social Management Plan (ESMP). The goal of the ESMP developed is to address the key impacts identified in the preceding chapter as well as setting the relevant policies and actions plans needed to achieve an environmentally sound and sustainable project venture.

The ESMP developed proposes that the Project Implementation Team (PIT) develop and document policies to address Environment, Safety and Health; and Community concerns. Further the ESMP proposes Environmental Action Plans to address, sewage, solid waste, noise, dust and occupational injuries.

Additionally, management needs to develop and put in place management plans to address sewage, solid waste, dust, noise, resource use and occupational injuries during construction/mobilization, and operation phases of the school. To achieve this management need to put in place and document policies that govern its operations, including safety, health and welfare of workers and local community as well as the students.

This ensure that management and project contractor avail necessary finances to ensure necessary systems are put in place to address safety, health and welfare of all workers during Construction, mobilization and management of noise, solid waste and sewage and from the operation of the school.

This ESMP for the project consists of the following:-

- Management policies;
- Management Plans; and
- Decommissioning plan

8.2 Management Policies

The PIT needs to develop and document management policies that guide operations of the proposed Girls Secondary School. The policies are vital in that:

- They enable management to develop and maintain sound relations with stakeholders;
- They enable management put in place measures and structures that care for the safety, health and welfare of all users;
- They ensure that management plan for, and put in place, monitoring programmes that ensure company activities confirm to stipulated environmental standards; and
- They ensure that management assumes its corporate responsibility for its activities with regard to conservation of the environment as well as for the wellbeing of the neighbouring community.

Among other policies developed, the PIT should considerer developing local community policy

8.2.1 Local Community Policy

The Local Community Policy are developed by PIT to ensure that the school management develops and maintains sound relations with the local community on mutual respect and active partnership. The policy should highlight on ways the management should as described in Environmental and Social Commitment

Plan, Environmental and Social Management Framework as well as Stakeholders Engagement Plan and the SS10 which include the following:-

- Work with the local community and relevant government departments and agencies to achieve sustainable community development;
- Come up with ways of enhancing information flow from management to the community and other project beneficiaries, and vice versa;
- Community capacity building

8.2.2 Environmental Management Policy

The environmental policy developed should be one that enables project implementers and Project management and sustainable utilization of environmental resources therein. The policy should therefore cover the following, among other issues:

- Ensure that all Project activities operate within legal requirements of all relevant national legislation covered in Chapter Four;
- That there are continuous environmental improvement and performance through monitoring of Project activities;
- Ensure that utilization of natural resources is optimal with measures in place to ensure resource availability for future generation;
- Awareness creation to the surrounding community regarding sustainable utilization of natural resources, protection of sensitive ecosystems and bio-diversity maintenance for communal livelihood; and
- Balancing between natural resource use, environmental conservation, and economic development.

8.2.3 Occupational Health and Safety Policy

The Occupational Health and Safety Policy developed for the Project should enable establishment of appropriate measures that ensure that the health, safety and welfare of all users is cared for as well as the health requirements of the local community in which the project is located. The policy should highlight on the following, among others:

- Medical examination of workers;
- Sanitation in the Project area;
- Proper liquid and solid waste management and disposal;
- Emergency preparedness;
- Fire safety;
- Necessity and availability of personal protective equipment
- Safety measures for cold storage equipment;
- Appropriate safety and rescue equipment are availed to Project users;
- Risk minimization of accidental damage, community, and environment; and
- Training in safety.

Preventive and protective measures should be introduced according to the following order of priority:

- Eliminating the hazard by removing the activity from the work process. Examples include substitution with less hazardous chemicals, using different manufacturing processes, etc.;
- Controlling the hazard at its source through use of engineering controls. Examples include local exhaust ventilation, machine guarding, acoustic insulating, etc.;
- 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.

- Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE.

8.3 Management Plans

The following management plans has to be fully operational and entrenched within the operations of Kagera River Girls Secondary School:

- Solid waste management plan;
- Sewage management plan;
- Resources conservation plan;
- Air quality management plan;
- Occupational injuries management plan and,
- Management of chemical waste
- Complaints management plan

8.3.1 Solid Waste Management Plan

Solid wastes from the daily operations and other related activities will be mainly papers, glass, cans and food wastes. Quantity of the solid waste generated from the project is substantial. We recommend that management should put in place a sound waste collection and disposal system by:

- Training staff and students on sorting their waste at source.
- Ensure sorting is done by separation of various waste type making it easier for subsequent handling;
- Waste receptacle for the segregated waste types must be put in place close to points of solid waste generation to ensure that waste is properly managed;
- Ensuring that no burning of dry waste in the open.

This measures and recommendation should be put in place with the objective of ensuring that handling, management and disposal of solid waste does not result in environmental nuisance pollution.

Continuous monitoring of waste disposal practice from the operations, implementation of recommendations and mitigation measures made in this report with respect to disposal of solid waste ensures that a condition subjected to environmental approval with respect to solid waste management and a disposal is adhered to.

8.3.2 Occupational Hazards Management Plan

Occupational health and safety hazards is similar to those of other facilities which involve the movement of people. In addition, occupational health and safety issues that may be specifically associated with operations include the following:

- Physical hazards
- Biological hazards
- Exposure to dust/particulate matters
- Exposure to sources of noise
- Chemical exposure due to presence of Laboratory

Physical hazards include exposure to same-level fall hazards due to slippery conditions, the use of machines and tools, principally for sampling purposes, and the potential for strains from the lifting heavy equipment.

Project activities may include a variety of situations in which workers can be exposed to lifting, carrying, and repetitive work and work posture injuries.

The objective of the Occupational Hazards Management Plan (OHMP) is to ensure that the workers do not get any occupational hazards. The OHMP covers possible occupational hazards such as falls, dust inhalation, high noise levels and collapse of structures under construction.

8.3.3 Resource Conservation Management Plan

Water resource is scarce within the Karagwe District in general. Available water sources at the project site are from RUWASA. Water use requirements is relatively low. Water is required for raw materials cleaning as well as general cleanness and in the sanitary facilities.

The objective of the Resource Conservation Management Plan (RCMP) is to ensure that implementation and associated facilities do not result in shortage, completion and depletion of local water and energy resources. The RCMP covers available local sources of water and energy resources, their current usage and demand and requirements for the project.

The RCMP is achieved by continuous monitoring and management of local water and energy resources, implementation of recommendations and mitigation measures made in this report in respect to management of water and energy resources and ensuring the conditions subjected to license approval with respect to water and energy resources management are adhered to.

8.3.3.1 Water Conservation Management

It is that the management must put in place the following measures to conserve local water resources.

- Monitoring water use regularly;
- Water serving devices such as push taps should be installed;
- Employees and students should be trained and sensitized on water conservation techniques;
- Leakages including loose taps be promptly fixed to avoid water loss.

8.3.3.2 Energy Conversation Management

Electrical energy supply within the project is from the national grid and diesel generator. The area just like the rest of the country has a huge potential for solar energy but this is unutilized. Electrical energy use for the project will include lighting, charging electronic devices and cooling as well as office equipment e.g. printers, water dispenser, scanners etc.

The ESMP for energy conservation should include the following:

- Regular maintenance of equipment;
- Installation of solar panels to harness solar energy for use;
- Use of energy serving devices;
- Employees should be trained and sensitized on energy conservation techniques; and
- Ensure security lighting is switched off during daytime

8.4 Coordination and Review of the ESMP

The EMP forms the basis for environmental management on site. Based on the results of the performance assessment and review process, the EMP may be modified as the project progresses. Modifications will only be permitted by the District Environmental Officer. Changes to the ESMP will only be allowed:

- a) If alternative measures with equal or improved outcomes have been identified after the compilation of the report.

b) Prior to non-compliance, therefore requiring pro-active evaluation.

8.5 Reporting

In addition to all reporting requirements identified in the EMP, records shall be kept by the District Environmental Officer of all monitoring results, monitoring reports, incident records, audit reports and management reviews. Minutes of all environmental project meetings shall be submitted to the Environmental officer.

Table 8-1: Summary of Environmental and Socioeconomic Management Plans

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
Mobilization/Construction Phase	Loss/disturbance of biodiversity and threatened species	<ul style="list-style-type: none"> ▪ Minimum vegetation clearance will be ensured by clearing only those areas that are utilized for construction of WSP and layout of networks and the area used to lay down the sewer networks activities. ▪ The municipal shall involve its experts for advice and for potential flora stocks for re-generation of disturbed vegetation in plant areas 	<p>Karagwe District Council under PO-RALG</p> <p>Environmental Management Act, Cap.191</p>	Part of the project cost and contractor's fee
	Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases	<ul style="list-style-type: none"> • Implementing effective dust control measures, such as applying water or dust suppressants on unpaved roads, stockpiles, and construction sites. • Promoting the use of cleaner fuels and emission control technologies for construction machinery such as generators and vehicles. • Regular monitoring of air quality during the construction phase is important to identify any potential exceedances of air quality standards and promptly address the sources of pollution. • Using cars with good conditions. • Responsible usage of tracks e.g. instead of using 3 tons track to carry loads twice is better to use 7 tons track which will only make one trip to reduce amount of carbon emissions. 	<p>Karagwe District Council under PO-RALG along with the Contractor</p> <p>Public Health Act, Cap.242 and Environmental Management (Air Quality Standards) Regulations, 2007</p>	Part of the project cost and contractor's fee
	Communication interference, stress, fatigue due to increased noise levels from construction vehicles and machines	<ul style="list-style-type: none"> ▪ The contractor should adhere to relevant noise regulations and guidelines set by the authorities. ▪ Limiting the duration and intensity of noisy activities during sensitive hours. ▪ The contractor should also consider scheduling noisy activities during periods when they would cause the least disruption to nearby residents and businesses. 	<p>Karagwe District Council under PO-RALG along with the contractor</p> <p>Public Health Act, Cap.242 and</p>	Part of the project cost and contractor's fee

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
		<ul style="list-style-type: none"> ▪ Using cars with good conditions, cars with good conditions have the potential of having less noise pollution. 	Environmental Management (Quality Standards for Controlling Noise and Vibration Pollution) Regulations, 2007	
	Public Health from poor housekeeping and waste management	<ul style="list-style-type: none"> ▪ Implementing dust control measures such as water spraying or covering loose materials to minimize dust emissions. ▪ Using low-emission equipment and vehicles can help reduce air pollution ▪ Scheduling and managing construction activities to minimize disruptions and noise levels during sensitive hours, particularly in close proximity to residential areas ▪ Furthermore, the contractor should prioritize regular monitoring and assessment of air quality and noise levels to ensure compliance with relevant standards and guidelines. ▪ Prepare site waste management plan prior to commencement of construction works ▪ Designate appropriate waste storage areas, ▪ Develop collection and removal schedule, ▪ Institute system for supervision and monitoring, and ▪ Unusable construction waste to be disposed of at an approved dumpsite. 	Karagwe District Council under PO-RALG along with the contractor Public Health Act, Cap.242, Environmental Management (Solid Waste Management) Regulations, 2009 as amended in 2016 and Environmental Management (Hazardous Waste Control and Management) Regulations, 2021	Part of the project cost and contractor's fee
	Injuries and fatal accidents due to occupational health and safety issues	<ul style="list-style-type: none"> ▪ The contractor should implement proper safety protocols, including providing personal protective equipment (PPE) to workers and ensuring its proper use. ▪ Regular inspections of the construction site should be conducted to identify and address any safety concerns promptly. 	Karagwe District Council under PO-RALG along with the Contractor	Part of the contractors' fee

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
		<ul style="list-style-type: none"> ▪ Effective communication and engagement with workers and contractors are crucial to fostering a culture of safety. ▪ Furthermore, the contractor should have clear emergency response procedures in place to handle any accidents or incidents that may occur during the construction phase. 	Occupational Health and Safety Act, 2003	
	Road accidents from moving trucks	<ul style="list-style-type: none"> ▪ Designation of proper access routes to the construction site, ensuring clear signage and road markings, and establishing appropriate speed limits. ▪ Construction vehicles should be operated by trained and licensed drivers who adhere to safe driving practices. ▪ The contractor should also consider implementing safety protocols such as regular vehicle maintenance, inspections, and monitoring to ensure that the construction vehicles are in good working condition and meet safety standards. ▪ Adequate lighting and visibility measures should be in place, especially during nighttime construction activities, to enhance road safety. 	<p>Karagwe District Council under PO-RALG along with the contractor</p> <p>Public Health Act, 2009 and Occupational Health and Safety Act, 2003</p>	Part of the contractors' fee
Operation and Maintenance Phase	Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases	<ul style="list-style-type: none"> ▪ The school can adopt renewable energy sources, such as solar panels and gas to meet the energy needs of the school such as lighting and cooking. ▪ The school should prioritize energy-efficient designs and equipment within the school. This can involve the use of energy-efficient lighting systems, insulation materials, and energy-saving appliances. ▪ The school can promote sustainable transportation options such as organizing carpooling initiatives for their staffs. ▪ Develop a comprehensive cleaning program that includes regular dusting, vacuuming, and cleaning of surfaces to minimize dust, allergens, and contaminants. Use environmentally friendly and non-toxic cleaning products. ▪ Regular monitoring of air quality and implementation of appropriate air pollution control measures should also be undertaken. 	<p>School Administration along with Karagwe District Council under PO-RALG</p> <p>Public Health Act, Cap.242 and Environmental Management (Air Quality Standards) Regulations, 2007</p>	10,000,000

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
	Noise emissions	<ul style="list-style-type: none"> ▪ Installation of soundproofing materials in classrooms and common areas to reduce internal noise transmission. ▪ Strategic planning of school facilities, such as locating noisy areas away from residential areas or utilizing buffer zones, can help minimize the impact on nearby communities. ▪ Proper maintenance of equipment and facilities within the school premises can also contribute to noise reduction. ▪ Regular monitoring of noise levels and compliance with relevant noise regulations and standards should be prioritized. This can involve periodic assessments and inspections to ensure that noise pollution levels remain within acceptable limits. 	<p>School Administration along with Karagwe District Council under PO-RALG</p> <p>Public Health Act, Cap.242 and Environmental Management (Quality Standards for Controlling Noise and Vibration Pollution) Regulations, 2007</p>	10,000,000
	Waste Generation	<ul style="list-style-type: none"> ▪ Establishment of waste segregation systems, encouraging composting initiatives for the kitchen waste, and providing sufficient waste bins and collection points throughout the school premises. ▪ The school should establish dedicated storage areas for hazardous waste such as laboratory chemicals, faulty electrical appliances, ensuring they are secure, properly labeled, and equipped with appropriate safety measures. 	<p>School Administration along with Karagwe District Council under PO-RALG</p> <p>Public Health Act, Cap.242,</p>	15,000,000

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
		<ul style="list-style-type: none"> ▪ The school should also establish partnerships with authorized entities to ensure the waste is handled and disposed of in compliance with environmental regulations. ▪ Designate bins specifically for the disposal of sanitary pads. These bins should be placed in female restrooms and other private areas, and they should have lids to maintain hygiene and provide privacy. ▪ Recycling or re-use of the ash obtained after incineration of waste especially the sanitary pads after testing and analyzing the chemical components of the ash such as use in construction or soil amendments. 	Environmental Management (Solid Waste Management) Regulations, 2009 as amended in 2016, Environmental Management (Hazardous Waste Control and Management) Regulations, 2021 and Environmental Management (Control and Management of Electrical and Electronic Equipment Waste) Regulations, 2021	
	Wastewater Generation	<ul style="list-style-type: none"> ▪ Proper separation and segregation of different types of liquid waste should be implemented to ensure appropriate treatment and disposal. This can involve separate systems for black water (from toilets), greywater (from sinks and showers), and other liquid waste streams such as water from laboratories. ▪ Construction of water channels for the control of storm water within the school premises ▪ Regular analysis of waste water from laboratories. 	School Administration along with Karagwe District Council under PO-RALG Public Health Act, Cap.242, Environmental Management	15,000,000

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
			(Water Quality Standards) Regulations, 2007 and Environmental Management (Hazardous Waste Control and Management) Regulations, 2021	
	General Health and Safety	<ul style="list-style-type: none"> ▪ Establishment of a comprehensive health and safety policy. ▪ Conducting regular inspections to identify and mitigate any potential hazards, such as faulty electrical systems, structural weaknesses, or unsafe equipment within the school premises. ▪ Adequate emergency preparedness plans should be in place, including fire safety measures, first aid provisions, and clear evacuation procedures. ▪ The school should prioritize maintaining a clean and hygienic environment to prevent the spread of diseases and ensure the availability of adequate sanitation facilities. ▪ Promoting health and wellness among students should also be a focus, with initiatives like health education programs, access to clean drinking water, and appropriate waste management practices. ▪ Implement security measures such as fencing of the school premises. Establish anti-bullying policies and procedures to address and prevent bullying incidents. 	<p>School Administration along with Karagwe District Council under PO-RALG</p> <p>Public Health Act, 2009 and Occupational Health and Safety Act, 2003</p>	10,000,000
Decommission phase	Abandoned infrastructure	<ul style="list-style-type: none"> ▪ PO-RALG and other project stakeholders should develop a comprehensive demolition plan that includes proper disposal or recycling of materials, as well as strategies for repurposing or redeveloping the vacant spaces that will be created. ▪ Creating initiatives to transform the abandoned structures into community assets, such as recreational areas, community centers, or affordable housing projects. 	<p>Karagwe District Council under PO-RALG</p> <p>Land Act, 2019, Environmental Management (Solid Waste</p>	Will be established during preparation of decommissioning plan

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
			Management) Regulations, 2009 as amended in 2016, Environmental Management (Hazardous Waste Control and Management) Regulations, 2021 and Environmental Management (Control and Management of Electrical and Electronic Equipment Waste) Regulations, 2021	
	Safety Hazards	<ul style="list-style-type: none"> ▪ Effective communication and coordination among project stakeholders, including contractors, workers, and relevant authorities, are vital for maintaining a safe working environment. ▪ It is crucial for the contractor to prioritize safety measures and adhere to strict guidelines and regulations by implementing comprehensive safety protocols, providing appropriate personal protective equipment (PPE), conducting thorough risk assessments, and ensuring proper training for workers to significantly reduce the likelihood of accidents and injuries during the demolition activities. 	Karagwe District Council under PO-RALG Public Health Act, 2009 and Occupational Health and Safety Act, 2003	Will be established during preparation of decommissioning plan
	Unemployment	<ul style="list-style-type: none"> ▪ Ensuring that all staff are members of the National Social Security Fund and the employees should ensure that the developer's contributions are made. 	School Administration	-

Phase	Potential Aspect/Impacts	Management/Mitigation Measures	Responsibility and guiding legal framework	Estimated Costs [TZS]
			Social Security Act, 2015	
Total estimated Cost				60,000,000

CHAPTER NINE

9 ENVIRONMENTAL AND SOCIAL MONITORING PLAN

Environmental Management Plan (EMP) intends to set forth “environmental and social conditions” that are to be abided by the proponent. It aims at ensuring effective implementation of the proposed mitigation measures

The Project requires regular monitoring and auditing of key environmental, health and safety indicators to:

- assess the overall performance of the project;
- to comply with local environmental, health and safety legislation; and
- Benchmark its project with other similar projects for improved management.

Key environmental parameters of concern with the operation of such a project are:

- water consumption,
- energy consumption; and
- solid and liquid waste handling;

Additionally, the following social parameters need to be keenly monitored to ensure benefits to the community and its sustainability:

- Health status of workers;
- Employment opportunities to local community; and
- Corporate Social responsibility programs.

With these factors in mind, there are a need to put in place elaborate and sound environmental management system and mechanisms of monitoring on a continuous basis the environmental performance of the Project. Undertaking monitoring and auditing of key environmental parameters and putting in place of all approved recommendation of the environmental management plan and conditions of the EIA license achieved, this Monitoring undertaken are both active and reactive.

With increased urban development come the challenges of waste handling and disposal. The monitoring program developed must consider possible impacts of solid waste disposal. All waste emanating from the Project and its disposal must be monitored to ensure no environmental nuisance or degradation arises.

9.1 Parameters are Monitored

Monitoring involves measuring, observing, recording and evaluation of physical, socioeconomic and ecological variables within the project area and the neighborhood. This may include the following:

Table 9-1: Recommended Environmental and Social Monitoring Plan

Phase	Potential Impacts	Parameters to be Monitored	Target Level/Standard	Monitoring Area	Monitoring Frequency	Responsibility	Estimated Cost
Mobilization and Construction Phase	<i>Atmospheric Air Pollution</i> due to emissions of exhaust and fugitive gases	SO ₂ , NO _x , CO ₂ , CO, Particulate matter (TSP, PM ₁₀ , PM _{2.5})	CO-4.5g/kWh NO _x -1.1 g/kWh HC-8.0 g/kWh PM-0.612 g/kWh Smoke 0.15g/m	Established Monitoring Point	Before commissioning and once every three months	Karagwe District Council under PO-RALG along with the contractor	Part of the contractor's fee
	Communication interference, stress, fatigue impairment due to increased noise levels from construction vehicles and machinery	Noise and vibration level	As minimum emission as possible	Established Monitoring Point	Once Every three months	Karagwe District Council under PO-RALG along with the contractor	Part of the contractor's fee
	Loss of biodiversity (both Flora and Fauna)	Biodiversity	As minimum disturbance as possible	Project area	Before commissioning and once every three months	Karagwe District Council under PO-RALG	N/A
	Injuries and fatal accidents due to occupational health and safety issues	Incident and accident register	As minimum emission as possible	Project site	Once Every six months	Contractor along with Karagwe District Council under PO-RALG	Part of contractor's fee
	Waste generation	Waste disposal Inspection of amount of waste	Zero waste	Transfer stations and	Monthly	Karagwe District	Part of the contractor's fee

Phase	Potential Impacts	Parameters to be Monitored	Target Level/Standard	Monitoring Area	Monitoring Frequency	Responsibility	Estimated Cost
		not contained in specified collection containers/skips		disposal areas		Council under PO-RALG along with the contractor	
Operation Phase	Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases	SO ₂ , NO _x , CO ₂ , CO, Particulate matter (TSP, PM ₁₀ , PM _{2.5})	TZS 845:2005 Air Quality – Specification; TZS 983:2007 Air Quality - Vehicular Exhaust Emissions Limits	Established Monitoring Area	Once every six months	Karagwe District Council under PO-RALG	1,000,000
	Noise emissions	dBA	Noise and Vibration Levels Regulations (United Republic of Tanzania, 2011) 45 dBA (Leq) Day and 35 dBA (Leq) Night and baseline of 50dBA (Leq)	Established Monitoring Area	Once every six months	Karagwe District Council under PO-RALG and School Administration	1,000,000
	Waste Generation	Waste disposal Inspection of amount of waste not contained in specified collection containers/skips	Zero Waste	Transfer stations and disposal areas	Monthly	School administration and Karagwe District Council under PO-RALG	3,000,000
	Employment Opportunity	Employees	Local procurement and Local employment	Number of Employees	Quarterly	Karagwe District Council under PO-RALG	N/A

Phase	Potential Impacts	Parameters to be Monitored	Target Level/Standard	Monitoring Area	Monitoring Frequency	Responsibility	Estimated Cost
	General Health and Safety hazards	Accident and incident register	Zero incidents and accidents	School compound	Once every six months	School Administration along with Karagwe District Council under PO-RALG	2,000,000
Decommissioning phase	Injuries and fatal accident	Accident and incident register	Zero accident	Project area	Monthly	Karagwe District Council under PO-RALG	2,000,000
	Unemployment	NSSF remittance	All employees	School Compound	Once every year	Karagwe District Council under PO-RALG	N/A

9.2 Environmental Health and Safety Auditing

Annual Environmental Health and Safety Audits should be carried out as provided for in the Environmental (Impact Assessment and Audit) Regulations of 2005.

The Audits serve to confirm the efficacy and adequacy of the Environmental Management Plan. The audits should include but not limited to the following:

- Air, soil, and water pollution
- Waste generation, management and disposal;
- Resources utilization
- Occupational Health and Safety
- Traffic Safety;
- Monitoring and

Views and comments from neighbors and progress in implementation of Environmental Health and Safety Management Plan.

9.3 Awareness and education

The project proponent with collaboration with contractor or local workers shall encourage environmental awareness among his foremen before and during implementation of the project. The education will include:

- Provide copies of the EMP and discuss its contents with all construction foremen and workers
- Discuss techniques and answer questions about erosion and pollution control at regular site safety meetings
- Demonstrate proper housekeeping methods
- Inform the workers of actions to take in the event of spill of hazardous materials (oil, fuel, bitumen, concrete, etc.)
- Post sign at key locations reminding workers how to properly store construction materials, handle and dispose of toxic waste, wash water, and similar instructions
- Remind workers of fines, penalties that may be levied against the project by the local permitting agencies control environmental destruction is not adhered to.

CHAPTER TEN

10 RESOURCE EVALUATION/COST BENEFIT ANALYSIS

10.1 Introduction

Chapter 7 and 8 of this EIS report have documented the cost/impacts of the project to Kagera region and the degree to which they can be substantially mitigated. Cost-benefit analysis is normally done in the framework of feasibility study of an activity.

The aim of cost-benefit analysis is to inform the project developer to make a decision on: whether it makes economic sense to continue with the project; whether the chosen option is a cost-effective alternative; and the estimate of the size of a project. For this project, the costs will include: capital expenditures; operating and maintenance costs; staff costs; materials; research and development; and environment, health and other social costs.

Benefits may include: build on the achievements of previous projects in the education sector which have supported quality improvements. It will support the expansion of the secondary school network in order to substantially reduce travel distances by bringing secondary schools closer to children's homes through an expansion of the secondary school network. Construction will be guided by a minimum infrastructure package based on the School Construction and Maintenance Strategy and minimum construction standards aligned with the Projects Environmental and Social Framework.

10.2 Environmental cost and benefit analysis

Environmental cost benefit analysis is assessed in terms of the negative and positive impacts. Furthermore, the analysis is considering whether the impacts are mitigatable and the costs of mitigating the impacts are reasonable. As it has been mentioned in Chapters 7 and 8, the potential benefits of the project, in terms of economic advancement and social benefit are substantial.

The environmental impacts are reasonably mitigatable. So to mitigate negative impacts, when compared to the required data are relatively small.

10.3 Effect on the Local Community

The benefits from project development can be judged in terms of employment, social welfare, education development, and the local economy (wages, goods and services). Thus, there will be a substantial spread of the benefit within the community through the provision of food, accommodation and other regular services to the employees and students.

10.4 Infrastructure Development

The upgrading, development and maintenance of local infrastructure are benefits that will extend far beyond the project's scope and lifetime.

10.5 Advantages for the Broader Community and Country

The earnings of the project will in the final analysis contribute the following,

- Creating a gender sensitive, learner-friendly school environment through investing in supportive structures in the school and community including trained school guidance counselors, stronger links with the community through Parent Teacher Associations and life skills training.
- Supporting female students to avoid getting pregnant and dropping out of secondary school through measures that include
 - Encouraging community awareness of risks for girls; and
 - Supporting safe passage and reducing the distance to schools to reduce the risks of gender-based violence on the way to school.

- Supporting girls who become pregnant to access recognized, quality Alternative Education Pathways (AEPs)
- To obtain lower secondary certification and continue with upper secondary education or post-secondary education.
- Improving the quality of secondary school teaching and learning environments through the hiring of additional qualified teachers in core subjects and providing textbooks in core subjects.
- Increasing the number of secondary school spaces through the construction of new classrooms that meet minimum infrastructure standards and supporting the expansion of the school network to bring schools closer to communities.
- Using innovative digital technology to facilitate mathematics and science teaching and improve learning

CHAPTER ELEVEN

11 DECOMMISSIONING PLAN

11.1 Introduction

Decommissioning is the last phase of project life. It involves terminating project activities and operations and rehabilitating site to or close to its original state. It is anticipated that the project shall continue as long as there is a demand for a project, however, individual components of the project shall be decommissioned as need be.

11.2 Components

This decommissioning plan presents a conceptual framework on how the Project can be demolished if need. The plan takes into consideration on how materials and equipment, support infrastructure and land on which the buildings are standing on can be handled.

11.3 Disposal/Demolition of Project Storage Buildings

Decommissioning of project shall only involve dismantling of the temporary office and store room that will be constructed during construction phase.

11.4 Considerations

- All employees involved in the decommissioning and demobilization exercises must have proper protective gear throughout;
- Decommissioning and demobilization activities should be done during day time only unless it's an emergency;
- Waste resulting must be disposed at designated waste disposal sites;
- All relevant lead agencies must be involved in the exercise; and
- Emergency services such as first aid and ambulance services must be on standby in case of any eventualities.

11.4.1 Decommissioning Plan for a Project's Construction

Table 11-1: Decommissioning Plan for the School's Construction Phase

Task	Description	Estimated Cost
Health and Safety	Detail safety protocols for decommissioning	Contractor's fee
Legal and Regulatory Compliance	Address permits and regulations	Contractor's fee and Project cost
Removal of Equipment	Remove construction machinery and equipment	Contractor's fee
Waste Disposal	Dispose of construction waste responsibly	Contractor's fee
Site Restoration	Restore the site to its original state	Contractor's fee
Final Inspections	Conduct final inspections and obtain approvals	Contractor's fee and Project cost

Project Closeout	Document project	Project Cost
Contingency	Allowance for unforeseen costs	Project Cost

11.4.2 Decommissioning Plan for the Project's Operation

Table 11-2: Decommissioning Plan for the School's Operation

Task	Description	Estimated Cost
Students Transition	Prepare students for transition to other schools	15,000,000
Staff Transition	Assist staff in finding new positions	25,000,000
Equipment Disposal	Sell or transfer school equipment and assets	Variable
Facility Closure	Conduct facility shutdown procedures	20,000,000
Administrative Closure	Complete legal, financial, and administrative tasks	12,000,000
Contingency	Allowance for unforeseen costs	35,000,000
Legal and Regulatory Compliance	Address legal requirements for closure	15,000,000
Total Estimated Annual Cost		122,000,000

CHAPTER TWELVE

12 CONCLUSION AND RECOMMENDATIONS

12.1 Conclusion

This ESIA report provide description of the proposed project, presents a concept project description and has acknowledged a number of issues pertaining to the operation of Project. The issues/ impacts have been assessed and described in some detail to gain an adequate understanding of possible environmental effects of the project in order to formulate mitigation measures in response to negative aspects, which have emerged.

The project shall act as a catalyst for positive change in the surrounding communities by improving education, infrastructure and social well-being, and by involving and engaging the local residents, the project can have a lasting impact and contribute to the overall development of the region.

Given the nature and location of the development, the conclusion is that the potential impacts associated with the proposed development are of a nature and extent that can be reduced, limited and eliminated by the application of appropriate mitigation measures.

The key findings of the ESIA study conducted by Tansheq Limited are as follows:

- The Project Development Objectives (PDOs) are to increase access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. SEQUIP will contribute to addressing key challenges to girls and boys accessing education and this school will definitely target girls for their studying excel. The project aims to reduce distance to government target: 3km (or 45 minutes)
- The project will contribute to increasing the total number of students in secondary education including Alternative Education Pathways (AEP) by 250,000. It will directly benefit about 1.8 million secondary school students, including 920,000 girls, 95% of whom are enrolled in lower secondary. SEQUIP will help more girls' transition from lower to upper secondary education, as girls are underrepresented at this level

12.2 Recommendations

The Project should systematically manage environmental as well as health and issues so as to ensure sustainability and attainment of overall goal of the project. This can only be achieve if the ESMP and the Monitoring Plan developed hereinwhithin is properly adhered to and improved upon whenever shortcomings are identified.

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19. United Republic of Tanzania. (2007). *Environmental Management (Soil Quality Standards) Regulations*. Dar es Salaam: Government Printers.
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APPENDIX I: LIST OF THE STAKEHOLDERS CONSULTED



SEQUIP – ENVIRONMENTAL AND SOCIAL IMPACT ASESMENT

S/N	Name/ Jina	Title/ Cheo	Contacts/ Mawasiliano	Date/Tarehe	Signature/ Sahihi
1	JESSE ALPHERI CHIBAMILA	RC	0757150400	28/11/2022	[Signature]
2	TEBO A. NGUVILA	RAS	0755097181	28/11/2022	[Signature]
3	KHALIFA SHEMATHTGE	AAS-ELIMU	0754439943	28.11.2022	[Signature]
4	ISAYA TENDE GITA	AAS-EP(fg,REM)	0762581925	28/11/2022	[Signature]
5	Eq. K.A. FUKU	APJ-IF	0756238220	28.11.2022	[Signature]
6	Colman Smitu	Ag. REHO	0755 875024	28/11/2022	[Signature]



SEQUIP – ENVIRONMENTAL AND SOCIAL IMPACT ASESMENT

S/N	Name/ Jina	Title/ Cheo	Contacts/ Mawasiliano	Date/Tarehe	Signature/ Sahihi
1	ADV. WILSON S. NYAMUNDO	Ag. DED	0767543947	29/11/2022	[Signature]
2	DR BONASS A. MWATU GE	Ag. DHSNO	0762577262	29/11/2022	[Signature]
3	PROCESIUS RWEVENDERA	DEMO	0765601090	29/11/2022	[Signature]
4	MTEGWA L. MADUTI	MHANDKI	0752098150	29/11/2022	[Signature]
5	MELKION KOMBA	DPLO	0715371765	29/11/2022	[Signature]
06	Rajabu Khasim	M/Asili	0722 79493	29/11/2022	[Signature]
07	Jochim J. Kijim	DSEO	0764424151	29/11/2022	[Signature]
08	Isangoma Pwembari	Tech- Rwanda	0765091638	29/11/2022	[Signature]
09	JIMMY NJAY	Ag. DE	0682087801	29/11/2022	[Signature]
10	Eq. K. K. K. K.	DM-TARURA	0787-346799	29.11.2022	[Signature]
11	ALVIN PETER NIMBAE	DFC Karama	0767727180	29.11.2022	[Signature]



SEQUIP – ENVIRONMENTAL AND SOCIAL IMPACT ASESMENT

S/N	Name/ Jina	Title/ Cheo	Contacts/ Mawasiliano	Date/Tarehe	Signature/ Sahihi
1	EROLIAN J. RWAMATA	GIWANI	0762547760	29/11/2022	[Signature]
2	KIRIKURU N. RWAMATA	WED	0623765815	29/11/2022	[Signature]
03	FELIX M. FRANCO	MUKU WASTIME	0756317322	29/11/2022	[Signature]
04	SILVANO S. BAZIMUKA	VED	078306076	29/11/2022	[Signature]
04	MADAI A. KALSI	AFISA ELIMU KATA	0765088165	29/11/2022	[Signature]
05	GEORGE F. RWAMALIA	M/KITWAKIJI	0764-544505	29/11/2022	[Signature]
06	FELIX K. GERVAISE	MUKU. SS RWAMATA	0767166200	29/11/2022	[Signature]

APPENDIX II: EMERGENCY RESPONSE PLAN

1.0 Introduction

The purpose of this Emergency Response Plan is to establish procedures and guidelines that will ensure the safety and well-being of students, staff and visitors in the event of an emergency within the school premises. This plan outlines measures to be taken before, during and after various emergencies to minimize potential risks and provide effective responses.

1.1 Emergences Response Procedures

1.1.1 Fire Emergences

Students, staff, visitors, and members of the school community are kindly requested to remain vigilant and promptly report any signs or evidence of fire within the school premises. It is essential to observe and identify the following indicators:

I. **Smoke:**

- Report any sight or smell of smoke, regardless of its source or location within the school buildings or surrounding areas.
- Pay attention to areas where smoke may accumulate, such as stairwells, restrooms, or utility rooms.

II. **Burning smell:**

- Take note of any unusual or strong burning odors that may indicate a fire.
- Report any such smell, even if there is no visible smoke or flames.

III. **Abnormal heating of any material or machines:**

- Be observant of any objects, equipment, or machinery that exhibit abnormal or excessive heat.
- Report any instances where materials or devices feel unusually hot to the touch.

The swift detection and reporting of potential fire incidents are crucial for ensuring the safety and security of everyone within the school. All members of the school community are encouraged to remain alert and immediately inform the designated authorities or the emergency response team upon discovering any of these fire-related signs or evidence. Remember, early detection and timely reporting can help prevent the escalation of fire hazards and facilitate prompt response and evacuation procedures if necessary.

1.1.1.1 Fire response Plan (for Large Fires)

- I. Use emergency communication systems to notify the Emergency Coordinator/Supervisor immediately of the fire's location.
- II. Ensure that doors in large buildings open outwardly to facilitate easier movement of people outside the building.
- III. Activate the nearest fire alarm within the premises to alert others of the emergency.
- IV. If safe to do so, rescue any person in immediate danger and move them to a place of safety.
- V. If someone's clothing is on fire, cover them with fire blankets. If fire blankets are not available, use water from showers or other sources to extinguish the flames.
- VI. Proceed to the nearest exit and evacuate the building area using the nearest available exit.
- VII. Close doors behind you to contain any smoke and prevent the fire from spreading further within the building.
- VIII. Proceed to the designated assembly area and do not re-enter the building until it has been deemed safe to do so by emergency personnel.
- IX. If you are unable to exit the room, try to prevent smoke from entering by using available materials to block gaps under doors or windows.
- X. Make efforts to draw attention to your location if you are trapped. Use a phone, window, or call for help to alert others. Remember, smoke inhalation is a significant danger in fires.

- XI. Only attempt to use a fire extinguisher if the fire is small and you have been properly trained to operate it safely.
- XII. If you have any doubts about operating the fire extinguisher or if the fire extinguishing attempts are ineffective, evacuate immediately from the building.
- XIII. Call the firefighting crew or emergency services (e.g., dial 911) immediately for professional assistance.

1.1.2 Chemical and Hazardous Material Spills

This section covers important information for emergence involving the release of chemical or hazardous substance that could harm people health and environmental.

- Train laboratory staff and science teachers in proper safety protocols.
- Establish clear guidelines for reporting accidents or injuries.
- Implement procedures for quickly and safely evacuating students from the laboratory area.
- Designate staff members responsible for administering first aid and contacting emergency medical services, if necessary.

1.1.3 Medical Emergencies

- I. Remain calm and focus on ensuring the safety and well-being of all individuals involved, without compromising your own safety.
- II. Immediately seek help by contacting the designated emergency phone number for the clinic and inform the Supervisor or appropriate personnel.
- III. Provide the necessary First Aid services to the injured person(s) as trained and within your capabilities.
- IV. Avoid moving an injured person unless they are in immediate danger of further harm. Stabilize the person and wait for medical professionals to assess the situation.
- V. Alert personnel in adjacent areas of any potential hazards to their safety, such as fire explosions, chemical contamination, or civil disturbances.
- VI. If a person's clothing is on fire, cover them with a fire blanket if available. If not, instruct them to roll on the floor to extinguish the flames. If showers are immediately available, use them to douse the person with water.
- VII. If chemicals have entered the eye, promptly flush the affected eye with plenty of water for at least 15 minutes, ensuring to wash the eyeball and inner surface of the eyelid.
- VIII. If necessary, transport the injured person(s) to the nearest dispensary or hospital. If an ambulance is not readily accessible, utilize the available means of transportation to ensure timely medical attention.

1.2 Resources and Equipment

1.2.1 First Aid Kits

In the school area, each designated area will be equipped with a First Aid Kit, which will be stored in a readily accessible location for emergency team members. These kits will contain essential first aid items that can be used before seeking further medical assistance at the clinic.

To maintain the effectiveness of the First Aid Kits, the clinic staff and/or Office Supervisor will conduct regular inspections to ensure that the items are in good condition and have not expired. This includes checking the integrity of the packaging, verifying the expiration dates of medications and perishable items, and replenishing any used or depleted supplies

1.2.3 Fire Extinguisher

To ensure the safety of the school compound, fire extinguishers will be strategically placed in all buildings, including classrooms, dormitories, laboratories, the dining hall, and offices. These fire extinguishers will be regularly inspected to ensure they are operational and ready for use.

A yearly inspection will be conducted to verify the functionality and condition of each fire extinguisher. Trained personnel or a designated fire safety team will perform these inspections, checking for any signs of damage, ensuring that pressure gauges are within the recommended range, and confirming that safety seals are intact. If any issues are identified during the inspection, immediate maintenance or replacement of the fire extinguisher will be arranged.

1.2.5 Alarms

The school's alarm system serves as a crucial tool for emergency notification. In the event of an emergency, all students, staff, visitors, and contractors are required to respond promptly and gather at the designated assembly point once the alarm is activated. The safety and well-being of everyone within the school compound are of utmost importance, and this response protocol ensures a swift and organized evacuation or response to any potential threat or emergency situation. By adhering to this procedure, we can maintain a secure environment and effectively practice our emergency preparedness measures

1.3 Accident / Incident Reporting Obligation

- All incidents/accidents must be reported
- Notify the department responsible, Safety Managers and Environmental personnel if the accident/ Incident have led into Environmental impacts
- Report all incidents and accidents using and incidents/ Accident form to ensure that corrective measures are in place to prevent re occurrence in future
- The filled incident and Accident form will be signed off when all corrective is already done.

1.4 Responsibilities

1.4.1 Workers and Students

- Workers and Students are responsible to ensure that all incidents or suspicious situations are reported immediately
- When fire alarm signal has sounded or shout for fire, workers and students are required to immediately evacuated the buildings and if possible, knocking on their neighbor doors and while saying **EMERGENCE GET OUT!**
- Familiarize with the Emergence Response Plan
- Familiarize with the signs **EXIT, EMERGENCY EXIT, ASSEMBLY POINT**
- Observe the fire warning sign such as **DO NOT SMOKE, FIRE**
- To know where the assembly point is it

1.4.2 Office Supervisor/ Emergence Coordinator

Emergence Coordinator or office Supervisor will be responsible to responsible the rescue team (Fire crew, first aiders and emergence response team) during emergencies cases
To identify OHS training needs depending upon the existing requirement

1.4.3 District Secondary Education Officer

- To provide recourses to implement Emergence Preparedness Plan

1.4.4 Emergence Respond Team

- To quickly respond and evacuate he facility within the designated timeframe and follow all other procedures as listed in the emergency plan.
- Know where emergency and first aid equipment are found in the building (s) and how to use such equipment.
- Know the Emergency number and understand how the chain of command works.
- Known Emergence numbers and understand how the chain of command works

1.5 Trainings Programs

- Workers and Students will be trained depending upon the Training needs of each section
- Occupational Health, Safety and Environmental meeting will be held in month basis to ensure that issues from department are communicated and managed according
- Key personnel will be trained on evacuation procedures, use of fire Equipment's, first aid procedure etc.
- Notices indicting contact details for first aiders or appointed persons, the emergence contact number and where the first – aid box is must be posted at the site

1.6 Emergence Contact Detail

Table 1.1 List of Emergency Contacts

S/N	Organisation	CONTACT
1.	Karagwe District Executive Director	
2.	Karagwe District Secondary Education Officer	
3	Fire and Rescue Office	
4	TANESCO	
5	Kanoni Ward Executive Officer	
7	Ward hospital	

APPENDIX III: CERTIFICATE OF OCCUPANCY

Land Form 23 A.

TANZANIA

THE LAND ACT 1999
(NO. 4 OF 1999)

CERTIFICATE OF OCCUPANCY
(Under Section 29)

Date of Issue: 25-08-2021
Title Number: 1879
Land Office Number: 669415
Land: PLOT NO. 2 BLOCK 'A' KWAMBATZI KARAGWE DISTRICT

Term: NINETY NINE YEARS (99YRS)

TITLE No. _____
 REGISTERED ON: **25-8-21**
 10:09 A.
J.P. 2021
 Assistant Registrar of Titles

Land Form No. 22

Stamp Duty Paid
 100 =
 and Original Receipt No. **921218061926159**
 of **06-08-2021**
J.P. 2021
 Assistant Registrar of Titles

THE UNITED REPUBLIC OF TANZANIA

THE LAND ACT, 1999
 NO. 4 OF 1999

CERTIFICATE OF OCCUPANCY
 (Under Section 29)

TANGANYIKA STAMP DUTY ACT
 Stamp Duty Paid: **570**
 On Original Receipt No. **921218061926159**
 of: **06-08-2021**
J.P. 2021
 Stamp Duty Officer

Title: No.
 L.O: No. 669415
 L.D: No. KR/AR/3568

The **25th** Day of **August** 2021

THIS IS TO CERTIFY that **KARAGWE DISTRICT COUNCIL** As established by **Local Government Act, (No.7 of 1982 R.E 2002)** of P.O BOX 20 **KARAGWE** Incorporated under the Companies Act, 2002 (Hereinafter called "the Occupier") are entitled to the right of Occupancy (hereinafter called the Right) in and over the land described in the Schedule hereto (hereinafter called "the land") for a term of **Ninety nine** years from the **first day of July two thousand and twenty one** according to the true intent and meaning of the Land Act and subject to the provision hereof and to any regulations made thereunder and to any enactment in substitution therefore or amendment thereof and to the following special conditions:-

1. The Occupier having paid rent up to the thirtieth day of **June, 2022** shall thereafter pay rent of shillings **five thousand only (Tshs.5,000/=)** only a year in advance on the first day of July in every year of the term without deduction PROVIDED that the rent may be revised by the Commissioner for Lands.

Certified true copy of original

By In/Work
 STATE ATTORNEY
 KARAGWE DISTRICT COUNCIL
 P.O. BOX 20
 KARAGWE

2. The Occupier shall:-

- (i) Be responsible for the protection of all beacons on the land throughout the term of the Right Missing beacons will have to be re-established at any time at the Occupier's expenses as assessed by Director responsible for Survey and mapping.
 - (ii) Do everything necessary to preserve the environment and protect the soil and prevent soil erosion on the land and do all things which may be required by the authorities responsible for environment and to achieve such objective.
 - (iii) Building to be in permanent material.
 - (iv) Building plans to be submitted to the **Karagwe District Council**
 - (v) Building construction to begin within six months from after approval of the plans.
 - (vi) Building to be completed within thirty six months from the commencement of the right.
 - (vii) To plant three trees for prevention of area.
3. **USER: The land and the buildings to be erected thereon shall be used for Educational buildings Purposes only; Use Group 'K' Use class (c) as defined in the Country Planning (Use Group and use classes) Regulations 2018.**
4. The Occupier shall not assign the right within three years of the date hereof without the prior approval of the Commissioner.
 5. The Occupier shall deliver to the Commissioner notification of disposition in prescribed form before at the time the dispositions is carried out together with the payment of all premia, taxes and dues prescribed in connection with that disposition.
 6. The president may revoke the right for good cause or in public interest.

Certified true copy of original

Sharon
29/11/2022
STATE ATTORNEY
KARAGWE DISTRICT COUNCIL
P.O. BOX 20
KARAGWE

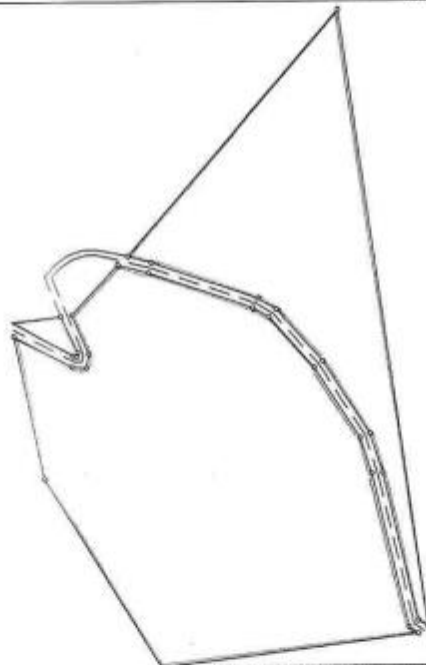
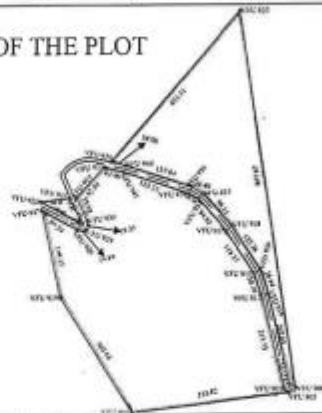
KARAGWE DISTRICT

N



INSET SHOWING DETAILS OF THE PLOT

LOCATION	RWAMBAIZI
BLOCK	"A"
PLOT NO	2
L.O NO	669415
AREA	296181.699 SQM



This plan, prepared in accordance with Registered Plan no. 137470 is approved for the purpose of Land Registration Ordinance.
 Director of surveys and mapping *[Signature]*
 Date 11.08.2021
 Surveys and Mapping Division, Ministry of Land, Housing and Human Settlement Development, Dar es Salaam

The issue of this plan implies no guarantee or admission of title by the government

Certified copy of original
[Signature]
 29/11/2021

STATE ATTORNEY
 KARAGWE DISTRICT COUNCIL
 P.O. BOX 20
 KARAGWE


1/8/16

(1)

SIRI

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA KAGERA
Telegraphic Address: REGCOM"
Telephone No: 2220215
Telefax No: 2222341/2221356
E-mail: ras.kagera@tamisemi.go.tz
Tafadhali unapojibu Taja:



Ofisi ya Mkuu wa Mkoa,
S.L.P. 299,
BUKOKA.

Kumb.Na.CDA.76/227/01/89

21 Desemba, 2020

Katibu Mkuu,
Ofisi ya Rais,
Tawala za Mikoa na Serikali za Mitaa,
S. L. P. 1923,
DODOMA.

**YAH: KUTAMBUA ENEO PENDEKEZWA LA SHULE YA SEKONDARI YA
RWAMBAIZI KUJENGA SHULE YA SEKONDARI YA KITAIFA KWA
WASICHANA KUPITIA MRADI WA SEQUIP**

Tafadhali rejea mada tajwa hapo juu.

2. Ofisi imepokea barua yenye Kumb Na.DA291/297/06/61 ya tarehe 16 Novemba, 2020 inayotutaka kubaini eneo la kujenga shule mpya ya sekondari ya wasichana ya kitaifa.

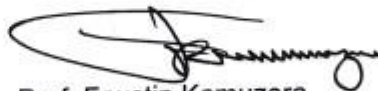
3. Kwa barua hii napenda kuwasilisha kwako jina la eneo la **Rwambaizi Shule ya Sekondari lililopo halmashauri ya wilaya ya Karagwe**. Eneo hili linapatikana katika **kijiji cha Rwambaizi**, limekidhi vigezo vilivyoagizwa ambavyo ni kama ifuatavyo:

1. Eneo teuliwa kuwa na ukubwa usiopungua ekari ishirini na tano (25): Eneo teuliwa lina ukubwa wa ekari 59 ambazo zilishapendekezwa na wilaya kujengwa kidato cha tano na sita kupitia barua yao Kumb Na KRG/HWK/C.5/4/138 ya tarehe 07 Juni, 2019 na ombi lao kuwasilishwa ofisini kwako na mkoa kupitia barua yenye Kumb Na.DA.76/227/02 "P"/160 ya tarehe 17 Juni, 2019.

SIRI

- II. Eneo lisiwe na aina yoyote ya mgogoro wa kijamii au mazingira:
Eneo teuliwa halina mgogoro wa aina yoyote ile.
- III. Eneo liwe linafikika kirahisi kwa usafiri wa barabara kutoka pande zote za nchi:
Kijiji cha Rwambaizi kinafikika kwa urahisi muda wote.
- IV. Upatikanaji wa huduma za afya, maji, na umeme kwa kuwa karibu na eneo lililopendekezwa:
Huduma za afya na umeme zinapatikana katika eneo teule. Aidha kuna miradi miwili ya maji, mmoja unahusisha usambazaji wa maji katika halmashauri nzima ya Karagwe na mradi wa pili wa usambazaji wa maji wenye thamani ya zaidi ya milioni 900, katika kijiji cha Rwambaizi pekee.
- V. Halmashauri pendekezwa isiwe na shule ya serikali kongwe au kubwa ya kitaifa:
Halmashauri ya Wilaya ya Karagwe haina shule kongwe wala kubwa ya kitaifa, inazo jumla ya shule za sekondari 22 na shule moja tu ya Bugene inachukua wanafunzi wa kidato cha kwanza hadi cha sita.

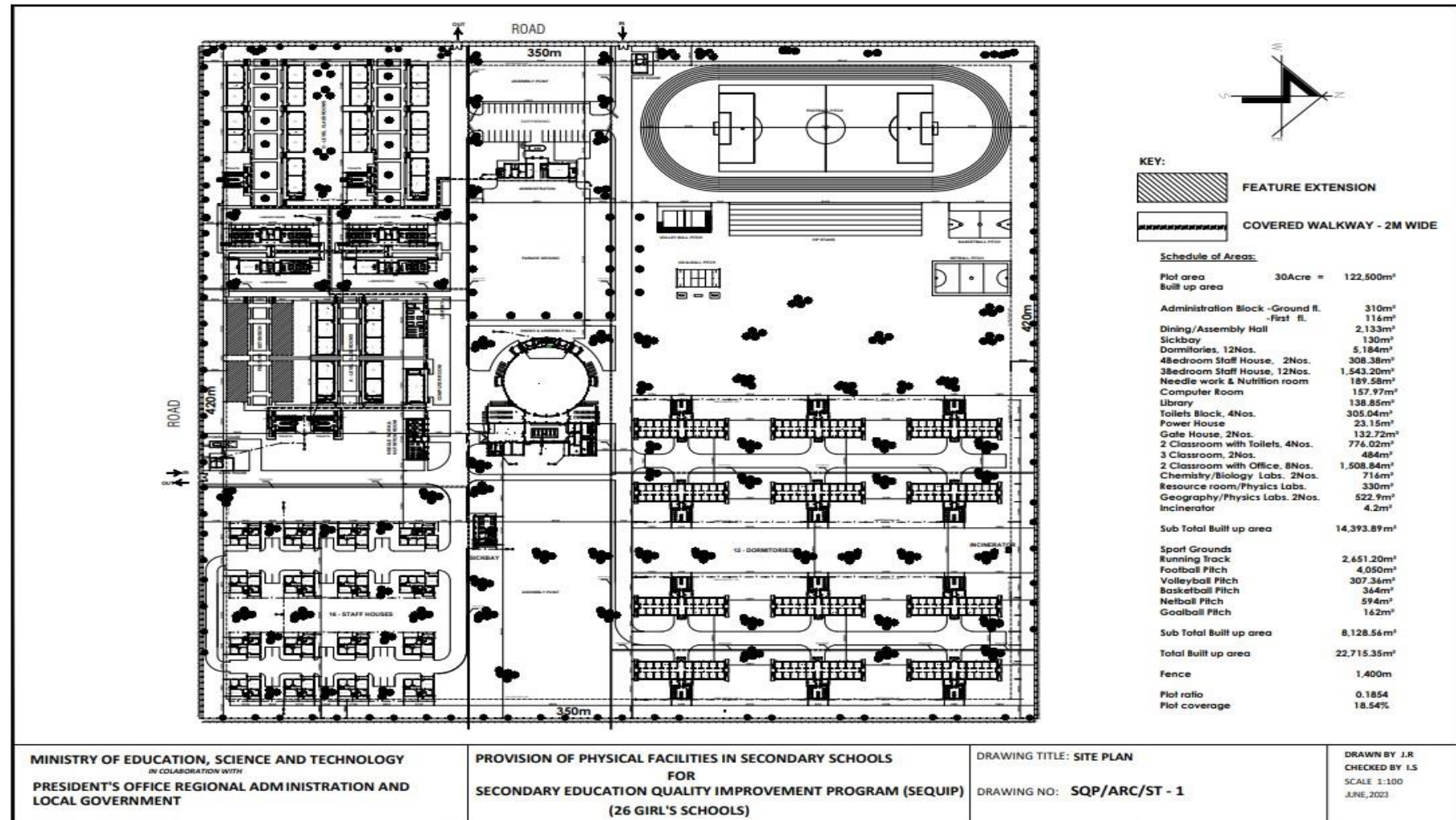
Nashukuru kwa ushirikiano.



Prof. Faustin Kamuzora
**KATIBU TAWALA MKOA
KAGERA**

STR

APPENDIX V: SITE LAYOUT PLAN






MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
 IN COLLABORATION WITH
 PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND
 LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)
 (26 GIRL'S SCHOOLS)

DRAWING TITLE: SITE PLAN
 DRAWING NO: SQP/ARC/ST - 1

DRAWN BY J.R
 CHECKED BY I.S
 SCALE 1:100
 JUNE, 2023

NON-TECHNICAL EXECUTIVE SUMMARY FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF KAGERA RIVER GIRLS SECONDARY SCHOOL TO BE LOCATED ON PLOT NO.2, BLOCK “A” AT RWAMBAIZI VILLAGE, KANONI WARD, KARAGWE DISTRICT IN KAGERA REGION

PROPONENT	
 TAMISEMI	The Permanent Secretary President's Office Regional Administration and Local Government (PORALG) P. O. Box 1923 Dodoma, Tanzania Telephone: +255 262 321 234 Email: ps@tamiseми.go.tz
SUBMITTED TO:	PREPARED BY:
 National Environmental Management Council (NEMC) Western Zone NSSF Mafao House, 1st Floor P.O. Box 974, Kigoma/Ujiji Tel: +255 738 037307 E-mail: nemckigoma@nemc.or.tz	 Plot No. 83, Wakulima Road, Hananasif Estate P. O. Box 31517, Dar es Salaam. Phone: +255735100105 E-mail: info@tansheq.co.tz Web: www.tansheq.co.tz

Introduction

The Government of United Republic of Tanzania (URT) in collaboration with the World Bank has prepared the Secondary Education Quality Improvement Project (SEQUIP). The objectives of SEQUIP are to increase access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. In summary, activities under SEQUIP will be structured into four main components:

Component 1: Empowering Girls through Secondary Education and Life Skills

1.1 Creating Safe Schools: Implementation of the Safe Schools Program including:

- Trained school guidance and counselling teachers;
- Students' life skills training through girls' and boys' clubs by the guidance and counselling teachers; In-service training of secondary school teachers on the teacher code of conduct and gender sensitive pedagogical approaches;
- Training of school heads and School Boards on GBV, safe school issues etc.;
- i. School and classroom monitoring system for early identification of and intervention on girls at risk of drop out; and
- ii. Community-based mechanism for safe passage to school.

1.2 Promoting Girls' Completion of Secondary Education through Quality Alternative Education Pathways including:

- i. Setting up an ICT-enabled system for tracking girls dropping out at national and district level to provide key information for AEP planning and implementation.
- ii. Alternative Education Centers and LGAs undertaking local outreach activities to out-of-school girls in the community which will include activities such as AEP center-organized community meetings, information via local radio, flyers and brochures.
- iii. Enhancing access to Alternative Education Pathways through (i) expansion of the network of AEP centers; and (ii) tuition fee subsidies for vulnerable girls.
- iv. A quality package for strengthening student learning in Alternative Education Pathways will also be implemented
- v. Environmental and Social Management Framework –Tanzania - Secondary Education Quality Improvement Project (SEQUIP)

Component 2: Digitally Enabled Effective Teaching and Learning

2.1 Effective Teaching and Learning

- i. Minimum package of critical teaching and learning resources for all schools: This package consists of an adequate number of textbooks and teacher guides in core subjects (English, Math and Sciences).
- ii. Equitable, gender-balanced teacher deployment to schools
- iii. In-service teacher training/continuous professional development (CPD) to improve classroom teaching practice for secondary English, Mathematics and Science teachers
- iv. Evaluate student learning in lower secondary to provide opportunities for remedial use: to allow for targeted early intervention to prevent girl dropout due to learning difficulties

2.2 Digitally-enabled Teaching of Math Sciences and English:

- i. Development of an ICT in Education Strategy and plan for secondary education.
- ii. Digital content and connectivity package to facilitate the teaching of English, Mathematics and Science in phases.

Component 3: Reducing Barriers to Girls' Education through Facilitating Access to Secondary Schools

Expansion of the secondary school network to substantially reduce the distance to secondary schools through an expansion of the secondary school network, especially in rural areas. SEQUIP will disburse project funding on the basis of the number of schools in each LGA meeting minimum infrastructure standards

Support upgrading existing secondary schools with the minimum infrastructure package (number of classrooms/students, adequate WASH facilities; multi-purpose science labs, electricity, etc.) with the objective is that at least 50 percent of all existing schools in all LGAs will meet the minimum standards set.

Component 4: Technical Assistance, Impact Evaluation and Project Coordination Environmental and Social Management Framework –Tanzania - Secondary Education Quality Improvement Project (SEQUIP). SEQUIP will be jointly implemented by the Ministry of Education, Science and Technology (MoEST) and the President's Office, Regional Administration and Local Government (PO-RALG).

Tansheq Limited, a NEMC registered environmental consulting firm with offices at House No. 83 Wakulima/Ngano Rd, Hananasif Estate and P.O. Box 31517 Dar es Salaam, has been contracted by Po-RALG as Implementing Supporting Team (IST).

Project Location and Accessibility

The proposed project site is administratively located at Rwambaizi village, Kanoni ward in Karagwe District- Kagera Region and is surrounded by vegetation and hills though its 1km apart from Rwambaizi Secondary School.

The project site can be accessed through Bukoba-Kyaka-Bugene road which does not need any improvements since it's a tarmac road and Omugakorongo-Murongo road whereas this requires improvement since it's an earth but so far TARURA has included it in the budget hence it's to be improved soon with tarmac. The proposed site is located 1km from Rwambaizi Secondary School and about 23km from the district council office.

Project Description

The school construction and design will consist of a required infrastructure package based on the school construction and maintenance strategy (e.g. number of classrooms/students, adequate WASH facilities, especially important for girls; multi-purpose science labs, electricity, etc.). The construction package will involve the following buildings;

Classrooms

The classrooms are designed following Education Bulletin number 1 of 2007 that directs capacity of each classroom level, 30 students for advance and 40 students for ordinary level. However, schedule of materials indicates each classroom will be having capacity of 40 students.

Construction will be undertaken in two phases. The first phase will involve construction of 12 classrooms within six blocks followed by the second phase that will involve the construction of 6 classrooms which will be of 3 different designs (2 classrooms with office, 2 classrooms with toilet and a 2 classrooms block). The proposed project development will adhere to the fire and rescue force directives for public premises.

The Education Global Practice Africa Region report prepared by World Bank provides the following directives; Student classroom ratios of 50:1 or less, student to functioning latrine ratio of 25:1 for girls and 30:1 for boys, at least one multipurpose science laboratory, student textbook ratios in mathematics and science subjects of 1:1, teacher: teacher guide availability of 2:1.

Laboratories

Education Bulletin number 1 of 2007 explain the capacity and set up of laboratory building for each level is 40 students, The scheduling of materials will adhere the bulletin as the following laboratory rooms will be constructed;

- Physics and geography lab
- Chemistry and biology lab,
- ICT room which is to be constructed in the second phase, and
- Domestic science

Administration block

The bulletin indicate for the school having capacity of 1000 student plus need to have not less than 40 teachers excluding other staffs such as school bursar, secretary etc. The administrative building will be constructed as an elevated building whereas only one (1) building will be constructed.

Toilets

The proposed toilet facility will comprise of one block with 16 holes to be constructed standalone as scheduling shows with estimates of one (1) hole for twenty (20) people, nevertheless, some of classrooms will be having sanitary rooms as designed, dormitory, and dining hall will also be having sanitary rooms.

The development of sanitary facilities is necessary to ensure the surrounding environment is well-managed and ensuring social well-being and practical operation of the school since human dignity is directly linked to access of safety and hygienic sanitation.

Dining hall

The Dining Hall is a pivotal gathering space on School's campus and is emblematic of The Family Boarding School ideal. The school will be having enough dinning space to all students since it is a boarding school thus meal will be served. According to the designs of the dining hall, it has the capacity of 2000 students.

Staff houses

The teachers' houses are designed to attract teachers out to the countryside, as well as to increase teachers morally to perform their duties unlike if they are coming far from the school. The design considers the staff house to have one (1) master bedroom, two (2) bedrooms/ one (1) master bedroom, three (3) bedrooms with Public toilet, Sitting room/dining, Kitchen and Store. Four (4) of the staff houses will be constructed.

Dormitories

Dormitories are places where students stay. The student housing must also aim to provide healthy and acoustically pleasant environments for the protection, comfort, and productivity of the students. The dormitories are designed as per provided to meet the SEQUIP objectives having a capacity to accommodate 120 students. For phase one five (5) buildings will be constructed while for phase two four (4) buildings.

Library

The library is important because it affects cultures, it affects innovation, and it affects individuals. Because of all this, library architecture has the responsibility to enhance these effects by providing a knowledge center that is inspirational and conducive to good communication and teaching interactions.

According to designs, the library to be constructed will accommodate 52 students for readings and the computer learning room will accommodate 8 students.

Sick bay

A sick bay provides a dedicated space for students who may feel unwell or require immediate medical attention. It will serve as a primary point of care within the school premises, allowing for timely assessment and treatment of minor illness or injuries.

Incinerator

This will provide a safe and efficient men of disposing waste specifically biomedical waste such as used sanitary pads, medical supplies and other potentially hazardous materials.

Other components that will be constructed within school compounds area are Playgrounds, Water tunnel, Water tank (hippo) and its pillars), Manhole and gully trap, Walkway & Paving.

Project activities

Main activities of the project include preconstruction, Construction, Operations, and decommissioning.

Mobilization phase/Pre-Construction Activities

The mobilization phase of the project, which is estimated to take average of maximum three months, will entail the following activities:

- Establishment of construction of camps, material and equipment storage areas, materials processing yards, including sanitation facilities. The following activities will be involved during establishment of the camp.
 - Bush clearing.
 - Construction of Material and equipment storage areas
 - Construction of sanitation facilities
 - Installation of electrical infrastructure
 - Installation of water and wastewater infrastructure
- Identification of naturally-occurring material borrow sites (sand, fill, gravel borrow and quarry sites),
- Identification of sources of water for domestic and construction works

Construction Phase

The construction phase of the project, which is estimates to take 12 month for each of the phase one and will encompass following major activities:

- Earth works to facilitate widening and re-alignment of the road. Earth works will entail the following activities:
 - e) Clearing and grubbing (clearing of vegetation, including trees).
- Extraction of naturally occurring construction materials. This will include:
 - f) Excavation and transport of natural sand, gravel, and sub-base materials to construction sites
 - g) Stone quarrying (including blasting), crushing and transport of crushed aggregates to construction sites
 - h) Transport and handling of fuel, lubricants etc. from their sources to the project site
- Transport of construction materials from source to site such as roof, steel, woods, nails, rope

Operation phase

The maintenance activities of the Overall, SEQUIP will contribute to increasing total enrolment in secondary school by 1.8 million students and increase the number of girls graduating from both secondary schools and alternative secondary education pathways.

Decommissioning Phase

After completion of construction, all the utilities which were used shall be reverted to the Municipal Director who will decide on their future use. The main activities during demobilization phase, will engross the following:

- Collection and disposal of storage facilities such as pallets, packing, boxes
- Collection and disposal of construction materials and waste such as waste oil, sewage, solid waste (plastics, wood, metal, papers, etc.) at the workshop, site office etc. to authorized

- dumpsite
- Restoration of material borrows areas to safer condition

Project Cost

Total Project Cost is four billion Tanzanian shillings

Legal Framework

Relevant sectorial and cross-sectorial policies that provide directives on how projects should be operated

In/on concerned natural resources and sensitive ecosystems are:

- The National Energy Policy, 2015
- Education and training policy, 2014
- The National Environmental Policy, 2021
- The Occupational Health And Safety Policy 2009
- The National Employment Policy, 2008
- The National Research And Development Policy, 2010
- The National Biotechnology Policy, 2010

Key legislation, which PO-RALG must adhere to during implementation of this project, includes:

- The Education Act, Cap.353.
- The Law Of The Child Act, Cap. 13 R.E 2019
- The Engineers Registration Act, Cap 63
- The Architects and Quantity Surveyors Act, Cap 267
- The Workers Compensation Act, Cap 263
- The Persons With Disabilities Act, Cap 183
- The Occupier Liability Act, Cap 64
- The standard Act, Cap. 130
- The Environmental Management Act, Cap 191
- The Water Resources Management Act, Cap 331
- The Forest Act, Cap 323 R.E 2022
- The Electricity Act, Cap 131
- The Local Government (District Authorities) Act, Cap,287
- The Local Government (Urban Authorities) Act, Cap,288
- The Fire and Rescue Force (Safety Inspection and Certificates) Regulations, 2008 as Amended in 2017
- The Fire and Rescue Force (Fire Precautions in Buildings) Regulations, 2015
- The Environmental Management (Control and Management Of Electrical And Electronic Equipment Waste) Regulations, 2021

Stakeholder Involvement and Participation

The Consultants identified organizations, groups, and individuals considered to be key stakeholders that

Might be impacted by the project components or have influence on the project.

- Region Academic Officer, (RAO), Regional Community Development Officer (RCDO).
- District Executive Director (DED) in Karagwe District, District Environmental Management Officer (DEMO) and District Secondary Education Officer (DSEO)
- Ward Exevutive Officer (WEO)
- Rwambaizi village chairperson
- Local Fundi

Stakeholders Opinions and Concerns

The stakeholder consultations identified both positive opinions and negative concerns. Stakeholders had positive opinions of the project in terms of:

- Education opportunities to the specific project area and surrounding communities
- Rising of Chemchem Ward's economy as a result of population increase

Stakeholders were concerned about:

- Contractor should increase speed of construction so as the school to start operation.

ENVIRONMENTAL AND SOCIAL IMPACTS

The following impacts were identified in the various project development stages such as mobilization and construction, operational as well as decommissioning stage. These impacts were as follows:

Mobilization/Construction Stage:

- Loss/disturbance of biodiversity and threatened species
- Atmospheric emissions from engines of vehicles
- Dust and noise pollution from mobilization vehicles.
- Public health hazards and safety from construction of supportive infrastructure.
- Land disturbance.
- Roads accidents of the moving vehicles

Operation Stage:

- Disruption of air quality from emissions of exhaust and fugitive gases
- Disturbance to surrounding communities due to increased noise levels
- Aesthetic degradation, environmental pollution and outbreak of diseases and injuries due to improper management of surrounding hazardous and non-hazardous solid waste materials
- General health and safety impacts
- Increased population density

Socio – Economic Aspects:

- A more educated workforce in the country
- Decrease in unemployment rates
- Increase in income levels resulting to benefit to the government from taxes provided
- Women empowerment
- A more balanced and diverse demographic landscape with improved gender representation and opportunities for women in the respective regions and country

Decommissioning Stage:

- Abandoned infrastructure.
- Unemployment.
- Loss of revenue to the government

Enhancement of Positive Socio-Economic Impacts:

- Employment and training especially during construction
- Increased income/revenue/induced development.
- Increased income by utilization of local resources.
- Support to local social services and livelihood.

PROJECT ALTERNATIVES ANALYSIS

Different options were considered for the project. Analysis of alternatives compares reasonable alternatives to the proposed project site, technology, design, and operation in terms of their potential environmental and social impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements.

It also states the basis for selecting the particular project designs proposed and justifies recommended emission levels and approaches to pollution prevention and abatement.

Alternatives considered for this project were the following

- k) No-Go alternative,
- l) Design and technological considerations
- m) Location alternative
- n) Energy alternative
- o) Water alternative

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental Impact Assessment for the proposed construction of Regional Girls Secondary School, has identified a number of impacts that are likely to arise during construction and operation stage of the proposed project.

The EIA has examined bio-physical, socio-economic and cultural effects of the proposed activity from site clearance, school construction and the school operation.

The real benefits of the proposed project can result only if the risks of the identified adverse impacts are minimized. This can be accomplished through implementation of adequate preventive and mitigation measures by formulating policies to cover them accordingly.

Environmental Management Policy

This will ensure that Project management and staffs are carrying out their activities with the highest regard to the natural environment and sustainable utilization of environmental resources therein. The policy should therefore cover the following, among other issues:

- Ensure that all Project activities operate within legal requirements of all relevant national legislation
- That there are continuous environmental improvement and performance through monitoring of Project activities;
- Ensure that utilization of natural resources is optimal with measures in place to ensure resource availability for future generation;
- Awareness creation to the surrounding community regarding sustainable utilization of natural resources, protection of sensitive ecosystems and bio-diversity maintenance for communal livelihood; and
- Balancing between natural resource use, environmental conservation and economic development.

Occupational Health and Safety Policy

It is developed for this project so as enable establishment of appropriate measures that ensure that the health, safety and welfare of all users is cared for as well as the health requirements of the local community in which the project is located. The policy should highlight on the following, among others:

- Medical examination of workers;
- Sanitation in the Project area;
- Proper liquid and solid waste management and disposal;
- Emergency preparedness;
- Fire safety;
- Necessity and availability of personal protective equipment
- Risk minimization of accidental damage to the community and environment

Community Relations Policy

The Local Community Policy are developed by management of the Project to ensure that the management of the project develops and maintains sound relations with all stakeholders on mutual respect and active partnership. The policy should highlight on ways the management should:

- Work with the local community and relevant government departments and agencies to achieve sustainability of the project;
- Come up with ways of enhancing information flow from management to the community and Project stakeholders, and vice versa;
- Community capacity building; and
- Active engagement of the local community in all Project activities that impact on the local community.

With regard to environmental management during the pre-construction, construction, operation and decommissioning phase of the project, the principal responsibilities of each party as described below. For certain aspects of the programme, assistance will be needed from the Local Government Authorities and the NEMC (mainly in the form of guidance and advice and in project monitoring).

ENVIRONMENTAL MONITORING PLAN

This report contains a detailed plan to monitor the implementation of mitigation measures and the impacts of the project during its execution. This plan includes a cost estimate for carrying out the proposed monitoring plan.

COST BENEFIT ANALYSIS AND RESOURCES EVALUATION

Environmental cost benefit analysis is assessed in terms of the negative and positive impacts. Furthermore, the analysis is considering whether the impacts are mitigatable and the costs of mitigating the impacts are reasonable. As it has been mentioned in Chapters 7 and 8, the potential benefits of the project, in terms of economic advancement and social benefit are substantial.

The environmental impacts are reasonably mitigatable. So to mitigate negative impacts, when compared to the required data are relatively small.

Social Cost Benefit Analysis

The benefits from project development can be judged in terms of employment, social welfare, education development, infrastructure development and the local economy (wages, goods and services). Thus, there will be a substantial spread of the benefit within the community through the provision of food, accommodation and other regular services to the employees and students.

Furthermore, the upgrading, development and maintenance of local infrastructure are benefits that will extend far beyond the project's scope and lifetime.

DECOMMISSIONING

Decommissioning is the last phase of project life. It involves terminating project activities and operations and rehabilitating site to or close to its original state. It is anticipated that the project shall continue as long as there is a demand for a project, however, individual components of the project shall be decommissioned as need be.

CONCLUSION

The project will have both positive and negative impact to the environment and the local communities along it. Measures have been proposed to enhance impacts which are positive to the environment and the local people.

For those impacts that are negative, mitigation measures have been proposed to avoid or abate them to the extent possible for the purpose of maximizing benefits of the school project and minimizing detriments of the project intervention to the communities.

Overall, the project shall act as a catalyst for positive change in the surrounding communities by improving education, infrastructure and social well-being, and by involving and engaging the local residents, the project can have a lasting impact and contribute to the overall development of the region.

MUHTASARI

UTANGULIZI

Serikali ya Jamhuri ya Muungano wa Tanzania (JMT) kwa kushirikiana na Benki ya Dunia wameandaa Mradi wa Kuboresha Ubora wa Elimu ya Sekondari. Lengo la mradi huu ni kuongeza upatikanaji wa elimu ya sekondari, kutoa mazingira bora ya kujifunzia kwa wasichana na kuboresha uhitimu wa elimu ya sekondari kwa wasichana na wavulana. Kwa ufupi, Mradi huu umegawanywa katika sehemu kuu nne:

Sehemu ya 1: Kuwawezesha Wasichana kupata Elimu ya Sekondari na Ujuzi wa Maisha.

1.1 Kuunda Shule Salama: Kutekeleza Programu ya Shule Salama ikiwa ni pamoja na:

- i. Walimu wa ushauri;
- ii. Mafunzo ya stadi za maisha kwa wanafunzi kupitia klabu za wasichana na wavulana zinazoendeshwa na walimu wa ushauri; Mafunzo ya walimu wa shule za sekondari kuhusu kanuni za tabia na njia za ufundishaji zenye kuzingatia usawa wa kijinsia;
- iii. Mafunzo ya viongozi wa shule na Bodi za Shule kuhusu Ukosefu wa usawa wa kijinsia, masuala ya shule salama nk.
- iv. Mfumo wa ufuatiliaji wa shule na darasa kwa kutambua mapema na kuingilia kati kwa wasichana waliohatarini kuacha shule; na
- v. Mfumo wa jamii kwa ajili ya njia salama ya kufika shuleni.

1.2 Kuchochea Uhitimu wa Wasichana wa Elimu ya Sekondari kupitia Njia za Elimu Mbadala Bora, ikiwa ni pamoja na:

- i. Kuweka mfumo ulio na teknolojia ya habari na mawasiliano (ICT) wa kufuatilia wasichana wanaoacha shule kwa kiwango cha kitaifa na wilaya ili kutoa taarifa muhimu kwa ajili ya kupanga na utekelezaji wa Programu ya Elimu Mbadala.
- ii. Vituo vya Elimu Mbadala na Halmashauri za Wilaya kufanya shughuli za kuwafikia wasichana ambao hawako shuleni katika jamii, ambazo zitajumuisha shughuli kama vile mikutano ya jamii iliyoandaliwa na vituo vya Programu ya Elimu Mbadala, taarifa kupitia redio za ndani, vipeperushi na brosha.
- iii. Kuongeza upatikanaji wa Programu za Elimu Mbadala kupitia (i) upanuzi wa mtandao wa vituo vya Programu ya Elimu Mbadala; na (ii) ruzuku ya ada ya masomo kwa wasichana walio katika mazingira hatarishi.
- iv. Pia kuwepo kwa mfuko wa ubora wa kuimarisha ufunduzi kwa wanafunzi katika Programu za Elimu Mbadala
- v. Mfumo wa Usimamizi wa Mazingira na Jamii - Tanzania - Mradi wa Kuboresha Ubora wa Elimu ya Sekondari (SEQUIP)

Sehemu ya 2: Ufundishaji na Ujifunzaji Uliomaswa Kwa Kutumia Teknolojia

2.1 Ufundishaji na Ujifunzaji Uliofaa

- i. Vifurushi vya chini vya rasilimali muhimu za kufundishia na kujifunzia kwa shule zote: Kifurushi hiki kinajumuisha vitabu vya kutosha na miongozo ya walimu katika masomo ya msingi (Kiingereza, Hisabati na Sayansi).
- ii. Upangaji wa walimu wenye usawa na usawa wa kijinsia katika shule.
- iii. Mafunzo ya walimu katika utumishi/ukufunzi wa kitaaluma (CPD)
- iv. Kuimarisha mazoezi ya ufundishaji darasani kwa walimu wa Kiingereza, Hisabati na Sayansi katika shule za sekondari.
- v. Kuchunguza ujifunzaji wa wanafunzi katika elimu ya sekondari ya chini ili kutoa fursa za matumizi ya marekebisho: ili kutoa fursa ya kuingilia kati kwa lengo la kuzuia wasichana kuacha shule kutokana na ugumu wa kujifunza.

2.2 Ufundishaji kwa Kutumia Teknolojia ya Mawasiliano na Habari katika Hisabati, Sayansi na Kiingereza:

- i. Kuandaa Mkakati na mpango wa Teknolojia ya Habari na Mawasiliano katika Elimu ya Sekondari.
- ii. Kifurushi cha maudhui ya kidijitali na huduma za mawasiliano kufanikisha ufundishaji wa Kiingereza, Hisabati na Sayansi kwa awamu.

Sehemu ya 3: Kupunguza Vizuizi vya Elimu ya Wasichana kwa Kurahisisha Upatikanaji wa Shule za Sekondari Upanuzi wa mtandao wa shule za sekondari ili kupunguza umbali kwa kiasi kikubwa kwa shule za sekondari kwa njia ya kupanua mtandao wa shule za sekondari, hasa katika maeneo ya vijijini.

Mradi huu utatoa ufadhili wa mradi kulingana na idadi ya shule katika kila Halmashauri inayokidhi viwango vya miundombinu ya chini kusaidia kuboresha shule za sekondari zilizopo na mpango wa miundombinu ya chini (idadi ya madarasa/wanafunzi, miundombinu ya kutosha; maabara za sayansi za shughuli mbalimbali, umeme, nk.) kwa lengo la kuhakikisha kuwa angalau asilimia 50 ya shule zote zilizopo katika Halmashauri zote zinakidhi viwango vya chini vilivyowekwa.

Sehemu ya 4: Msaada wa Kiteknolojia, Tathmini ya Athari, na Ushirikiano wa Mradi Mfumo wa Usimamizi wa Mazingira na Jamii – Tanzania - Mradi wa Kuboresha Ubora wa Elimu ya Sekondari. Mradi huu utatekelezwa kwa pamoja na Wizara ya Elimu, Sayansi na Teknolojia na Ofisi ya Rais, Tawala za Mikoa na Serikali za Mitaa (TAMISEMI).

Tansheq Limited, kampuni inayojishughulisha na ushauri elekezi wa mazingira iliyosajiliwa na Baraza la Taifa la Uhifadhi na Usimamizi wa Mazingira, yenye ofisi zake katika mkoa wa Dar es Salaam , S.L.P 31517, Dar es Salaam, imeingia mkataba na TAMISEMI kwa ajili ya utekelezaji wa kufanya tathmini ya Athari ya Mazingira.

Eneo na Upatikanaji wa Mradi

Eneo la mradi lililopendekezwa lipo kwa kiwango cha utawala katika kijiji cha Rwambaizi, kata ya Kanoni katika Wilaya ya Karagwe, Mkoa wa Kagera na linazungukwa na mimea na milima ingawa lipo umbali wa kilomita 1 kutoka Shule ya Sekondari Rwambaizi.

Eneo la mradi linaweza kufikiwa kupitia barabara ya Bukoba-Kyaka-Bugene ambayo haitahitaji marekebisho yoyote kwani ni barabara ya lami na barabara ya Omugakorongo-Murongo ambayo inahitaji marekebisho kwani ni barabara ya udongo lakini mpaka sasa TARURA imeiweka katika bajeti hivyo itaboreshwa hivi karibuni kwa lami. Eneo lililopendekezwa liko umbali wa kilomita 1 kutoka Shule ya Sekondari Rwambaizi na takriban kilomita 23 kutoka ofisi ya halmashauri ya wilaya.

Maelezo ya Mradi:

Ujenzi na ubunifu wa shule utajumuisha mfuko wa miundombinu uliohitajika kulingana na mkakati wa ujenzi na matengenezo ya shule (k.m. idadi ya madarasa/wanafunzi, miundombinu ya maji inayotosha, hasa muhimu kwa wasichana; maabara ya sayansi ya matumizi mbalimbali, umeme, nk.). Mfuko wa ujenzi utahusisha majengo yafuatayo.

Madarasa

Madarasa yameundwa kufuatana na Kanuni za Elimu namba 1 ya mwaka 2007 ambazo zinaelekeza uwezo wa kila darasa, wanafunzi 30 kwa darasa la juu na wanafunzi 40 kwa darasa la kawaida. Hata hivyo, ratiba ya vifaa inaonyesha kila darasa litakuwa na uwezo wa wanafunzi 40.

Ujenzi utafanyika kwa awamu mbili. Awamu ya kwanza itahusisha ujenzi wa madarasa 12 katika majengo sita, ikifuatiwa na awamu ya pili ambayo itahusisha ujenzi wa madarasa 6 ambayo yatakuwa na miundo tofauti (madarasa 2 yatakuwa na ofisi, madarasa 2 yatakuwa na choo, na majengo 2 ya madarasa). Maendeleo ya mradi yaliyopendekezwa yatazingatia maelekezo ya idara ya zimamoto na uokoaji kwa majengo ya umma.

Maabara

Kanuni za Elimu namba 1 ya mwaka 2007 inaelezea kuwa uwezo na muundo wa majengo ya maabara kwa kila ngazi ni wanafunzi 40. Ratiba ya vifaa itazingatia kanuni hiyo na maabara zifuatazo zitajengwa:

- Maabara ya Fizikia na Jiografia
- Maabara ya Kemia na Biolojia
- Chumba cha Teknolojia ya Habari na Mawasiliano ambayo itajengwa katika awamu ya pili.

Jengo la Utawala

Kanuni inaonyesha kuwa shule yenye uwezo wa wanafunzi 1000 au zaidi inapaswa kuwa na walimu wasiopungua 40 bila kuhesabu wafanyakazi wengine kama mhasibu wa shule, katibu, nk. Jengo la utawala litajengwa kama jengo lililoinuliwa ambapo jengo moja tu litajengwa.

Vyoo

Muundo wa choo uliopendekezwa utajumuisha jengo moja lenye mashimo 16 ambalo litajengwa kama jengo huru na kila shimo moja kwa watu ishirini (20). Vyoo vingine vitajengwa kwenye majengo ya madarasa, mabweni na sehemu ya chakula.

Maendeleo ya miundombinu ya vyoo ni muhimu kuhakikisha mazingira yanayozunguka yanadhibitiwa vizuri na kuhakikisha ustawi wa kijamii na uendeshaji wa shule kwa kuwa utu wa binadamu unahusiana moja kwa moja na upatikanaji wa vyoo salama na safi.

Chumba cha Chakula

Chumba cha chakula ni nafasi muhimu ya kukusanyika kwenye eneo la shule na ni ishara ya wazo la Shule ya Bweni kama familia. Shule itakuwa na nafasi ya kutosha ya chakula kwa wanafunzi wote kwa kuwa ni shule ya bweni hivyo chakula kitahudumiwa. Kulingana na muundo wa chumba cha chakula, kinaweza kuhudumia wanafunzi 2000.

Nyumba za wafanyakazi

Nyumba za walimu zimeundwa ili kuwavutia walimu kuishi vijijini, pamoja na kuongeza motisha kwa walimu kutekeleza majukumu yao kuliko wakija kutoka mbali na shule. Muundo unazingatia kuwa

nyumba za wafanyakazi zitakuwa na vyumba vitatu vya kulala / vyumba vinne vya kulala vyenye choo cha umma, sebule/jiko, chumba cha kulia na ghala. Nyumba nne (4) za wafanyakazi zitajengwa.

Mabweni

Mabweni ni sehemu ambapo wanafunzi wanakaa. Makazi ya wanafunzi lazima pia yalenge kutoa mazingira yenye afya na sauti nzuri kwa ulinzi, faraja, na ufanisi wa wanafunzi. Mabweni yameundwa kulingana na malengo ya EQUIP na kwa uwezo wa kuhifadhi wanafunzi 120. Katika awamu ya kwanza, majengo matano (5) yatajengwa, wakati katika awamu ya pili, majengo manne (4) yatajengwa.

Maktaba

Maktaba ni muhimu kwa sababu inaathiri utamaduni, inaathiri ubunifu, na inaathiri watu binafsi. Kwa sababu ya hayo yote, usanifu wa maktaba una wajibu wa kuimarisha athari hizi kwa kutoa kituo cha maarifa ambacho kinatoa hamasa na kinafaa kwa mawasiliano bora na mwingiliano wa kufundisha.

Kulingana na miundo, maktaba itakayojengwa itakuwa na uwezo wa kuhudumia wanafunzi 52 kwa ajili ya kusoma, na chumba cha kujifunzia kompyuta kitakachohudumia wanafunzi 8.

Chumba cha huduma za afya

Chumba cha Huduma za Afya kwa Wanafunzi Wagonjwa hutoa nafasi maalum kwa wanafunzi ambao wanaweza kujisikia vibaya au wanahitaji huduma ya matibabu ya haraka. Itatumika kama kituo kikuu cha huduma ndani ya eneo la shule, kuruhusu tathmini na matibabu ya wakati unaofaa kwa magonjwa madogo au majeraha.

Kichomea taka

Kichomea taka hiki kitatoa njia salama na yenye ufanisi ya kuharibu taka, hasa taka za kitabibu kama vile pedi zilizotumika, vifaa vya matibabu, na vifaa vingine hatari.

Vipengele vingine vitakavyojengwa ndani ya eneo la shule ni Maeneo ya Kuchezea, Mtaru wa Maji, Tangi la Maji (Tangi la maji 'hippo' na nguzo zake), Mfereji wa Maji, Njia za Kutembelea.

Shughuli za Mradi

Shughuli kuu za mradi zinajumuisha maandalizi kabla ya ujenzi, ujenzi, uendeshaji, na kufunga mradi..

Maandalizi kabla ya ujenzi

Maandalizi kabla ya ujenzi, ambayo yanakadiriwa kuchukua muda wa kati ya miezi mitatu, yatajumuisha shughuli zifuatazo:

- Kuanzishwa kwa kambi za ujenzi, maeneo ya kuhifadhi vifaa, maeneo ya usindikaji vifaa, pamoja na miundombinu ya vyoo. Shughuli zifuatazo zitahusika wakati wa kuanzisha kambi:
 - Kufyeka vichaka.
 - Ujenzi wa maeneo ya kuhifadhi vifaa .
 - Ujenzi wa miundombinu ya vyoo.
 - Ufungaji wa miundombinu ya umeme.
 - Ufungaji wa miundombinu ya maji na maji taka.
- Kutambua maeneo ya asili ambapo vifaa vinaweza kupatikana (kama vile mchanga, kifusi, na jiwe kutoka kwenye machimbo),
- Kutambua vyanzo vya maji kwa ajili ya matumizi ya kazi za ujenzi.

Hatua ya Ujenzi

Hatua ya ujenzi ya mradi, ambayo inakadiriwa kuchukua miezi 12 kwa kila awamu ya kwanza, itajumuisha shughuli kuu zifuatazo:

- Uundaji wa ardhi ili kurahisisha upanuzi na urekebishaji wa barabara. Kazi za uundaji wa ardhi zitajumuisha shughuli zifuatazo:
 - a) Kufyeka na kutoa mizizi (kuondoa mimea, ikiwa ni pamoja na miti).
- Kupata vifaa vya ujenzi. Hii itajumuisha:
 - i) Kuchimba na kusafirisha mchanga, kifusi, na vifaa vingine kwa ajili ya msingi wa ujenzi kwenye maeneo ya ujenzi.
 - ii) Kuchimba mawe (ikiwa ni pamoja na kulipua), kuyavunja na kusafirisha vifusi vilivyovunjwa kwenye maeneo ya ujenzi.
 - iii) Kusafirisha na kushughulikia mafuta, mafuta ya kupaka, n.k. kutoka vyanzo vyao hadi eneo la mradi.
- Kusafirisha vifaa vya ujenzi kutoka chanzo hadi eneo la ujenzi kama vile bati, chuma, mbao, misumari, kamba, nk.

Muhula wa Utekelezaji

Shughuli za utekelezaji wa SEQUIP kwa ujumla, zitasaidia kuongeza idadi ya wanafunzi wanaoijiunga na shule za sekondari kwa wanafunzi milioni 1.8 na kuongeza idadi ya wasichana wanaohitimu kutoka shule za sekondari na njia mbadala za elimu ya sekondari.

Muhula wa Kufuta Kazi

Baada ya kukamilika kwa ujenzi, vifaa vyote vilivyotumiwa vitarejeshwa kwa Mkurugenzi wa Wilaya ambaye atafanya uamuzi juu ya matumizi yao ya baadaye. Shughuli kuu wakati wa awamu ya kufuta kazi zitajumuisha yafuatayo:

- Ukusanyaji na kuteketeza vifaa vya kuhifadhi kama vile pallets, pakiti, masanduku
- Ukusanyaji na kuteketeza vifaa na taka za ujenzi kama vile mafuta machafu, maji taka, taka ngumu (plastiki, kuni, metali, karatasi, nk) katika karakana, ofisi za eneo la kazi, n.k. kwenye dampo rasmi
- Kurejesha maeneo ya kuchimba kokoto kwenye hali salama Zaidi

Gharama za Mradi

Jumla ya Gharama za Mradi ni shilingi bilioni nne za Kitanzania.

Mfumo wa Kisheria

Sera muhimu za kisekta na zisizo za kisekta ambazo zinatoa maelekezo juu ya jinsi miradi inavyopaswa kuendeshwa kuhusiana na rasilimali za asili na mifumo inayoteketezwa kwa urahisi ni:

- i. Sera ya Taifa ya Nishati, 2015
- ii. Sera ya Elimu na Mafunzo, 2014
- iii. Sera ya Taifa ya Mazingira, 2021
- iv. Sera ya Afya na Usalama Kazini, 2009

- v. Sera ya Taifa ya Ajira, 2008
- vi. Sera ya Taifa ya Utafiti na Maendeleo, 2010
- vii. Sera ya Taifa ya Bioteknolojia, 2010

Sheria muhimu ambazo TAMISEMI lazima zizingatie wakati wa utekelezaji wa mradi huu ni:

- I. Sheria ya Elimu, Kifungu cha 353.
- II. Sheria ya Mtoto, Kifungu cha 13 R.E 2019
- III. Sheria ya Usajili wa Wahandisi, Kifungu cha 63
- IV. Sheria ya Wasanifu Majengo na Wathamini, Kifungu cha 267
- V. Sheria ya Fidia kwa Wafanyakazi, Kifungu cha 263
- VI. Sheria ya Watu Wenye Ulemavu, Kifungu cha 183
- VII. Sheria ya Uwajibikaji wa Mmiliki, Kifungu cha 64
- VIII. Sheria ya Viwango, Kifungu cha 130
- IX. Sheria ya Usimamizi wa Mazingira, Kifungu cha 191
- X. Sheria ya Usimamizi wa Rasilimali za Maji, Kifungu cha 331
- XI. Sheria ya Misitu, Kifungu cha 323 R.E 2022
- XII. Sheria ya Umeme, Kifungu cha 131
- XIII. Sheria ya Serikali za Mitaa (Mamlaka za Wilaya), Kifungu cha 287
- XIV. Sheria ya Serikali za Mitaa (Mamlaka za Mijini), Kifungu cha 288
- XV. Kanuni za Jeshi la Moto na Uokoaji (Uangalizi wa Usalama na Vyeti), 2008 Kama ilivyorekebisha mwaka 2017
- XVI. Kanuni za Jeshi la Moto na Uokoaji (Tahadhari ya Moto Katika Majengo), 2015
- XVII. Kanuni za Usimamizi wa Mazingira (Kudhibiti na Kusimamia Taka za Umeme na Umeme), 2021

Ushiriki na Kushirikisha Wadau

Wakala wa Ushauri ulitambua taasisi, makundi, na watu binafsi walio na maslahi katika mradi ambao huenda wakaathiriwa na sehemu za mradi au wanao ushawishi juu ya mradi.

- Afisa Elimu wa Mkoa (RAO), Afisa wa Maendeleo ya Jamii wa Mkoa (RCDO).
- Mkurugenzi wa Halmashauri ya Wilaya (DED) wa Wilaya ya Karagwe, Afisa usimamizi wa mazingirawa wilaya na Afisa wa Afya wa Wilaya (DHO)
- Afisa Mtendaji wa Kata (WEO)

- Mwenyekiti wa kijiji cha Rwambaizi
- Fundi wa ndani

Maoni na Masuala ya Wadau

Mashauriano na wadau yalibainisha maoni mazuri na masuala hasi. Wadau walikuwa na maoni mazuri kuhusu mradi kwa upande wa:

- Fursa za elimu katika eneo maalum la mradi na jamii za jirani
- Kuongezeka kwa uchumi wa Kata ya Kanoni kama matokeo ya ongezeko la idadi ya watu

Wadau walikuwa na wasiwasi kuhusu:

- Mkandarasi anapaswa kuongeza kasi ya ujenzi ili shule hio ianze kazi mapema

ATHARI ZA MAZINGIRA NA KIJAMII

Athari zifuatazo ziligunduliwa katika hatua mbalimbali za maendeleo ya mradi kama vile uhamasishaji na ujenzi, uendeshaji na hatua ya kufuta kazi. Athari hizi zilikuwa kama ifuatavyo:

Hatua ya Uhamasishaji/Ujenzi:

- Upotevu/uvurugaji wa bioanuai na spishi zilizo hatarini
- Uzalishaji wa hewa chafu kutoka kwenye injini za magari
- Uchafuzi wa vumbi na kelele kutokana na magari ya uhamasishaji.
- Hatari za afya ya umma na usalama kutokana na ujenzi wa miundombinu ya msaada.
- Uvurugaji wa ardhi.
- Ajali za barabarani za magari yanayosafirisha vifaa.

Hatua ya Uendeshaji:

- Uvurugaji wa ubora wa hewa kutokana na uzalishaji wa moshi na gesi zinazoondoka.
- Uvurugaji kwa jamii za jirani kutokana na ongezeko la kelele.
- Uharibifu wa taswira, uchafuzi wa mazingira na kuzuka kwa magonjwa na majeraha kutokana na usimamizi usio sahihi wa taka hatari na zisizo hatari karibu na eneo hilo.
- Athari za afya na usalama kwa jumla.
- Ongezeko la msongamano wa watu.

Masuala ya Kijamii na Kiuchumi:

- Nguvu kazi iliyoelimika zaidi nchini.
- Kupungua kwa viwango vya ukosefu wa ajira.

- Kuongezeka kwa kiwango cha mapato na faida kwa serikali kutokana na kodi zinazotolewa.
- Kuwawezesha wanawake kiuchumi.
- Mandhari ya kijamii na kiuchumi iliyo na usawa na tofauti iliyoboreshwa na uwakilishi bora wa kijinsia na fursa kwa wanawake katika mikoa na nchi husika.

Hatua ya Kufuta Kazi:

- Miundo mbinu iliyoachwa.
- Ukosefu wa ajira.
- Upotevu wa mapato kwa serikali.

Kuongeza Athari Chanya za Kijamii na Kiuchumi:

- Ajira na mafunzo hasa wakati wa ujenzi.
- Ongezeko la mapato/mafao/maendeleo yaliyochochewa.
- Ongezeko la mapato kwa kutumia rasilimali za ndani.
- Msaada kwa huduma za kijamii na uhai wa kijamii wa ndani.

Uchambuzi wa Chaguzi za Mradi.

Chaguzi tofauti zilizingatiwa kwa mradi huu. Uchambuzi wa chaguzi mbadala unachunguza chaguzi sahihi kwa eneo la mradi, teknolojia, muundo, na uendeshaji kwa kuzingatia athari zake za mazingira na kijamii; uwezekano wa kupunguza athari hizo; gharama za mtaji na za kawaida; ufaa wao chini ya hali za ndani; na mahitaji yao ya taasisi, mafunzo, na ufuatiliaji.

Pia inabainisha msingi wa kuchagua miundo maalum ya mradi iliyoainishwa na kuthibitisha viwango vilivyopendekezwa vya uzalishaji na njia za kuzuia uchafuzi.

Chaguzi zilizotiliwa maanani kwa mradi huu zilikuwa zifuatazo

- a) Chaguo la Kutokwenda,
- b) Mipangilio na uteuzi wa teknolojia
- c) Chaguo la Mahali
- d) Chaguo la Nishati
- e) Chaguo la Maji

MPANGO WA USIMAMIZI WA MAZINGIRA NA JAMII

Tathmini ya Athari za Mazingira kwa ujenzi uliopendekezwa wa Shule ya Wasichana ya Mkoa, imetambua idadi ya athari ambazo zinaweza kutokea wakati wa ujenzi na uendeshaji wa mradi uliopendekezwa.

Tathmini imeangalia athari za kibiolojia, kiuchumi na kitamaduni za shughuli zilizopendekezwa kuanzia kusafisha eneo, ujenzi wa shule na uendeshaji wa shule.

Faida halisi za mradi uliopendekezwa zinaweza kujitokeza tu ikiwa hatari za athari hasi zilizotambuliwa zinapunguzwa. Hii inaweza kufanikiwa kupitia utekelezaji wa hatua za kuzuia na kupunguza athari kwa kutunga sera za kuzishughulikia ipasavyo.

Sera ya Usimamizi wa Mazingira

Hii itahakikisha kuwa usimamizi wa Mradi na wafanyakazi unafanya shughuli zao kwa kuzingatia mazingira asilia na matumizi endelevu ya rasilimali za mazingira. Sera inapaswa kushughulikia mambo yafuatayo, pamoja na mengine:

- Hakikisha kuwa shughuli zote za Mradi zinaendeshwa kwa kuzingatia mahitaji ya kisheria ya sheria za kitaifa zinazohusiana na mazingira.
- Kuhakikisha kuwa kuna maboresho endelevu ya mazingira na utendaji kupitia ufuatiliaji wa shughuli za Mradi.
- Kuhakikisha matumizi bora ya rasilimali za asili na kuweka mikakati ili kuhakikisha upatikanaji wa rasilimali kwa kizazi kijacho.
- Kuongeza uelewa kwa jamii inayozunguka kuhusu matumizi endelevu ya rasilimali za asili, ulinzi wa mazingira nyeti na uhifadhi wa bioanuai kwa maisha ya pamoja.
- Kupata uwiano kati ya matumizi ya rasilimali za asili, uhifadhi wa mazingira na maendeleo ya kiuchumi.

Sera ya Afya na Usalama Kazini

Imeandaliwa kwa ajili ya mradi huu ili kuhakikisha kuwa hatua zinazofaa zinaanzishwa ili kuhakikisha kuwa afya, usalama na ustawi wa watumiaji wote unazingatiwa pamoja na mahitaji ya afya ya jamii ya eneo ambalo mradi unafanyika. Sera inapaswa kuzingatia mambo yafuatayo, pamoja na mengine:

- Uchunguzi wa matibabu ya wafanyakazi.
- Usafi katika eneo la Mradi.
- Usimamizi na utupaji sahihi wa taka za maji na taka za kiowevu na taka za kiowevu na taka za kiowevu.
- Maandalizi ya dharura.
- Usalama wa moto.
- Hitaji na upatikanaji wa vifaa binafsi vya kinga.
- Kupunguza hatari ya uharibifu wa bahati mbaya kwa jamii na mazingira.

Sera ya Mahusiano na Jamii

Sera za Jamii za Mitaa zimeandaliwa na uongozi wa Mradi ili kuhakikisha kuwa usimamizi wa mradi unajenga na kuendeleza mahusiano thabiti na wadau wote kwa kuheshimiana na kushirikiana kwa vitendo. Sera inapaswa kuzingatia njia za usimamizi kufanya yafuatayo, pamoja na mambo mengine:

- Kufanya kazi na jamii ya eneo na idara na mashirika husika ya serikali kufikia ustahimilivu wa mradi.
- Kujenga njia za kuongeza mawasiliano kutoka kwa usimamizi hadi kwa jamii na wadau wa Mradi, na kinyume chake.

- Kuendeleza uwezo wa jamii; na
- Kuhusisha kwa vitendo jamii ya eneo katika shughuli zote za Mradi zinazoathiri jamii ya eneo.

Kuhusiana na usimamizi wa mazingira wakati wa hatua za awali, ujenzi, uendeshaji na kuondoa mradi, majukumu makuu ya kila chama kama ilivyoelezwa hapa chini. Kwa baadhi ya vipengele vya programu, msaada utahitajika kutoka kwa Mamlaka za Serikali za Mitaa na NEMC (hasa kwa njia ya mwongozo na ushauri na ufuatiliaji wa mradi).

MPANGO WA UFUATILIAJI WA MAZINGIRA

Ripoti hii ina mpango wa kina wa kufuatilia utekelezaji wa hatua za kupunguza athari na athari za mradi wakati wa utekelezaji wake. Mpango huu una gharama za kufuatilia kutekelezwa na athari za mradi wakati wa utekelezaji wake.

Uchambuzi wa Faida na Gharama za Jamii

Faida za maendeleo ya mradi zinaweza kutathminiwa kwa kuzingatia ajira, ustawi wa kijamii, maendeleo ya elimu, maendeleo ya miundombinu na uchumi wa eneo husika (mishahara, bidhaa na huduma). Kwa hivyo, faida hizo zitasambazwa kwa kiasi kikubwa ndani ya jamii kupitia upatikanaji wa chakula, malazi na huduma nyingine za kawaida kwa wafanyakazi na wanafunzi.

Zaidi ya hayo, uboreshaji, maendeleo na utunzaji wa miundombinu ya eneo ni faida ambazo zitaendelea zaidi ya wigo na muda wa mradi.

UONDOAJI WA MRADI

Uondoaji ni hatua ya mwisho ya maisha ya mradi. Inahusisha kusitisha shughuli za mradi na operesheni na kurejesha eneo kwenye hali yake asili au karibu na hali yake ya awali. Inatarajiwa kuwa mradi utaendelea kwa muda mrefu kama kuna mahitaji ya mradi, hata hivyo, sehemu za kipekee za mradi zitafutwa kadiri inavyohitajika.

HITIMISHO

Mradi utaleta athari chanya na hasi kwa mazingira na jamii ya eneo lililo karibu nayo. Hatua zimependekezwa kuboresha athari chanya kwa mazingira na watu wa eneo hilo.

Kwa athari zile ambazo ni hasi, hatua za kuzuiwa zimependekezwa ili kuepuka au kupunguza athari hizo kwa kiasi kinachowezekana ili kuongeza faida za mradi wa shule na kupunguza madhara ya kuingilia kati kwa mradi na kwa jamii.

Kwa ujumla, mradi utakuwa kama kichocheo cha mabadiliko chanya katika jamii zinazozunguka kwa kuboresha elimu, miundombinu na ustawi wa kijamii, na kwa kuhusisha na kushirikisha wakazi wa eneo hilo, mradi unaweza kuwa na athari endelevu na kuchangia katika maendeleo ya jumla ya kanda.

APPENDIX VII: SCHEDULE OF MATERIALS AND ARCHITECTURAL DRAWINGS

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Two Classroom Block – Gable
Type

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>MATERIALS</u>				
A	<u>SUB-STRUCTURE -PROVISIONAL</u>				
1	<u>Strip Foundation - Grade 15 Plain</u>				
	Aggregate (3/4")	10	M ³		
	Sand	5	M ³		
	Cement-50kgs -(42.5)	49	Bags		
2	<u>Foundation Walls</u>				
	6" Cement & Sand block -Minimum Strength 3.5 MPa	1,036	No		
	Sand	3	M ³		
	Cement -50kgs (42.5)	17	Bags		
	<u>ALTERNATIVE TO FOUNDATION WALL</u>				
	** If stone is applicable, then blockwork is not applicable.				
	Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or Stone) depending on availability and suitability of building materials.				
	Stone, complete with its cement and sand mortar (1:4)	18	M ³		
3	<u>Moram, Hardcore & Site sterilization</u>				
	Moram (4.5m ³ lorry)	8	Trips		
	Hardcore 200mm thick - (4.5m ³ lorry)	7	Trips		
	Sand	5	M ³		
	Aldrin solution or other and equal approved (1000mls)	2	Bottle		
4	<u>Oversite Concrete 100mm thick - 15 grade ,Ground Beam and base column - 20 grade</u>				
	DPM	155	M ²		
	Cement -50kgs (42.5)	115	Bags		
	Aggregates (1/2")	19	M ³		
	Sand	10	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm2	35	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	33	PC'S		
	Binding Wire - 1kg	8	Kgs		
	A252 Mesh 200 x 200x 6.16kg/m2	4	PC'S		
	Timber 1" X 10 " (5.2m long)	15	PC'S		
	Timber 2" X 2"(5.2m long)	10	PC'S		
	Nails-4"	8	Kgs		
	Nails-3"	8	Kgs		
	Supporting props - 3m	5	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	<u>SUPERSTRUCTURE</u>				
1	<u>Walls & Ring beam</u>				
	6" Cement & Sand block (Minimum Strength 3.5 MPa) - 230mm	2,190	No		
	6" Cement & Sand block (Minimum Strength 3.5 MPa) - 150mm	198	No		
	DPC (30m long)	1	Roll		
	Sand	11	M ³		
	Cement-50kgs (42.5)	72	Bags		
	Aggregates (1/2")	4	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm ²	25	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	27	PC'S		
	Binding Wire - 1kg	8	Kg		
	Timber 1" X 10" to Sides (5.2m long)	18	PC'S		
	Timber 1" X 5" (Plates)(5.2m long)	4	PC'S		
	Timber 2" X 2"(5.2m long)	10	PC'S		
	Supporting Props - 3m	15	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	<i>ALTERNATIVE TO BLOCKWORK WALL</i>				
	<i>** If brickwork is applicable, then blockwork is not applicable.</i>				
	<i>Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or brickwork) depending on availability and suitability of building materials. Note that: Strictly do not use stretcher bond when using bricks, the acceptable bond is either Flemish or English or header.</i>				
	230mm thick One brick wall	158	m ²		
	150mm thick One brick wall	22	m ²		
C.	<u>ROOF STRUCTURE & COVERING</u>				
1	<u>Roof Structure - Provisional</u>				
	Timber 2" X 3" Purlins	50	PC'S		
	Timber 2" X 4" King Post, wall plate and struts	70	PC'S		
	Timber 2" X 6" Rafter and Tie beam	55	PC'S		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	14	PC'S		
	Nails -5"	50	Kgs		
	Nails -4"	30	Kgs		
	Nails -3"	20	Kgs		
	16mm diameter bolt, 500mm long	28	Pc's		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	<u>Roof Covering</u>				
	28 G Resincoated Iron sheet size 900x3000mm long	103	PC'S		
	Hips/Ridge and valley - 28 G resin coat - 3m	8	PC'S		
	Aluminium Roofing Nails	23	Packet		
			C/F		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
			B/F		
3	<u>Gutter's</u>				
	Upvc 100mm half round (6m long)-5"	7	PC'S		
	Upvc 75mm diameter down pipe; Class B	2	PC'S		
	PVC outlet	2	PC'S		
	Gutter support bracket	32	PC'S		
	PVC bend 90'	2	PC'S		
	PVC bend 45'	4	PC'S		
	Gutter Clamp 3"	28	PC'S		
	Connector/reducer	8	PC'S		
	Connector outer	2	PC'S		
	Corner Inner	2	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	<u>CEILING</u>				
	Gypsum board -9mm thick	56	PC'S		
	Plain Cornice (8ft)	40	PC'S		
	Screw 1.25" 500pcs/box	3	Box		
	Gypsum powder -25kg	11	Bags		
	Fiber tape (90m)	1	Roller		
	Treated softwood Timber 2" X 2" (3.6m)	102	PC'S		
	Nails 4"	20	Kgs		
	Nails 3"	25	Kgs		
	SUB-TOTAL FOR CEILING				
E.	<u>DOOR</u>				
1	<u>40mm thick hardwood Panelled door shutter</u>				
	820 x 2100mm high	2	PC'S		
2	<u>45 x 145mm Frames (hardwood),Varnish</u>				
	900 x 2500 mm high frame	2	PC'S		
	5mm thick clear glass to Vents	1	m2		
	16mm diameter burglar bars -12m	1	Pcs		
	Brush 3"	3	Pcs		
	Sand paper (msasa) No.80	3	LM		
	Clear Varnish - 4Litres	1	TIN		
	Thinner for Varnish	3	Litres		
3	<u>Ironmongeries</u>				
	Mortice lock Three lever	2	No		
	Brass hinges - 100mm	3	Pairs		
	SUB-TOTAL FOR DOORS				
F.	<u>WINDOWS</u>				
	<u>Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs</u>				
	1500 X 1500mm high	10	PC'S		
	SUB-TOTAL FOR WINDOWS				

ITEM	DESCRIPTION				AMOUNT -TZS
	<u>SUMMARY</u>				
	<u>2No CLASSROOM BLOCK -- SEQUIP</u>				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY					
ADD:					
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)					
Note:					
i. Refer attached specification and number of Furniture(s) for two classroom Block					
ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs					
iii. Preliminary cover the following item:					
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,					
- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.					
iv. Supervision cost depend on guideline of the specific project					
v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .					

ARCHITECTURAL DRAWINGS

CLASSROOM BLOCK

ARCHITECTURAL DRAWING

2- Classroom Block only -Gable

JUNE 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

**PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND
LOCAL GOVERNMENT**

**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**

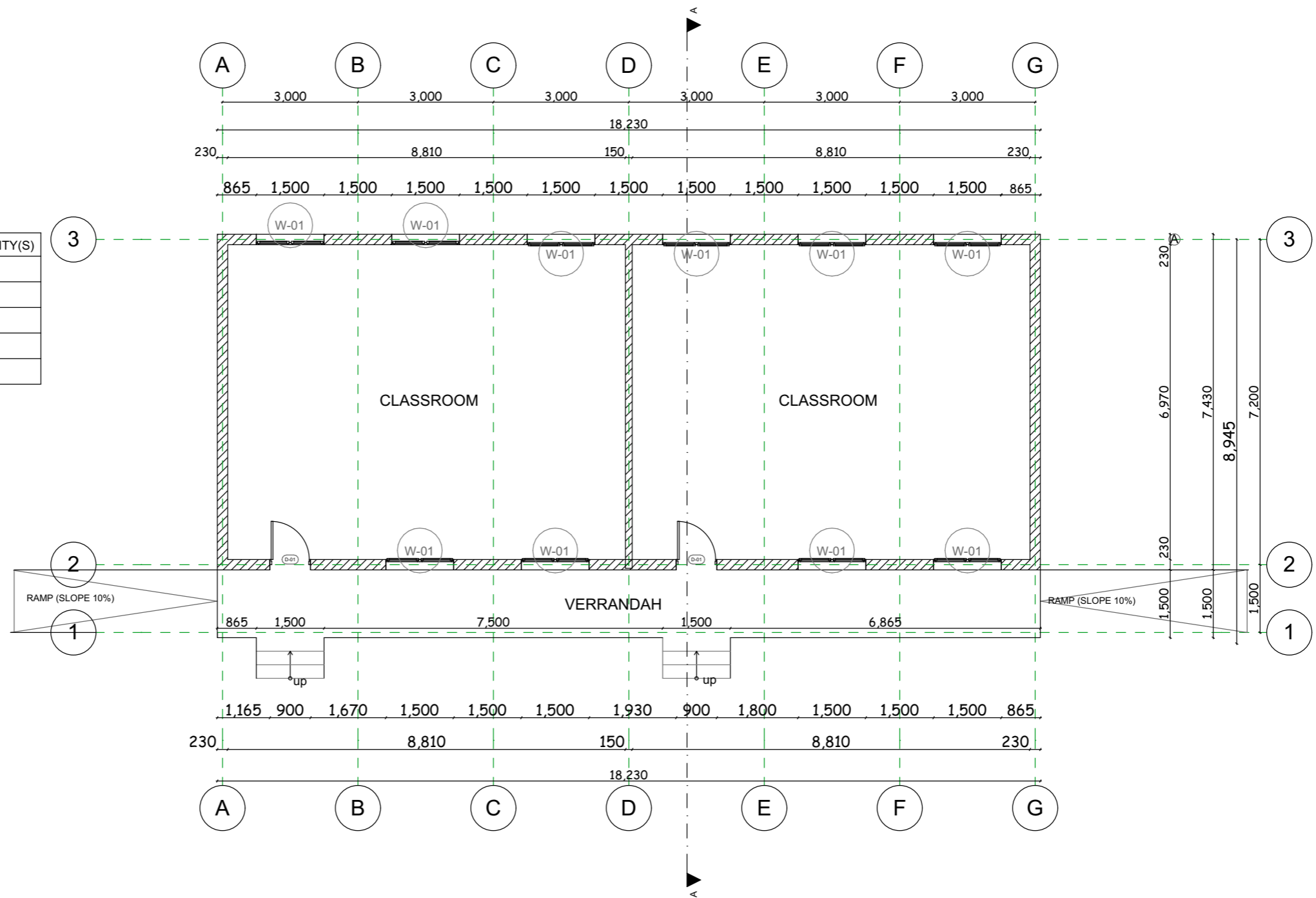
DRAWING TITLE: 2- CLASSROOMS BLOCK - GABLE

DRAWING NO: ARC/2CRG/00

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

WINDOW SCHEDULE

WINDOW TYPE	HEIGHT x WIDTH	QUANTITY(S)
W 01	1500mm x 1500mm	10
TOTAL		10
DOOR SCHEDULE		
D 1	2500mm x 900mm	2
TOTAL		2



TOTAL FLOOR AREA = 163 SQM

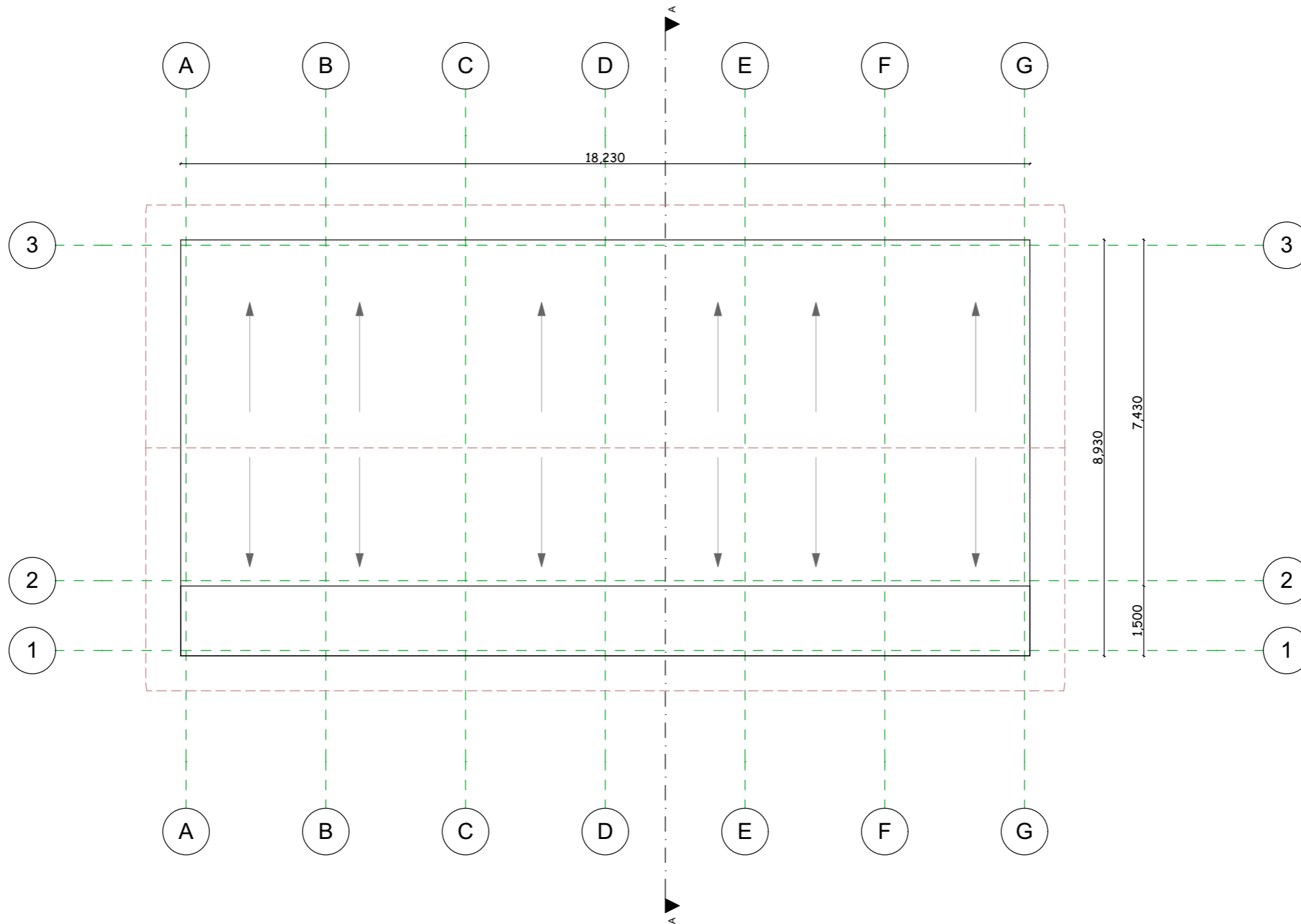
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
 IN COLLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: 2- CLASSROOMS BLOCK GABLED

FLOOR PLAN
 DRAWING NO: ARC/2CRG/01

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

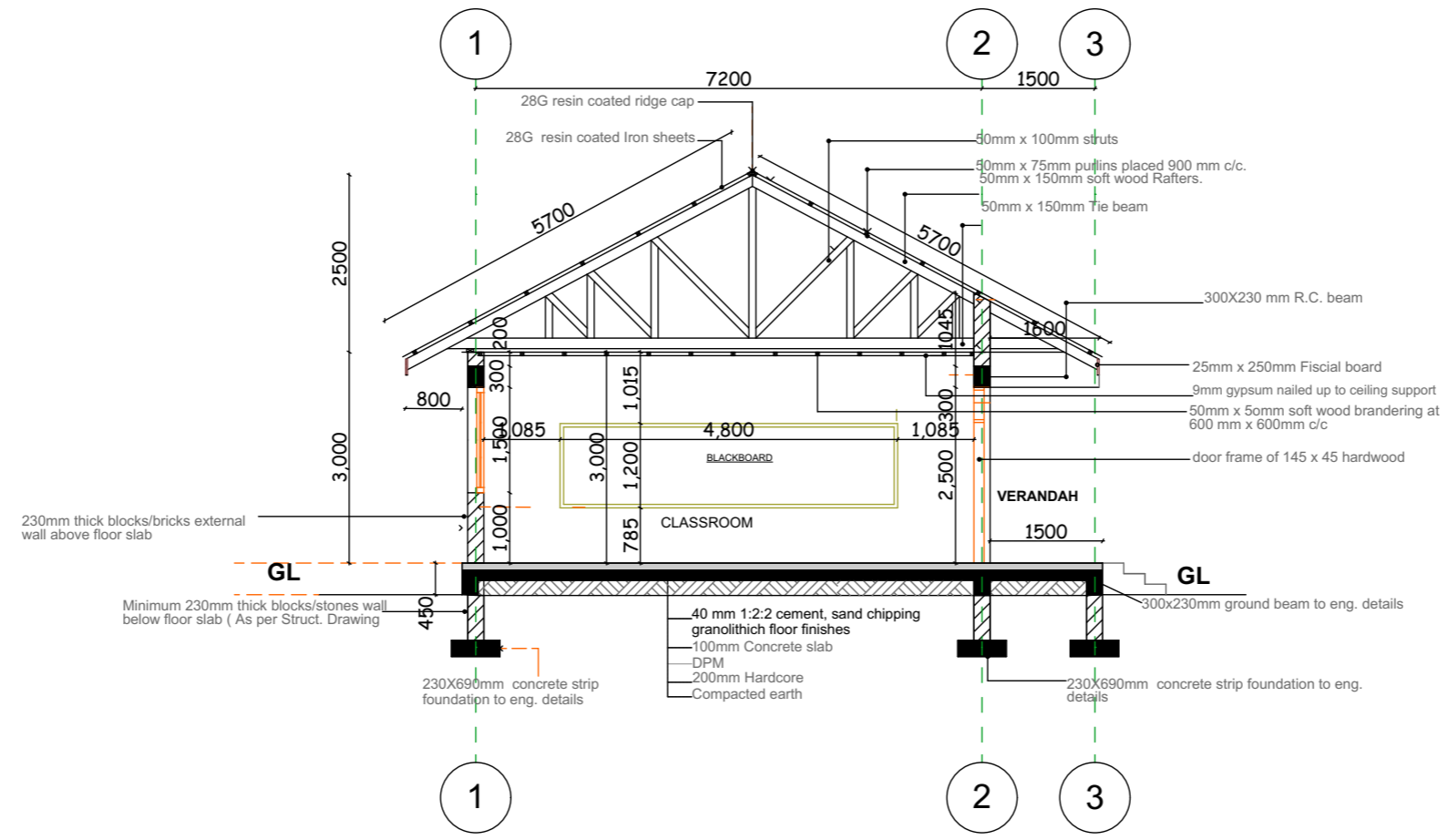


MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
 IN COLLABORATION WITH
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 LOCAL GOVERNMENT

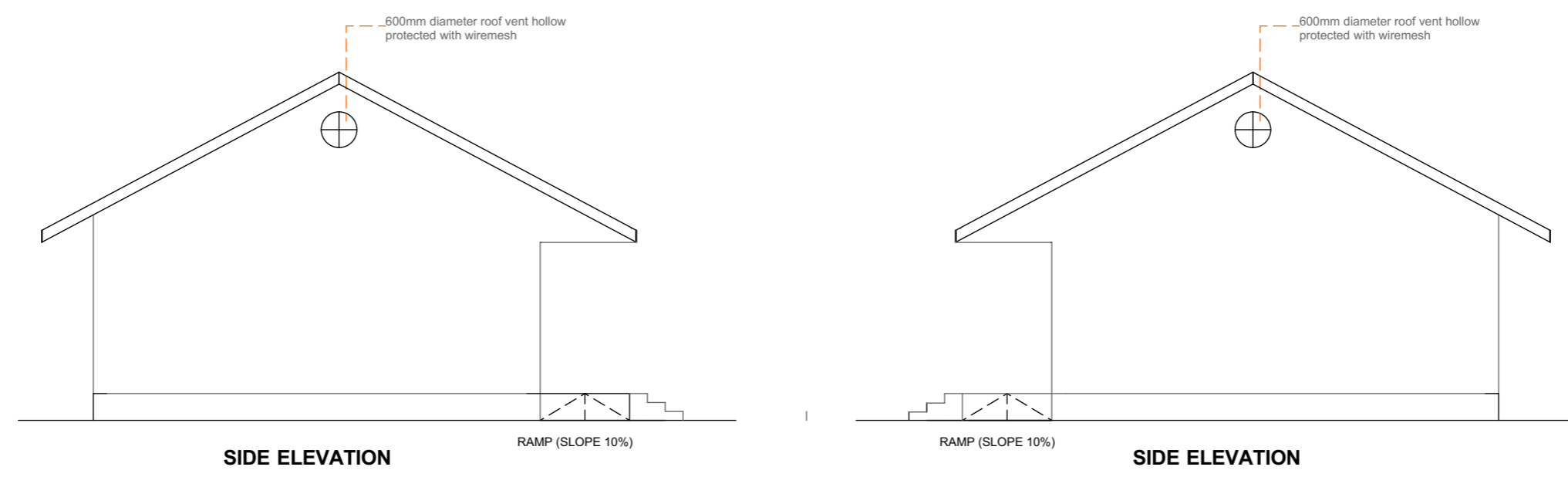
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: 2- CLASSROOMS BLOCK GABLED
ROOF PLAN GABLE
 DRAWING NO: ARC/2CRG/02

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit



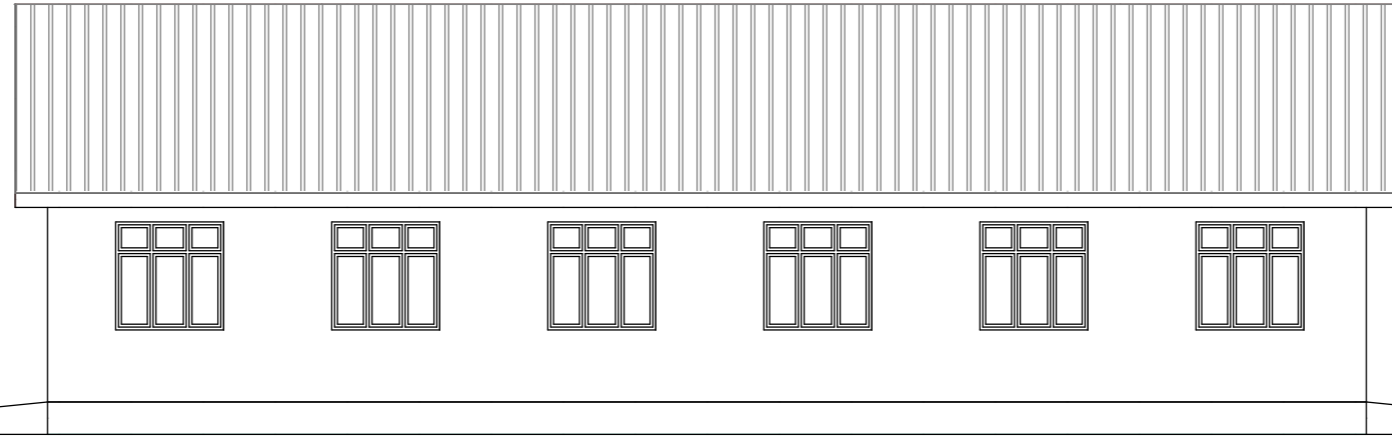
TYPICAL SECTION



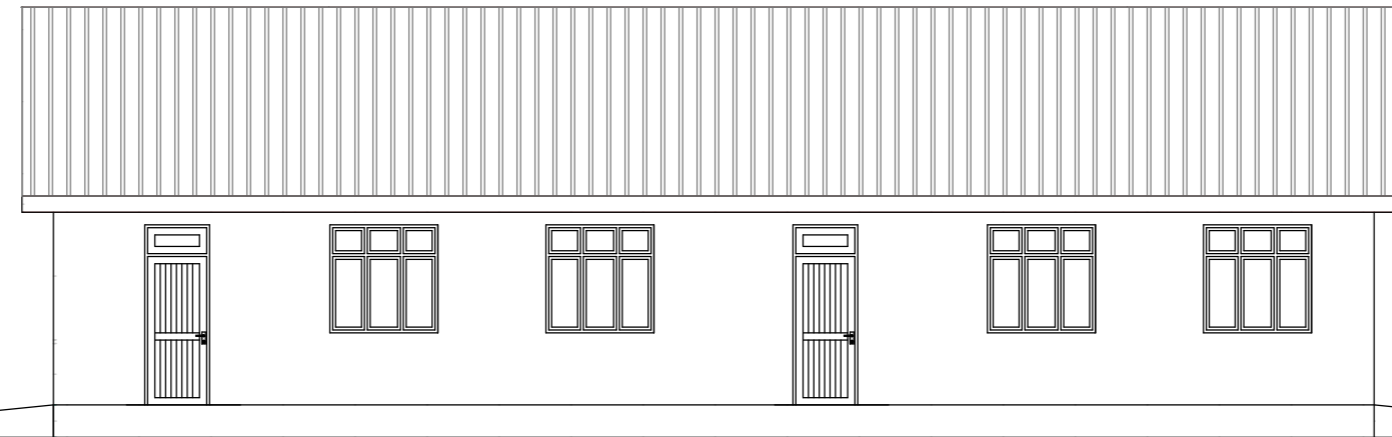
SIDE ELEVATION

SIDE ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY <i>IN COLLABORATION WITH</i> PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT	PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM	DRAWING TITLE: 2-CLASSROOMS BLOCK GABLED TYPICAL SECTION - SIDE ELEVATIONS DRAWING NO: ARC/2CRG/03	Date	June, 2023
			Drawn by	IAS
			Checked by	JR
			Scale	To fit



REAR ELEVATION



FRONT ELEVATION

REVISED 1

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
IN COLLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM
 PROPOSED 2- CLASSROOMS BLOCK GABLED

DRAWING TITLE:
ELEVATIONS GABLE
 DRAWING NO: ARC/2CRG/04

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Administration Block (Girl's
National Schools)

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	SUB-STRUCTURE -PROVISIONAL				
1	Strip Foundation (33m³) Grade 15 & Blinding (7m³) - Grade 10 Plain				
	Aggregate (3/4")	40	M ³		
	Sand	19	M ³		
	Cement-50kgs (42.5)	172	Bags		
2	Foundation Walls (204m²)				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	2,856	No		
	Sand	9	M ³		
	Cement -50kgs (42.5)	72	Bags		
	ALTERNATIVE TO FOUNDATION WALL				
	** If stone is applicable, then blockwork is not applicable. Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or stone) depending on availability and suitability of building materials.				
	Stone, complete with its associated mortar etc	47	M ³		
3	Moram, Hardcore & Site sterilization (303m²)				
	Moram 200mm thick (4.5m ³ lorry)	13	Trips		
	Hardcore-150mm thick (4.5m ³ lorry)	10	Trips		
	Sand	10	M ³		
	Aldrin solution or other and equal approved (1000mls)	3	Bottle		
4	Staircase, concrete grade 20'				
	Aggregate (3/4")	4	M ³		
	Sand	2	M ³		
	Cement-50kgs (42.5)	37	Bags		
	Reinforcement - 16mm diameter high tensile 460N/mm2	3	PC'S		
	Reinforcement - 10mm diameter high tensile 460N/mm2	15	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	2	PC'S		
	Timber 1" X 10 " (5.2m long)	4	PC'S		
	Timber 2" X 2"	2	PC'S		
	Nails-4" /3"	30	Kg		
	Supporting props (3m)	10	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
5	<u>30m³ Oversight Concrete 100mm thick - 15 grade) + Ground Beam and column 34m³ - 20 grade</u>				
	DPM	303	M ²		
	Cement -50kgs (42.5)	324	Bags		
	Aggregates (1/2")	60	M ³		
	Sand	29	M ³		
	Reinforcement - 16mm diameter high tensile 460N/mm2	187	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	100	PC'S		
	Timber 1" X 10" (5.2m long)	12	PC'S		
	Timber 2" X 2"(5.2m long)	10	PC'S		
	Nails-4"	20	Kg		
	Nails-3"	30	Kg		
	Supporting props (3m)	40	PC'S		
	SUB-TOTAL SUBSTRUCTURE				
B.	<u>SUPERSTRUCTURE</u>				
1	<u>Walls (451m²), Ring beam(35m³), Columns(12m³) & slab (14m³)</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	4,060	No		
	DPC (20m long)	10	Roll		
	Sand	46	M ³		
	Cement-50kgs (42.5)	434	Bags		
	Aggregates (1/2")	54	M ³		
	Reinforcement - 16mm diameter high tensile	205	PC'S		
	Reinforcement - 12mm diameter high tensile	130	PC'S		
	Reinforcement - 10mm diameter high tensile	3	PC'S		
	Reinforcement - 8mm diameter	250	PC'S		
	Binding Wire - 25kg	5	Roll		
	Timber 1" X 10" to Sides (5.2m long)	82	PC'S		
	Timber 1" X 5" (Plates)(5.2m long)	20	PC'S		
	Timber 2" X 2" (3.5m)	20	PC'S		
	Supporting Props (3m)	80	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	<u>ALTERNATIVE TO BLOCKWORK WALL</u>				
	<i>** If brickwork is applicable, then blockwork is not applicable. Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or brickwork) depending on availability and suitability of building materials. Note that: Strictly do not use stretcher bond when using bricks, the acceptable bond is either Flemish or English or header.</i>				
	<u>Brickwork</u>				
	230mm thick One brick wall	451	m ²		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
C.	<u>ROOF STRUCTURE & COVERING</u>				
1	<u>Roof Structure - Provisional</u>				
	Timber 2 " X 3" Purlin	4,488	ft		
	Timber 2" X 4" Struts and wall plate	975	ft		
	Timber 2" X 6" Rafter,Kingpost and Tie beam	1,584	ft		
	Nails -5"	20	Kg		
	Nails -4"	30	Kg		
	Nails -3"	30	Kg		
	16mm diameter Anchor bolts, 500mm long	92	Nr.		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	<u>Roof Covering</u>				
	28 G Resincoated Iron sheet	477	M ²		
	Hips/Ridge and valley - 28 G resin coat	11	PC'S		
	Aluminium Roofing Nails	15	Packet		
3	<u>Gutter's</u>				
	Cement -50kgs (42.5)	245	Bags		
	Water proofing cement (20ml Bucket)	4	Bucket		
	Aggregates (1/2")	26	M ³		
	Sand	13	M ³		
	Reinforcement - 10mm diameter high tensile 460N/mm2	80	PC'S		
	Timber 1" X 10 " (5.2m long)	35	PC'S		
	Timber 2" X 2"	10	PC'S		
	Nails-4" (50kg Per Bag)	1	Bags		
	Nails-3" (50 Kg Bag)	1	Bags		
	Supporting props (3m)	100	PC'S		
	Upvc 100mm diameter down pipe; Class B	12	PC'S		
	PVC bend 90'	12	PC'S		
	PVC bend 45'	12	PC'S		
	Gutter Clamp 3"	48	PC'S		
	Connector/reducer	12	PC'S		
	Connector outer	12	PC'S		
	Corner Inner	12	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
D.	<u>CEILING</u>				
	Gypsum board -9mm thick	99	PC'S		
	Plain Cornice (2.5m)	80	PC'S		
	Screw 1.25" 500pcs/box	5	Box		
	Gypsum powder 25kg	24	Bags		
	Fibre tape (90m)	4	Roller		
	Treated softwood Timber 2" X 2"	5,682	ft		
	Nails 4"/3' (50Kg per Bag)	1	Bags		
	SUB-TOTAL FOR CEILING				
E.	<u>DOOR</u>				
1	<u>40mm thick hardwood paneled door shutter</u>				
	900 x2200mm high door	18	pc's		
	800 x2200mm high	1	pc's		
	800 x2200mm high	4	pc's		
2	<u>45 x 145mm Frames (hardwood),Varnish & Glass</u>				
	900 x2750mm high door including transome	18	pc's		
	800 x 2750mm high	1	pc's		
	800 x2100mm high	4	pc's		
	Brush 3"and 2.5"	4	pc's		
	Sand paper (msasa) No.80	8	LM		
	Clear Varnish - 4Litres	4	TIN		
	Thinner for Varnish	6	Litres		
3	<u>IronMongeries</u>				
	Mortice lock Three lever	19	No		
	Mortice lock Two lever	4	No		
	Heavy Dutty Door closer	19	No		
	5mm thick clear glass for vent to doors	10	m ²		
	25 x 30mm thick timber beads	56	m		
	Brass hinges - 100mm	34.50	Pairs		
	SUB-TOTAL FOR DOORS				

F.	<u>WINDOWS</u>				
1	<u>Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs</u>				
	Overallsie 2750 x 1750mm high	11	No		
	Overallsie 1500 x 1750mm high	9	No		
	Overall size 1500x 650 mm high	4	No.		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	<u>25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories</u>				
	Overallsize 2750 x 1750mm high	11	No		
	Overallsize 1500 x 1750mm high	9	No		
	Overall size 1500x 650 mm high	4	No.		
	SUB-TOTAL FOR WINDOWS				
G.	<u>FINISHING</u>				
1	<u>Tiles Floor finishing</u>				
	Sand	14	M ³		
	Cement-50kgs (42.5)	86	Bags		
	500x500mm x 9mm Porcelain as per Spanish equal or other	170	Box		
	400x400mm x 8mm thick floor tiles (1.92m2 per box)	20	Box		
	Skirting (600 mm long; 25No/Box)	14	Box		
	Grouts (20Pkt per Box)	5	Box		
2	<u>Wall Finishing</u>				
	Sand	46	M ³		
	Cement-50kgs (42.5)	291	Bags		
	White cement - 40kg	25	Bags		
	Gypsum powder -25kg	75	Bags		
	250x400mm x 8mm glazed ceramic wall tiles(1.5m2 per box)	66	Box		
	Grouts (20Pkt per Box)	2	Box		
	Sand paper Msasa No.120	5	Roll		
	SUB-TOTAL FOR FINISHING				
H.	<u>PAINTING & DECORATION</u>				
	Emulsion Paint - 20 LTRS	20	buckets		
	Weather guard Paint - 20 LTRS	8	buckets		
	Washable paint -20 LTRS	12	buckets		
	Primer paint -20 LTRS	5	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	4	Pcs		
	Roller	4	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	4	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	<u>ELECTRICAL & AIRCONDITIONING INSTALLATION</u>				
	Single fluorescent fitting Complete,	37	No		
	Double switch socket	22	No		
	Main switch 4way,3PH with integral RCD 100A/300mA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Red	4	ROLL		
	Single core wire 1.5sqmm - Black	4	Roll		
	Single core wire 1.5sqmm -green	4	Roll		
	Single core wire 2.5sqmm - red	2	Roll		
	Single core wire 2.5sqmm -Black	2	Roll		
	Single core wire 2.5sqmm green	2	Roll		
	Single core wire 4sqmm -Red	20	M		
	Single core wire 4sqmm -Black	20	M		
	Single core wire 4sqmm -Green	20	M		
	Ceiling fan National or other equal	12	PC's		
	3gang 1 way switch	1	No		
	1gang 1 way switch	5	No		
	2gang 1 way switch	11	No		
	1gang 2 way switch	1	No		
	4gang 1 way switch	1	No		
	DP switch 20A	3	No		
	Cooker control unit 45A	1	No		
	Ceiling light complete with energy saver 18W	6	No		
	Earth rod approved copper 16mm not less than 1200mm	2	No		
	Earth wire 4sqmm	20	M		
	Metal box twin	25	No		
	Metal box single	29	No		
	Junction box	50	No		
	Conduit pipe	250	PC's		
	Elbow	40	PC's		
	Conduit coupling	70	PC's		
	Round cover	60	PC's		
	Round box	10	PC's		
	Fine screw	2	Packet		
	12U rack cabinet,complete with accessories	1	PC		
	Patch panel cat 6 24 port	1	PC		
	Switch port 24	1	No		
	Dual Face plate RJ45 CAT 6	13	No		
	plastic clips 22mm	4	BOX		
	Cat 6 UTP Cable (300m)	1	Roll		
	TV switch	2	PCS		
	Handdrier	3	No		
2	<u>Air Conditioning</u>				
	18000BTU,LG A.C or other equal with all necessary accessories	1	No		
	TOTAL FOR ELECTRICAL & A.C INSTALLATION				

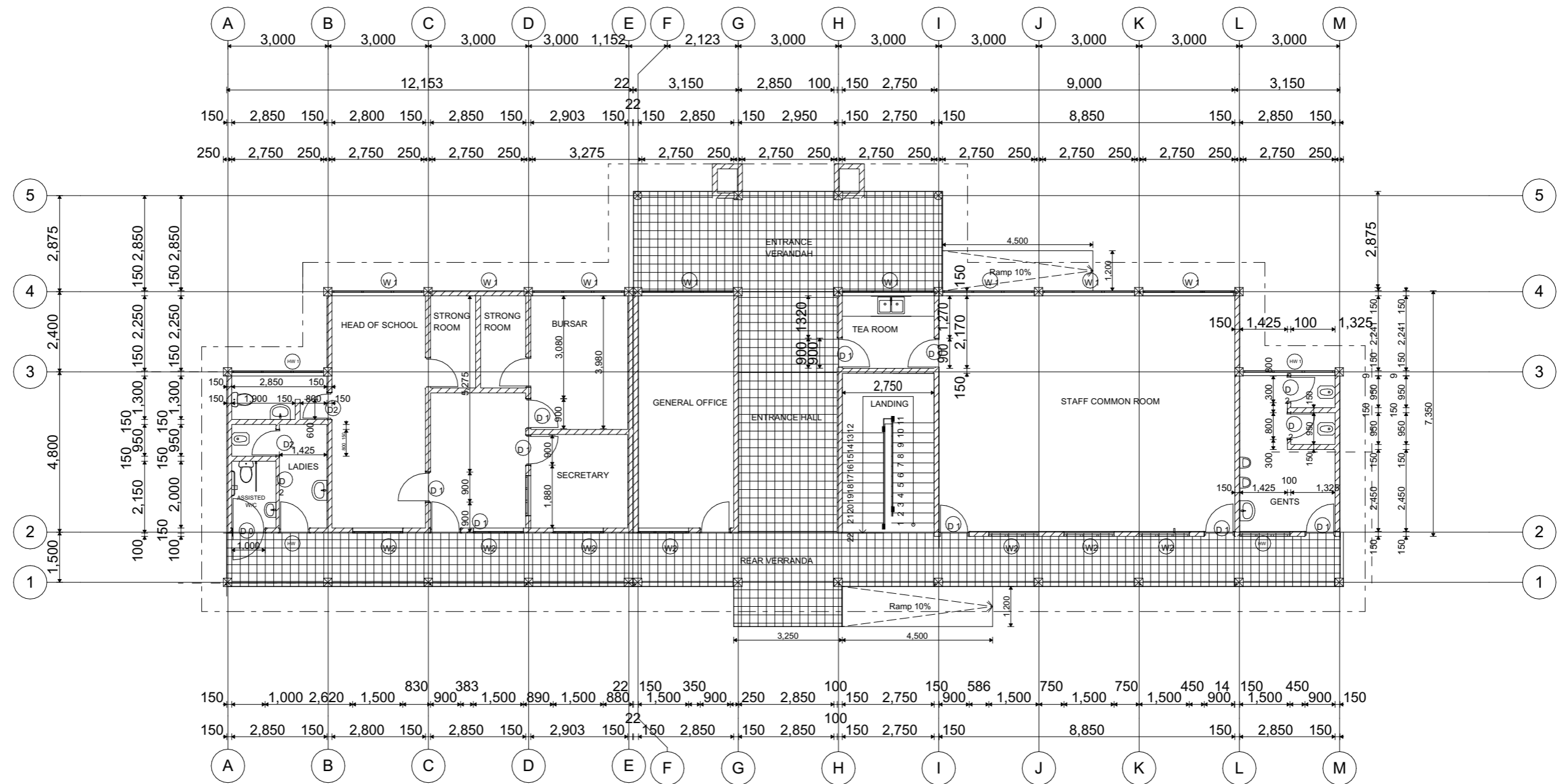
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>PLUMBING AND DRAINAGE INSTALLATIONS.</u>				
	<u>Water Distribution System</u>				
	PPR Pipes				
	32mm Dia	7	PCS		
	25mm Dia	18	PCS		
	20mm Dia	6	PCS		
	15mm Dia	11	PCS		
	12mm Dia Flexible Pipe	36	PCS		
	Valves				
	32mm Dia	3	PCS		
	25mm Dia	11	PCS		
	20mm Dia	7	PCS		
	15mm Dia	8	PCS		
	15mm Dia Angle Valves	36	PCS		
	20mm Dia WATER TAPE WITH STOP COCK/PUSH COCK	1	PCS		
	Reducig Bush				
	Ø32 / 25mm	4	PCS		
	Ø32 / 20mm	2	PCS		
	Ø32 / 15mm	2	PCS		
	Ø25 / 20mm	8	PCS		
	Ø25 / 15mm	8	PCS		
	Ø20 / 15mm	8	PCS		
	90° Plain Elbow				
	Ø32mm	6	PCS		
	Ø25mm	11	PCS		
	Ø20mm	16	PCS		
	Ø15mm	18	PCS		
	90 Adaptor Elbow (Female)				
	Ø15mm	28	PCS		
	90 Adaptor Elbow (Male)				
	Ø15mm	10	PCS		
	T Plain				
	Ø32mm	5	PCS		
	Ø25mm	8	PCS		
	Ø20mm	11	PCS		
	Ø15mm	14	PCS		
	Socket				
	Dia. 15mm	16	PCS		
	Dia. 20mm	12	PCS		
	Dia. 25mm	18	PCS		
	Dia. 32mm	6	PCS		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>Sewage</u>				
	PIPING (uPVC PIPE)				
	100mm Dia	18	PCS		
	50mm Dia	4	PCS		
	40mm Dia	8	PCS		
	32mm Dia	8	PCS		
	Elbows	48	PCS		
	Bend	31	PCS		
	Bracket	36	PCS		
	Filter	13	PCS		
	<u>Fittings</u>				
	100mm Dia Y-Tee	6	PCS		
	50mm Dia Y-Tee	7	PCS		
	100mm Dia Inspection Tee	5	PCS		
	50mm Dia Inspection Tee	5	PCS		
	<u>Socket</u>				
	110mm Dia	12	PCS		
	50mm Dia	8	PCS		
	40mm Dia	8	PCS		
	32mm Dia	6	PCS		
	<u>90° Elbow</u>				
	110mm	5	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	3	PCS		
	<u>45° Elbow</u>				
	110mm	7	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	6	PCS		
	<u>Reducing Bush</u>				
	50mm/40mm	9	PCS		
	40mm/32mm	6	PCS		
	<u>Reducing Socket</u>				
	50mm/40mm	8	PCS		
	40mm/32mm	9	PCS		
	<u>Rain Water</u>				
	Piping (uPVC PIPE)				
	100mm Dia	20	PCS		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	100mm Dia Floor gully including all fittings.	10	PCS		
	Elbow	30	PCS		
	Bend	24	PCS		
	Bracket	16	PCS		
	Filter	4	PCS		
	<u>Sanitary Fittings</u>				
	White Vitreous China Floor Standing Back to Wall Rimless Water Closet	2	pcs		
	White Vitreous China SQUATTING PAN with TRAP as any approved equivalent with Dimenions 510mm x 410mm , complete with 9Litres Wall mounted Push Type flush tank	8	pcs		
	Bib Cock with Jet Spray or its equivalent approved	10	pcs		
	1000mm x 600mm Vanity Mirror	5	pcs		
	White Vitreous ChinaWall Hung Wash Hand Basin with Half Pedestal and quarter turn faucet as manufactured by any manufacturer approved with gurantee	5	pcs		
	100mm x 100mm PVC Floor Drain with Cover	6	pcs		
	Soap dispenser with Holder CERA or its equivalent approved	5	pcs		
	Wall Hung Urinal Bowl with push button flashing Valve or its approved equivalent	4	pcs		
	Timber / Ceramic Urinal separator	5	pcs		
	Stainless Steel FRANKE Nouveau Single Kitchen Sink Single bowl / Single drainer Kitchen Sink with dimensions 460mm x 800mm complete with basket strainer and all other accessories	1	pcs		
	Max Sink Sink Mixer Swivel Spout Chrome	1	pcs		
	Toilet Paper Holder	10	pcs		
	<u>Portable fire Extinguishers</u>				
	CO2, 9ltrs bottle as manufactured by NAFFCO or equal approved.	3	pcs		
	CO2, 9kg bottle as manufactured by NAFFCO or equal approved.	3	pcs		
	TOTAL FOR PLUMBING INSTALLATION				

<u>GENERAL SUMMARY</u>					AMOUNT -TZS
<u>ADMINISTRATION BLOCK</u>					
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
K.	PLUMBING INSTALLATION				
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY					
<u>ADD:</u>					
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)					
Note:					
i. Refer attached specification and number of Furniture(s) for Administration Block					
ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs					
iii. Preliminary cover the following item:					
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,					
- Power for the works, Security, store, Materials test and signboard.					
iv. Supervision cost depend on guideline of the project					
v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .					

***TWO STOREY ADMINISTRATION BLOCK
ARCHITECTURAL DRAWING***

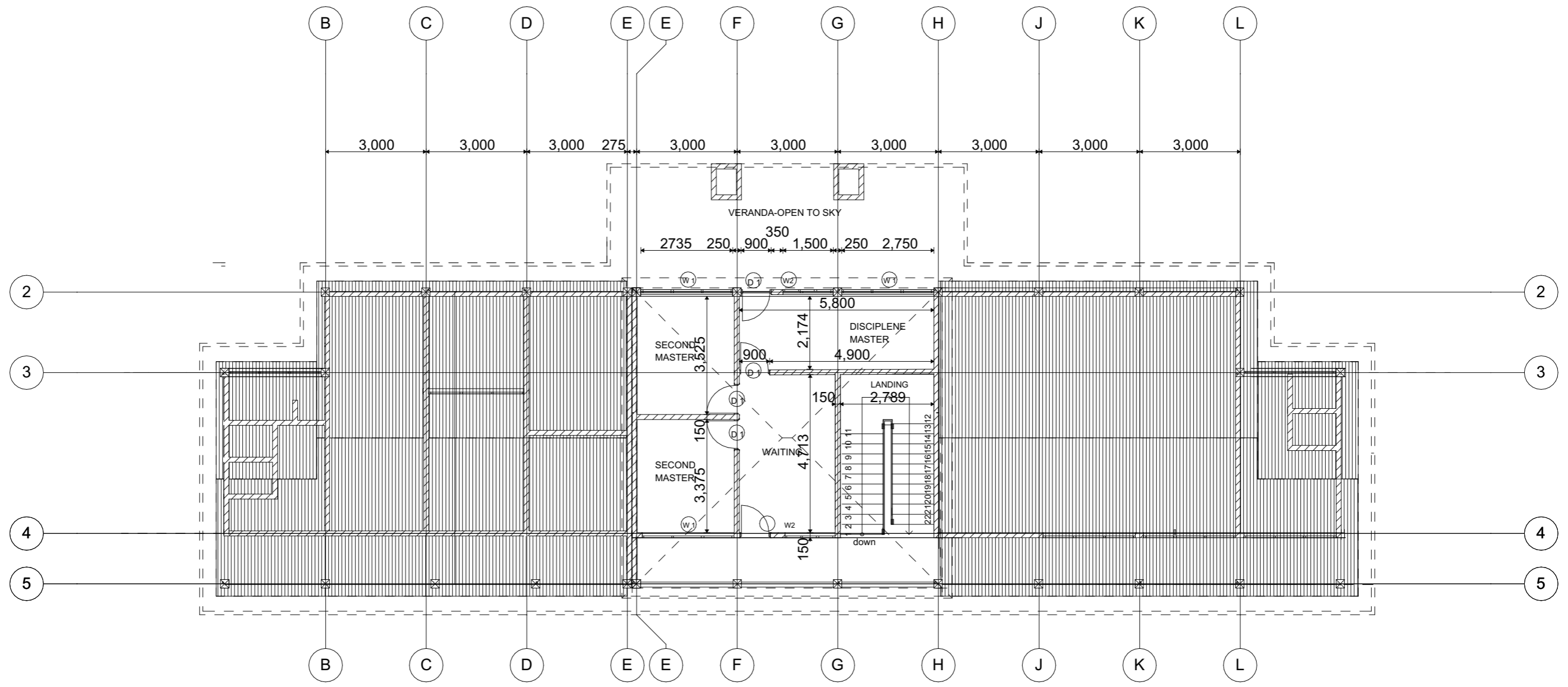


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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: ADMINISTRATION BLOCK
 GROUND FLOOR PLAN - REVISED 2023
 DRAWING NO.: SQP/ARC/ADM/01

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 SCALE 1:200
 June, 2023



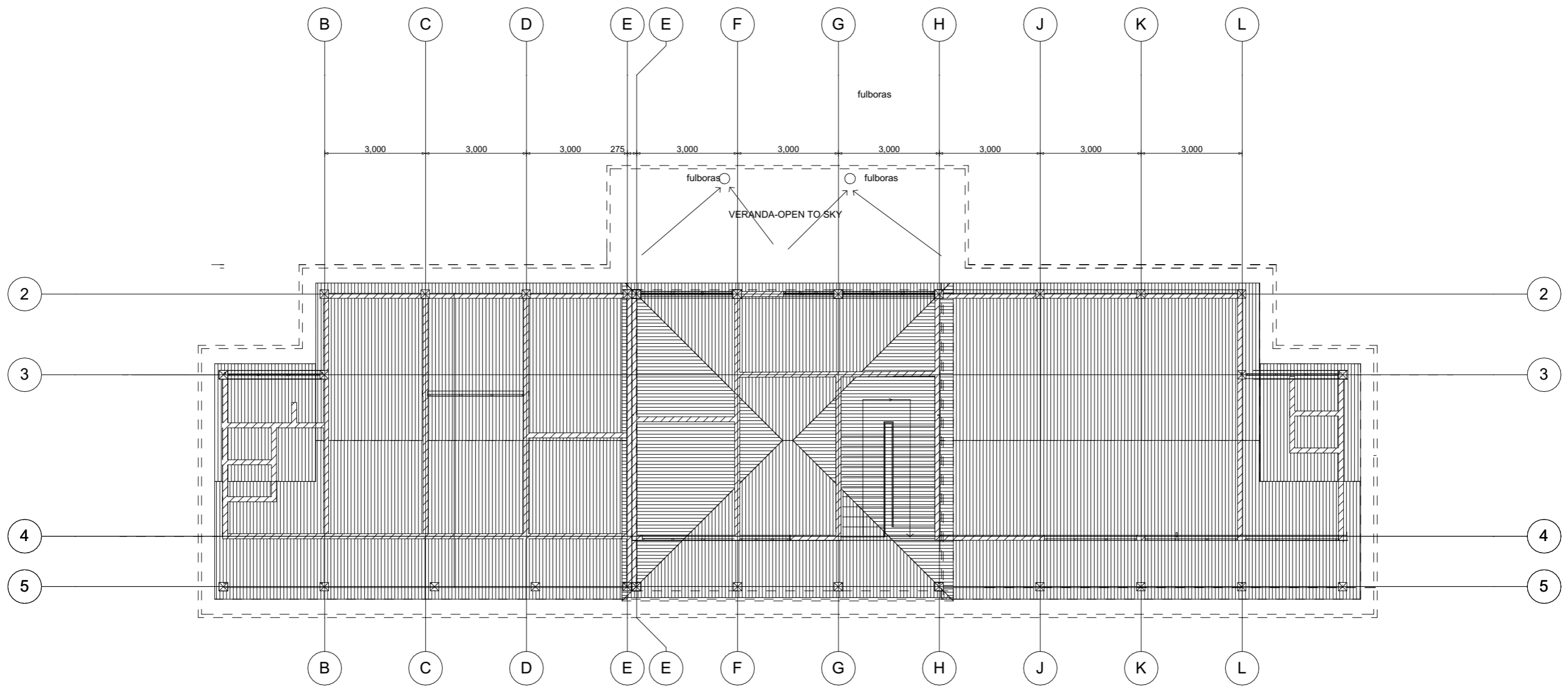
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DRAWING TITLE: ADMINISTRATION BLOCK
 FIRST FLOOR PLAN - REVISED 2023
 DRAWING NO.: SQP/ARC/ADM/02

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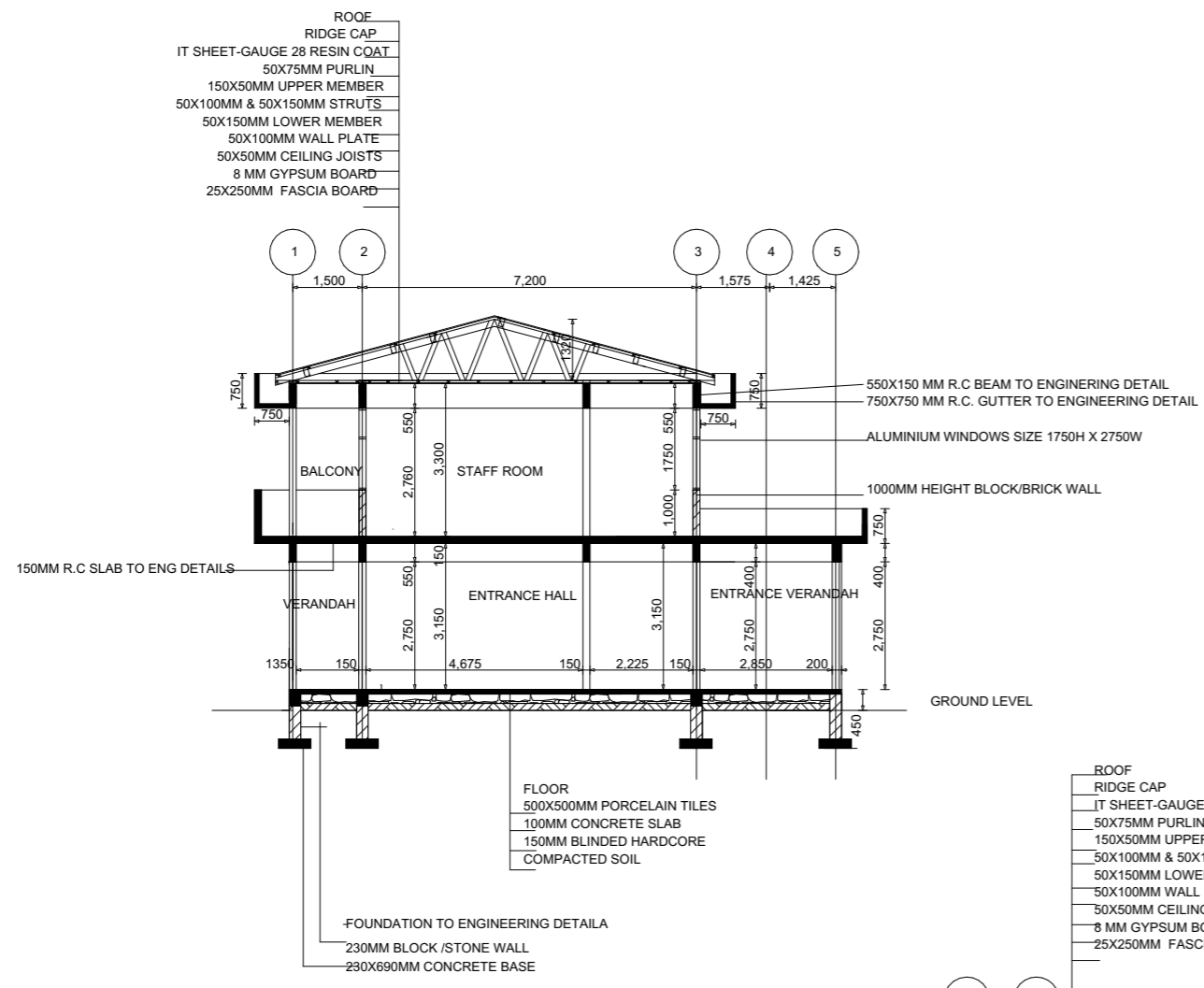
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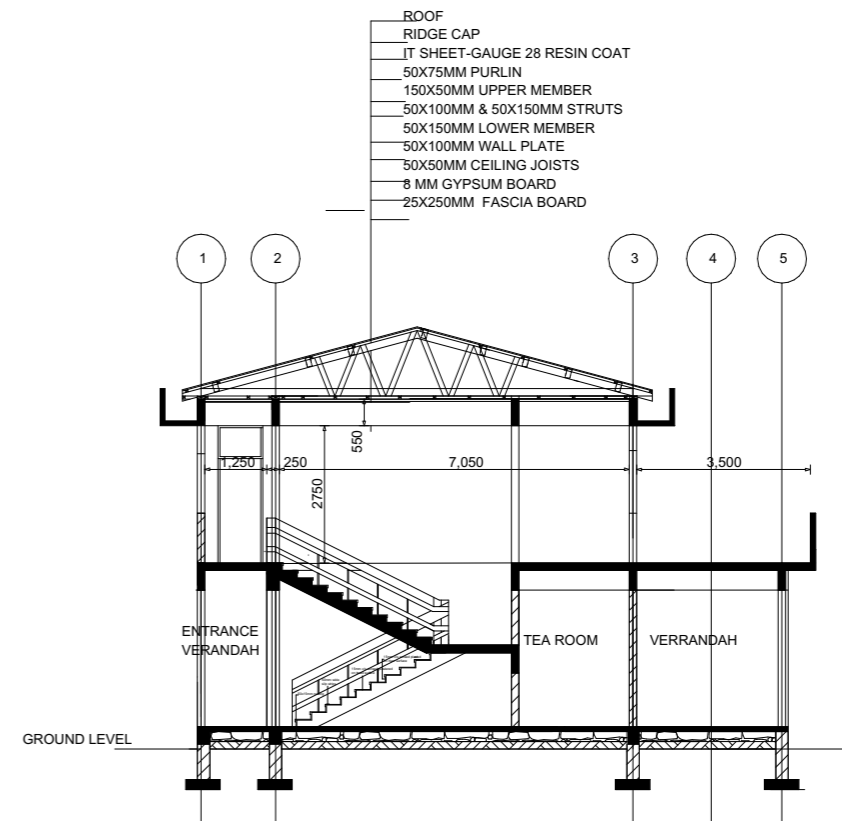
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 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

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 ROOF PLAN - REVISED 2023**
 DRAWING NO. **SQP/ARC/ADM/03**

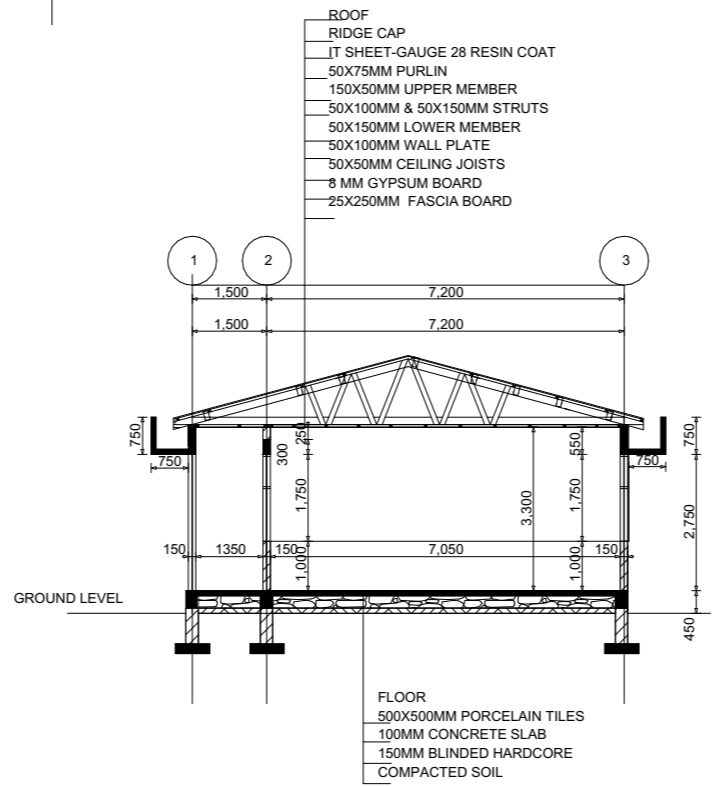
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SECTIONS THROUGH ENTRANCE HALL



SECTIONS THROUGH STAIRCASE



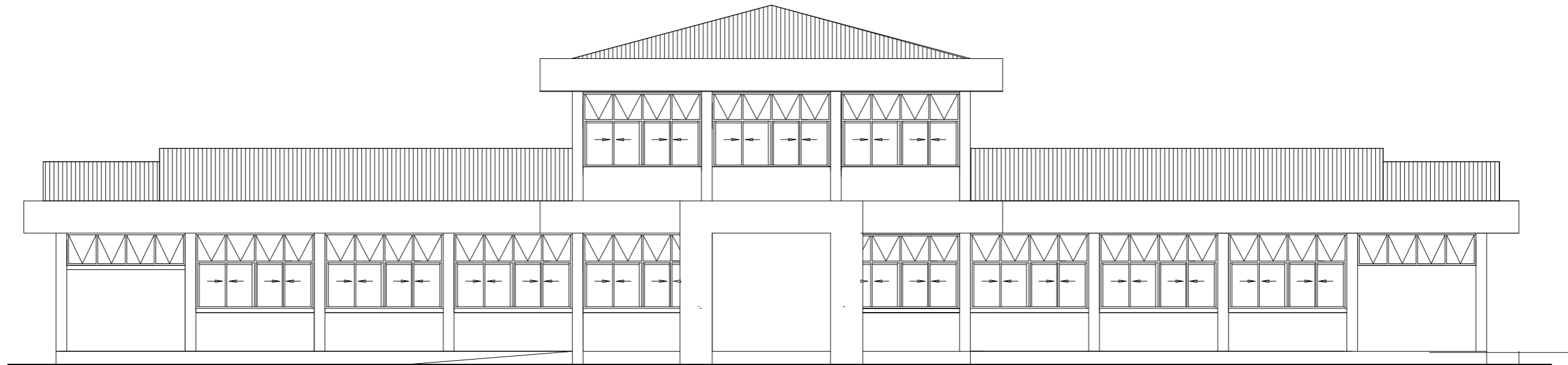
SECTIONS THROUGH SINGLE STOREY PART

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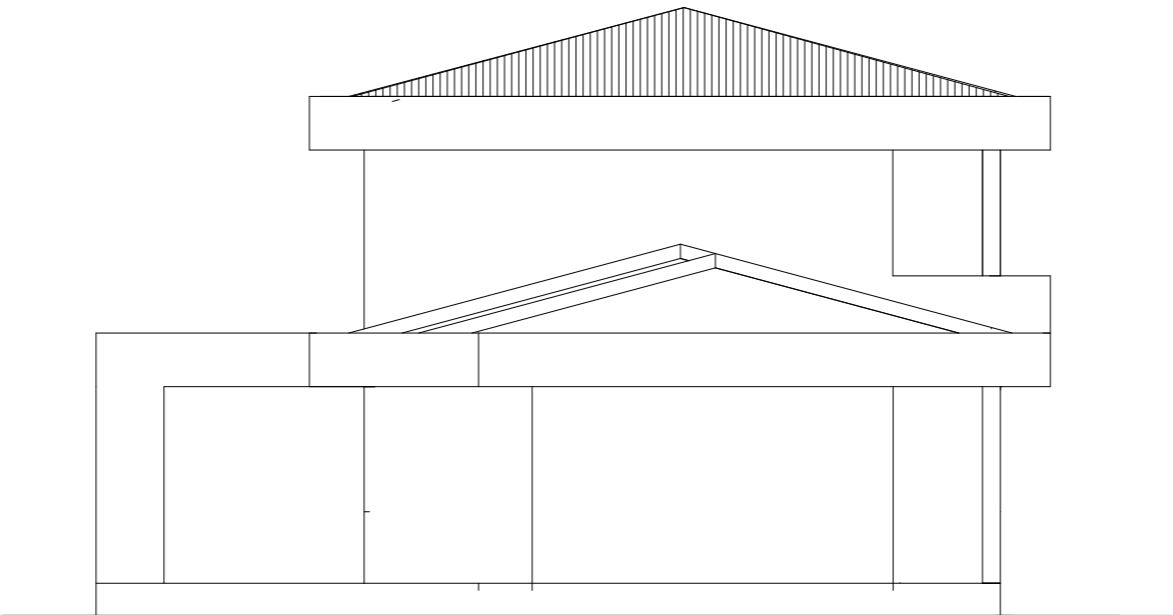
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FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE
ADMINISTRATION BLOCK
SECTIONS - REVISED 2023
DRAWING NO.
SQP/ARC/ADM/04

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June, 2023



FRONT ELEVATION



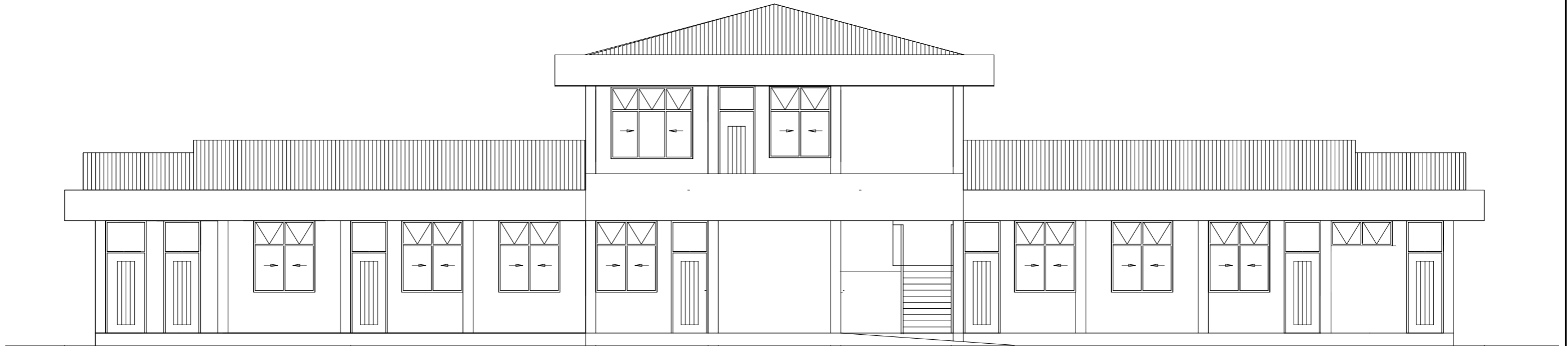
TYPICAL SIDE ELEVATION

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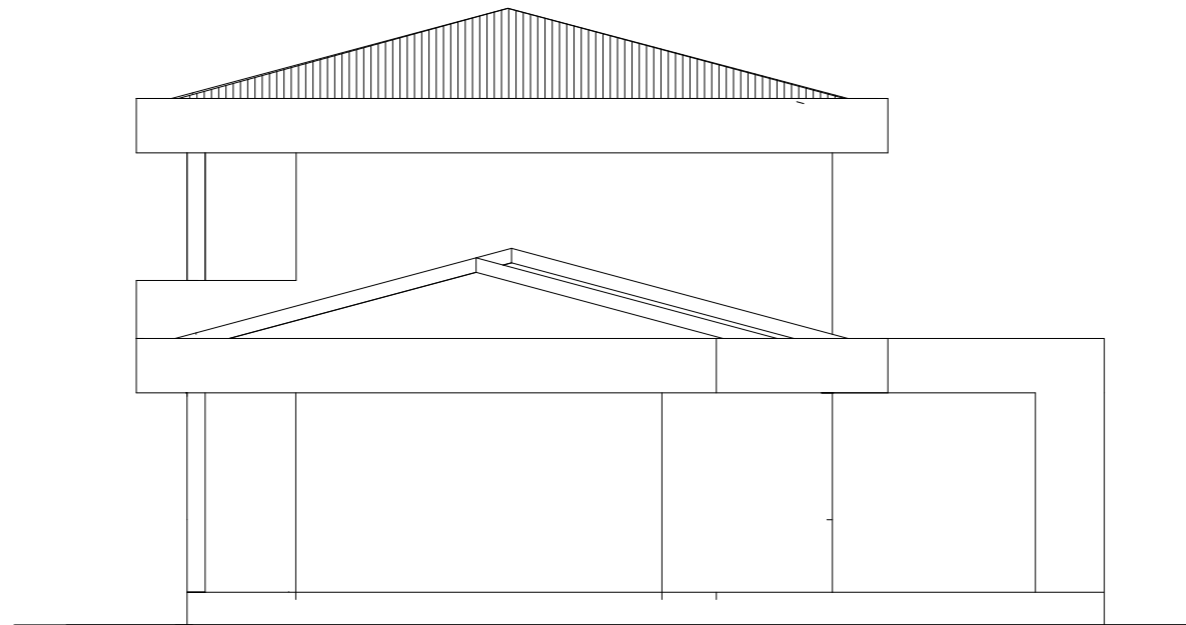
**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**

DRAWING TITLE **ADMINISTRATION BLOCK
 FRONT AND SIDE ELEVATION_REVID 2023**
 DRAWING NO. **SQP/ARC/ADM/05**

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 June,2023



REAR ELEVATION



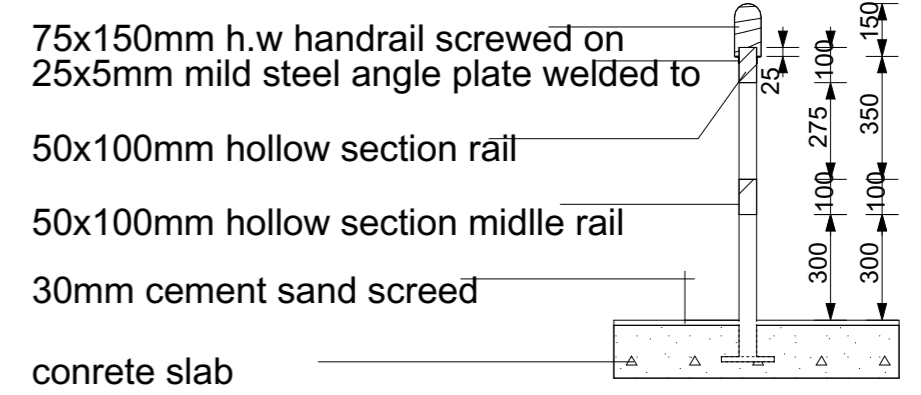
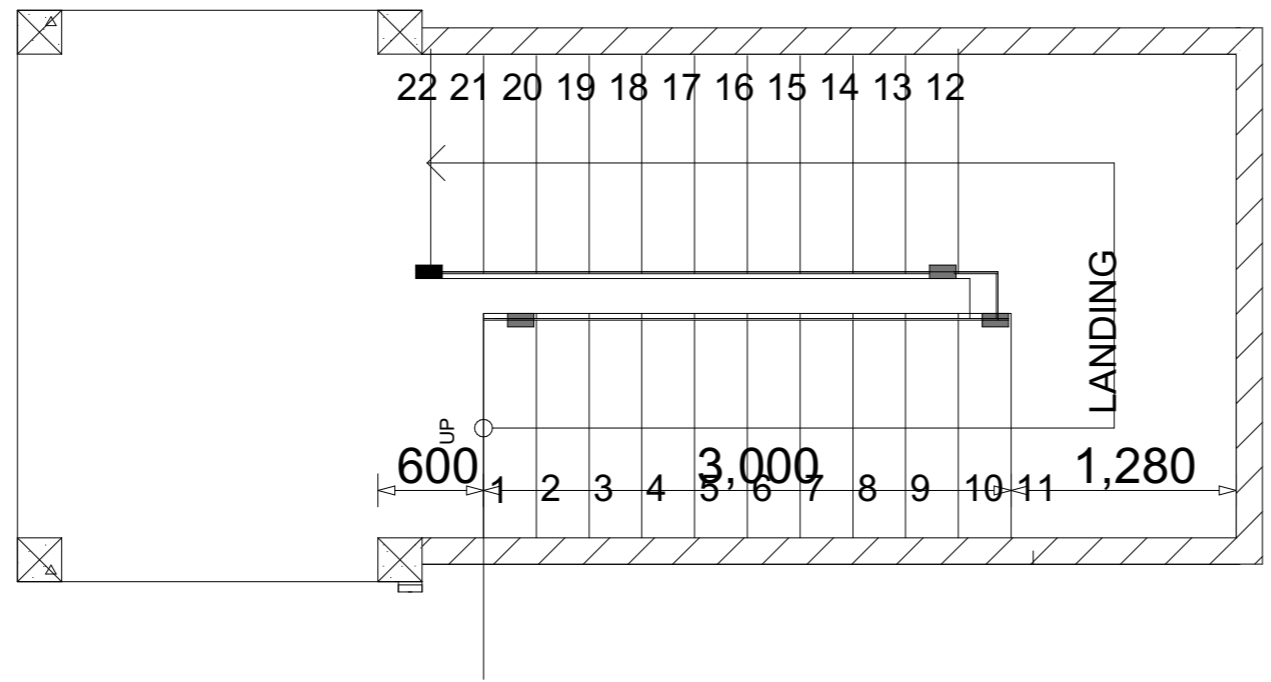
TYPICAL SIDE ELEVATION

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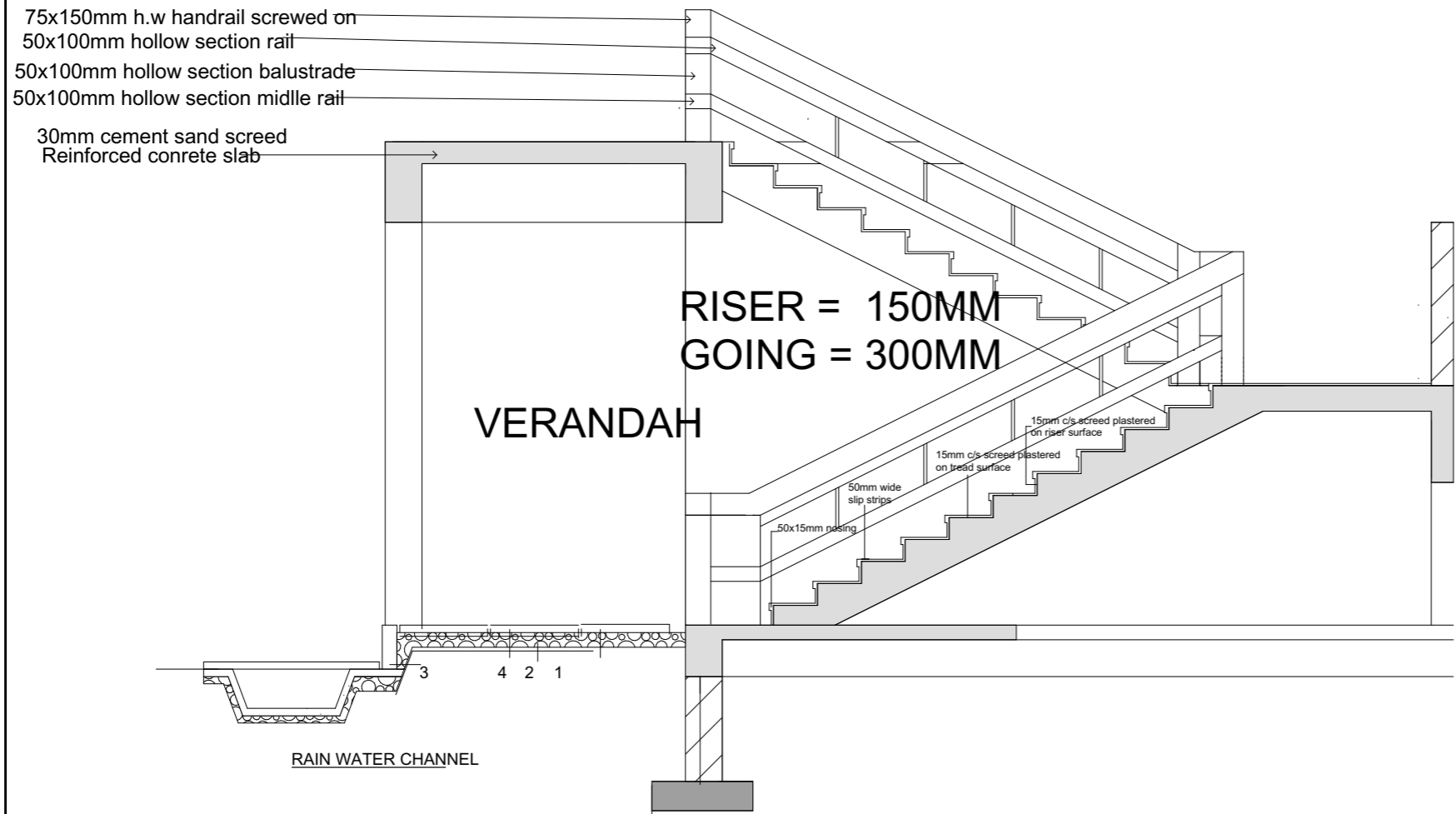
**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**

DRAWING TITLE **ADMINISTRATION BLOCK
 REAR AND SIDE ELEVATION _REVISED 2023**
 DRAWING NO. **SQP/ARC/ADM/06**

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 June, 2023



SECTION B-B



SCHEDULE OF MATERIALS

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>MATERIALS</u>				
A	<u>SUB-STRUCTURE -PROVISIONAL</u>				
1	<u>Strip Foundation - Grade 15 Plain (28m³)</u>				
	Aggregate (3/4")	28	M ³		
	Sand	13	M ³		
	Cement-50kgs (42.5)	112	Bags		
2	<u>Foundation Walls (81m²)</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	2,130	No		
	Sand	7	M ³		
	Cement -50kgs (42.5)	36	Bags		
	<u>ALTERNATIVE TO FOUNDATION WALL</u>				
	<i>** If stone is applicable, then blockwork is not applicable.</i>				
	<i>Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or stone) depending on availability and suitability of building materials.</i>				
	Stone, complete with its cement and sand mortar (1:4)	35	M ³		
3	<u>Moram, Hardcore & Site sterilization</u>				
	Moram (4.5m ³ lorry)	14	Trips		
	Hardcore (4.5m ³ lorry) - 200mm thick	14	Trips		
	Sand	16	M ³		
	Aldrin solution or other and equal approved (1000mls)	3	Bottle		
4	<u>Oversite Concrete 100mm thick - 15 grade ,Ground Beam and base- 20 grade</u>				
	DPM	333	M ²		
	Cement -50kgs (42.5)	216	Bags		
	Aggregates (1/2")	40	M ³		
	Sand	20	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm2	58	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	56	PC'S		
	A252 Mesh 200 x 200x 6.16kg/m2	4	PC'S		
	Timber 1" X 10" (5.2m long)	46	PC'S		
	Timber 2" X 2"	20	PC'S		
	Nails-4"	40	Kgs		
	Nails-3"	45	Kgs		
	Supporting props (3m)	30	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	<u>SUPERSTRUCTURE</u>				
1	<u>Walls Ring beam & Columns</u>				
	6"Cement & Sand block-Minimum Strength 3. 5 MPa	3,500	No		
	DPC (30m long, 1m wide)	2	Roll		
	Sand	18	M ³		
	Cement-50kgs (42.5)	138	Bags		
	Aggregates (1/2")	8	M ³		
	Reinforcement - 12mm diameter high tensile	62	PC'S		
	Reinforcement - 8mm diameter high tensile	61	PC'S		
	Binding Wire - 25kg	1	Roll		
	<i>Re use substructure formwork</i>				
	Timber 1" X 10" to Sides (5.2m long)	10	Pc's		
	Timber 1" X 5" (Plates) (5.2m long)	11	Pc's		
	Timber 2" X 2" (3.5m)	20	Pc's		
	Supporting props (3m)	20	Pc's		
	SUB-TOTAL SUPER STRUCTURE				
	<i>ALTERNATIVE TO BLOCKWORK WALL</i>				
	<i>** If brickwork is applicable, then blockwork is not applicable. Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or brickwork) depending on availability and suitability of building materials. Note that: Strictly do not use stretcher bond when using bricks, the acceptable bond is either Flemish or English or header.</i>				
	<u>Brickwork</u>				
	230mm thick One brick wall	190	m ²		
	150mm thick One brick wall	90	m ²		
C.	<u>ROOF STRUCTURE & COVERING</u>				
1	<u>Roof Structure - Provisional - 5.2 m</u>				
	Timber 2 " X 3" Purlins	70	Pc's		
	Timber 2" X 4" Struts and wall plates	98	Pc's		
	Timber 2" X 6" Rafter, King post and Tie beam	95	Pc's		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	17	Pc's		
	Nails -5"	50	Kgs		
	Nails -4"	30	Kgs		
	Nails -3"	30	Kgs		
	16mm diameter mild steel bolt including nuts 500mm long	46	No		
	<u>NOTE:</u> The above softwood timber structure should be pressure impregnated treated				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	<u>Roof Covering</u>				
	28 G Resincoated Iron sheet	410	M ²		
	Ridge - 28 G - 3m long	12	PC'S		
	Roofing Nails	41	Packet		
3	<u>Gutter's</u>				
	Upvc 100mm half round (6m long)-5"	12	PC'S		
	Upvc 100mm diameter down pipe; Class B	4	PC'S		
	PVC outlet	8	PC'S		
	PVC bend 90'	8	PC'S		
	PVC bend 45'	8	PC'S		
	Gutter Clamp 3"	32	PC'S		
	Connector/reducer	8	PC'S		
	Connector outer	8	PC'S		
	Corner Inner	8	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	<u>CEILING</u>				
	Gypsum board -9mm thick (288m ²)	100	PC'S		
	Plain Cornice	65	PC'S		
	Screw 1.25" 500pcs/box	4	Box		
	Gypsum powder -	13	Bags		
	Fiber tape (90m)	3	Roller		
	Treated softwood Timber 2" X 2" - 5.2M Long	190	PC'S		
	Nails 4"	28	Kgs		
	Nails 3"	45	Kgs		
	SUB-TOTAL FOR CEILING				
E.	<u>DOOR</u>				
1	<u>40mm thick hardwood Matchboarded door shutter</u>				
	1500 x2100mm high double door	2	PC'S		
	900 x2100mm high	6	PC'S		
	750 x 1500mm high	2	PC'S		
2	<u>Frames (hardwood) & Varnish</u>				
	1500 x 2500mm high double door	2	PC'S		
	1000 x 2500mm high	6	PC'S		
	750 x 1500mm high	2	PC'S		
	Brush 3"	4	Pcs		
	Sand paper (msasa) No.80	4	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	3	Litres		
3	<u>Ironmongeries - ref Union</u>				
	Mortice lock Three lever	8	No		
	Barrel bollt	2	No		
	Brass hinges - 100mm	15	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	<u>WINDOWS</u>				
1	<u>Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs</u>				
	Overall size 1500x1500mm high	22	No		
2	<u>25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories</u>				
	Overall size 1500x1500mm high	22	No		
3	<u>25 X 25mm square pipe grill painted red-oxide with all necessary accessories</u>				
	1500 x 750mm high - door to gas chamber	2	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	<u>FINISHING</u>				
1	<u>Terrazo Floor finishing (1:1:1.5)</u>				
	Sand	5	M ³		
	Cement-50kgs (42.5R)	116	Bags		
	White Chipping	2	M3		
	Black Chipping	2	M3		
	Pink Chipping	2	M3		
	Red Chipping	2	M3		
	Terrazo colour (user's selection) - 25Kg	6	Bags		
	Concrete nails - 1"	4	Packet		
	Tina, Polish & Hardina for terrazo	2	Set		
	Strips	356	M		
2	<u>Wall Finishing 15mm thick (1:4)</u>				
	Sand	9	M ³		
	Cement-50kgs (42.5)	55	Bags		
	White cement - 40kg	8	Bags		
	Gypsum powder	15	Bags		
	Sand paper Msasa No.120	1	Roll		
3	<u>Service Trench</u>				
	Sand	2	M ³		
	Cement-50kgs (42.5)	20	Bags		
	Aggregates (1/2")	4	M ³		
	50 x 50 mm mesh	11	PC'S		
	SUB-TOTAL FOR FINISHING				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
H.	<u>PAINTING & DECORATION</u>				
	Emulsion Paint - 20 LTRS	13	buckets		
	Weather guard Paint - 20 LTRS	4	buckets		
	Washable paint -20 LTRS	5	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	6	Pcs		
	Roller	6	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	4	TIN		
	SUB-TOTAL FOR PAINTING & DECORATION				
J.	<u>ELECTRICAL INSTALLATION</u>				
	Single fluorescent fitting Complete	30	No		
	Double switch socket	20	No		
	Main switch 6way,1PH with integral RCD 100A/300mA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Brown	3	Roll		
	Single core wire 1.5sqmm - Black	3	Roll		
	Single core wire 1.5sqmm -green	3	Roll		
	Single core wire 2.5sqmm - Brown	2	Roll		
	Single core wire 2.5sqmm	2	Roll		
	Single core wire 2.5sqmm green	2	Roll		
	Ceiling fan National or other equal	14	PC's		
	3gang 1way switch	4	No		
	1gang 1way switch	3	No		
	2gang 1 way switch	2	No		
	4gang 1 way switch	1	No		
	DP switch 20A	1	No		
	Earth rod approved copper 16mm not less than	2	No		
	Earth wire 4sqmm	15	M		
	Metal box twin	20	No		
	Metal box single	11	No		
	Junction box	30	No		
	Conduit pipe	100	Pc's		
	Elbow	30	Pc's		
	Conduit coupling	20	Pc's		
	Round cover	50	Pc's		
	Round box	10	Pc's		
	Fine screw	1	Packet		
	Smoke ditector	2	No		
	plastic clips 22mm	3	Box		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

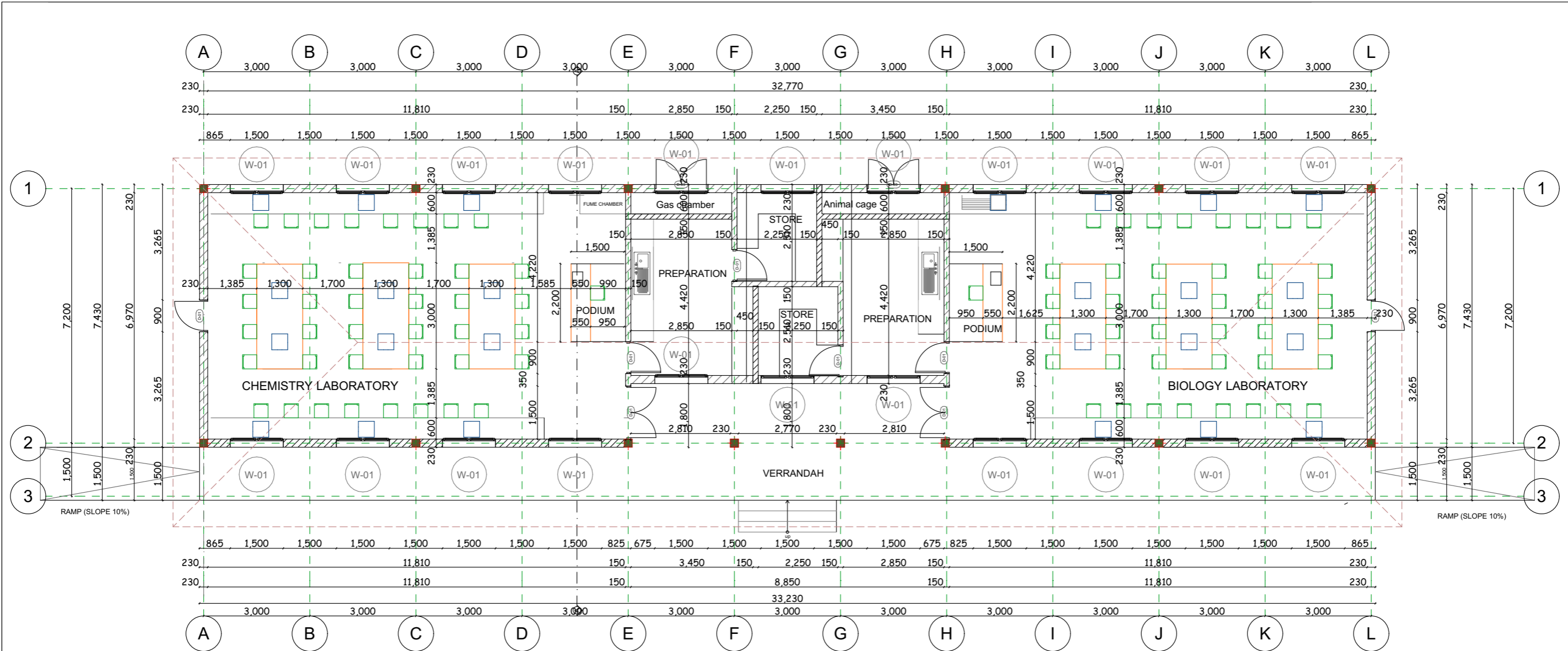
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
K.	<u>PLUMBING AND GAS INSTALLATIONS</u>				
	<u>Water Distribution System</u>				
	<u>PPR Pipes</u>				
	40mm Dia	4	Pcs		
	32mm Dia	6	Pcs		
	25mm Dia	9	Pcs		
	20mm Dia	14	Pcs		
	15mm Dia	19	Pcs		
	12mm Dia Flexible Pipe	29	Pcs		
	<u>Valves</u>				
	40mm Dia	4	Pcs		
	32mm Dia	9	Pcs		
	20mm Dia	17	Pcs		
	15mm Dia	9	Pcs		
	15mm Dia Angle Valves	29	Pcs		
	<u>Reducing Bush</u>				
	Ø40 / 32mm	4	Pcs		
	Ø40 / 25mm	4	Pcs		
	Ø40 / 20mm	3	Pcs		
	Ø40 / 15mm	3	Pcs		
	Ø32 / 25mm	11	Pcs		
	Ø32 / 20mm	9	Pcs		
	Ø32 / 15mm	10	Pcs		
	Ø25 / 20mm	16	Pcs		
	Ø25 / 15mm	8	Pcs		
	Ø20 / 15mm	10	Pcs		
	<u>90° Plain Elbow</u>				
	Ø40mm	3	Pcs		
	Ø32mm	3	Pcs		
	Ø25mm	5	Pcs		
	Ø20mm	21	Pcs		
	Ø15mm	31	Pcs		
	<u>90 Adaptor elbow (Female)</u>				
	Ø15mm	33	Pcs		
	<u>90 Adaptor elbow (Male)</u>				
	Ø15mm	10	Pcs		
	<u>T Plain</u>				
	Ø40mm	4	Pcs		
	Ø32mm	7	Pcs		
	Ø25mm	9	Pcs		
	Ø20mm	24	Pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Socket				
	Dia. 15mm	34	Pcs		
	Dia. 20mm	30	Pcs		
	Dia. 25mm	14	Pcs		
	Dia. 32mm	20	Pcs		
	Dia. 40mm	10	Pcs		
	Sewage				
	PIPING (uPVC PIPE)				
	100mm Dia	12	Pcs		
	50mm Dia	14	Pcs		
	40mm Dia	11	Pcs		
	32mm Dia	11	Pcs		
	Elbows	43	Pcs		
	Bend	34	Pcs		
	Bracket	30	Pcs		
	Filter	11	Pcs		
	Fittings				
	50mm Dia Y-Tee	17	Pcs		
	50mm Dia Inspection Tee	7	Pcs		
	Socket				
	110mm Dia	58	Pcs		
	50mm Dia	29	Pcs		
	40mm Dia	22	Pcs		
	32mm Dia	17	Pcs		
	90° Elbow				
	50mm Dia	9	Pcs		
	40mm Dia	9	Pcs		
	32mm Dia	6	Pcs		
	45° Elbow				
	50mm Dia	19	Pcs		
	40mm Dia	14	Pcs		
	32mm Dia	9	Pcs		
	Reducing Bush				
	50mm/40mm	25	Pcs		
	40mm/32mm	20	Pcs		
	Reducing Socket				
	50mm/40mm	20	Pcs		
	40mm/32mm	11	Pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>Sanitary Installation</u>				
	350x 350x 200mm durapipe S&LP vulcathene sink or equal and approved type 604/1 complete with 38mm BSP Waste outlet type 504 and ant-siphon bottle trap type W561 with plug and chain Assemblies type 508	32	Pcs		
	Mild Steel/Copper pipes				
	12mm Dia	25	Pcs		
	Valves				
	12mm Dia	20	Nos.		
	Pressure Gauges				
	12mm Dia	4	Nos.		
	Gas Cylinder				
	Gas cylinder complete with double stage LPG regulator. Manifold with complete flexible and cylinder adoptors, proper signages and standing, 15 kg Butane/ propane	2	Nos.		
	Gas Taps				
	LPG deck or other equal approved mounted double outlet faucet gas tap. Body should be solid brass coated with high gloss epoxy powder resistant to most chemicals.	30	Nos.		
	<u>Fittings</u>				
	Non-Return Valves	64	No		
	Strainer	58	No		
	Ball valve	61	No		
	Socket	48	No		
	Reducer	60	No		
	Elbow	57	No		
	Tee	57	No		
	Pipe work support	28	No		
	Bressing set	44	No		
	Oxyacetylene gas	4	No		
	Fumes wood				
	Fume wood complet with all accessories as per engineer specification	3	No		
	<u>Chemical Disposal</u>				
	Emergency eye wash sink (VL2201) with two streams with ABS bowl fixed at side worktop	2	PCS		
	Dilution recovery trap type W612 complete with fixing accessories	2	PCS		
	<u>Portable fire extinguisher</u>				
	CO2, 9ltrs bottle as manufactured by NAFFCO or equal approved.	2	Nos		
	CO2, 9kg bottle as manufactured by NAFFCO or equal approved.				
	Fire Blankets	2	Nos		
	SUB-TOTAL PLUMBING AND GAS INSTALLATION				

<u>GENERAL SUMMARY</u>					AMOUNT
					TZS
<u>CHEMISTRY AND BIOLOGY BLOCK</u>					
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
K.	PLUMBING AND GAS INSTALLATION				
L.	GULLY TRAP AND NEUTRALIZATION CHAMBER				
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY					
<u>ADD:</u>					
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)					
Note:					
i. Refer attached specification and number of Furniture(s) for Chemistry & Biology Laboratory					
ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs					
iii. Preliminary cover the following item:					
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,					
- Power for the works, Security, store, Materials test and signboard.					
iv. Supervision cost depend on guideline of the project					
v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .					

ARCHITECTURAL DRAWINGS



WINDOW SCHEDULE		
WINDOW TYPE	HEIGHT x WIDTH	QUANTITY(S)
W 01	1500mm x 1500mm	22
TOTAL		22
DOOR SCHEDULE		
DOOR TYPE	HEIGHT x WIDTH	QUANTITY(S)
D 1	900mm x 2500mm	6
D 2	1500mm x 2500mm	2
D 3	7500mm x 1500mm	2
TOTAL		

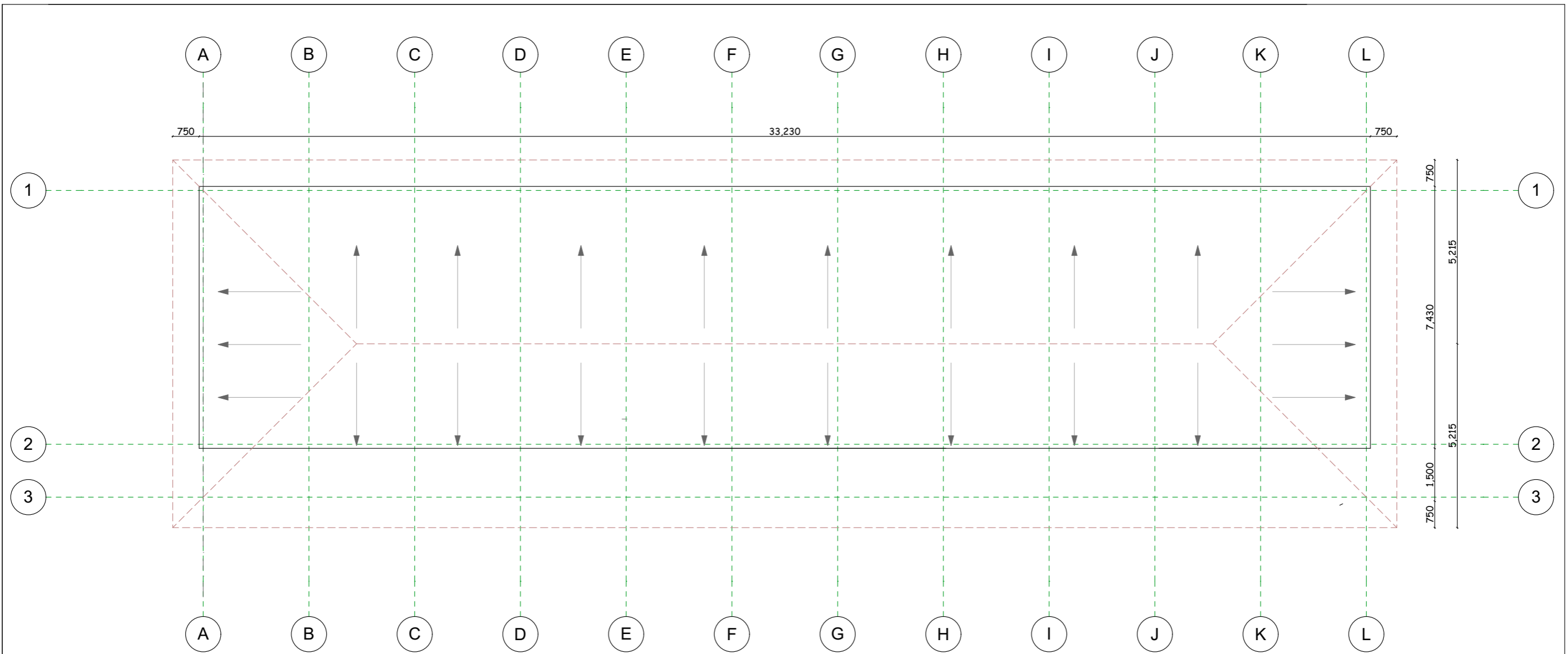
TOTAL FLOOR AREA = 298 SQM

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
 IN COLLABORATION WITH
 PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND
 LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: CHEMISTRY & BIOLOGY BLOCK
FLOOR PLAN
 DRAWING NO: ARC/CHB/LAB/01

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

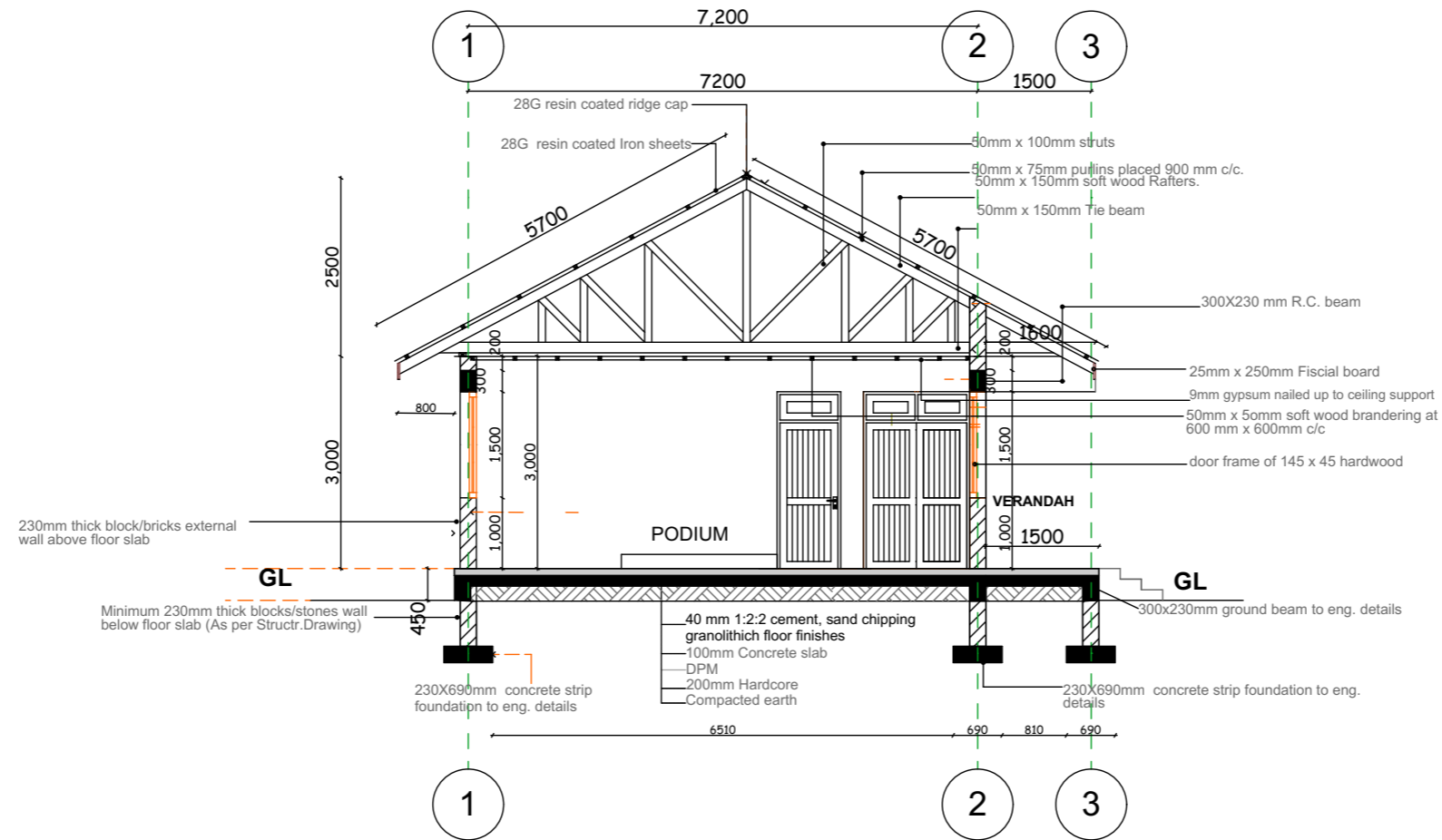


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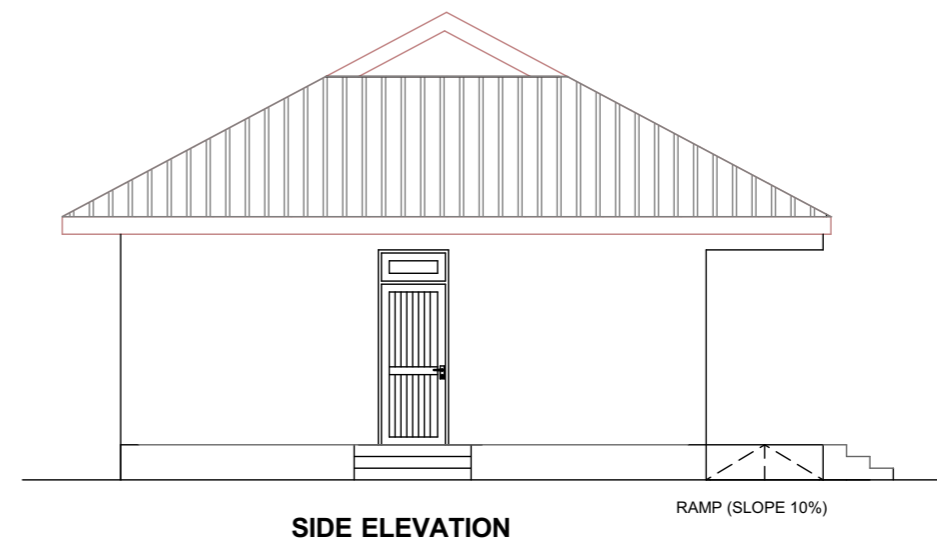
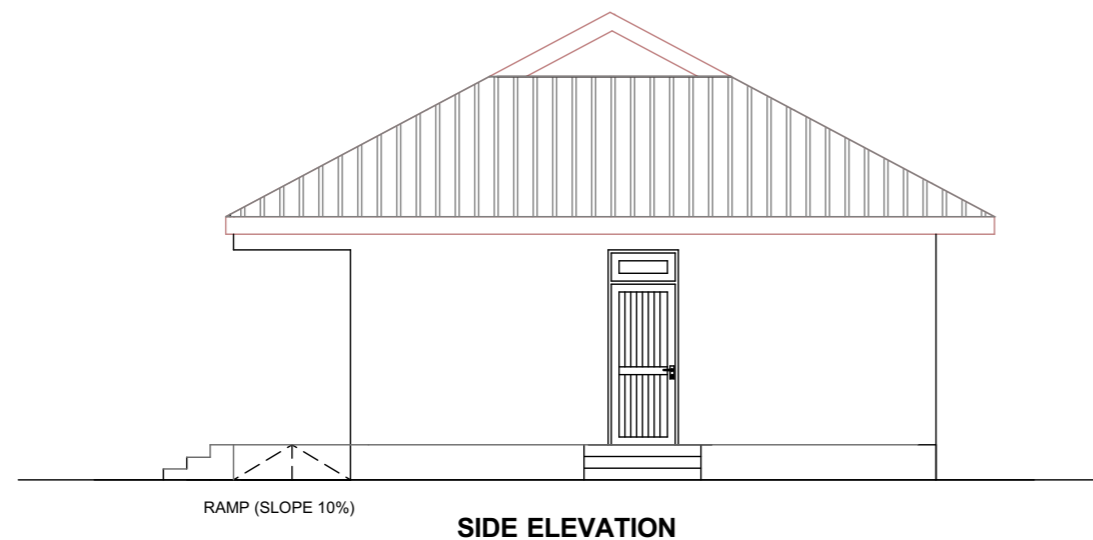
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
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DRAWING TITLE: CHEMISTRY & BIOLOGY BLOCK
ROOF PLAN
 DRAWING NO: ARC/CHB/LAB/02

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit



TYPICAL SECTION

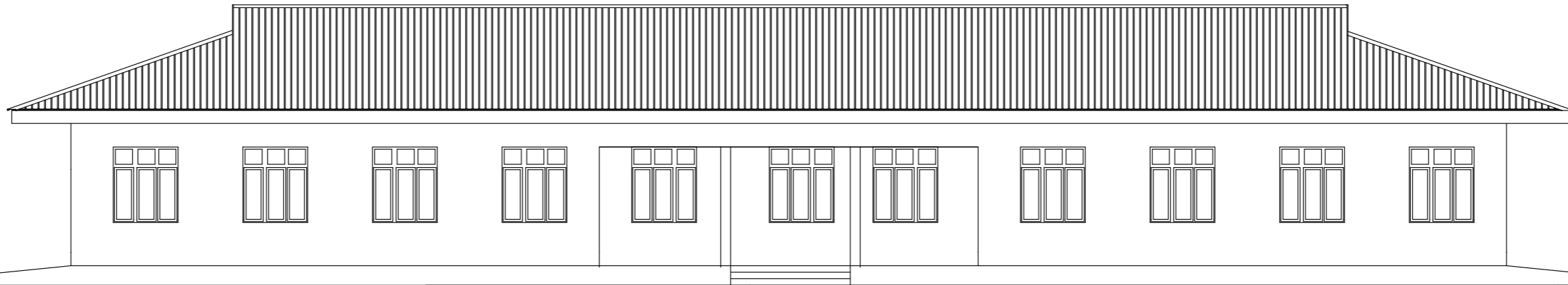


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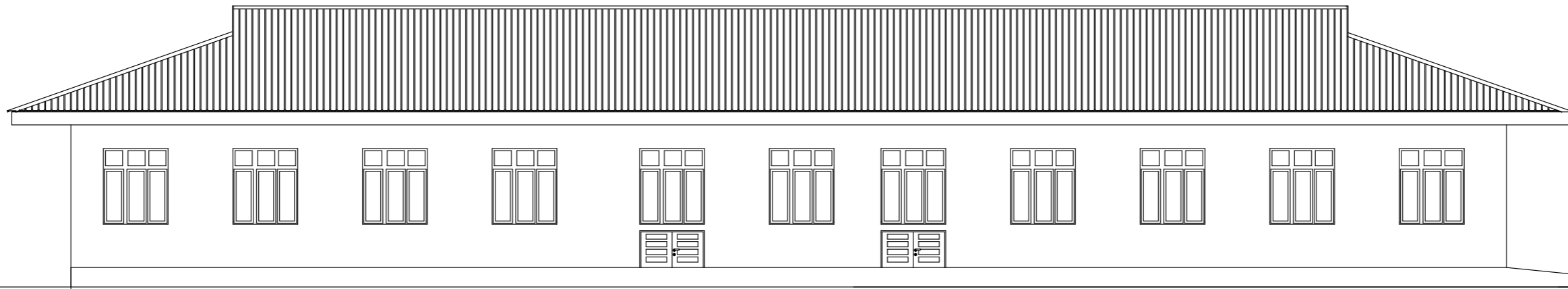
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: CHEMISTRY & BIOLOGY BLOCK
TYPICAL SECTION - SIDE ELEVATIONS
 DRAWING NO: ARC/CHB/LAB/03

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit



FRONT ELEVATION



REAR ELEVATION

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**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**

DRAWING TITLE: CHEMISTRY & BIOLOGY BLOCK
ELEVATIONS
 DRAWING NO: ARC/CHB/LAB/04

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Library Block – Gable Type

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>MATERIALS</u>				
A	<u>SUB-STRUCTURE -PROVISIONAL</u>				
1	<u>Strip Foundation - Grade 15 Plain</u>				
	Aggregate (3/4")	12	M ³		
	Sand	6	M ³		
	Cement-50kgs (42.5)	60	Bags		
2	<u>Foundation Walls</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	1,300	No		
	Sand	4	M ³		
	Cement -50kgs (42.5)	22	Bags		
	<u>ALTERNATIVE TO FOUNDATION WALL</u>				
	** If stone is applicable, then blockwork is not				
	applicable. Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or Stone) depending on availability and suitability of building materials.				
	Stone, complete with its cement and sand mortar (1:4)	21	M ³		
3	<u>Moram, Hardcore & Site sterilization</u>				
	Moram (4.5m ³ lorry)	8	Trips		
	Hardcore 200mm thick - (4.5m ³ lorry)	7	Trips		
	Sand	6	M ³		
	Aldrin solution or other and equal approved (1000mls)	2	Bottle		
4	<u>Oversite Concrete 100mm thick - 15 grade ,Ground Beam - 20 grade</u>				
	DPM	162	M ²		
	Cement -50kgs	110	Bags		
	Aggregates (1/2")	18	M ³		
	Sand	9	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm ²	30	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	31	PC'S		
	A252 Mesh 200 x 200x 6.16kg/m ²	4	PC'S		
	Binding Wire - 25kg	1	Roll		
	Timber 1" X 10 " (5.2m long)	25	PC'S		
	Timber 2" X 2"(5.2m long)	8	PC'S		
	Nails-4"	25	Kgs		
	Nails-3"	20	Kgs		
	Supporting Props - 3m	15	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	<u>SUPERSTRUCTURE</u>				
1	<u>Walls & Ring beam</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	1,801	No		
	DPC (30m long, 1m wide)	1	Roll		
	Sand	8.0	M ³		
	Cement-50kgs (42.5)	60	Bags		
	Aggregates (1/2")	4	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm ²	25	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	24	PC'S		
	Binding Wire - 25kg	1	Roll		
	Timber 1" X 10" to Sides (5.2m long)	18	PC'S		
	Timber 1" X 5" (Plates) (5.2m long)	4	PC'S		
	Timber 2" X 2" (5.2m long)	12	PC'S		
	Supporting Props - 3m	15	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	<i>ALTERNATIVE TO BLOCKWORK WALL</i>				
	<i>** If brickwork is applicable, then blockwork is not applicable.</i>				
	<i>Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or brickwork) depending on availability and suitability of building materials. Note that: Strictly do not use stretcher bond when using bricks, the acceptable bond is either Flemish or English or header.</i>				
	230mm thick One brick wall	116	m ²		
	150mm thick One brick wall	17	m ²		
C.	<u>ROOF STRUCTURE & COVERING</u>				
1	<u>Roof Structure - Provisional - 5.2 M</u>				
	Timber 2 " X 3" Purlins	40	Pcs		
	Timber 2" X 6" Rafter and Tie beam	56	Pcs		
	Timber 2 " X 4" Struts, wall plates	60	Pcs		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	11	PC'S		
	Nails -5"& 4"	45	Kgs		
	Nails -3"	40	Kgs		
	16mm diameter bolt, 500mm long	26	Kgs		
	<u>NOTE:</u> The above softwood timber structure should be pressure impregnated treated				
2	<u>Roof Covering</u>				
	28 G Resincoated Iron sheet	210	M ²		
	Aluminium Roofing Nails	15	Packet		
	Ridge - 28 G resin coat (3m long)	7	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	<u>Gutter's (PVC)</u>				
	Upvc 100mm half round (6m long)-5"	7	PC'S		
	Upvc 75mm diameter down pipe; Class B	3	PC'S		
	PVC outlet	4	PC'S		
	Gutter support bracket	18	PC'S		
	PVC bend 90'	4	PC'S		
	PVC bend 45'	4	PC'S		
	Gutter Clamp 3"	16	PC'S		
	Connector/reducer	4	PC'S		
	Connector outer	4	PC'S		
	Corner Inner	4	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	<u>CEILING</u>				
	Gypsum board -9mm thick	58	PC'S		
	Plain Cornice (8ft)	55	PC'S		
	Screw 1.25" 500pcs/box	2	Box		
	Gypsum powder	9	Bags		
	Fiber tape (90m)	1	Roller		
	Treated softwood Timber 2" X 2" (5.2m)	104	Pcs		
	Nails 4"	20	Kgs		
	Nails 3"	25	Kgs		
	SUB-TOTAL FOR CEILING				
E.	<u>DOOR</u>				
1	<u>40mm thick hardwood Panelled door shutter</u>				
	900 x 2100mm high door	2	PC'S		
2	<u>Frames (hardwood) & Varnish</u>				
	900 x 2500mm high	2	PC'S		
	Brush 3"	2	Pcs		
	Sand paper (msasa) No.80	1	LM		
	Clear Varnish - 4Litres	1	TIN		
	Thinner for Varnish	1	Litres		
3	<u>Ironmongeries - ref Union</u>				
	Mortice lock Three lever	2	No		
	Brass hinges - 100mm	3.0	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	<u>WINDOWS</u>				
1	<u>Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs</u>				
	1500 X 1500mm high	11	PC'S		
2	<u>25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories</u>				
	1500 X 1500mm high	11	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	<u>FINISHING</u>				
1	<u>Floor finishing</u>				
	Sand	7.0	m3		
	Cement-50kgs (42.5)	47	Bags		
	Marley flex PVC tiles with size 300 x 300 x 2.5mm thick(4.5m2 per Box)	36	Box		
	Skirting (600 mm long; 25No/Box)	10	Box		
	Grout (1kg/packet)	5	Packet		
	Spacer	2	Packet		
	Marley Solvent (250ML)	2	Bags		
2	<u>Wall Finishing 15mm thick (1:4)</u>				
	Sand	8	M ³		
	Cement-50kgs (42.5)	47	Bags		
	White cement - 40kg	4	Bags		
	Gypsum powder - 25kg	7	Bags		
	SUB-TOTAL FOR FINISHING				
H.	<u>PAINTING & DECORATION</u>				
	Emulsion Paint - 20 LTRS	6	buckets		
	Weather guard Paint - 20 LTRS	2	buckets		
	Washable paint -20 LTRS	3	buckets		
	Primer paint -20 LTRS	1	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	4	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	1	TIN		
	Oil paint -4LTR	1	TIN		
	Bitumen paint - 4Litres	1	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	<u>ELECTRICAL INSTALLATION</u>				
	Single fluorescent fitting Complete	22	No		
	Double switch socket	11	No		
	Main switch 6way,1PH with integral RCD 100A/300mA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Brown	1	Roll		
	Single core wire 1.5sqmm - Black	1	Roll		
	Single core wire 1.5sqmm - Green	1	Roll		
	Single core wire 2.5sqmm - Brown	1	Roll		
	Single core wire 2.5sqmm - Black	1	Roll		
	Single core wire 2.5sqmm - Green	1	Roll		
	Ceiling fan National or other equal	12	PC's		
	3gang 1way switch	4	No		
	1gang 1way switch	1	No		
	2gang 1 way switch	3	No		
	4gang 1 way switch	2	No		
	DP switch 20A	1	No		
	Earth rod approved copper 16mm not less than 1200mm	1	No		
	Earth wire 4sqmm	15	M		
	Metal box twin	11	No		
	Metal box single	8	No		
	Junction box	15	No		
	Conduit pipe	60	PC's		
	Elbow	15	PC's		
	Conduit coupling	10	PC's		
	Round cover	20	PC's		
	Round box	5	PC's		
	Fine screw	1	Packet		
	Data socket	3	No		
	CAT 6 UTP cable (300m)	1	box		
	Smoke detector	2	No		
	plastic clips 22mm	2	Box		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

<u>GENERAL SUMMARY</u>				AMOUNT -TZS
<u>LIBRARY BLOCK</u>				
A.	SUB-STRUCTURE -PROVISIONAL			
B.	SUPERSTRUCTURE			
C.	ROOF STRUCTURE & COVERING			
D.	CEILING			
E.	DOOR			
F.	WINDOWS			
G.	FINISHING			
H.	PAINTING & DECORATION			
J.	ELECTRICAL INSTALLATION			
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
<u>ADD:</u>				
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
Note:				
i. Refer attached specification and number of Furniture(s) for Library Block				
ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
iii. Preliminary cover the following item:				
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
- Power for the works, Security, store, Materials test and signboard.				
iv. Supervision cost depend on guideline of the project				
v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

ARCHITECTURAL DRAWINGS

LIBRARY BLOCK

ARCHITECTURAL DRAWING

Library Block -Gable

JUNE 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

**PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND
LOCAL GOVERNMENT**

**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**

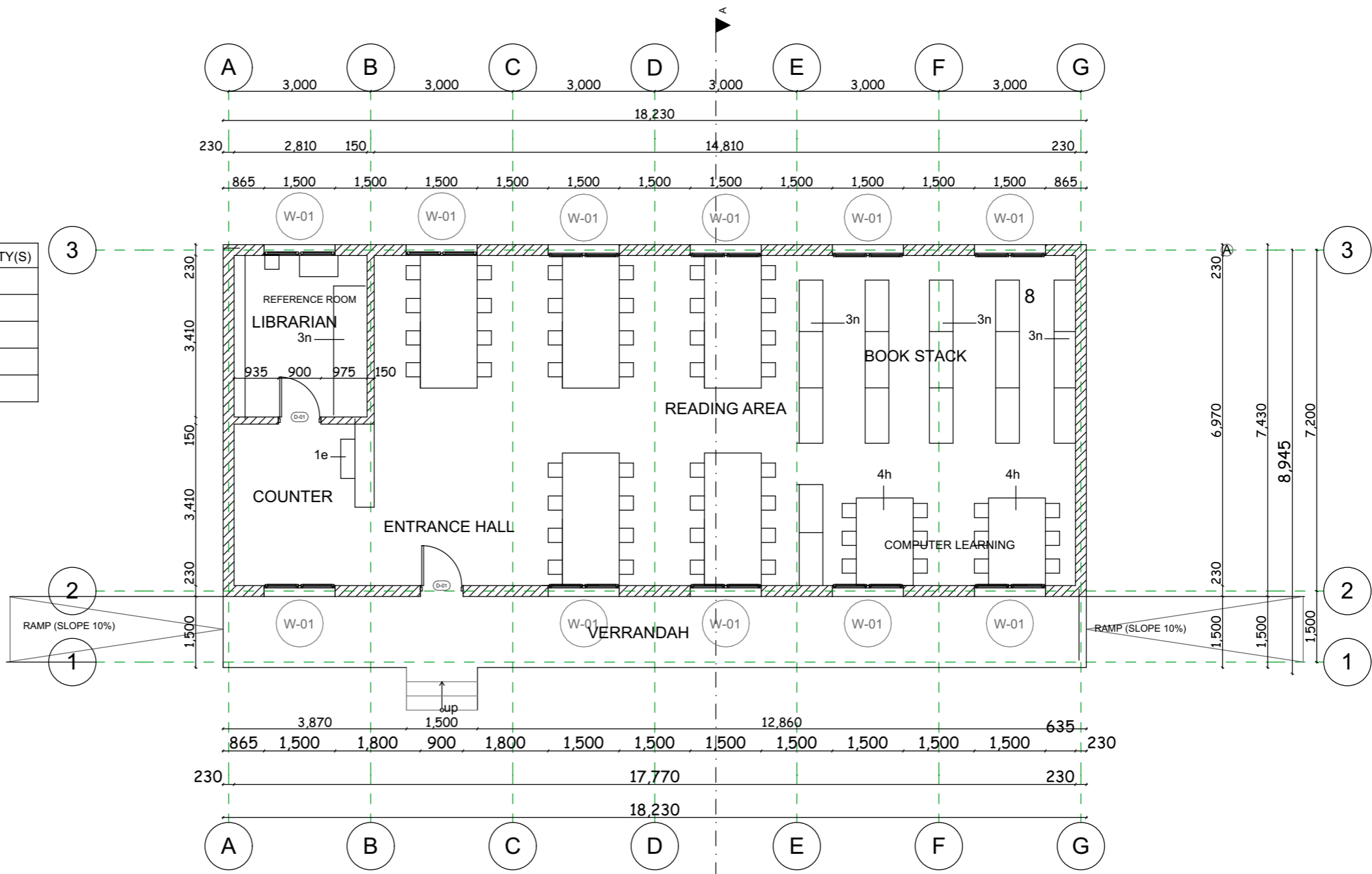
DRAWING TITLE: LIBRARY BLOCK- GABLE

DRAWING NO: ARC/LBR/00

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

WINDOW SCHEDULE

WINDOW TYPE	HEIGHT x WIDTH	QUANTITY(S)
W 01	1500mm x 1500mm	11
TOTAL		11
DOOR SCHEDULE		
D 1	2500mm x 900mm	2
TOTAL		2



FURNITURES
KEY ITEM

KEY ITEM	NO
1e cardex cabinet	1
2k pinboard	4
2x work bench	1
2w work bench	2
3g book case	2
3n library shelf	36
3r shelves unit	1
4a single desk	40
4h general tables	2
4k counter section	1
5a general chair	54
7b book trolley	1

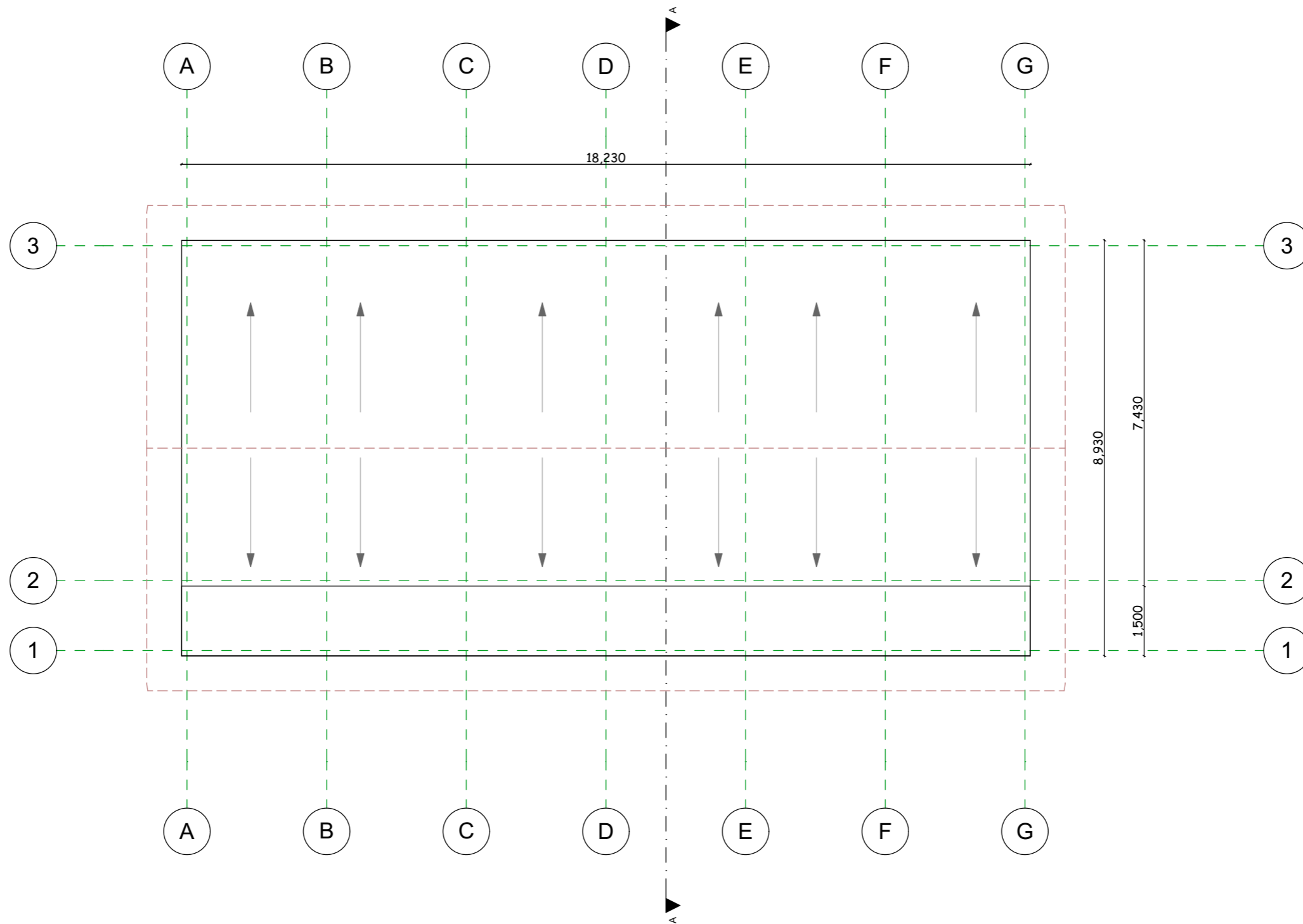
TOTAL FLOOR AREA = 163 SQM

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LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: LIBRARY BLOCK GABLED
FLOOR PLAN GABLE
DRAWING NO: ARC/LBR/01

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

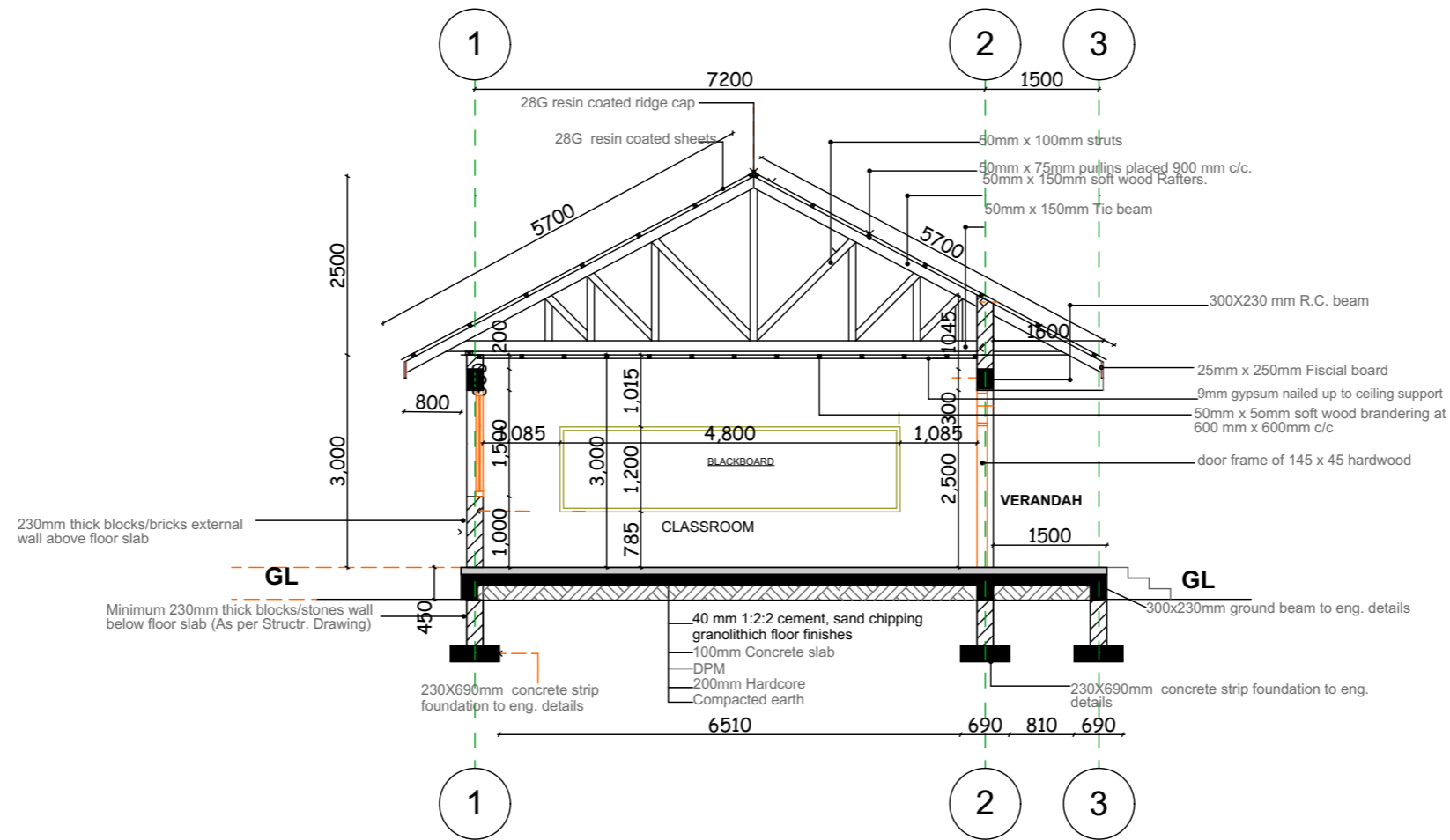


MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
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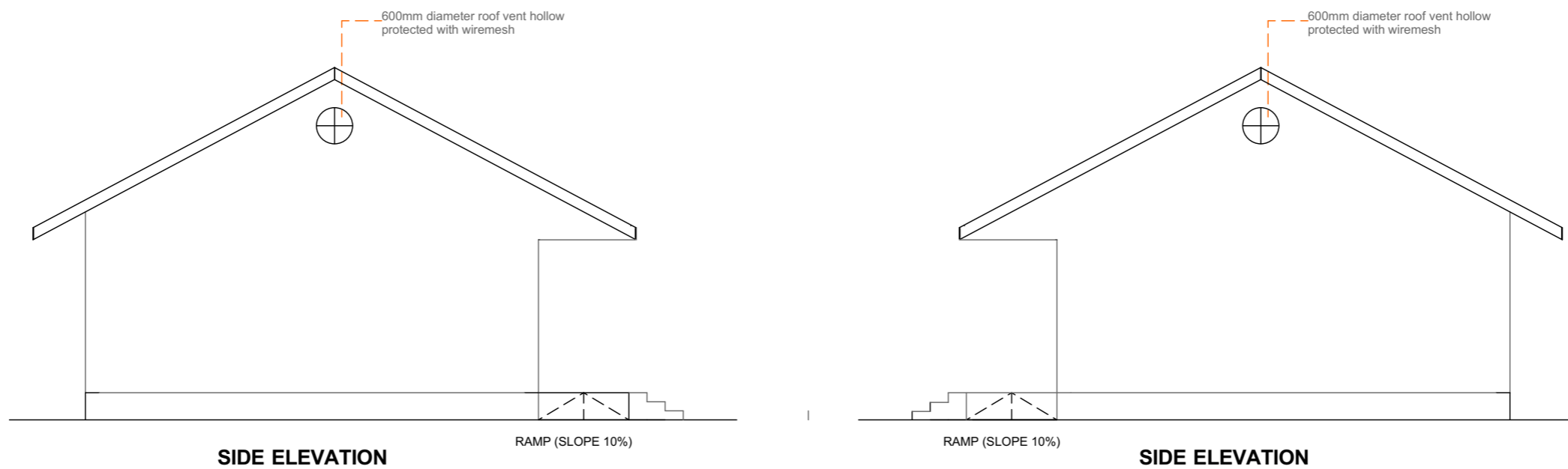
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: PROPOSED LIBRARY BLOCK GABLED
ROOF PLAN
 DRAWING NO: ARC/LBR/02

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit



TYPICAL SECTION

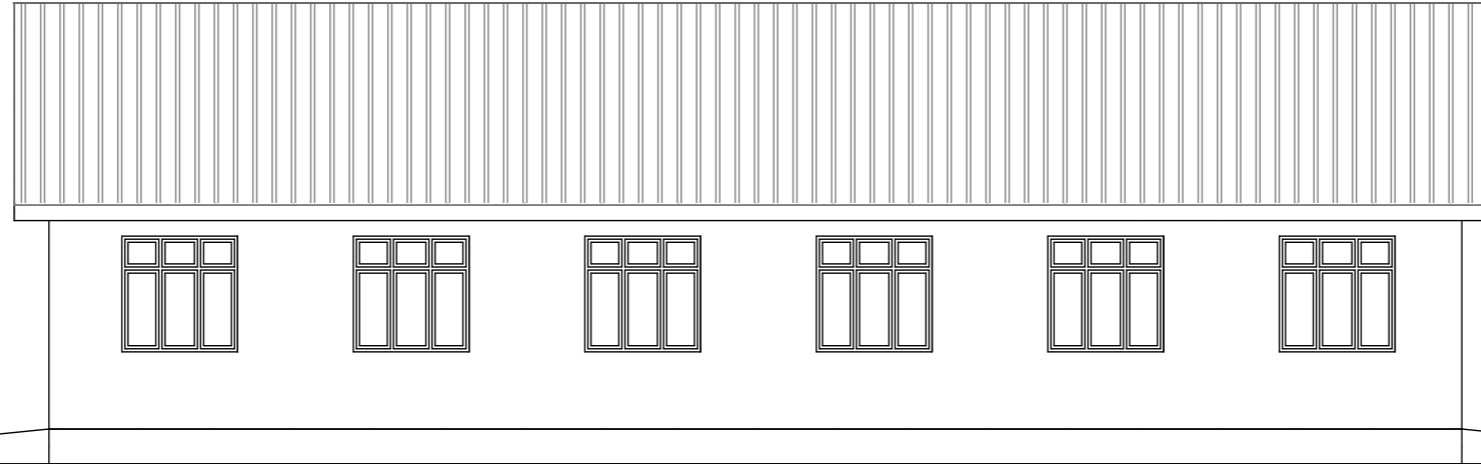


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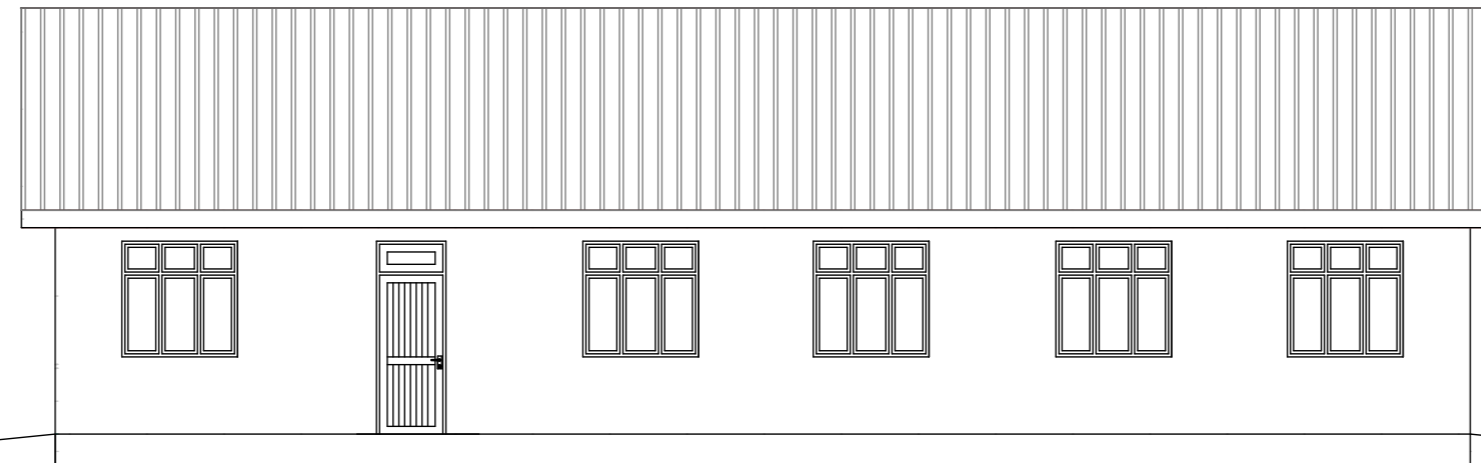
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE: LIBRARY BLOCK GABLED
 TYPICAL SECTION - SIDE ELEVATIONS
 DRAWING NO: ARC/LBR/03

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit



REAR ELEVATION



FRONT ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM
 PROPOSED LIBRARY BLOCK GABLED

DRAWING TITLE: LIBRARY BLOCK GABLED
ELEVATIONS
 DRAWING NO: ARC/LBR/04

Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for 80 Students Dormitory Block

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>MATERIALS</u>				
A	SUB-STRUCTURE -PROVISIONAL				
1	<u>Strip Foundation - Grade 15 Plain</u>				
	Aggregate (3/4")	38	M ³		
	Sand	19	M ³		
	Cement-50kgs (42.5)	188	Bags		
2	<u>Foundation Walls</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	3,570	No		
	Sand	12.0	M ³		
	Cement-50kgs (42.5)	60	Bags		
	<u>ALTERNATIVE TO FOUNDATION WALL</u>				
	** If stone is applicable, then blockwork is not applicable.				
	Therefore Engineer must confirm to the Tenderer which				
	item to be priced (Blockwork or Stone) depending on				
	availability and suitability of building materials				
	Stone, complete with its cement and sand mortar (1:4)	59	M ³		
3	<u>Moram, Hardcore & Site sterilization</u>				
	Moram average depth 150mm (4.5m ³ lorry)	14	Trips		
	Hardcore 200mm thick (4.5m ³ lorry)	19	Trips		
	Sand	21	M ³		
	Aldrin solution or equal -1000mls	3	Bottles		
4	<u>Oversite Concrete (100mm thick - 15 grade) & Ground Beam - 20 grade, Steps, Ramps</u>				
	DPM	412	M ²		
	Cement-50kgs (42.5)	342	Bags		
	Aggregates (1/2")	51	M ³		
	Sand	26	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm ²	105	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	114	PC'S		
	Binding wire -25Kg	3	Roll		
	A252 Mesh 200 x200x6.16kg/m ²	4	PC'S		
	20mm styropol comprehensive materials (1200x2400mm)	5	PC'S		
	Timber 1" X 8" (5.2m long)	80	PC'S		
	Timber 2" X 2" (3.5m long)	20	PC'S		
	Nails-4"	20	Kgs		
	Nails-3"	20	Kgs		
	Supporting props	15	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

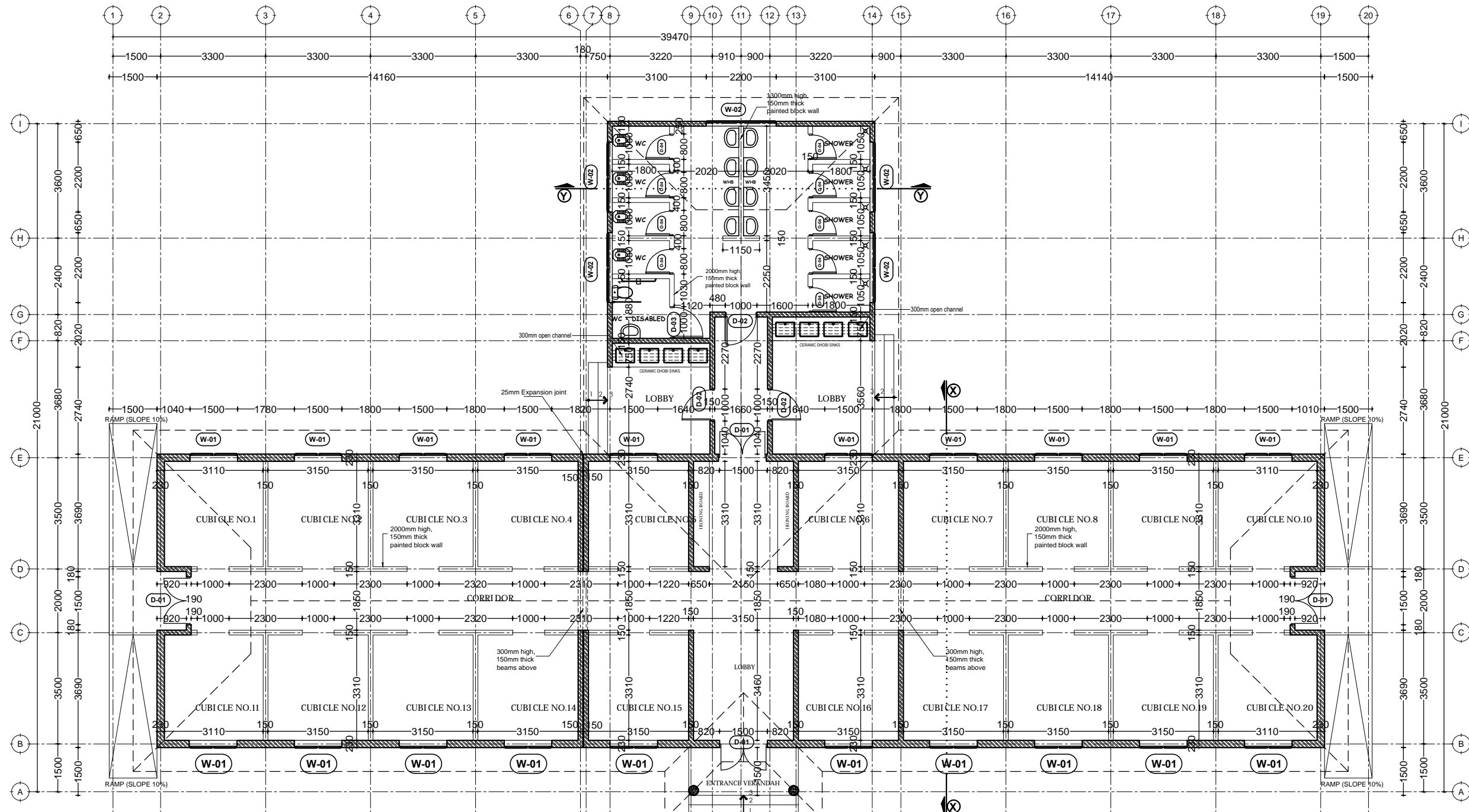
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
		B/F			
2	<u>Roof Covering</u>				
	28 G Resincoated Iron sheet	630	M ²		
	Hips/Ridge and valley - 28 G resin coat	38	PC'S		
	Aluminium Roofing Nails	63	Packet		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D	<u>CEILING</u>				
	Gypsum board -9mm thick	145	PC'S		
	Plain Cornice (8ft)	123	PC'S		
	Gypsum Screw 1" 800pcs/box	11	Box		
	Gypsum powder	6	Bags		
	Fibre tape-90m	3	Pcs		
	Treated softwood Timber 2" X 2" (5.2m)	340	Pcs		
	Nails 4"	40	Kgs		
	Nails 3"	45	Kgs		
	SUB-TOTAL FOR CEILING				
E	<u>DOOR</u>				
1	<u>40mm thick hardwood paneled door shutter</u>				
	1420 x 2100mm high double door shutter	4	PC'S		
	920 x 2100mm high	3	PC'S		
	920 x 1820mm high	1	PC'S		
	720 x 1820mm high	9	PC'S		
2	<u>Frames (hardwood),Varnish, Glass & Burglar bar</u>				
	1500 x 2500mm high frame for double door (D1)	4	PC'S		
	1000 x 2500mm high door frame	3	PC'S		
	1000 x 1820mm high door frame	1	PC'S		
	800 x 1820mm high	9	PC'S		
	5mm thick clear glass to Vents	5	M ²		
	16mm barglar bars to door vent (12m)	3	Pcs		
	Brush 3"	2	Pcs		
	Sand paper (msasa) No.80	5	LM		
	Clear Varnish - 4Litres	1	TIN		
	Thinner for Varnish -1Litres	1	Litres		
3	<u>IronMongeries</u>				
	Mortice lock Three lever	8	No		
	barrel bolt with indicator bolts	9	No		
	Brass hinges - 100mm	31.5	Pairs		
	Wood Screw	1	Box		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F	WINDOWS				
1	<u>Hardwood casement windows /Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs</u>				
	1500 X 1500mm high	20	No		
	2200 X 750mm high	5	No		
	SUB-TOTAL FOR WINDOWS				
G	FINISHING				
1	<u>Floor finishing 500x500x 10mm Porcelain Floor Tiles including bedding 30mm thick cement and sand</u>				
	Sand	20	m3		
	Cement-50kgs (42.5)	125	Bags		
	500 X 500 X 10mm thick- Non-slippery porcelain floor tiles - (1.75 sqm/Box)	250	Box		
	Epoxy - Grout (1kg/packet)	25	Bucket		
	Spacer	10	Packet		
	Skirting (600mm long; 25/Box)	20	Box		
2	<u>Wall Finishing</u>				
	Sand	36	M ³		
	Cement-50kgs (42.5)	215	Bags		
	White cement - 50kg	8	Bags		
	Gypsum powder	32	Bags		
	250 x 400mm x 9mm thick ceramic wall tiles (1.5Sqm/Box)	88	Box		
	Epoxy - Grout (1kg/packet)	15	Packet		
	Spacer	6	Packet		
	Sand paper Msasa No.120	10.0	m		
	SUB-TOTAL FOR FINISHING				
H	PAINTING & DECORATION				
	Emulsion Paint - 20 LTRS	15	buckets		
	Weather guard Paint - 20 LTRS	4	buckets		
	Washable paint -20 LTRS	6	buckets		
	Primer paint -20 LTRS	1	buckets		
	Solvent - 5LTRS	1	TIN		
	Brush 3"	3	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	6	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J	<u>PLUMBING AND ENGINEERING INSTALLATIONS:</u>				
	Western type low level W.C suite vitrious china to B.S 3402	1	No		
	White vitreous china Asian type size 450x530x210mm	4	No		
	Disabled toilets with HWB, grab rails, mixer, floor drainer and all necessary accessories	1	No		
	White vitreous china wash hand basin (HWB), size 750x440x200mm complete .	8	No		
	80mm Diameter high quality plastic floor drain trap built in concrete bed	8	No		
	600 x 900 x 6mm thick looking mirror	8	No		
	150mm long toilet roll holder (Ceramic), plugged and screwed to blockwall	5	No		
	20mmØ Chromium plated towel single rail, 600mm long	5	No		
	Shurtuff (Douche spray) 13mm diameter X 1000mm long flexible hose metal braided hose	5	No		
1	<u>COLD WATER INSTALLATION:</u>				
	<u>Pipes and fittings:</u>				
	25mmØ communication pipe HDPE to trench	70	m		
	Ditto; tee	8	No		
	Ditto; elbow	14	No		
	Ditto; male connector	8	No		
	32mmØ pipe to trench	32	m		
	Extra; elbow	5	No		
	Ditto; nipple MM	20	No		
	Ditto; nipple FF	20	No		
	Ditto; union	10	No		
	Ditto; reducing connector 32Ø × 25Ø	20	No		
	Ditto; reducing connector 25Ø × 19Ø	20	No		
	Ditto; nipple MM	20	No		
	Ditto; reducing connector 25Ø × 19Ø	8	No		
	Ditto; nipple MM	20	No		
	Ditto; reducing connector 19Ø × 13Ø	20	No		
	13mm diameter pipe in blockwall chase BS 1010 or 1212	40	m		
	Ditto; elbow.	50	No		
	Ditto; tee.	18	No		
	Extra: nipple MM	24	No		
	Extra: nipple FF	24	No		
	Ditto: union	24	No		
2	<u>WASTE AND VENT PIPES:</u>				
	<u>UPVC pipes;Class 'C:</u>				
	38mmØ; chase in block in concrete slab.	24	m		
	Extra; Equal tee	20	No		
	Extra; plain elbow	15	No		
	Extra; plugged elbow	15	No		

<u>GENERAL SUMMARY</u>		AMOUNT
		TZS
<u>DOMITORY BLOCK --- 80 STUDENTS</u>		
A.	SUB-STRUCTURE -PROVISIONAL	
B.	SUPERSTRUCTURE	
C.	ROOF STRUCTURE & COVERING	
D.	CEILING	
E.	DOOR	
F.	WINDOWS	
G.	FINISHING	
H.	PAINTING & DECORATION	
J.	PLUMBING AND ENGINEERING INSTALLATIONS:	
K.	ELECTRICAL INSTALLATION	
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY		
<u>ADD:</u>		
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)		
Note:		
i. Refer attached specification and number of Furniture(s) for 80 Students Dormitory Block		
ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs		
iii. Preliminary cover the following item:		
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,		
- Power for the works, Security, store, Materials test and signboard.		
iv. Supervision cost depend on guideline of the project		
v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .		

ARCHITECTURAL DRAWINGS



GROUND PLAN

SCALE: 1:100

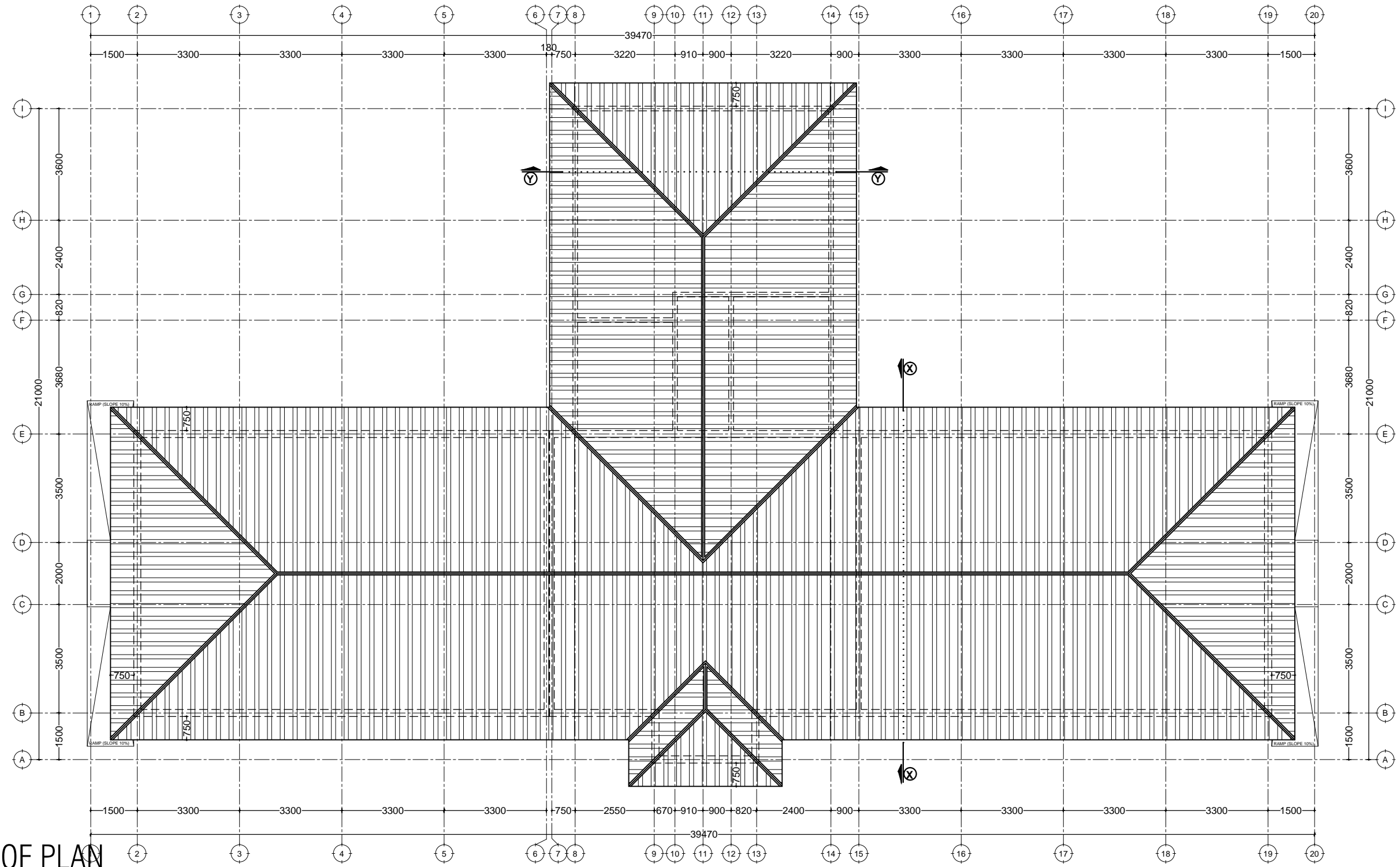
TOTAL AREA = 432sqm

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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE: **80 STUDENTS DORMITORY**
FLOOR PLAN
 DRAWING NO: **SQP/ARC/DORM - 1/06**

DRAWN BY J.R
CHECKED BY I.S
 SCALE 1;100
 JUNE,2023



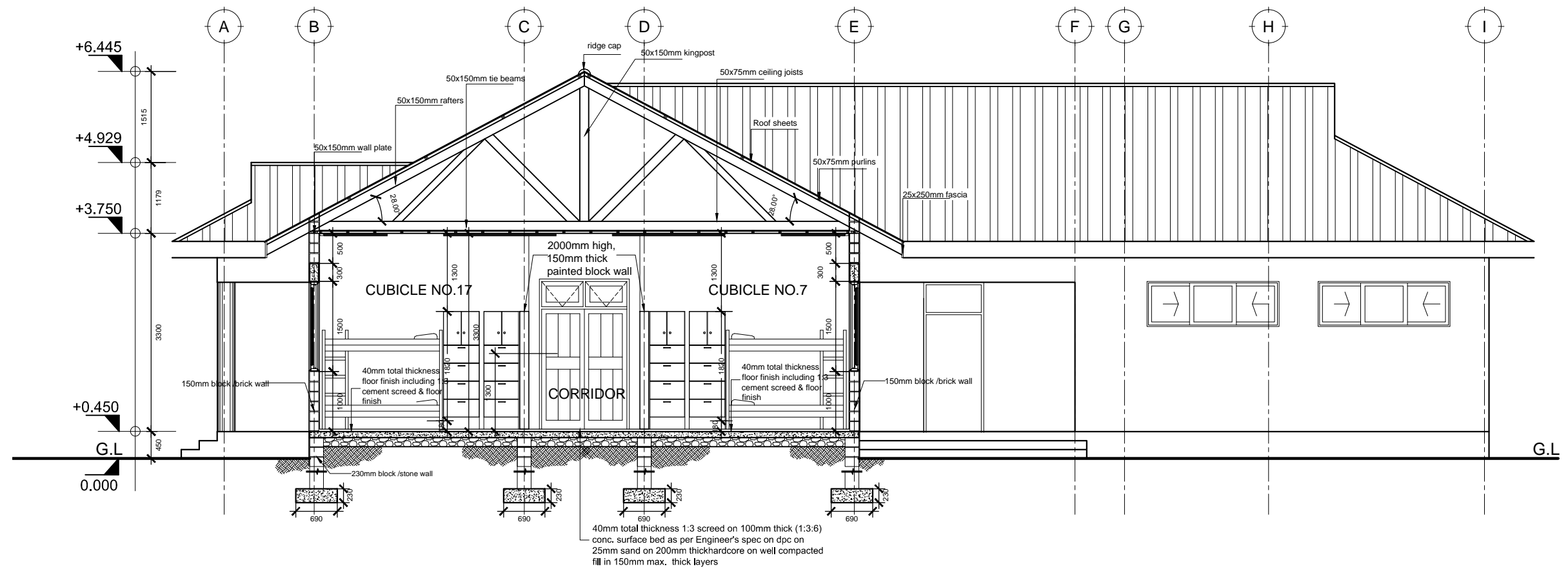
ROOF PLAN
SCALE: 1:100

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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE: **80 STUDENTS DORMITORY**
ROOF PLAN
DRAWING NO: **SQP/ARC/DORM - 2/06**

DRAWN BY J.R
CHECKED BY I.S
SCALE 1;100
JUNE,2023



SECTION Y:Y
SCALE: 1:75

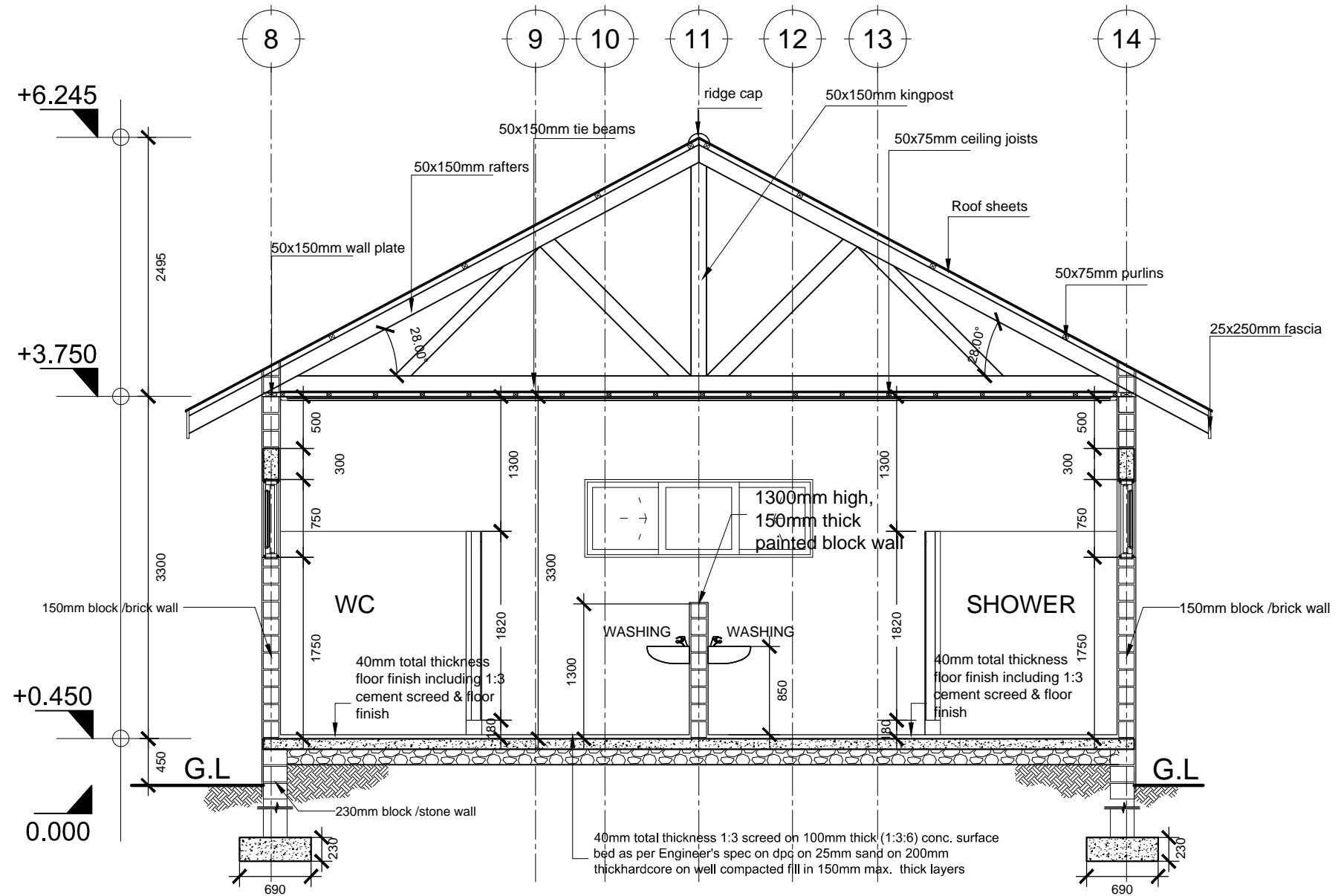
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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE: **80 STUDENTS DORMITORY**
SECTION Y:Y
DRAWING NO: **SQP/ARC/DORM - 3/06**

DRAWN BY J.R
CHECKED BY I.S
SCALE 1;75
JUNE,2023

DOOR & WINDOW SCHEDULE			
NO.	WIDTH	HEIGHT	TOTAL
D1	1500mm	2500mm	4
D2	1000mm	2500mm	3
D3	1000mm	1820mm	1
D4	800mm	1820mm	9
W1	1500mm	1500mm	20
W1	2200mm	750mm	5



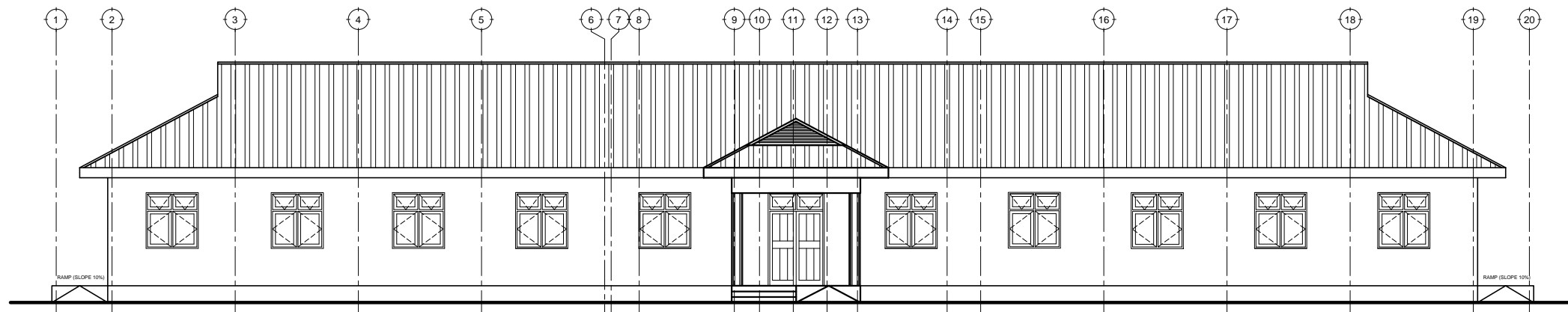
SECTION X:X
SCALE: 1:50

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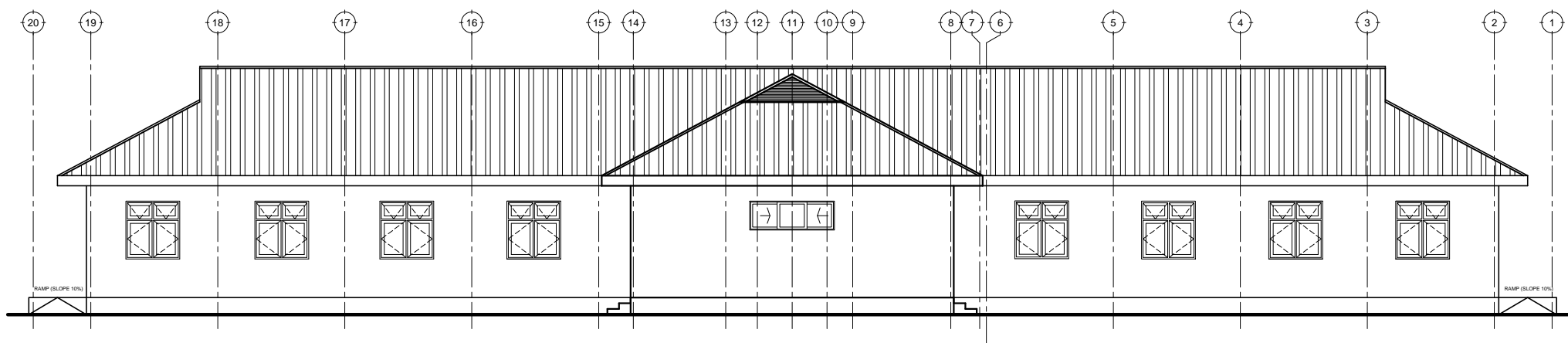
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE: **80 STUDENTS DORMITORY**
SECTION X:X
DRAWING NO: **SQP/ARC/DORM - 4/06**

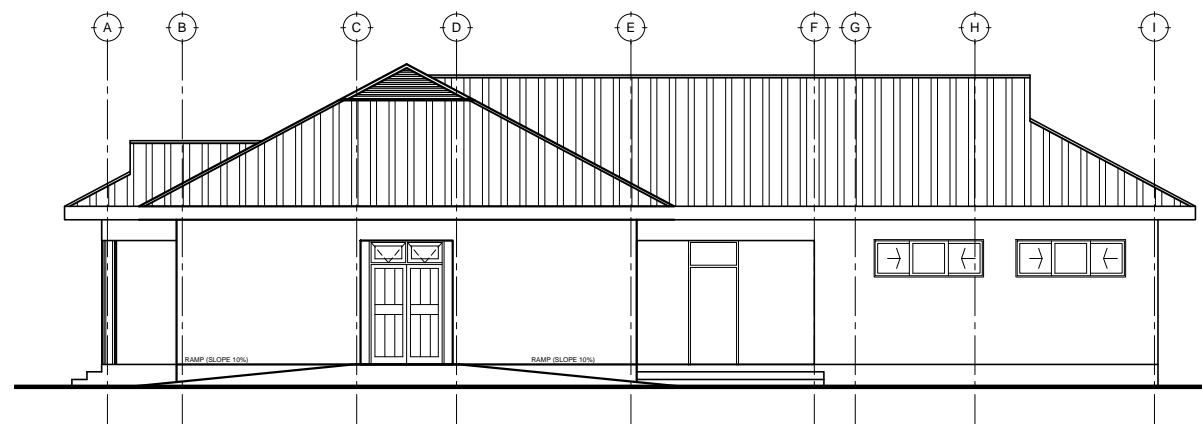
DRAWN BY J.R
CHECKED BY I.S
SCALE 1;50
JUNE,2023



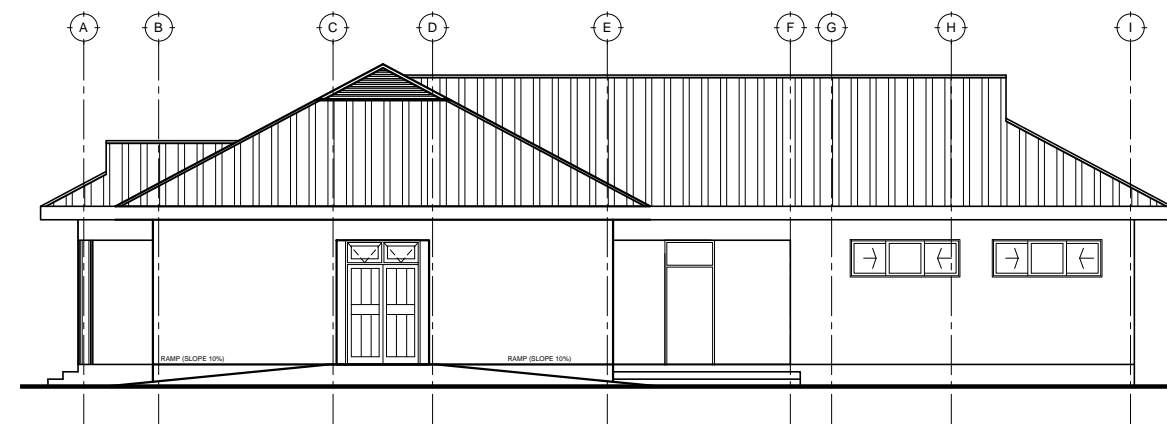
FRONT ELEVATION



FRONT ELEVATION



RIGHT SIDE ELEVATION



RIGHT SIDE ELEVATION

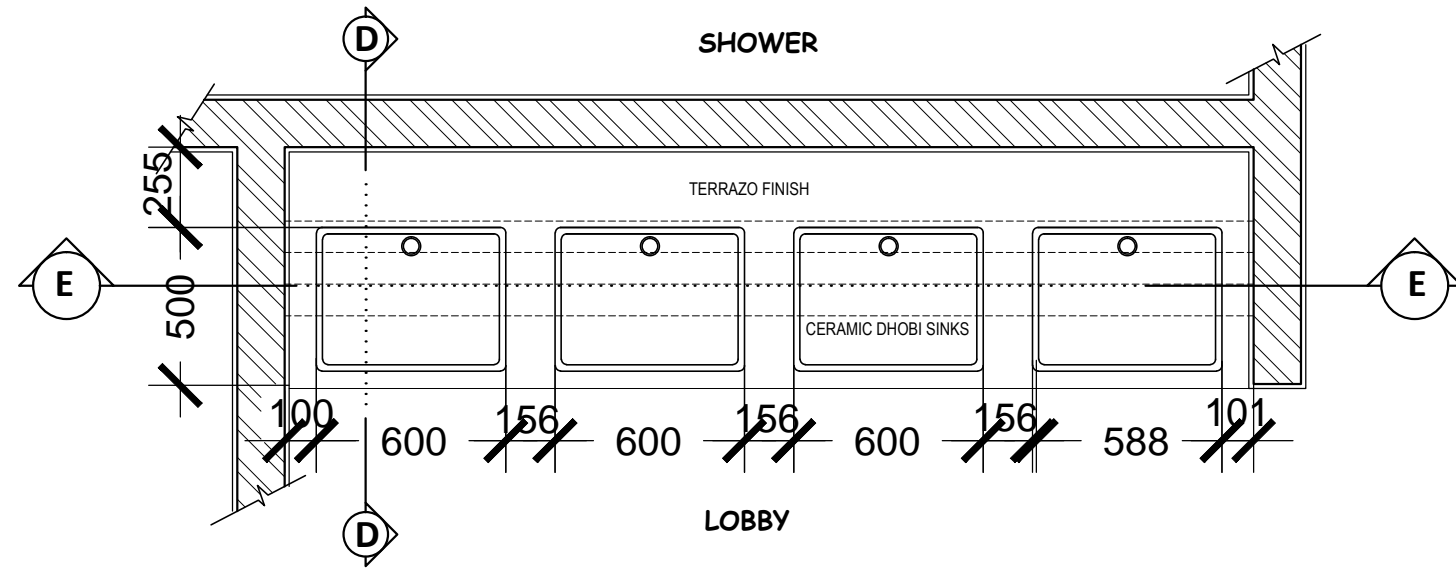
ELEVATIONS
SCALE: 1:100

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
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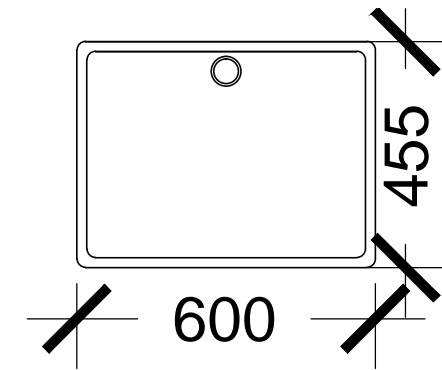
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE: **80 STUDENTS DORMITORY**
ELEVATIONS
DRAWING NO: **SQP/ARC/DORM - 5/06**

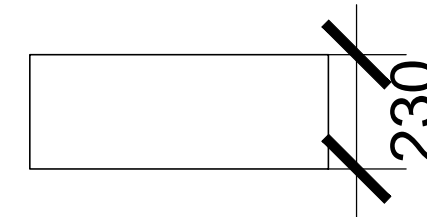
DRAWN BY J.R
CHECKED BY I.S
SCALE 1;50
JUNE,2023



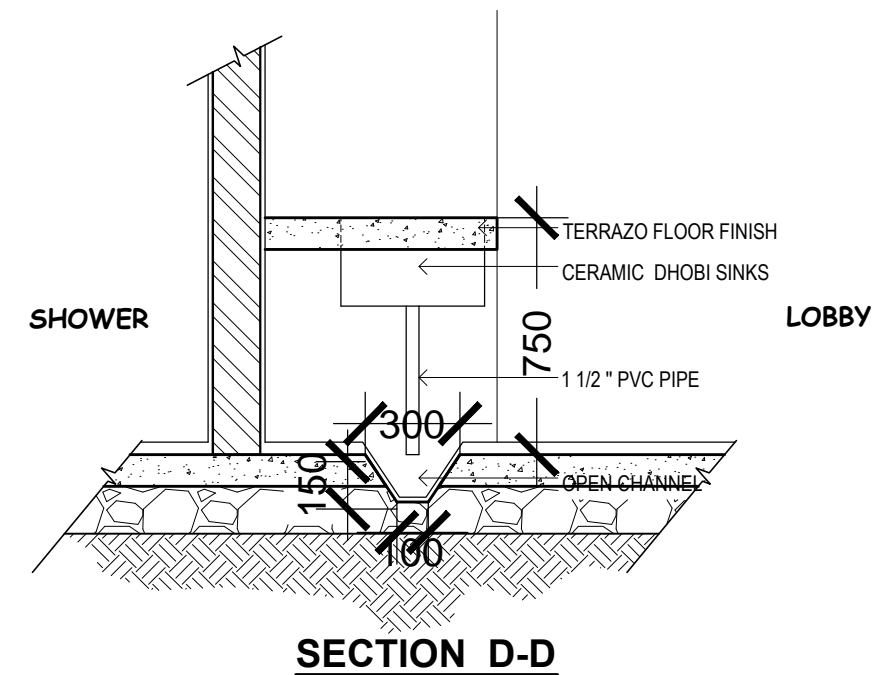
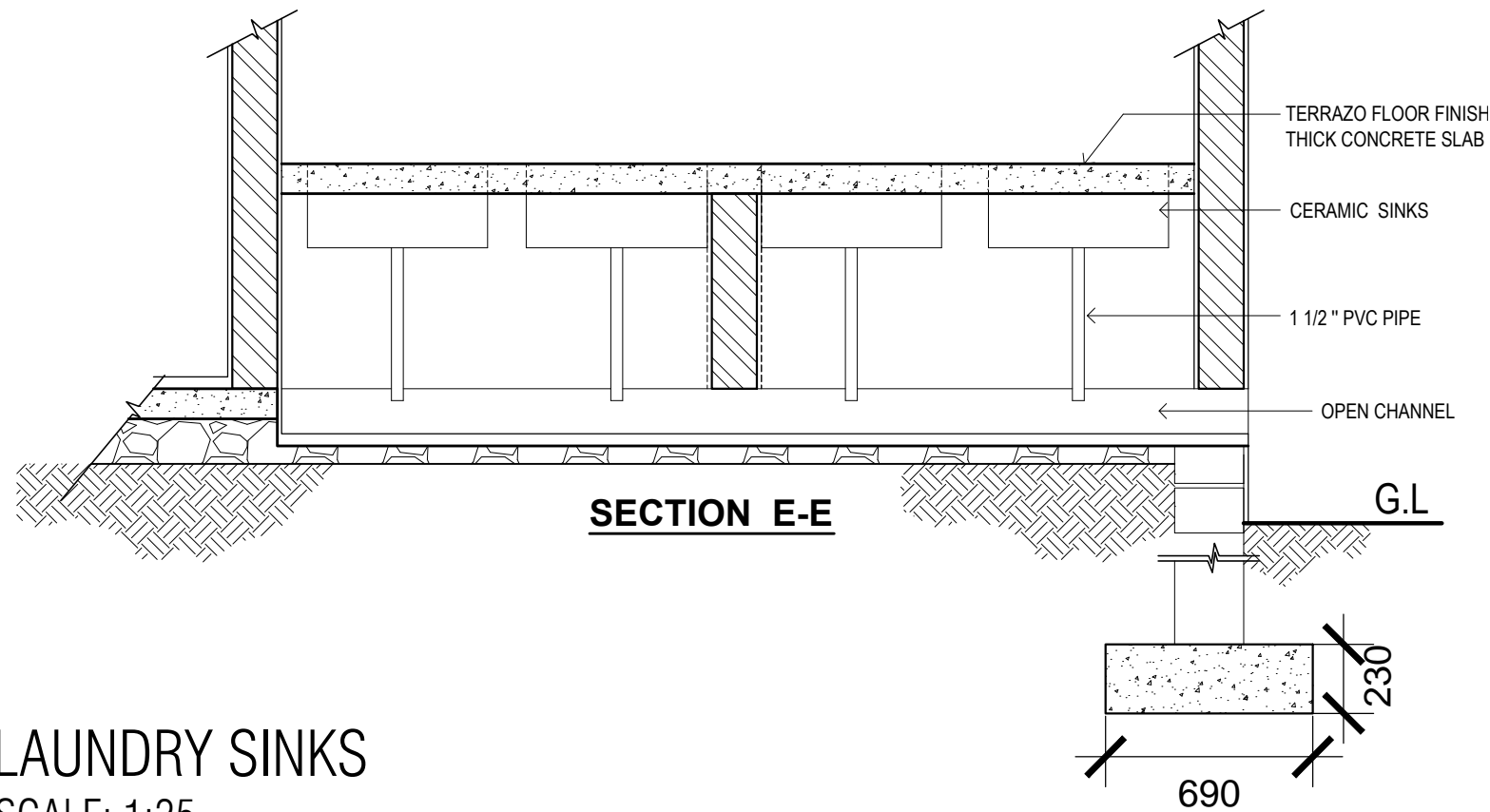
LAUNDRY SINKS LAYOUT PLAN



SINK PLAN



SINK ELEVATION



LAUNDRY SINKS
SCALE: 1:25

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
IN COLLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE: **80 STUDENTS DORMITORY**
LAUNDRY SINKS LAYOUT
DRAWING NO: **SQP/ARC/DORM - 6/06**

DRAWN BY J.R
CHECKED BY I.S
SCALE 1;25
JUNE,2023

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Dinning Hall

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>MATERIALS</u>				
A	<u>SUB-STRUCTURE -PROVISIONAL</u>				
1	<u>Strip Foundation - Grade 15 Plain (79m³)</u>				
	Aggregate (3/4")	79	M ³		
	Sand	40	M ³		
	Cement-50kgs (42.5)	356	Bags		
2	<u>Foundation Walls (457m²)</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	6,398	No		
	Sand	20	M ³		
	Cement -50kgs (42.5)	107	Bags		
3	<u>Moram, Hardcore & Site sterilization</u>				
	Moram (4.5m ³ lorry)	144	Trips		
	Hardcore 150mm thick - (4.5m ³ lorry)	72	Trips		
	Sand	108	M ³		
	Aldrin solution or other and equal approved (1000mls)	15	Bottle		
4	<u>Blinding(4m³) 50mm thick -grade 10, Oversight Concrete (216m³) 100mm thick - 15 grade ,Ground Beam column and base column (95m³) - 25 grade</u>				
	DPM	2,162	M ²		
	Cement -50kgs (42.5)	1,737	Bags		
	Aggregates (1/2")	299	M ³		
	Sand	149	M ³		
	Reinforcement - 16mm diameter high tensile 460N/mm ²	368	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	361	PC'S		
	Binding Wire - 25kg	6	Roll		
	Timber 1" X 10 " (5.2m long)	82	PC'S		
	Timber 2" X 2"	35	PC'S		
	Marine plywood 12mm thick size 2400 x 1200mm	50	PC'S		
	Nails-4"--- 45KG Per Bags	3	Bags		
	Nails-3"	2	Bags		
	20 mm styropol compressive expansion joint material or other equal and approved	24	PC'S		
	Supporting props 3m	80	PC'S		
	SUB-TOTAL SUBSTRUCTURE				
B.	<u>SUPERSTRUCTURE</u>				
1	<u>Walls (902m²), beam, roof beam & Columns (146m³)</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	14,661	No		
	Louver Block /Vent block	765	No		
	DPC (30m long, 1m wide)	8	Roll		
	Sand	135	M ³		
	Cement-50kgs (42.5)	1,554	Bags		
	Aggregates (1/2")	122	M ³		
	Reinforcement - 16mm diameter high tensile 460N/mm ²	599	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	673	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Binding Wire - 25kg	10	Roll		
	Timber 1" X 10" to Sides (5.2m long)	80	PC'S		
	Timber 1" X 5" (Plates)	42	PC'S		
	Timber 2" X 2"	75	PC'S		
	Marine plywood 12mm thick size 2400 x 1200mm	131	PC'S		
	Steel supporting scaffolding(6m high) including accessories	52	PC'S		
	Supporting Props	120	PC'S		
	20 mm styropol compressive expansion joint material or other equal and approved	12	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
C.	<u>ROOF STRUCTURE & COVERING</u>				
1	<u>Roof Structure - Provisional</u>				
	Timber 2 " X 3" Purlins (5.2m long)	145	PC'S		
	Timber 2" X 4" wall plate and struts(5.2m long)	155	PC'S		
	Timber 2" X 6" Rafter and Bottom beam (5.2m long)	166	PC'S		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	30	PC'S		
	Nails -5"	50	Kgs		
	Nails -4"	60	Kgs		
	Nails -3"	40	Kgs		
	16mm diameter bolt, 750mm long	376	PC'S		
	12mm diameter bolt, with and including nuts and washer	94	PC'S		
	300x150x3mm mild steel plate	94	PC'S		
	150x50x3mm mild steel plate	141	PC'S		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	<u>Steel Structure - Provisional</u>				
	76.1 x 5.0 x 8.8 kg/m steel top and bottom chord (6m)	240	PC'S		
	48.3 x 5.0 x 5.3kg/m steel structural internal members(6m)	270	PC'S		
	33.7 x 4.0 x 2.9kg/m steel structural longitudinal tie (6m)	24	PC'S		
	150x 50 x 2x2mm Z -Purlin	780	m		
	150 x 120 x60x 10mm thick mild steel plate	38	PC'S		
	300 x 250 x10mm thick mild steel plate	38	PC'S		
	195 x 100 x75 x 10mm thick mild steel plate	38	PC'S		
	10mm thick mild steel plate with internal diameter 600mm	1	PC'S		
	200 x 400 x10mm thick mild steel plate	38	PC'S		
	75 x 80 x 6mm thick mild steel plate	532	PC'S		
	20mm Diameter Black bolts with nuts and washers	228	PC'S		
	16mm Diameter Anchor bolts 750mm long	152	PC'S		
	12mm diameter bolt, with and including nuts and washer	2,128	PC'S		
	100x80x6mm mild steel plate	532	PC'S		
3	<u>Roof Covering</u>				
	28G Resin coated Iron sheet	2,078	M ²		
	28 G Resin coated Roof ridge/Valley	20	PC'S		
	Aluminium Roofing Nails/Hooks	100	Packet		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	<u>Frames (hardwood) & Varnish</u>				
	2000 x 2700mm high	6	PC'S		
	1800 x 2700mm high	9	PC'S		
	1850 x 2700mm high	1	PC'S		
	1200 x 2700mm high	2	PC'S		
	1000 x 2700mm high	3	PC'S		
	900 x 2700mm high	17	PC'S		
	800 x 2700mm high	21	PC'S		
	Brush 3"	20	Pcs		
	Sand paper (msasa) No.80	25	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	2	Litres		
3	<u>Ironmongeries</u>				
	Mortice lock Three lever	35	No		
	Mortice indicator lock set two lever	21	No		
	Brass hinges - 100mm	111	Pairs		
	SUB-TOTAL FOR DOORS				
F.	<u>WINDOWS</u>				
1	<u>Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs</u>				
	2000 X 1500mm high	3	PC'S		
	1500 X 1500mm high	5	PC'S		
	1500 X 2700mm high	26	PC'S		
	1500 X 1400mm high	26	PC'S		
	1800 X 2700mm high	4	PC'S		
	900 x 1030mm high	6	PC'S		
	1500 x 1200mm high	2	PC'S		
	2000 x 2700mm high	5	PC'S		
	900 x 2700mm high	1	PC'S		
	2000 x 1200mm high	2	PC'S		
	600 x 900mm high	1	PC'S		
	1500 x 1200mm high	4	PC'S		
	1200 x 2700mm high	1	PC'S		
	2000 X 1500mm high	1	PC'S		
	4530 x 2700mm high	1	PC'S		
	4520 x 2700mm high	1	PC'S		
	Fixed windows/High Level window				
	1800 x 1200mm high	10	PC'S		
	2000 x 1200mm high	6	PC'S		
	1200 x 1200mm high	2	PC'S		
	900 x 1200mm high	17	PC'S		
	1000 x 1200mm high	3	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	<u>25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories</u>				
	2000 X 1500mm high	3	PC'S		
	1500 X 1500mm high	5	PC'S		
	1500 X 2700mm high	26	PC'S		
	1500 X 1400mm high	26	PC'S		
	1800 X 2700mm high	4	PC'S		
	900 x 1030mm high	6	PC'S		
	1500 x 1200mm high	2	PC'S		
	2000 x 2700mm high	5	PC'S		
	900 x 2700mm high	1	PC'S		
	2000 x 1200mm high	2	PC'S		
	600 x 900mm high	1	PC'S		
	1500 x 1200mm high	4	PC'S		
	1200 x 2700mm high	1	PC'S		
	2000 X 1500mm high	1	PC'S		
	4530 x 2700mm high	1	PC'S		
	4520 x 2700mm high	1	PC'S		
	High level grills				
	1800 x 1200mm high	10	PC'S		
	2000 x 1200mm high	6	PC'S		
	1200 x 1200mm high	2	PC'S		
	900 x 1200mm high	17	PC'S		
	1000 x 1200mm high	3	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	<u>FINISHING</u>				
1	<u>Floor finishing</u>				
	<u>Bedding/Backing; cement sand and Chipping (1:2:2); to steel finishing</u>				
	50mm Thick granolithic floor screed steel trowelling to smooth finishing				
	Sand	35	M ³		
	Cement-50kgs (42.5)	672	Bags		
	Chipping	36	M ³		
2	<u>Tiles finishing</u>				
	Sand	7	M ³		
	Cement-50kgs (42.5)	46	Bags		
	400 X400 X 8mm thick - Non-slippery porcelain floor tiles - (1.92sqm/Box)	83	Box		
	Grout (1kg/packet)	10	Packet		
	Spacer	4	Packet		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	Wall tiles				
	Sand	2	M ³		
	Cement-50kgs (42.5)	12	Bags		
	250 X 400 X 8mm Wall tiles (1.5Sqm/Box)	125	Box		
4	Wall Finishing - 15mm thick (1:4)				
	Sand	42	M ³		
	Cement-50kgs (42.5)	302	Bags		
	White cement - 40kg	33	Bags		
	Gypsum powder -25kg	70	Bags		
	SUB-TOTAL FOR FINISHING				
H.	<u>PAINTING & DECORATION</u>				
	Emulsion Paint - 20 LTRS	94	buckets		
	Weather guard Paint - 20 LTRS	32	buckets		
	Washable paint -20 LTRS	64	buckets		
	Primer paint -20 LTRS	28	buckets		
	Solvent - 5LTRS	48	TIN		
	Brush 3"	30	Pcs		
	Roller	20	Pcs		
	Gloss paint-4LTR	10	TIN		
	Bitumen paint - 4Litres	10	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				
J	<u>WATER CHANNEL & PAVING BLOCK (PROVISIONAL)</u>				
1	Water Channel (96m long)				
	Cement (42.5)	64	Bags		
	Sand	8	m3		
	Aggregates	16	m3		
	2400x1200mm BRC Mesh	27	Pcs		
	25 x 50 square pipe	98	Pcs		
	Red-Oxide -5LTRS	3	TIN		
	Solvent -5LTRS	1	TIN		
	Welding electrode	4	Box		
	Gloss paint-4LTR	4	TIN		
2	Paving Blocks				
	Paving blocks Class 45 size 200 x 110 x 80mm thick	138	M ²		
	Sand	18	M ³		

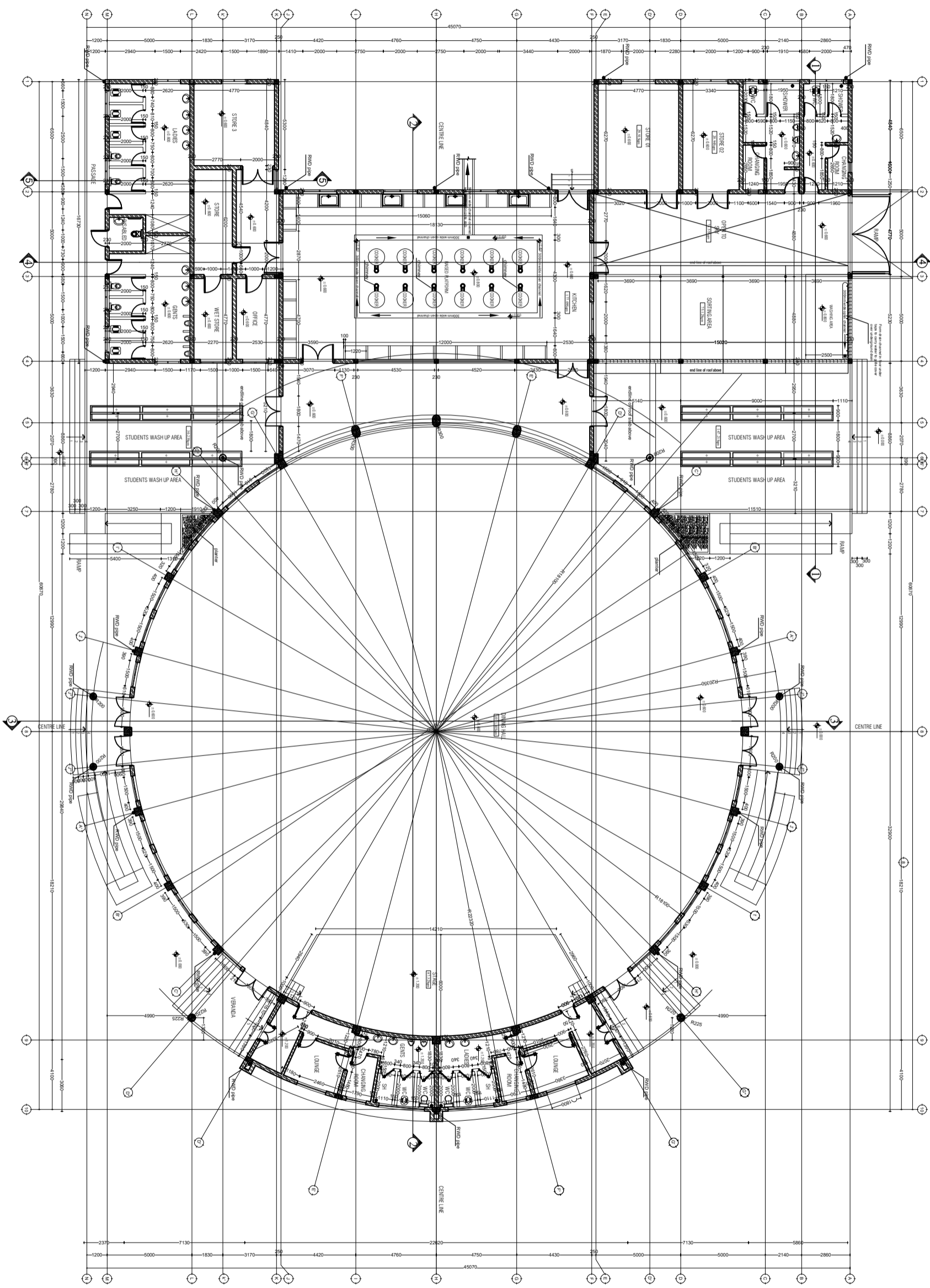
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
L.	PLUMBING AND SANITARY INSTALLATION				
	<u>WATER DISTRIBUTION SYSTEM</u>				
	<u>PPR Pipes</u>				
	50mm Dia	29	Pcs		
	40mm Dia	11	Pcs		
	32mm Dia	18	Pcs		
	25mm Dia	46	Pcs		
	20mm Dia	36	Pcs		
	15mm Dia	93	Pcs		
	12mm Dia Flexible Pipe	64	Nos.		
	VALVES				
	50mm Dia	2	Nos.		
	40mm Dia	6	Nos.		
	32mm Dia	14	Nos.		
	20mm Dia	9	Nos.		
	15mm Dia	26	Nos.		
	15mm Dia Angle Valves	84	Nos.		
	20mm Dia WATER TAPE WITH STOP COCK/PUSH COCK	58	Nos.		
	REDUCING BUSH				
	Ø50 / 40mm	2	Nos.		
	Ø50 / 32mm	3	Nos.		
	Ø50 / 25mm	8	Nos.		
	Ø50 / 20mm	2	Nos.		
	Ø50 / 15mm	2	Nos.		
	Ø40 / 32mm	3	Nos.		
	Ø40 / 15mm	4	Nos.		
	Ø32 / 25mm	8	Nos.		
	Ø32 / 20mm	5	Nos.		
	Ø32 / 15mm	6	Nos.		
	Ø25 / 20mm	189	Nos.		
	Ø25 / 15mm	68	Nos.		
	Ø20 / 15mm	58	Nos.		
	90° PLAIN ELBOW				
	Ø50mm	8	Nos.		
	Ø40mm	8	Nos.		
	Ø32mm	17	Nos.		
	Ø25mm	33	Nos.		
	Ø20mm	22	Nos.		
	Ø15mm	66	Nos.		
	90 ADAPTOR ELBOW (Female)				
	Ø15mm	84	Nos.		
	90 ADAPTOR ELBOW (Male)				
	Ø15mm	18	Nos.		
	T PLAIN				
	Ø50mm	8	Nos.		
	Ø40mm	8	Nos.		
	Ø32mm	17	Nos.		
	Ø25mm	33	Nos.		
	Ø20mm	22	Nos.		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	SOCKET				
	Dia. 15mm	186	Nos.		
	Dia. 20mm	72	Nos.		
	Dia. 25mm	92	Nos.		
	Dia. 32mm	28	Nos.		
	Dia. 40mm	16	Nos.		
	Dia. 50mm	58	Nos.		
	SEWARAGE				
	PIPING (uPVC PIPE)				
	150mm Dia	22	Pcs		
	100mm Dia	36	Pcs		
	50mm Dia	23	Pcs		
	40mm Dia	36	Pcs		
	32mm Dia	48	Pcs		
	Elbows, Bends Connector traps etc to suite the above installation.		Item		
	FITTINGS				
	100mm Dia Y-Tee	46	Nos.		
	50mm Dia Y-Tee	28	Nos.		
	100mm Dia Inspection Tee	18	Nos.		
	50mm Dia Inspection Tee	39	Nos.		
	SOCKET				
	150mm Dia Socket	44	Nos.		
	110mm Dia Socket	72	Nos.		
	50mm Dia Socket	46	Nos.		
	40mm Dia Socket	21	Nos.		
	32mm Dia Socket	21	Nos.		
	90° ELBOW				
	110mm	17	Nos.		
	50mm	16	Nos.		
	40mm	6	Nos.		
	32mm	10	Nos.		
	45° ELBOWS				
	110mm	24	Nos.		
	50mm	18	Nos.		
	40mm	11	Nos.		
	32mm	13	Nos.		
	REDUCING BUSH				
	50mm/40mm	20	Nos.		
	40mm/32mm	20	Nos.		
	REDUCING SOCKET				
	50mm/40mm	10	Nos.		
	40mm/32mm	16	Nos.		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	EXTERNAL SEWERAGE				
	Construction of Manhole of internal dimension 600 x 600mm, depth to invert level not exceeding 0.5m with medium duty cast iron frame and cover.	10	Nos.		
	Ditto but with Size 800mm x 800mm	8	Nos.		
	Allow for Gully trap, size 150 x 150mm	20	Nos.		
	Construction of Grease Trap of internal dimension 2,500 x 1,500mm, depth to invert level not exceeding 0.5m with medium duty cast iron frame and cover.	1	Nos.		
	RAIN WATER HARVESTING SYSTEM				
	RAIN WATER Piping (uPVC PIPE)				
	100mm Dia	36	Pcs		
	100mm Dia Floor gully including all fittings.	36	Pcs		
	Elbows, bend, brackets, filters and all other fittings		Item		
	SANITARY FITTINGS				
	White Vitreous China Floor Standing Back to Wall Rimless Water Closet as manufactured by CERA or equivalent approved	6	Pcs		
	White Vitreous China SQUATTING PAN with TRAP as manufactured by CERA or approved equivalent with Dimenions 510mm x 410mm	9	Pcs		
	Wall mounted Push Type flush tank as manufactured by KARIBA or equivalent with 4.5 Litres Volume	9	Pcs		
	Overhead Brass Shower with Pressure Balance Valve as manufactured by CERA or equivalent approved	4	Pcs		
	CERA Bib Cock with Jet Spray or its equivalent approved	38	Pcs		
	1000mm x 600mm Vanity Mirror	6	Pcs		
	White Vitreous China Wall Hung Wash Hand Basin with Half Pedestal and quarter turn faucet as manufactured by CERA or its equivalent	14	Pcs		

	<u>GENERAL SUMMARY</u>				AMOUNT -TZS
	<u>DINNING/ASSEMBLY HALL (750 No STUDENTS)</u>				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J	WATER CHANNEL & PAVING BLOCK (PROVISIONAL)				
K	ELECTRICAL INSTALLATION & AIR CONDITION				
L	PLUMBING INSTALLATION				
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY					
ADD:					
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)					
Note:					
i. Refer attached specification and number of Furniture(s) for Dining/Assembly Hall					
ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs					
iii. Preliminary cover the following item:					
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,					
- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.					
iv. Supervision cost depend on guideline of the specific project					
v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .					

ARCHITECTURAL DRAWINGS



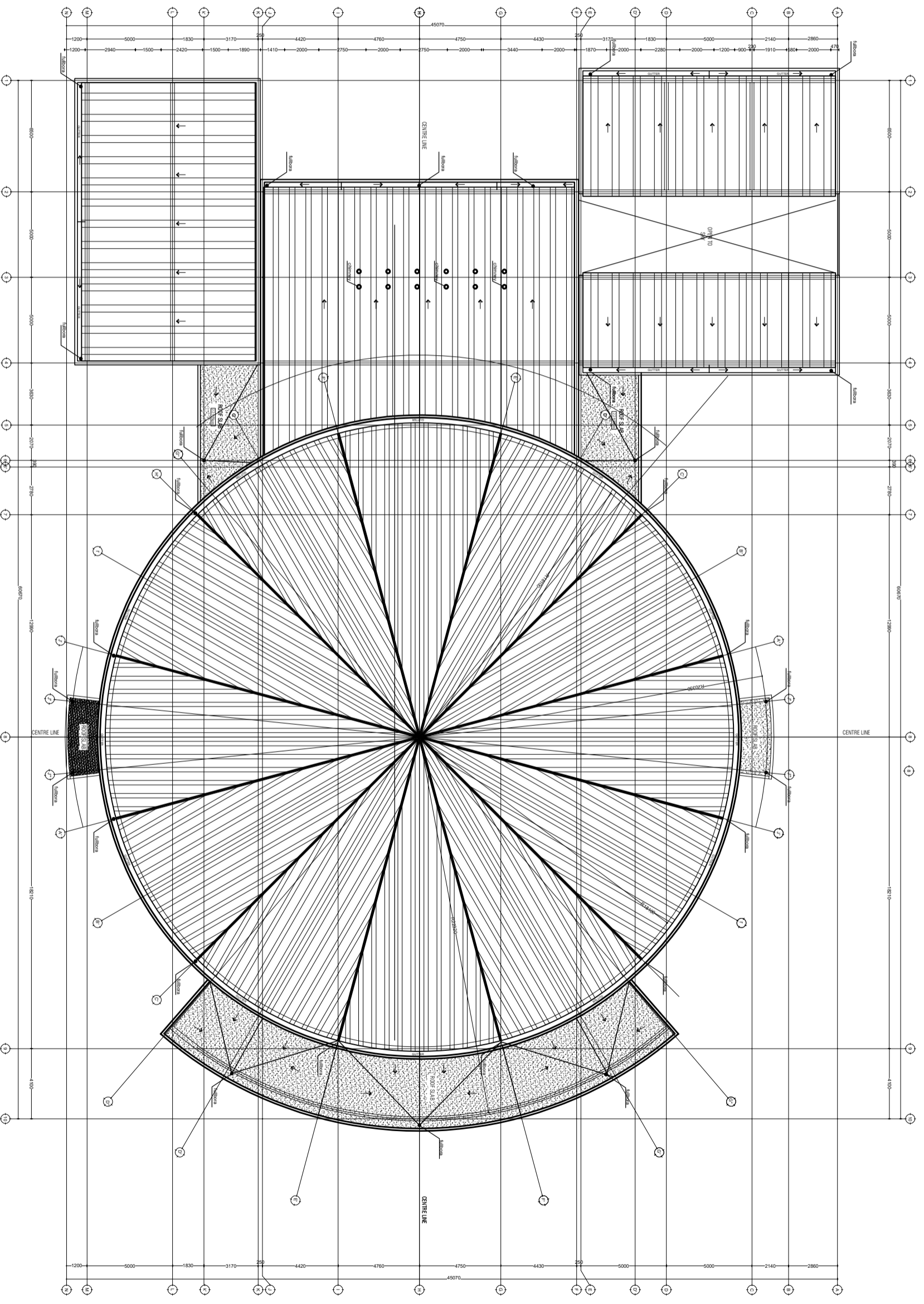
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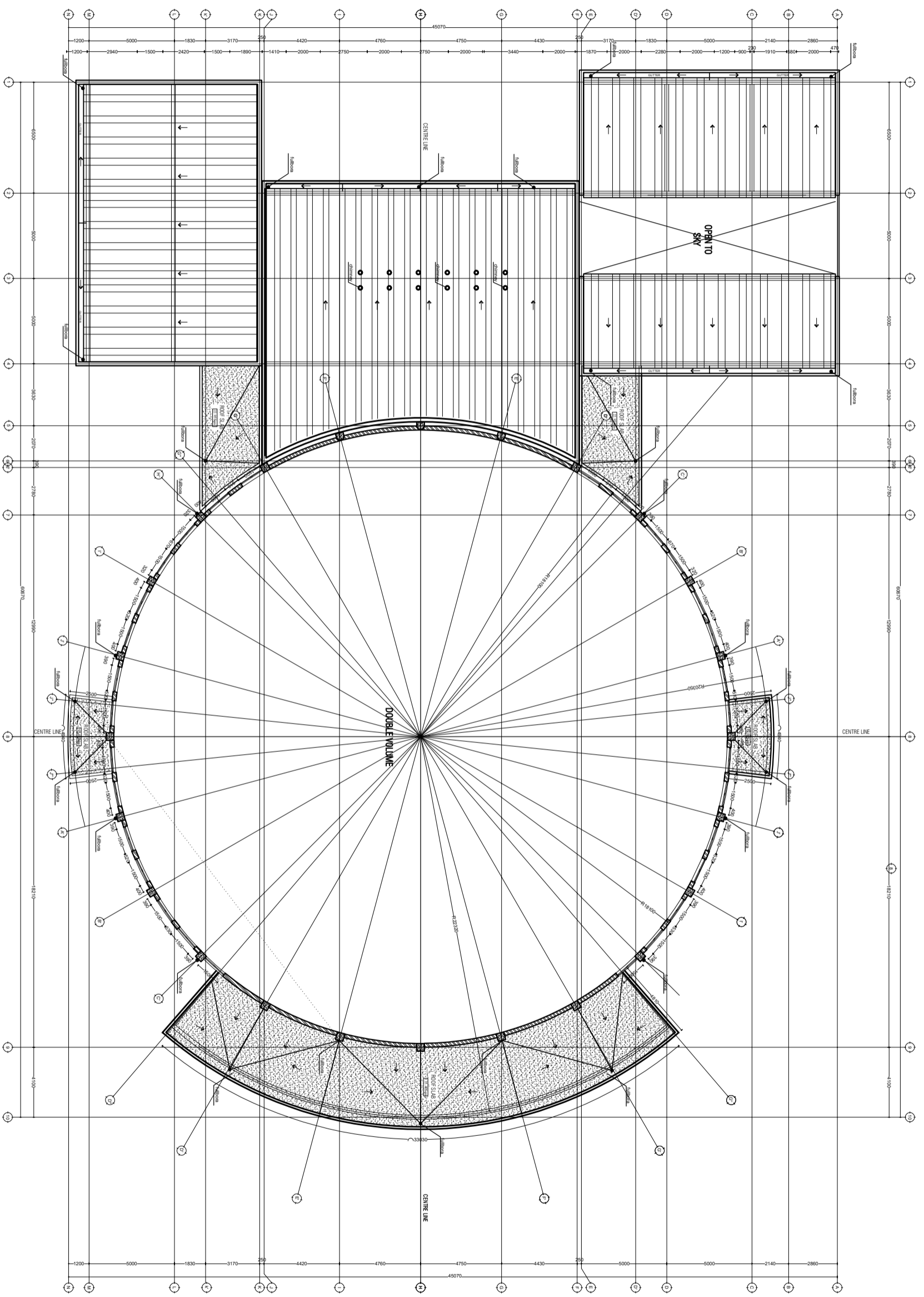
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 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQIP)

DRAWING TITLE
DINING HALL FLOOR PLAN

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SQP/DW/01

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 JUNE 2023





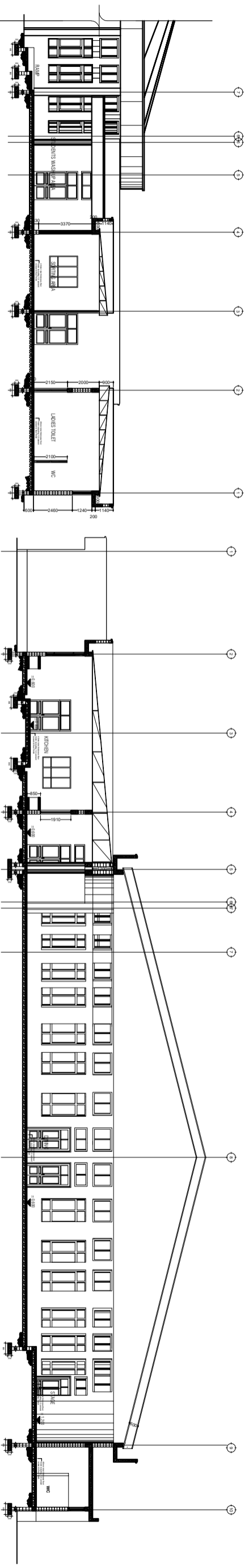
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DRAWING TITLE
DINING HALL ROOF PLAN - 1

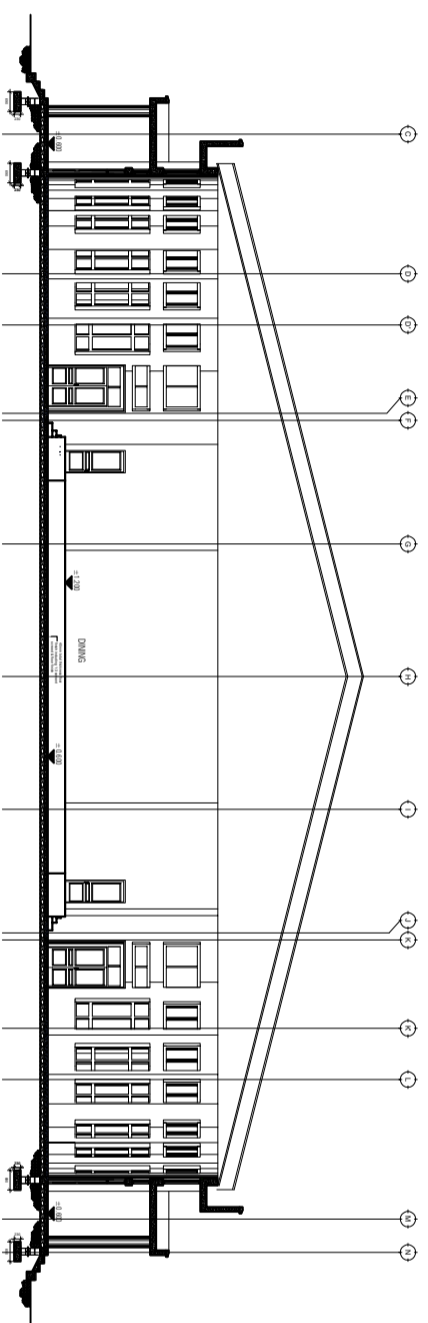
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SECTION 1:1

SECTION 2:2



SECTION 3:3

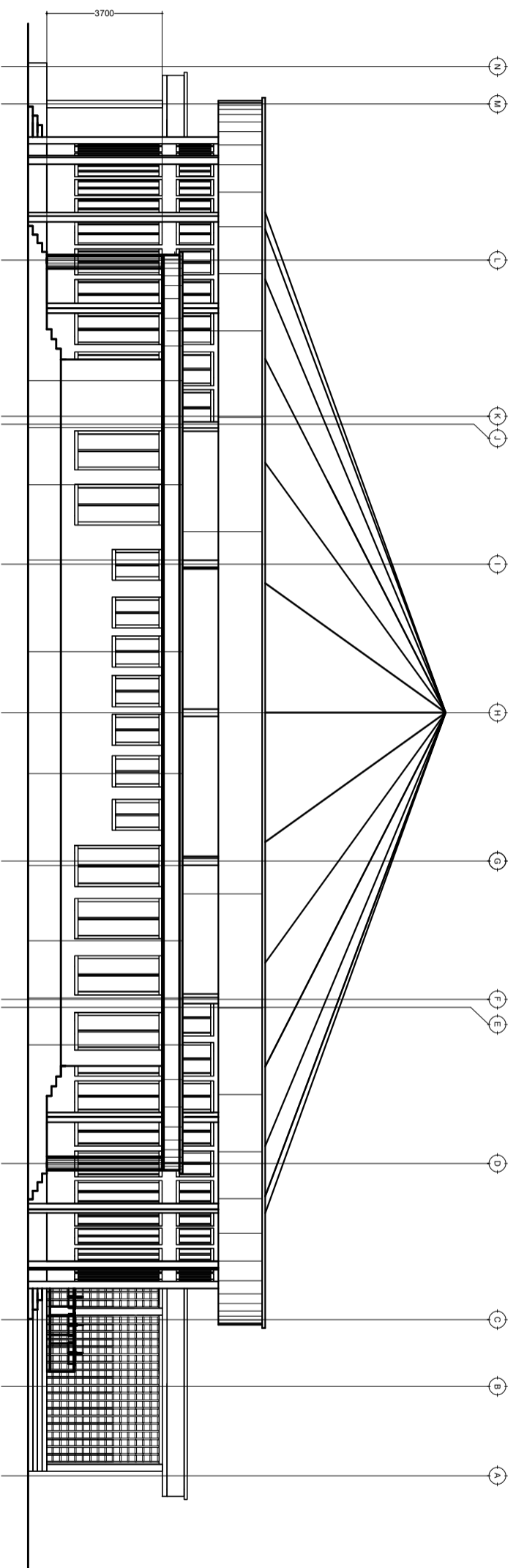
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DRAWING TITLE DINING HALL SECTIONS

DRAWING NO. SQP/DW/04

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FRONT ELEVATION

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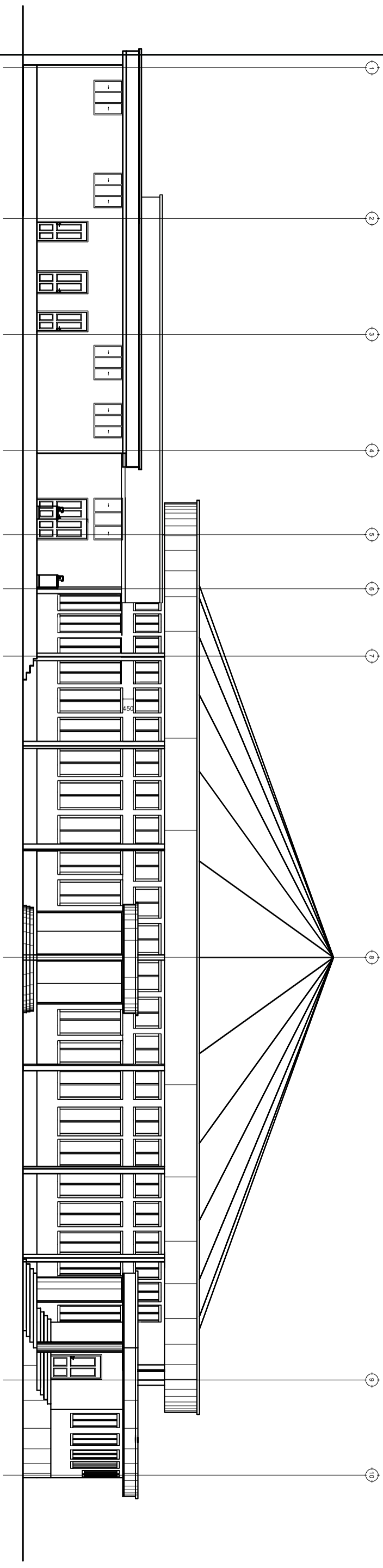
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DRAWING TITLE **DINING HALL FRONT ELEVATION**

DRAWING NO. **SQP/DW/05**

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LEFT SIDE ELEVATION

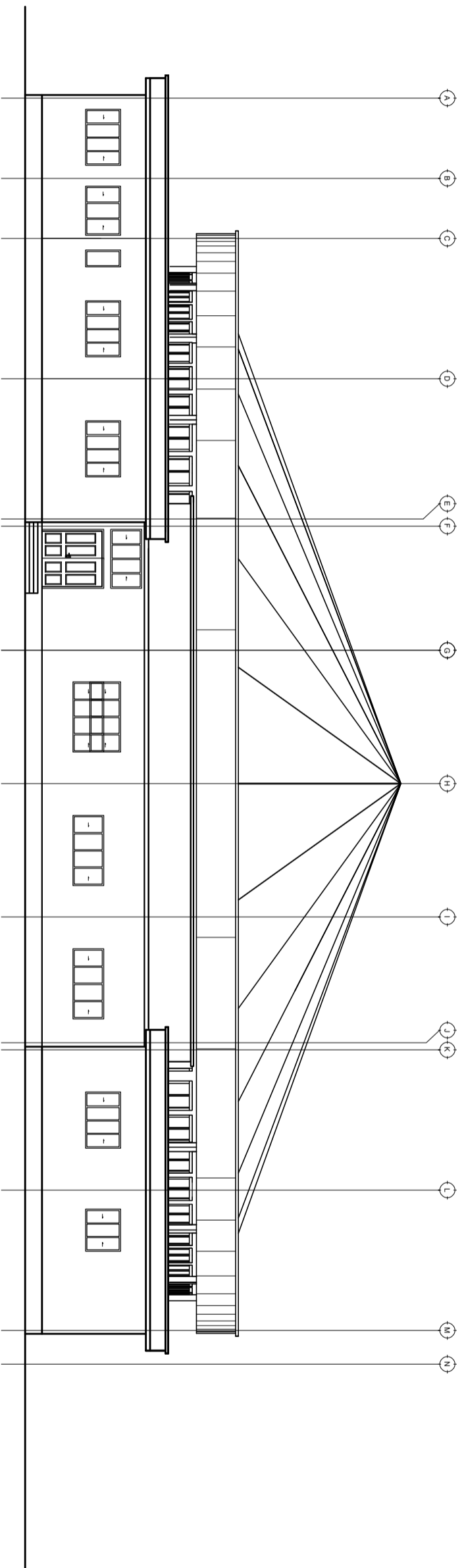
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DRAWING TITLE **DINING HALL LEFT ELEVATION**

DRAWING NO. **SQP/DW/08**

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REAR ELEVATION

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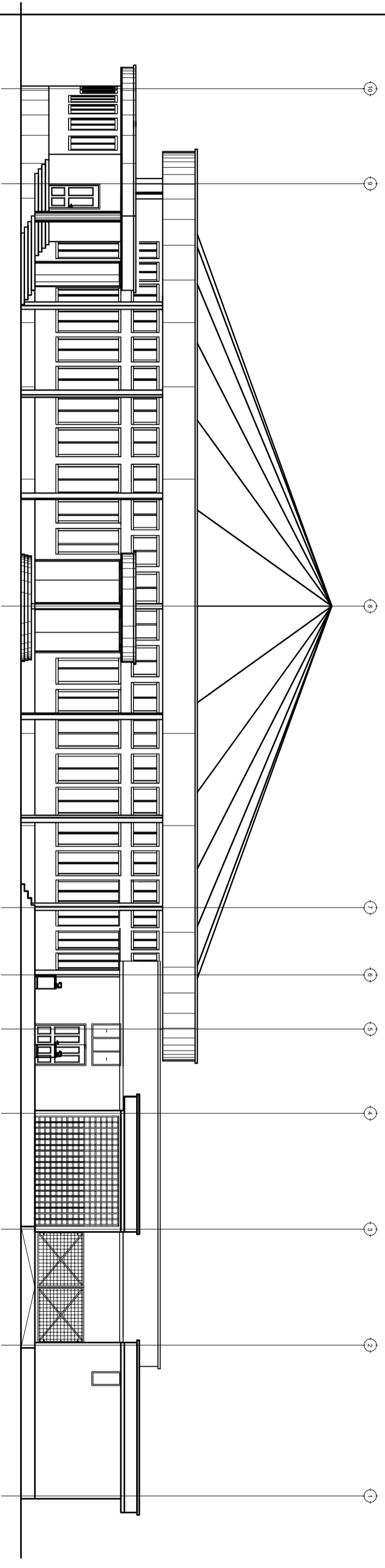
DRAWING TITLE

DINING HALL REAR ELEVATION

DRAWING NO.

SQP/DW/06

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RIGHT SIDE ELEVATION

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DRAWING TITLE **DINING HALL RIGHT ELEVATION**

DRAWING NO. **SQP/DW/07**

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JUNE, 2023

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Sickbay

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	SUB-STRUCTURE -PROVISIONAL				
1	Strip Foundation - Grade 15 Plain (14m³)				
	Aggregate (3/4")	9	M ³		
	Sand	5	M ³		
	Cement-50kgs (42.5)	56	Bags		
2	Foundation Walls				
	6" Block - Cement & Sand	1,456	No		
	Sand	5	M ³		
	Cement -50kgs (42.5)	37	Bags		
	ALTERNATIVE TO FOUNDATION WALL				
	** If stone is applicable, then blockwork is not applicable. Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or stone) depending on availability and suitability of building materials.				
	Stone, complete with its associated mortar etc	30	M ³		
3	Moram, Hardcore & Site sterilization				
	Moram (4.5m ³ lorry)	8	Trips		
	Hardcore 150mm thick - (4.5m ³ lorry)	5	Trips		
	Sand	4	M ³		
	Aldrin solution or other and equal approved (1000mls)	2	Bottle		
4	Oversite Concrete 100mm thick - 15 grade ,Ground Beam - 20 grade				
	DPM	126	M ²		
	Cement -50kgs (42.5)	90	Bags		
	Aggregates (1/2")	15	M ³		
	Sand	8	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm ²	38	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	35	PC'S		
	Timber 1" X 10 " (5.2m long)	8	PC'S		
	Timber 2" X 2"(3.5m)	5	PC'S		
	Nails-4"	15	Kgs		
	Nails-3"	10	Kgs		
	Supporting props (3m)	12	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	<u>SUPERSTRUCTURE</u>				
1	<u>Walls & Ring beam</u>				
	6" Block - Cement & Sand	2,400	No		
	DPC (30m long, 1m wide)	2	Roll		
	Sand	13	M ³		
	Cement-50kgs (42.5)	94	Bags		
	Aggregates (1/2")	5	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm2	32	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	30	PC'S		
	Binding Wire -1kg	3	PC'S		
	Timber 1" X 10" to Sides (5.2m long)	7	PC'S		
	Timber 1" X 5" (Plates)	5	PC'S		
	Timber 2" X 2" (3.5m)	5	PC'S		
	Supporting Props 3m	5	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	<u>ALTERNATIVE TO BLOCKWORK WALL</u>				
	<i>** If brickwork is applicable, then blockwork is not applicable. Therefore Engineer must confirm to the Tenderer which item to be priced (Blockwork or brickwork) depending on availability and suitability of building materials. Note that: Strictly do not use stretcher bond when using bricks, the acceptable bond is either Flemish or English or header.</i>				
	<u>Brickwork</u>				
	230mm thick One brick wall	256	m ²		
C.	<u>ROOF STRUCTURE & COVERING</u>				
1	<u>Roof Structure - Provisional</u>				
	Timber 2" X 3" Purlins	480	ft		
	Timber 2" X 4" Struts	861	ft		
	Timber 2" X 6" Rafter, Kingpost and Tie beam	717	ft		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	11	PC'S		
	Nails -5"	25	Kgs		
	Nails -4"	20	Kgs		
	Nails -3"	15	Kgs		
	16mm diameter bolt, 500mm long	26	Pc's		
	<u>NOTE:</u> The above softwood timber structure should be pressure impregnated treated				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	<u>Roof Covering</u>				
	28G resin coated Iron sheet	192	M ²		
	Ridge - 28 G	6	PC'S		
	Aluminium Roofing Nails	19	Packet		
3	<u>Gutter's</u>				
	Upvc 100mm half round (6m long)-5"	6	PC'S		
	Upvc 75mm diameter down pipe; Class B	4	PC'S		
	PVC outlet	8	PC'S		
	PVC bend 90'	8	PC'S		
	PVC bend 45'	8	PC'S		
	Gutter support bracket	8	PC'S		
	Gutter Clamp 3"	32	PC'S		
	Connector/reducer	8	PC'S		
	Connector outer	8	PC'S		
	Corner Inner	8	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	<u>CEILING</u>				
	Gypsum board -9mm thick	40	PC'S		
	Plain Cornice (2.5m)	33	PC'S		
	Screw 1.25" 500pcs/box	4	Box		
	Gypsum powder - kg	7	Bags		
	Fibre tape (90m)	1	Roller		
	Treated softwood Timber 2" X 2" - 3.5m	1,320	ft		
	Nails 4"	15	Kgs		
	Nails 3"	27	Kgs		
	SUB-TOTAL FOR CEILING				

E.	<u>DOOR</u>				
1	<u>40mm thick hardwood paneled door shutter</u>				
	920 x2100mm high	6	PC'S		
	720 x2100mm high	4	PC'S		
2	<u>45 x 145mm Frames (hardwood),Varnish & Glass</u>				
	1000 x 2500mm high frame	6	PC'S		
	800 x 2500mm high frame	4	PC'S		
	Brush 3"	3	Pcs		
	5mm thick clear glass to Vents	3.0	M ²		
	13 X15 mm glass beads	21	M		
	Sand paper (msasa) No.80	5	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	5	Litres		
3	<u>IronMongeries - ref Union</u>				
	Mortice lock Three lever	6	No		
	Mortice lock set - Two lever with indicator bolt	4	No		
	Brass hinges - 100mm	15.0	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	<u>WINDOWS</u>				
1	<u>Aluminium sliding Window comprising 100mm x 1.2mm thick</u>				
	1500 X 1500mm high	8	PC'S		
	1500 X 600mm high	2	PC'S		
2	<u>25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories</u>				
	1500 X 1500mm high -Dispencing, room	1	PC'S		
	1500 X 1500mm high -Injection room	1	PC'S		
	1500 X 1500mm high -Consulting room	1	PC'S		
	900 X 2500mm high High level to doors	3	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	<u>FINISHING</u>				
	Sand - (Lorry 4.5M3)	6	m3		
	Cement-50kgs	38	Bags		
	500 X 500 X 8mm thick - Non-slippery porcelain floor tiles - (1.75sqm/Box)	75	Box		
	Grout (1kg/packet)	8	Packet		
	Spacer	3	Packet		
	Skirting (600mm long; 25/Box)	6	Box		
2	<u>Wall Finishing (404m²) -15mm thick (1:4)</u>				
	Sand	11	M ³		
	Cement-50kgs (42.5)	61	Bags		
	White cement - 40kg	4	Bags		
	Gypsum powder - 25kg	13	Bags		
	Sand paper Msasa No.120	1	Roll		
	SUB-TOTAL FOR FINISHING				
H.	<u>PAINTING & DECORATION</u>				
	Emulsion Paint - 20 LTRS	6	buckets		
	Weather guard Paint - 20 LTRS	2	buckets		
	Washable paint -20 LTRS	4	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	4	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	1	TIN		
	Bitumen paint - 4Litres	2	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	ELECTRICAL INSTALLATION				
	Singlefluorescent fitting Complete,	13	No		
	Double switch socket	8	No		
	Main switch 8way,1PH with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross				
	Single core wire 1.5sqmm - Red	2	Roll		
	Single core wire 1.5sqmm - Black	2	Roll		
	Single core wire 1.5sqmm -green	2	Roll		
	Single core wire 2.5sqmm - red	1	Roll		
	Single core wire 2.5sqmm -Black	1	Roll		
	Single core wire 2.5sqmm green	1	Roll		
	Single core wire 4sqmm -Red	15	M		
	Single core wire 4sqmm -Black	15	M		
	Single core wire 4sqmm -Green	15	M		
	Ceiling fan National or other equal	6	PC's		
	3gang 1 way switch	1	No		
	1gang 1 way switch	1	No		
	2gang 1way switch	7	No		
	DP switch 20A	3	No		
	Cooker control unit 45A	1	No		
	Ceiling light complete with energy saver 18W	7	No		
	Earth rod approved copper 16mm not less than 1200mm	1	No		
	Earth wire 4sqmm	15	M		
	Metal box twin	8	No		
	Metal box single	11	No		
	Junction box	4	No		
	Conduit pipe	60	PC's		
	Elbow	10	PC's		
	Conduit coupling	10	PC's		
	Round cover	20	PC's		
	Round box	5	PC's		
	Fine screw	2	PACKET		
	plastic clips 22mm	3	BOX		
	Bulk head light fitting	4	PCS		
	Handdrier	3	No		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	PLUMBING AND SANITARY INSTALLATIONS				
	WATER DISTRIBUTION SYSTEM				
	PPR Pipes				
	25mm Dia	4	PCS		
	20mm Dia	8	PCS		
	15mm Dia	14	PCS		
	12mm Dia Flexible Pipe	19	PCS		
	VALVES				
	25mm Dia	2	PCS		
	20mm Dia	3	PCS		
	15mm Dia	9	PCS		
	15mm Dia Angle Valves	23	PCS		
	20mm Dia WATER TAPE WITH STOP COCK/PUSH COCK	1	PCS		
	REDUCING BUSH				
	Ø25 / 20mm	4	PCS		
	Ø25 / 15mm	5	PCS		
	Ø20 / 15mm	11	PCS		
	90° PLAIN ELBOW				
	Ø25mm	8	PCS		
	Ø20mm	14	PCS		
	Ø15mm	18	PCS		
	90 ADAPTOR ELBOW (Female)				
	Ø15mm	28	PCS		
	90 ADAPTOR ELBOW (Male)				
	Ø15mm	9	PCS		
	T PLAIN				
	Ø25mm	8	PCS		
	Ø20mm	11	PCS		
	Ø15mm	14	PCS		
	SOCKET				
	Dia. 15mm	26	PCS		
	Dia. 20mm	12	PCS		
	Dia. 25mm	5	PCS		
	SEWARAGE				
	PIPING (uPVC PIPE)				
	100mm Dia	12	PCS		
	50mm Dia	5	PCS		
	40mm Dia	5	PCS		
	32mm Dia	5	PCS		
	Elbows	46	PCS		
	Bend	28	PCS		
	Bracket	35	PCS		
	Filter	17	PCS		
	FITTINGS				
	100mm Dia Y-Tee	6	PCS		
	50mm Dia Y-Tee	6	PCS		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	100mm Dia Inspection Tee	8	PCS		
	50mm Dia Inspection Tee	9	PCS		
	SOCKET				
	110mm Dia	12	PCS		
	50mm Dia	8	PCS		
	40mm Dia	8	PCS		
	32mm Dia	6	PCS		
	90° ELBOW				
	110mm	5	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	3	PCS		
	45° ELBOWS				
	110mm	7	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	6	PCS		
	REDUCING BUSH				
	50mm/40mm	9	PCS		
	40mm/32mm	6	PCS		
	REDUCING SOCKET				
	50mm/40mm	8	PCS		
	40mm/32mm	9	PCS		
	SANITARY FITTINGS				
	White Vitreous China SQUATTING PAN with TRAP as manufactured by with Dimenions 510mm x 410mm , complete with flush tank 9litres	3	PCS		
	Overhead Brass Shower with Pressure Balance Valve	1	PCS		
	Overhead Shower with Single Lever Faucet Mixer	1	PCS		
	Bib Cock with Jet Spray or its equivalent approved	3	PCS		
	1000mm x 600mm Vanity Mirror	5	PCS		

<u>GENERAL SUMMARY</u>					AMOUNT -TZS
<u>SICKBAY BLOCK</u>					
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
K.	PLUMBING INSTALLATION				
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY					
<u>ADD:</u>					
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)					
Note:					
i. Refer attached specification and number of Furniture(s) for Sick bay					
ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs					
iii. Preliminary cover the following item:					
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,					
- Power for the works, Security, store, Materials test and signboard.					
iv. Supervision cost depend on guideline of the project					
v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .					

ARCHITECTURAL DRAWINGS

SICK BAY

ARCHITECTURAL DRAWING

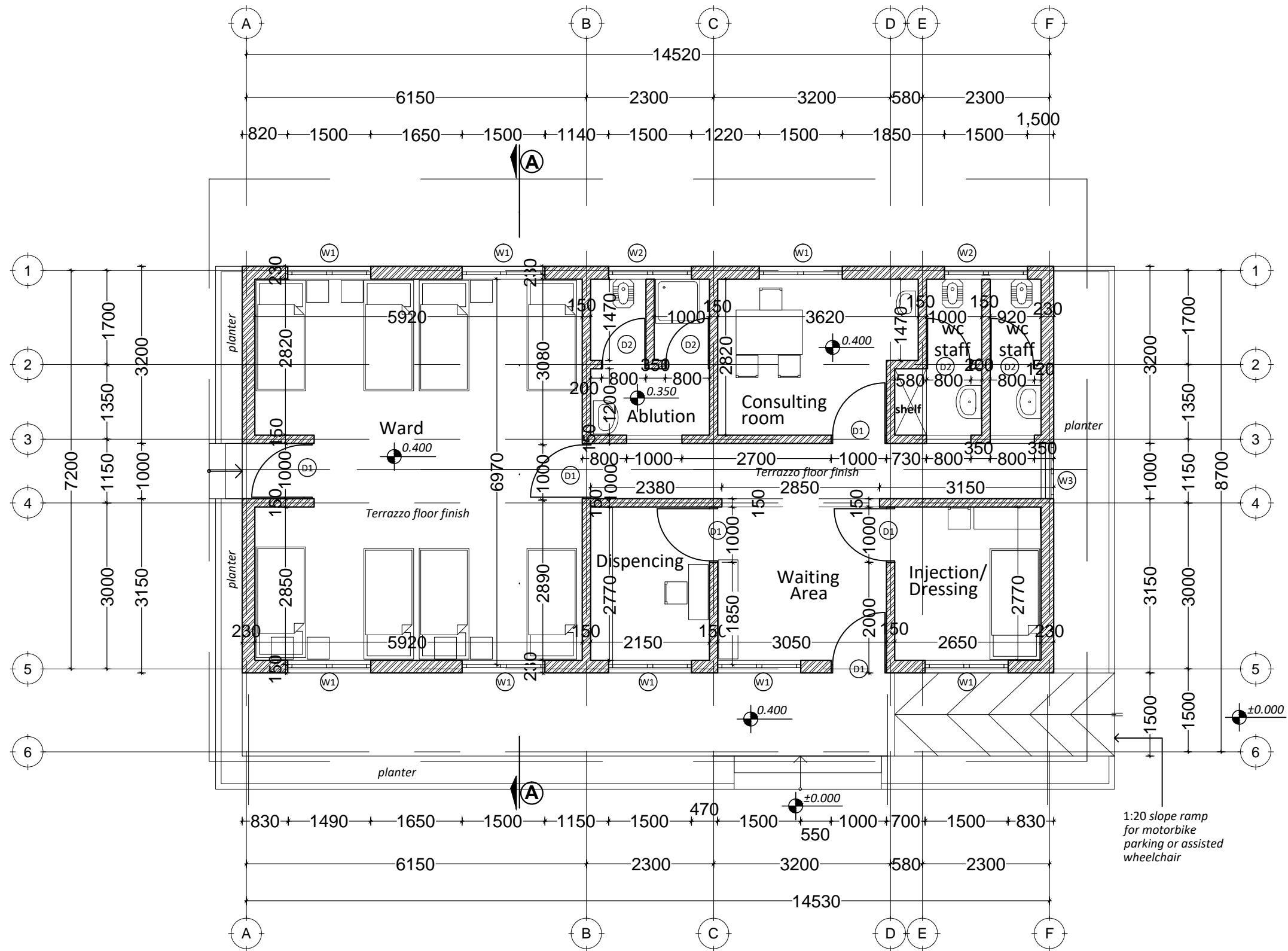
JUNE 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST)
IN COLLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND
LOCAL GOVERNMENT (PO - RALG)

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE **SICK BAY**
DRAWING NO. **SQP/ARC/SB/01**

DRAWN BY J.R
CHECKED BY I.S
SCALE 1:200
JUNE, 2023



GROUND PLAN

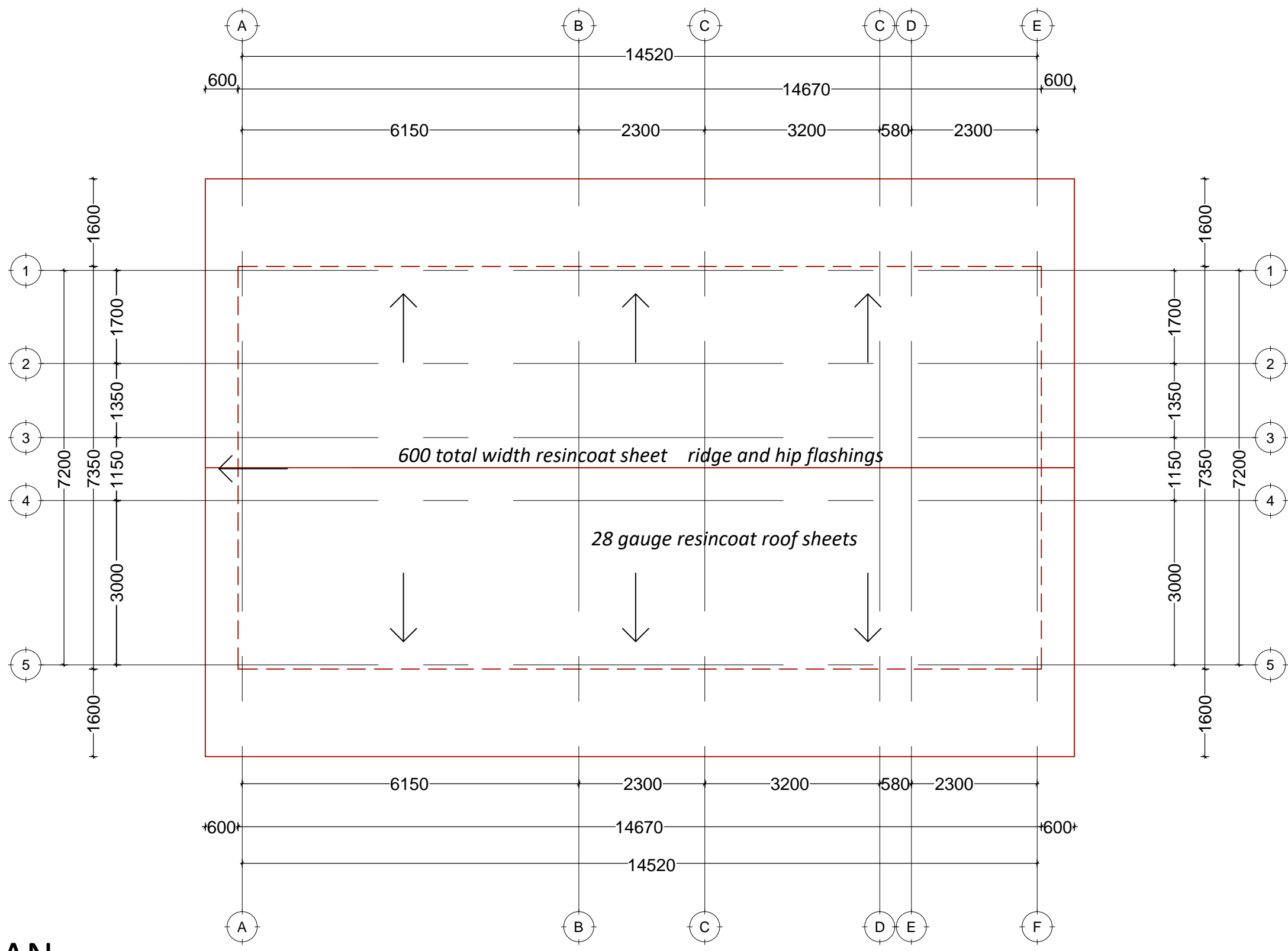
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DRAWING TITLE **SICK BAY
GROUND PLAN**
 DRAWING NO. **SQP/ARC/SB/02**

DRAWN BY J.R
 CHECKED BY I.S
 SCALE 1:100
 JUNE, 2023



ROOF PLAN

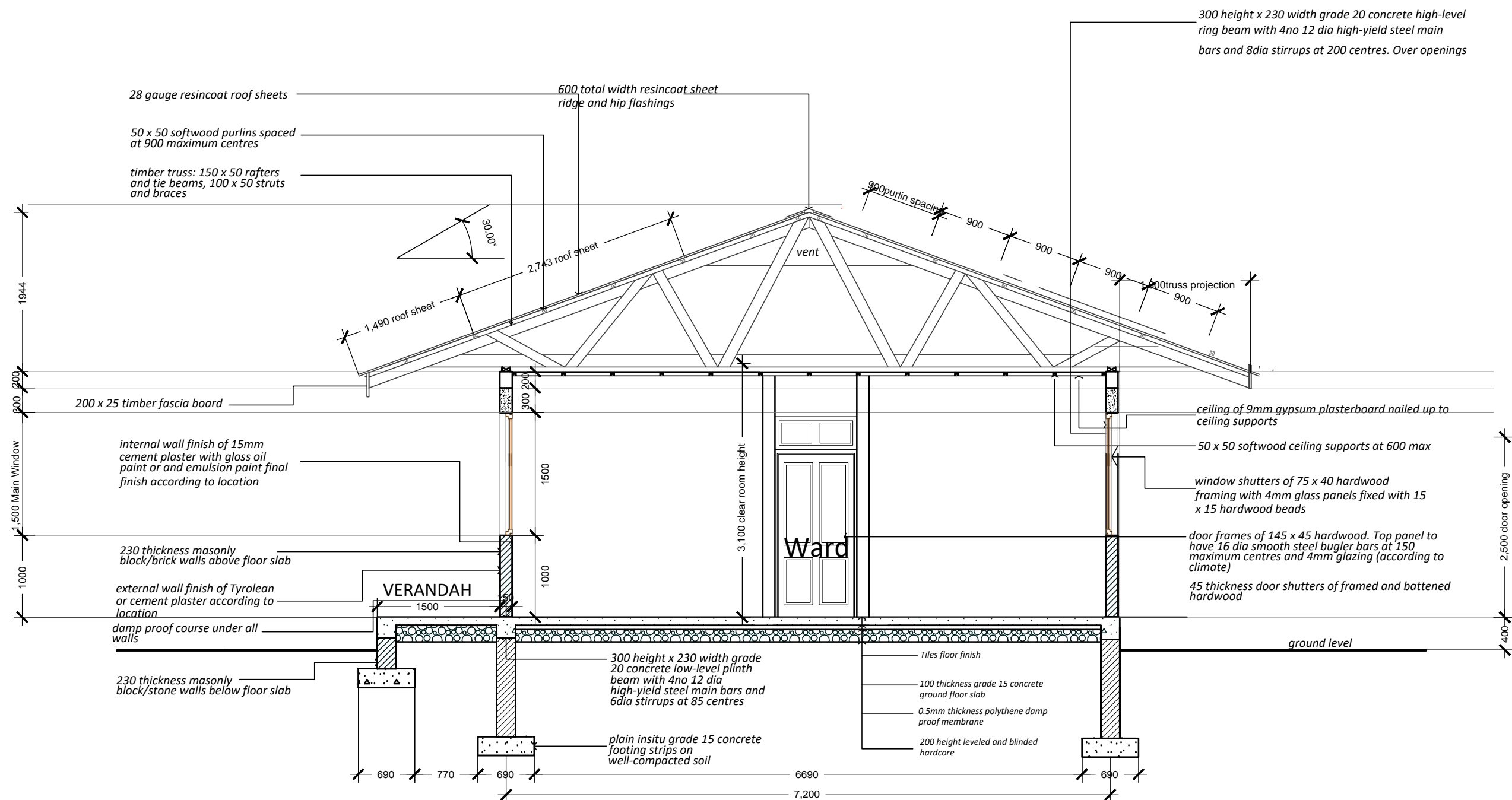
BLDG NO. 3

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DRAWING TITLE **SICK BAY
 ROOF PLAN**
 DRAWING NO. **SQP/ARC/SB/03**

DRAWN BY J.R
 CHECKED BY I.S
 SCALE 1:200
 JUNE, 2023



SECTION A-A

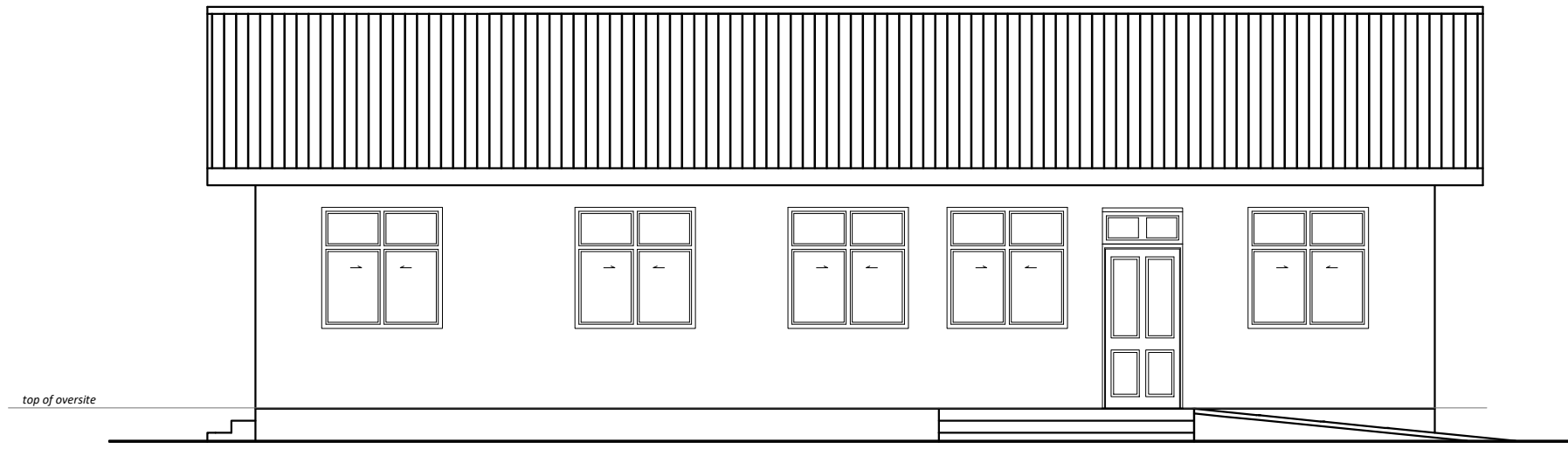
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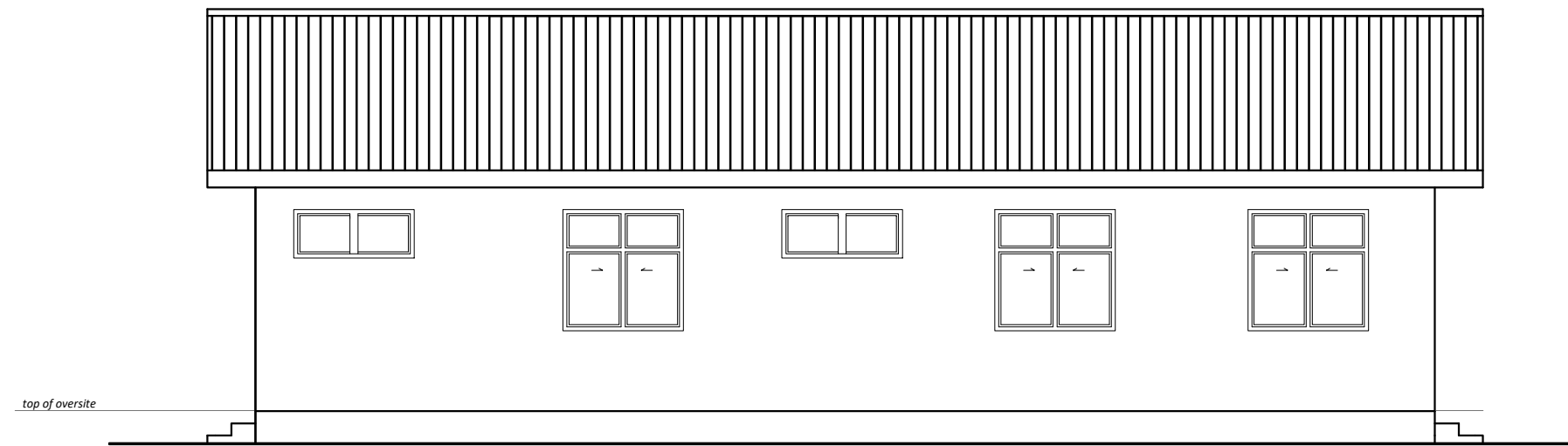
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE **SICK BAY SECTION**
 DRAWING NO. **SQP/ARC/SB/04**

DRAWN BY J.R
 CHECKED BY I.S
 SCALE 1:200
 JUNE, 2023



front elevation



rear elevation

ELEVATIONS

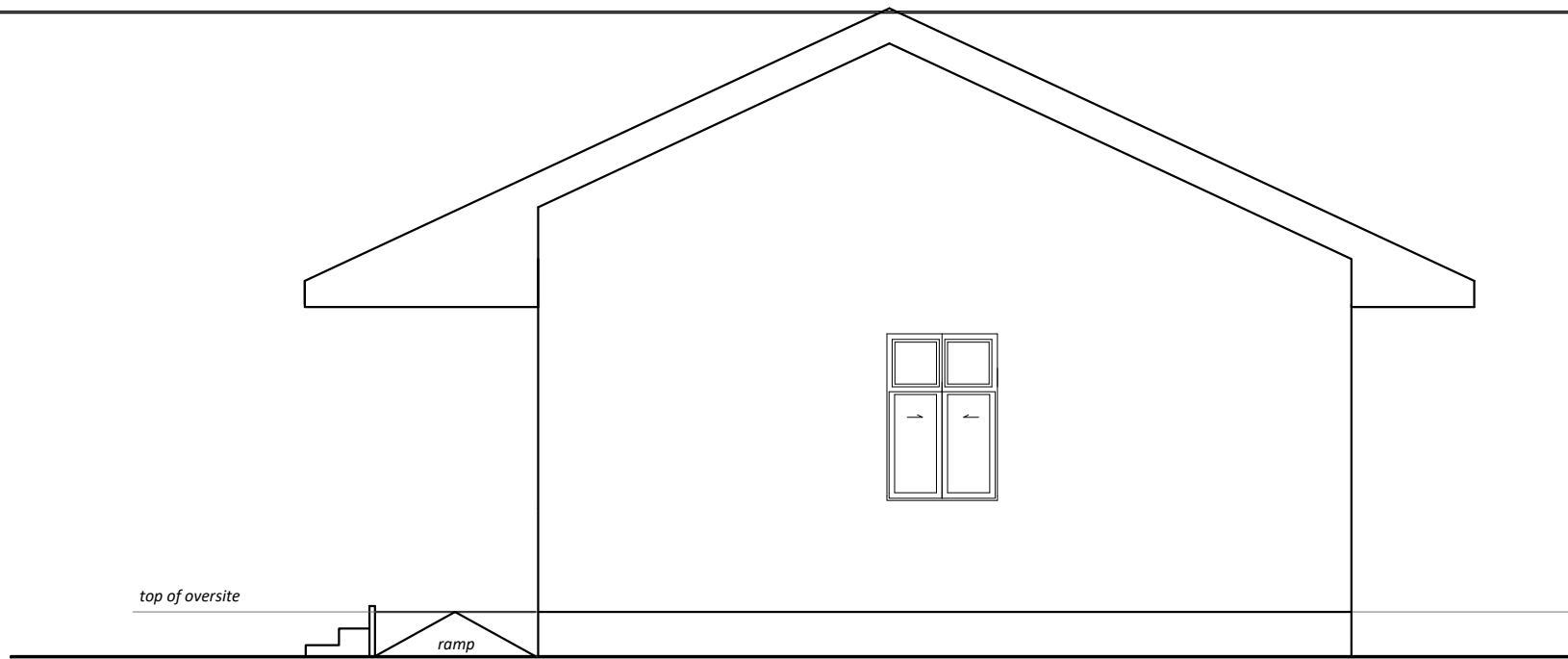
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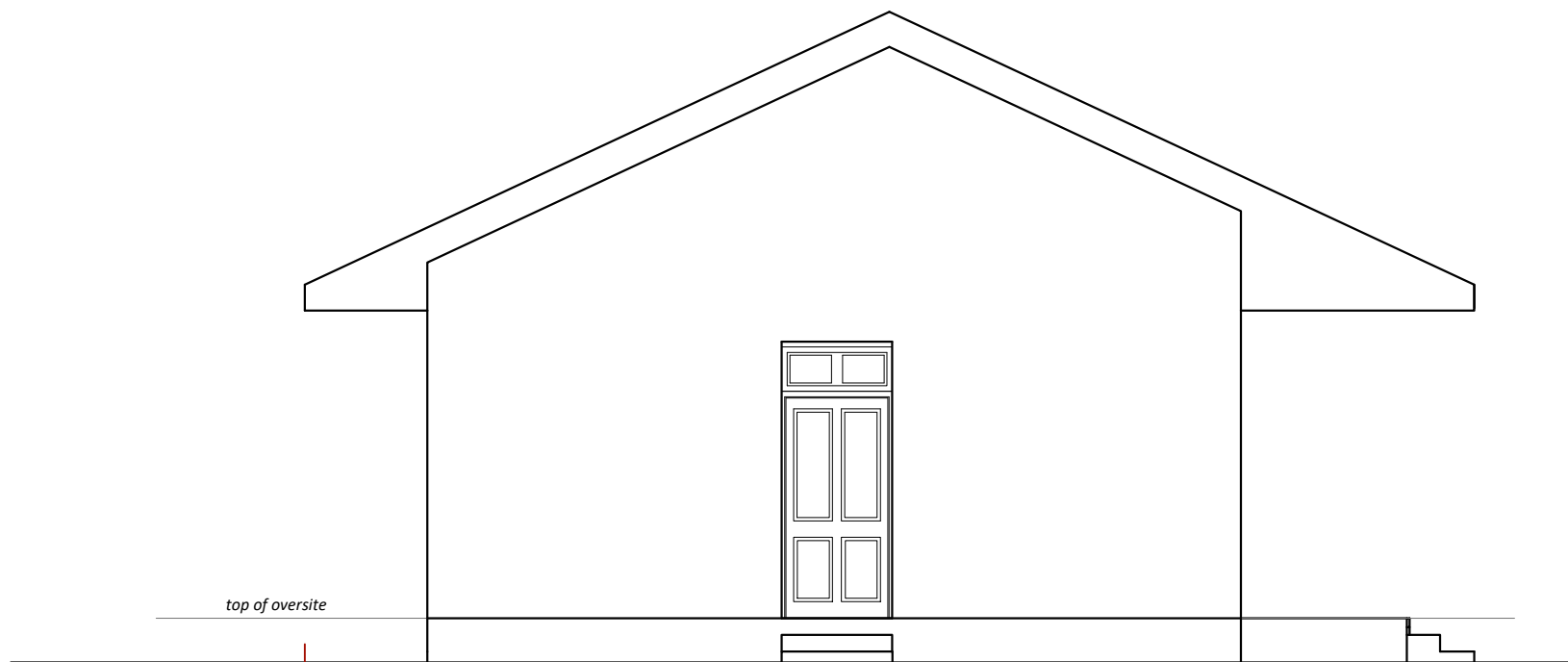
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQIP)

DRAWING TITLE **SICK BAY ELEVATIONS**
 DRAWING NO. **SQP/ARC/SB/05**

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 JUNE,2023



right side elevation



left side elevation

ELEVATIONS

BLDG NO. 3

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 LOCAL GOVERNMENT (PO - RALG)

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

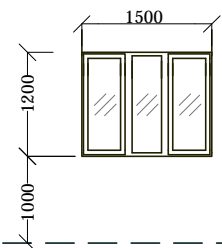
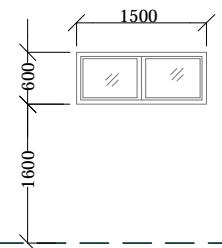
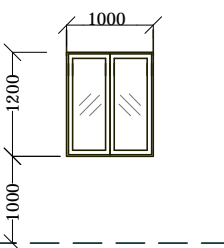
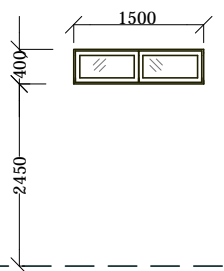
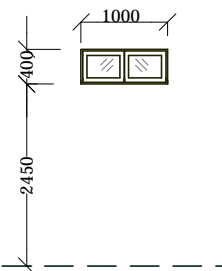
DRAWING TITLE **SICK BAY
 ELEVATIONS**
 DRAWING NO. **SQP/ARC/SB/06**

DRAWN BY J.R
 CHECKED BY I.S
 SCALE 1:200
 JUNE, 2023

SCHEDULE OF FINISHES

S/N	ELEMENTS	LOCATION	BASE FINISH	FINAL FINISH
1	WALLS	External walls	15mm thick cement and sand plaster ratio (1:3)	2-coat bitumen paint to all plinth
			24mm 2-coat Tyrolean rendering	Colour in Tyrolean mix above the plinth level
		Internal walls and Verandah	15mm thick cement and sand plaster ratio (1:3)	1 coat white cement skim, 1 emulsion under coat, 2 coats gloss oil paint up to dado line 1500 above the ground
				1 coat white cement skim, 1 emulsion under coat, 2 coats acrylic emulsion 1500 above the Dado line
Internal walls toilets	15mm thick cement and sand plaster ratio (1:3)	Ceramic wall tiles up to dado line 1800 above the ground		
		1 coat white cement skim, 1 emulsion under coat, 2 coats acrylic emulsion 1800 above the Dado line		
2	FLOORS	External Floors	30mm thick cement and sand plaster ratio (1:4) bedding	Non slippery porcelain floor tiles
		Internal Floors	30mm thick cement and sand plaster ratio (1:4) bedding	
3	CEILING	In 1 storey building (timber roof structure)	9mm thick Gypsum ceiling; fixed to branderling using screws including joint tapes gypsum powder.	Prepare and apply 1 undercoat and 2 finishing coats of Emulsion paint

WINDOW SCHEDULE

LOCATION	Refer to Ground Plan	Refer to Ground Plan	Refer to Ground Plan	Refer to Ground Plan	Refer to Ground Plan																														
	Type: W-01	Type: W-01	Type: W-03	Type: High level window	Type: High level window																														
ELEVATION																																			
Reference/ Location	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 8</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> <tr> <td colspan="2" style="text-align: center;">Total Req.8</td> </tr> </table>	Ground Floor	Nos. 8	First Floor	Nil	Total Req.8		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 2</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> <tr> <td colspan="2" style="text-align: center;">Total Req.2</td> </tr> </table>	Ground Floor	Nos. 2	First Floor	Nil	Total Req.2		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 1</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> <tr> <td colspan="2" style="text-align: center;">Total Req.1</td> </tr> </table>	Ground Floor	Nos. 1	First Floor	Nil	Total Req.1		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 10</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> <tr> <td colspan="2" style="text-align: center;">Total Req.10</td> </tr> </table>	Ground Floor	Nos. 10	First Floor	Nil	Total Req.10		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 3</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> <tr> <td colspan="2" style="text-align: center;">Total Req.3</td> </tr> </table>	Ground Floor	Nos. 3	First Floor	Nil	Total Req.3	
Ground Floor	Nos. 8																																		
First Floor	Nil																																		
Total Req.8																																			
Ground Floor	Nos. 2																																		
First Floor	Nil																																		
Total Req.2																																			
Ground Floor	Nos. 1																																		
First Floor	Nil																																		
Total Req.1																																			
Ground Floor	Nos. 10																																		
First Floor	Nil																																		
Total Req.10																																			
Ground Floor	Nos. 3																																		
First Floor	Nil																																		
Total Req.3																																			
Specification and Finishes.	Casement window frame 145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar		Casement window frame 145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar		Casement window frame 145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar																														

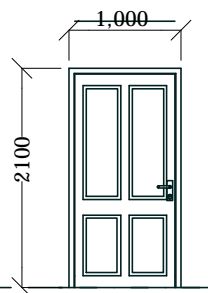
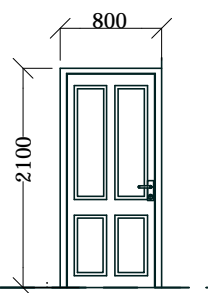
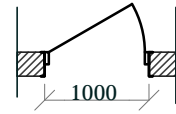
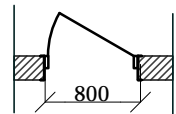
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST)
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PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE **SICK BAY WINDOW SCHEDULE**
 DRAWING NO. **SQP/ARC/SB/08**

DRAWN BY J.R
 CHECKED BY I.S
 SCALE 1:200
 JUNE, 2023

DOOR SCHEDULE

LOCATION	Refer to Ground to Fifth Floor Plan	Refer to Ground to Fifth Floor Plan
	Type D-01	Type D-02
ELEVATION		
PLAN		
Reference/ Location	Ground Floor Nos. 6	Ground Floor Nos. 4
	First Floor Nil	First Floor Nil
	Total Req.6	Total Req.4
Specification and finishes	<p>Iron mongery: 3pairs 150mm long brass butt hinges 1nos. 3 lever UNION mortice lockset complete - 2nos. UNION rubber door stoppers 38mm dia.</p> <p>Specifications: 40mm thick;1000mm x 2500mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish.</p> <p>145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish</p>	<p>Iron mongery: 3pairs 150mm long brass butt hinges 1nos. 3 lever UNION mortice lockset complete</p> <p>Specifications: 40mm thick;900mm x 2500mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish.</p> <p>145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish</p>

MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY (MoEST)
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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE **SICK BAY DOOR SCHEDULE**
 DRAWING NO. **SQP/ARC/SB/09**

DRAWN BY J.R
 CHECKED BY I.S
 SCALE 1;200
 JUNE,2023

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for 16 Stances Toilet Block (Girl's
National Schools)

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>MATERIALS</u>				
A	<u>SUB-STRUCTURE -PROVISIONAL</u>				
1	<u>Strip Foundation - Grade 15 Plain (5.43M3)</u>				
	Aggregate (3/4")	6	M ³		
	Sand	3	M ³		
	Cement-50kgs (42.5)	22	Bags		
2	<u>Foundation Walls (37m2)</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	512	No		
	Sand	2	M ³		
	Cement -50kgs (42.5)	9	Bags		
	<u>ALTERNATIVE TO FOUNDATION WALL</u>				
	<u>** If stone is applicable, then blockwork is not applicable.</u>				
	<u>Therefore Engineer must confirm to the Tenderer</u>				
	<u>which item to be priced (Blockwork or Stone) depending</u>				
	<u>on availability and suitability of building materials.</u>				
	Stone, complete with its cement and sand mortar (1:4)	10	M ³		
3	<u>Moram, Hardcore & Site sterilization (12M3)</u>				
	Moram (4.5m ³ lorry)	3	Trips		
	Hardcore 150mm thick (4.5m ³ lorry)	4	Trips		
	Sand	2	M ³		
	Aldrin solution or other and equal approved (1000mls)	1	Bottle		
4	<u>Oversite Concrete 100mm thick - 15 grade 7.3M3 and Ground Beam - 20 grade (4m3)</u>				
	Cement -50kgs (42.5)	51	Bags		
	Aggregates (1/2")	12	M ³		
	Sand	6	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm ²	18	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	15	PC'S		
	A252 Mesh 200 x200x6.16kg/m ²	1	PC'S		
	Timber 1" X 8" (5.2m long)	10	PC'S		
	Timber 2" X 2"	6	PC'S		
	Nails-4"	10	Kg		
	Nails-3"	10	Kg		
	Supporting props (3m)	10	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	<u>SUPERSTRUCTURE</u>				
1	<u>Walls & Ring beam</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	1,908	No		
	Sand	13	M ³		
	Cement-50kgs (42.5)	54	Bags		
	Aggregates (1/2")	3	M ³		
	Reinforcement - 12mm diameter high tensile 460N/mm ²	16	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm ²	12	PC'S		
	Binding Wire	5	Kg		
	Timber 1" X 10" to Sides (5.2m long) - re use of sunstructure	0	PC'S		
	Timber 1" X 5" (Plates)-	4	PC'S		
	Timber 2" X 2" (3.5m)	10	PC'S		
	Supporting Props	8	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	<u>ALTERNATIVE TO BLOCKWORK WALL</u>				
	<i>** If brickwork is applicable, then blockwork is not applicable.</i>				
	<i>Therefore Engineer must confirm to the Tenderer which item</i>				
	<i>to be priced (Blockwork or brickwork) depending on availability</i>				
	<i>and suitability of building materials. Note that: Strictly do not</i>				
	<i>use stretcher bond when using bricks, the acceptable</i>				
	<i>bond is either Flemish or English or header.</i>				
	150mm thick One brick wall	212	m ²		
C.	<u>ROOF STRUCTURE & COVERING</u>				
1	<u>Roof Structure - Provisional</u>				
	Timber 2" X 3" Purlin	320	ft		
	Timber 2" X 4" Struts	103	ft		
	Timber 2" X 6" Rafter, and Tie beam	459	ft		
	Timber 2" X 4" Wall plate	126	ft		
	Fascia board 1" X 10" (5.2m long)	9	PC'S		
	Nails -4" & 3"	20	Kg		
	16mm Anchor Bolts, 250mm long	14	Nr.		
	12mm diameter bolts with washer and nuts	7	Nr.		
	20mm diameter of bolts	7	Nr.		
	150 x 150 x 100x3mm mild steel plate	7	Nr.		
	<u>NOTE:</u> The above softwood timber structure should be				
2	<u>Roof Covering</u>				
	28G Resin coated Iron sheet	100	M ²		
	Hips/Ridge and valley - 28 G resin coated	4	PC'S		
	Roofing Nails	5	Packet		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	<u>Gutter's</u>				
	Upvc 100mm half round (6m long)-5"	5	PC'S		
	Upvc 100mm diameter down pipe; Class C	3	PC'S		
	PVC outlet	4	PC'S		
	Gutter support bracket	7	PC'S		
	PVC bend 90'	4	PC'S		
	PVC bend 45'	4	PC'S		
	Gutter Clamp 3"	12	PC'S		
	Connector/reducer	3	PC'S		
	Connector outer	4	PC'S		
	Corner Inner	4	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	<u>CEILING</u>				
	Gypsum board -9mm thick	26	PC'S		
	Plain Cornice (2.5m)	30	PC'S		
	Screw 1.25" 500pcs/box	2	Box		
	Gypsum powder - 25kg	5	Bags		
	Fibre tape (90m)	1	Roller		
	Treated softwood Timber 2" X 2"	848	ft		
	Nails 4"/3'	20	kg		
	PVC pipe class B; 100mm diameter venti pipe 3m	1	PC'S		
	SUB-TOTAL FOR CEILING				
E.	<u>DOOR</u>				
1	<u>40mm thick hardwood paneled door shutter</u>				
	920 x 2100mm high door	3	pc's		
	720 x 2100mm high	15	pc's		
2	<u>Frames (hardwood),Varnish & Glass</u>				
	1000 x2750mm high	3	pc's		
	800 x2200mm high	15	pc's		
	Brush 3"and 2.5"	5	pc's		
	Sand paper (msasa) No.80	8	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	6	Litres		
3	<u>IronMongeries</u>				
	Mortice lock Three lever	3	No		
	Mortice lock Two lever with indicator bolts	15	No		
	Brass hinges - 100mm	27	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	<u>WINDOWS</u>				
	<u>25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories</u>				
	Overall size 900 x 500 mm high	22	No.		
	SUB-TOTAL FOR WINDOWS				
G.	<u>FINISHING</u>				
1	<u>Terrazo Floor finishing (78m2)</u>				
	Sand	1	M ³		
	Cement-50kgs (42.5)	35	Bags		
	Chipping White	1	M3		
	Red chipping	1	M3		
	Pink chipping	1	M3		
	Black	1	M3		
	Terrazo colour (user's selection)	2	Bags		
	Concrete nail 1"	3	Packet		
	Tina, Polish, & Hardina for Terrazo	2	Set		
	2mm thick plastic Strips	96	M		
2	<u>Wall Finishing -15mm thick (1:4)</u>				
	400 x 250mm ceramic Wall tiles	96	Box		
	Grouts (20Pkt per Box)	2	Box		
	Sand	14	M ³		
	Cement-50kgs (42.5)	50	Bags		
	White cement - 40kg	10	Bags		
	Gypsum powder -25kg	10	Bags		
	Sand paper Msasa No.120	10	m		
	SUB-TOTAL FOR FINISHING				
H.	<u>PAINTING & DECORATION</u>				
	Emulsion Paint - 20 LTRS	15	buckets		
	Weather guard Paint - 20 LTRS	2	buckets		
	Washable paint -20 LTRS	2	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	3	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	2	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	<u>INCINERATOR</u>				
	Fire brick 65 X 110X230mm	270	Nr.		
	Fire cement	9	Bag		
	Burnt brick 65 x 110x230mm	1,000	Nr.		
	Clay soil	2	M3		
	Sand	5	M ³		
	Cement-50kgs (42.5)	30	Bags		
	Agregates 1/2'	5	M3		
	Lime 25kg	3	Bags		
	450 x 200mm Peeping door mildsteel complete as per drawing	1	Nr.		
	Steel metal door size 800 x 600mm high ditto	1	Nr.		
	450 x 150mm mild steel pipe for Ashes filter ditto	1	Nr.		
	Mild steel Flue cover (Flexible openable)	1	Nr.		
	200mm diameter metal Chimney Pipe 7m high including cover	1	Nr.		
	SUB-TOTAL FOR INCINERATOR				
A.	<u>ELECTRICAL INSTALLATION</u>				
	Single fluorescent fitting Complete	7	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables				
	Single core wire 1.5sqmm - Red	0.5	Roll		
	Single core wire 1.5sqmm - Black	0.5	Roll		
	Single core wire 1.5sqmm -green	0.5	Roll		
	1gang 1way switch	1	No		
	2gang 1way switch	2	No		
	Junction box	20	No		
	Conduit pipe	100	PC's		
	Elbow	30	PC's		
	Conduit coupling	20	PC's		
	Round cover	36	PC's		
	Round box	16	PC's		
	Fine screw	2	Packet		
	plastic clips 22mm	3	Box		
	SUB-TOTAL ELECTRICAL				

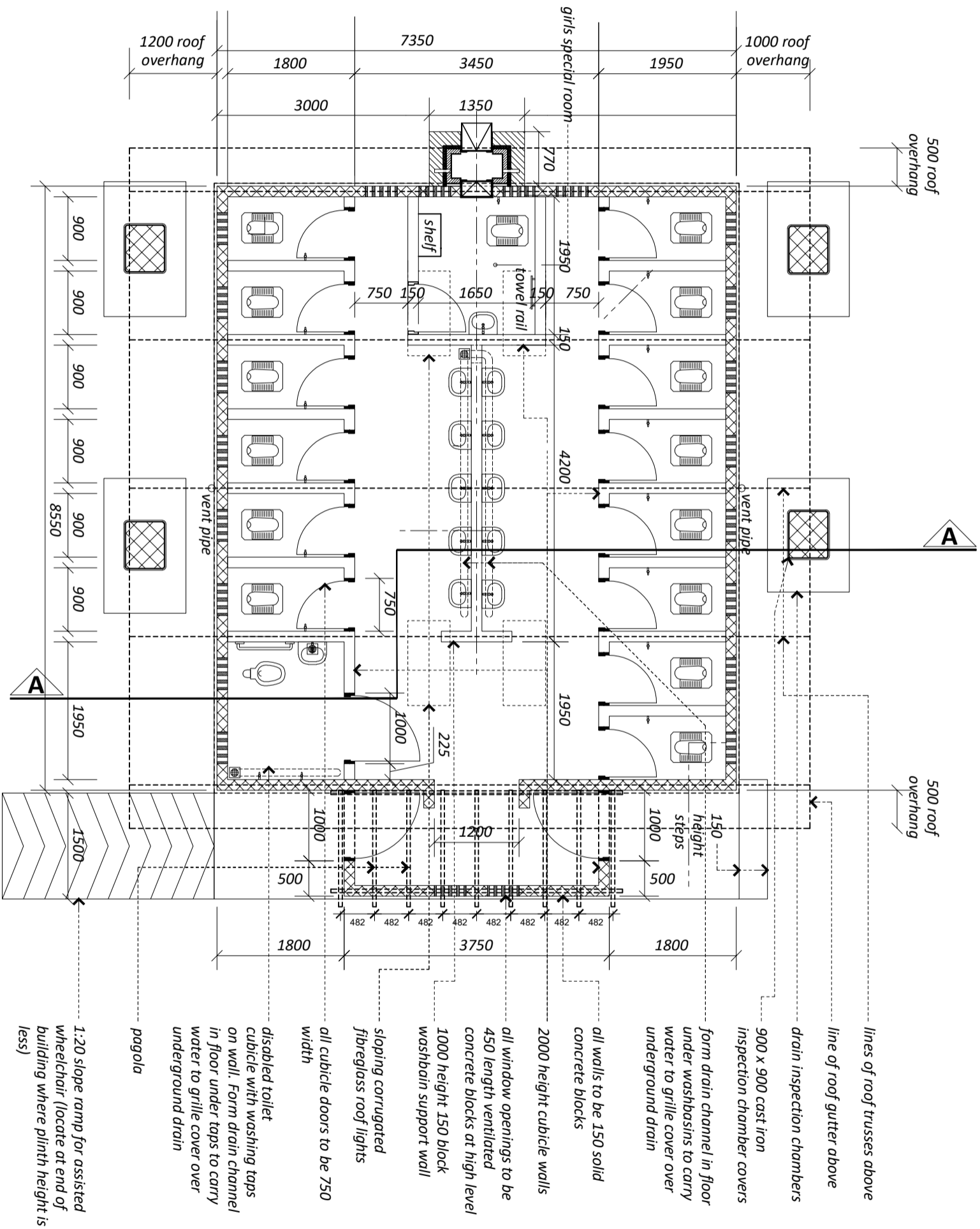
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
K	<u>PLUMBING AND SANITARY INSTALLATION</u>				
	WATER DISTRIBUTION SYSTEM				
	PPR Pipes				
	40mm Dia	4	pcs		
	32mm Dia	13	pcs		
	25mm Dia	8	pcs		
	20mm Dia	3	pcs		
	15mm Dia	19	pcs		
	12mm Dia Flexible Pipe	30	pcs		
	VALVES				
	40mm Dia	4	pcs		
	32mm Dia	9	pcs		
	20mm Dia	14	pcs		
	15mm Dia	10	pcs		
	15mm Dia Angle Valves	41	pcs		
	20mm Dia water tap with stopcock/push	18	pcs		
	REDUCING BUSH				
	Ø40 / 32mm	8	pcs		
	Ø40 / 25mm	6	pcs		
	Ø40 / 20mm	2	pcs		
	Ø40 / 15mm	2	pcs		
	Ø32 / 25mm	9	pcs		
	Ø32 / 20mm	9	pcs		
	Ø32 / 15mm	43	pcs		
	Ø25 / 20mm	23	pcs		
	Ø25 / 15mm	17	pcs		
	Ø20 / 15mm	29	pcs		
	90° PLAIN ELBOW				
	Ø40mm	6	pcs		
	Ø32mm	6	pcs		
	Ø25mm	9	pcs		
	Ø20mm	22	pcs		
	Ø15mm	62	pcs		
	90 ADAPTOR ELBOW (Female)		pcs		
	Ø15mm	55	pcs		
	90 ADAPTOR ELBOW (Male)				
	Ø15mm	14	pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	T PLAIN				
	Ø40mm	6	pcs		
	Ø32mm	36	pcs		
	Ø25mm	14	pcs		
	Ø20mm	24	pcs		
	SOCKET				
	Dia. 15mm	88	pcs		
	Dia. 20mm	29	pcs		
	Dia. 25mm	21	pcs		
	Dia. 32mm	38	pcs		
	Dia. 40mm	14	pcs		
	SEWARAGE				
	PIPING (uPVC PIPE)				
	150mm Dia	4	pcs		
	100mm Dia	9	pcs		
	50mm Dia	13	pcs		
	40mm Dia	13	pcs		
	32mm Dia	12	pcs		
	Elbows, Bends Connector traps etc to suite the above installation.				
	FITINGS				
	100mm Dia Y-Tee	24	pcs		
	50mm Dia Y-Tee	14	pcs		
	100mm Dia Inspection Tee	12	pcs		
	50mm Dia Inspection Tee	9	pcs		
	SOCKET				
	150mm Dia	8	pcs		
	110mm Dia	21	pcs		
	50mm Dia	11	pcs		
	40mm Dia	17	pcs		
	32mm Dia	19	pcs		
	90° ELBOW				
	110mm	12	pcs		
	50mm	12	pcs		
	40mm	10	pcs		
	32mm	12	pcs		
	45° ELBOWS				
	110mm	10	pcs		
	50mm	12	pcs		
	40mm	9	pcs		
	32mm	9	pcs		
	REDUCING BUSH				
	50mm/40mm	78	pcs		
	40mm/32mm	78	pcs		

<u>GENERAL SUMMARY</u>					AMOUNT -TZS
<u>TOILET BLOCK</u>					
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J	INCINARATOR				
K	ELECTRICAL INSTALLATION				
L.	PLUMBING AND GAS INSTALLATION				
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY					
<u>ADD:</u>					
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)					
Note:					
i Refer General Summary for: Preliminary, Transportation and Supervision Costs					
ii. Preliminary cover the following item:					
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,					
- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.					
iii. Supervision cost depend on guideline of the specific project					

ARCHITECTURAL DRAWINGS

floor plan



BLDG NO. 10

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PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND
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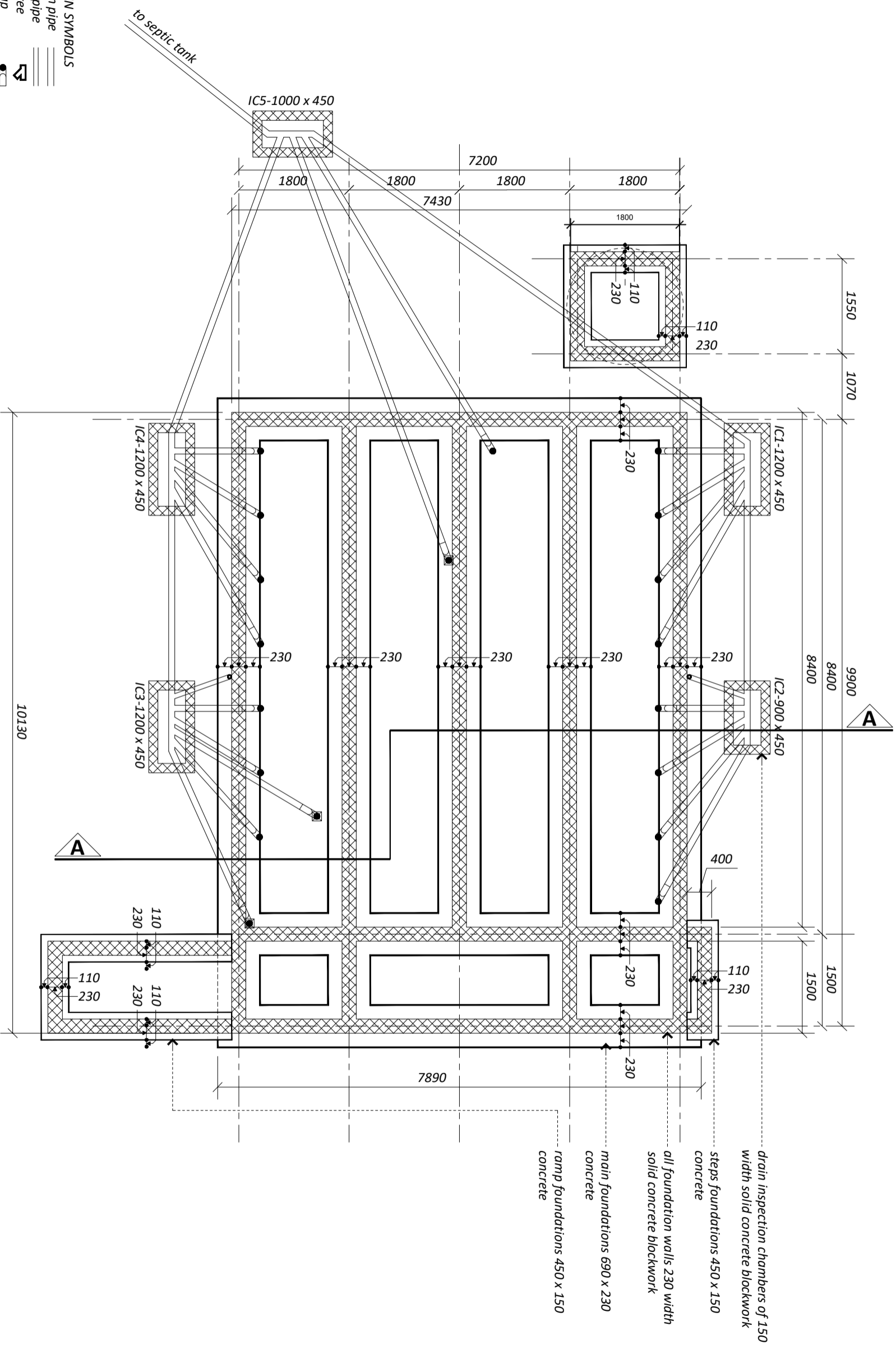
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE
FLOOR PLAN
DRAWING NO.
SQP/ARC/TLT/02

DRAWN BY J.R.
CHECKED BY I.S.
SCALE 1:200
JUNE, 2023

- KEY TO DRAIN SYMBOLS**
- 100 dia drain pipe
 - 75 dia drain pipe
 - 100 dia 45° tee
 - 100 dia P-trap
 - 75 dia P-trap
 - 75 dia vent pipe
 - floor drain grille cover

foundation plan



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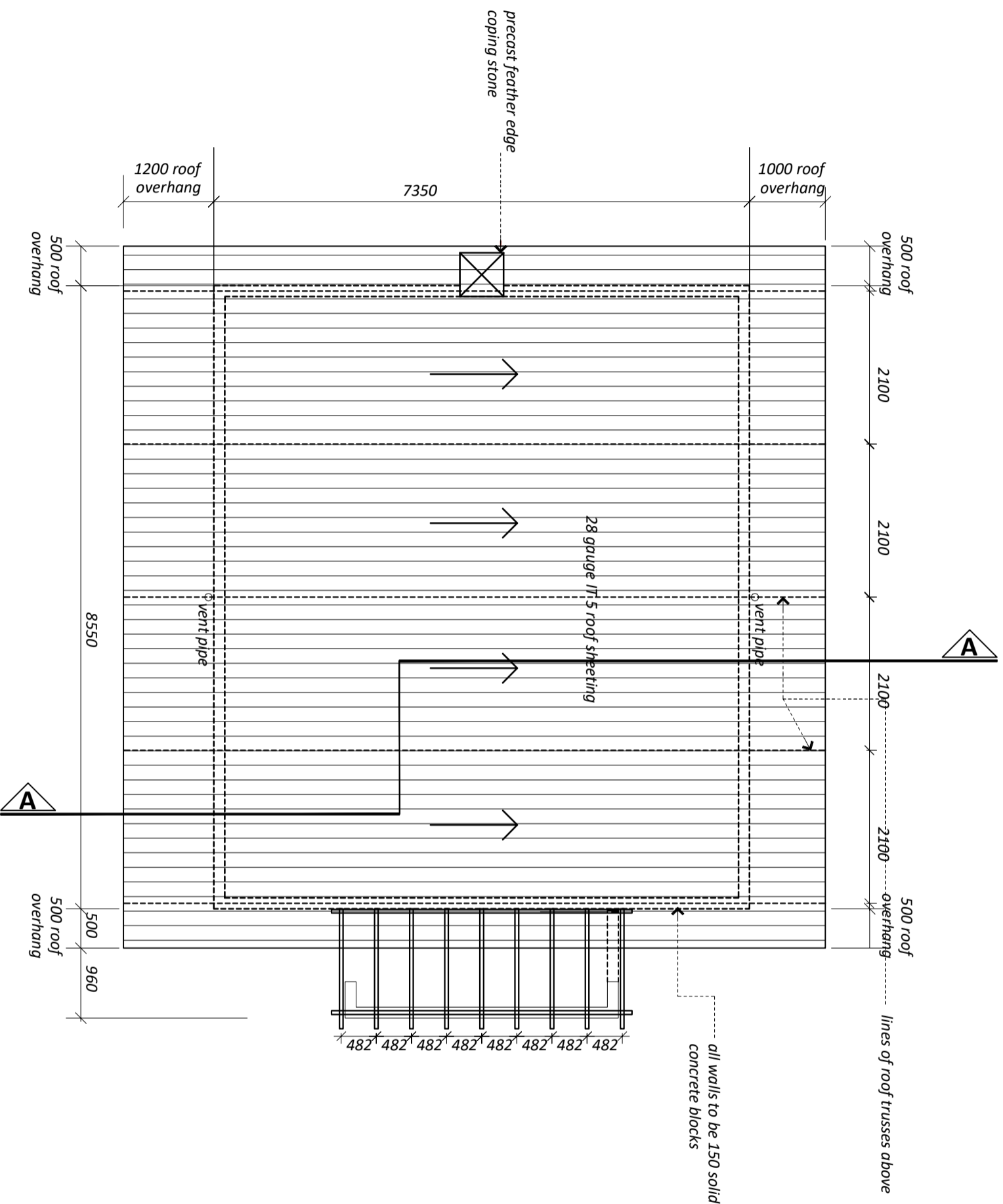
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE PIPED WATER TOILET FOR 320 GIRLS
 FOUNDATION PLAN
 DRAWING NO. SQP/ARC/TLT/04

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roof plan



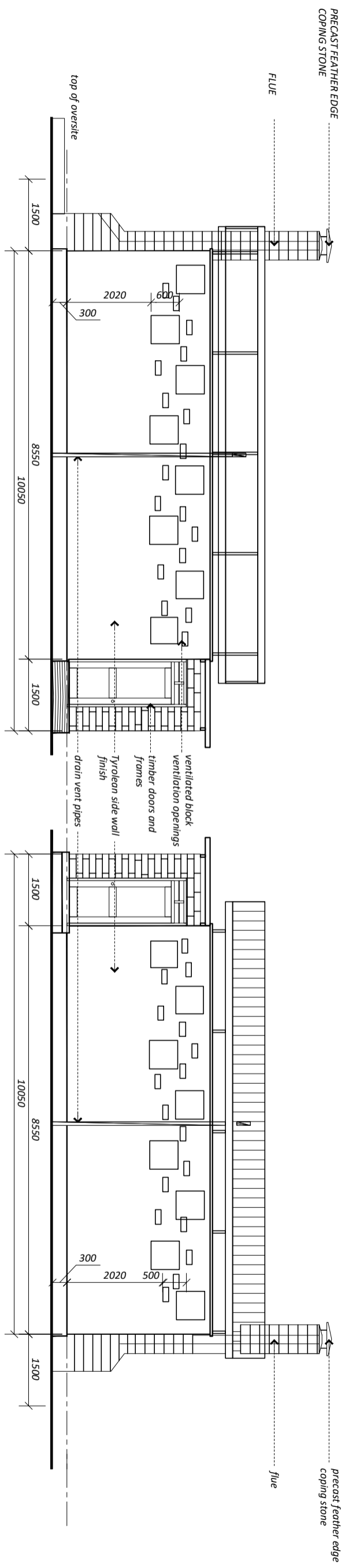
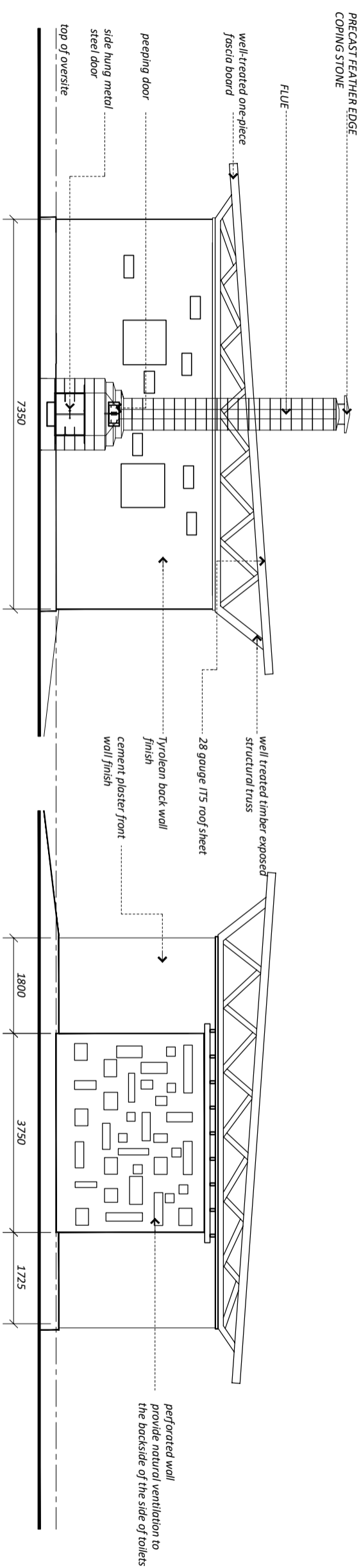
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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE
ROOF PLAN
DRAWING NO. SQP/ARC/TLT/03

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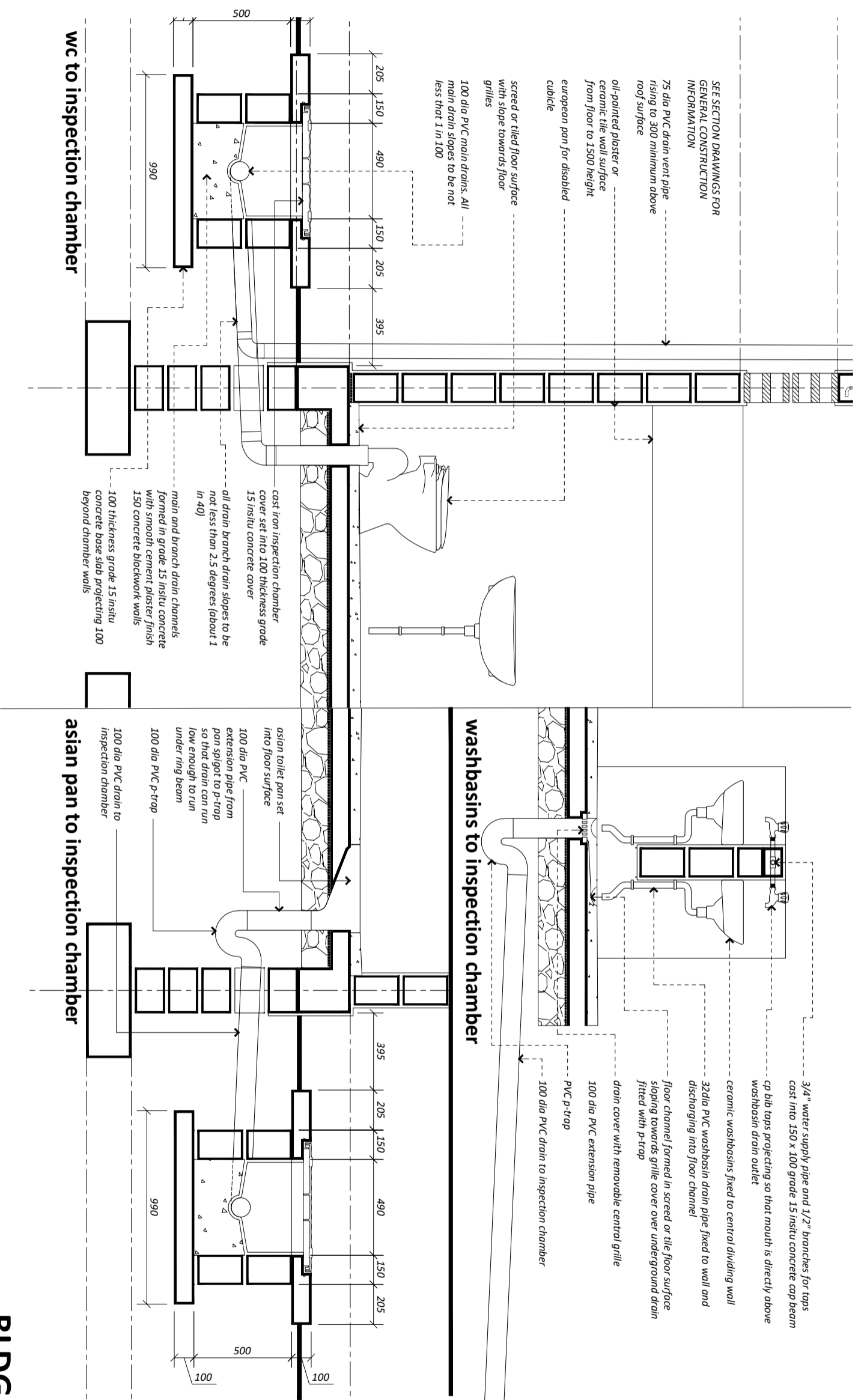
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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE PIPED WATER TOILET FOR 320 GIRLS
 DRAWING NO. SQP/ARC/TLT/06
 ELEVATIONS

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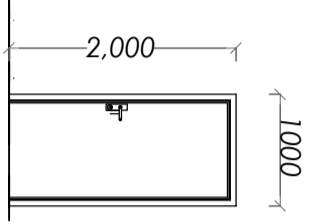
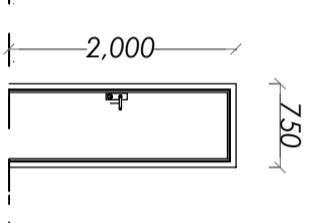
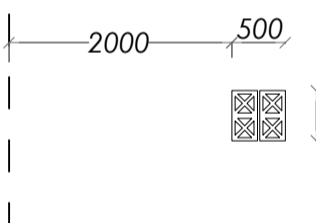
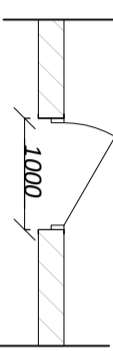
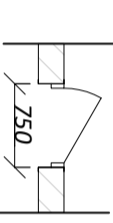
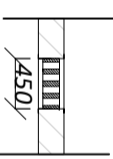
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
 FOR
 SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE
 DETAILS
PIPED WATER TOILET FOR 320 GIRLS
 DRAWING NO.
SQP/ARC/TLT/07

DRAWN BY J.R.
 CHECKED BY I.S.
 SCALE 1:200
 JUNE, 2023

DOOR AND WINDOW SCHEDULE

WINDOW SCHEDULE

LOCATION	Refer to Ground to Fifth Floor Plan Type D-01	Refer to Ground to Fifth Floor Plan Type D-02	Refer to Ground Plan Type W-01															
ELEVATION																		
PLAN																		
Reference/ Location	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 3</td> <td rowspan="2" style="text-align: center;">Total Req. 3</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> </table>	Ground Floor	Nos. 3	Total Req. 3	First Floor	Nil	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 15</td> <td rowspan="2" style="text-align: center;">Total Req. 15</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> </table>	Ground Floor	Nos. 15	Total Req. 15	First Floor	Nil	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ground Floor</td> <td style="width: 50%;">Nos. 22</td> <td rowspan="2" style="text-align: center;">Total Req. 22</td> </tr> <tr> <td>First Floor</td> <td>Nil</td> </tr> </table>	Ground Floor	Nos. 22	Total Req. 22	First Floor	Nil
Ground Floor	Nos. 3	Total Req. 3																
First Floor	Nil																	
Ground Floor	Nos. 15	Total Req. 15																
First Floor	Nil																	
Ground Floor	Nos. 22	Total Req. 22																
First Floor	Nil																	
Specification and finishes	<p>Iron mongery: 5 pairs 150mm long brass butt hinges 3 nos. 3 lever UNION mortice lockset complete - 3 nos. 150mm long aluminium flush bolts</p> <p>Specifications: 40mm thick;1000mm x 2000mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish.</p> <p>145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish top light provide 6mm clear glass, 16mm m.s horizontal ioxide bars with 50mm x 25mm hardwood beads</p>	<p>Iron mongery: 23pairs 150mm long brass butt hinges 15nos. 3 lever UNION mortice lockset complete - 15nos. 150mm long aluminium flush bolts</p> <p>Specifications: 40mm thick;750mm x 2000mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish.</p> <p>145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish top light provide 6mm clear glass, 16mm m.s horizontal ioxide bars with 50mm x 25mm hardwood beads</p>	<p>Ventilated concrete blocks bedded and jointed in cement/sand mortar. Finished with one under coat and two full coats of oil paint</p>															

door & window schedule

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PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE
DRAWING NO.

PIPED WATER TOILET FOR 320 GIRLS
DOOR AND WINDOW SCHEDULE
SQP/ARC/TLT/08

DRAWN BY J.R.
CHECKED BY I.S.
SCALE 1:200
JUNE, 2023

SCHEDULE OF FINISHES

S/N	ELEMENTS	LOCATION	BASE FINISH	FINAL FINISH
		External walls toilets	15mm thick cement and sand plaster ratio (1:3)	2-coat bitumen paint to all plinth
			24mm 2-coat Tyrolean rendering	Colour in Tyrolean mix above the plinth level
1	WALLS	Internal walls and Verandah	Nil	Nil
				Nil
		Internal walls toilets	15mm thick cement and sand plaster ratio (1:3)	1 coat white cement skim, 1 emulsion under coat, 2 coats gloss oil paint above the ground
2	FLOORS	External Floors toilets	Nil	300 x 300 x 8mm thick Non Slippery Ceramic floor tiles bedded to cement and sand base mortar (1:4) ; and jointing with grouting
		Internal Floors toilets		
3	REINFORCED STRUCTURE	External Columns	Nil	Nil
		Internal Columns and all beams	Nil	Nil
		In 2 storey building (Concrete slab ceiling)	Nil	Nil
4	CEILING	In 1 storey building (timber roof structure)	Nil	Nil
		Eave ceiling	Nil	Nil
5	STAIRS & RAMPS	handrails and brackets	Nil	Nil

BLDG NO. 10

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
IN COLLABORATION WITH
**PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND
LOCAL GOVERNMENT**

**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**

DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS**
DRAWING NO. **SCP/ARC/TLT/09**
SCHEDULE OF FINISHES

DRAWN BY J.R
CHECKED BY I.S
SCALE 1:200
JUNE, 2023

ARCHITECTURAL DRAWINGS

Drawing Print Set for

INCINERATOR

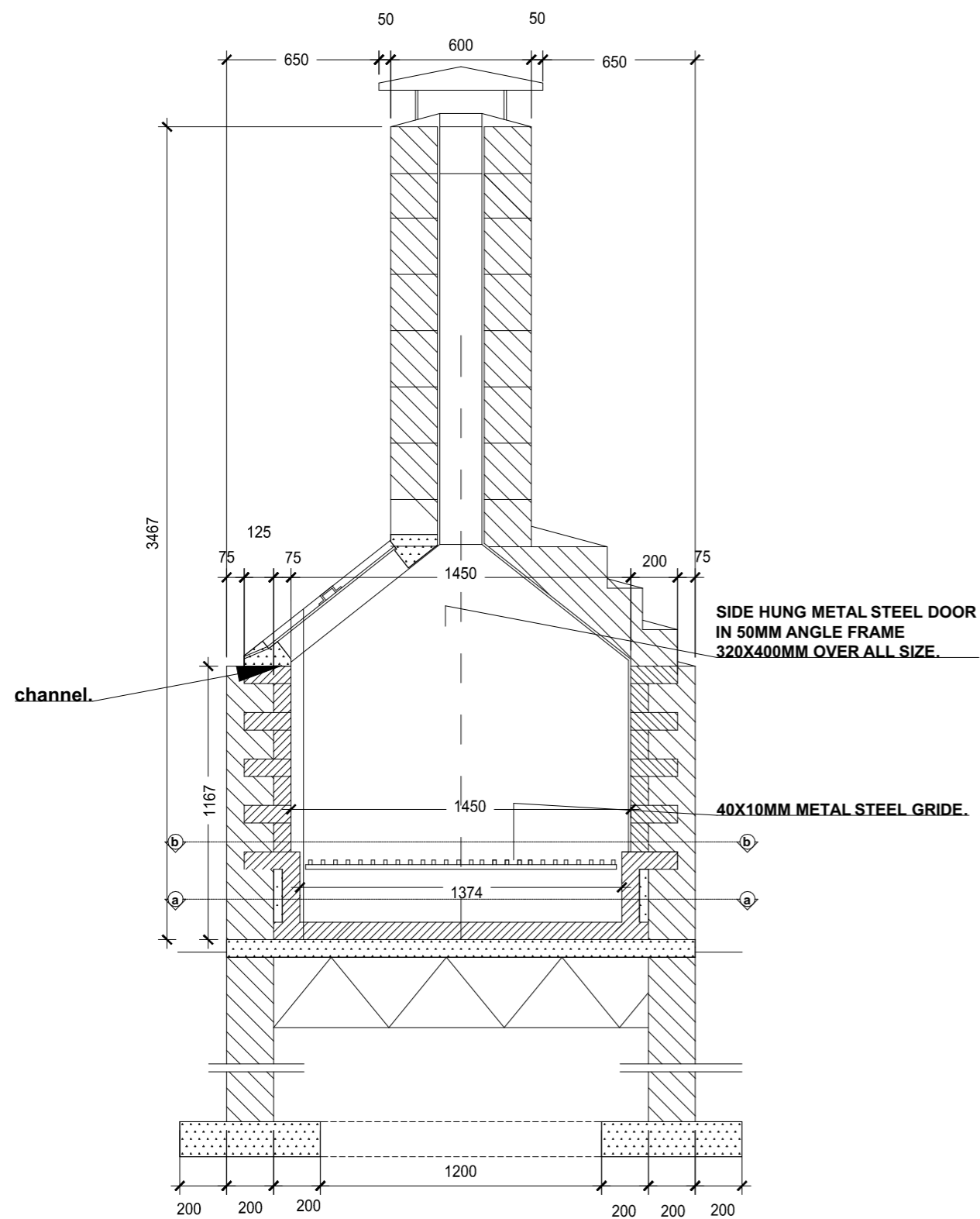
JUNE; 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
PHYSICAL FACILITIES STANDARDS SECTION

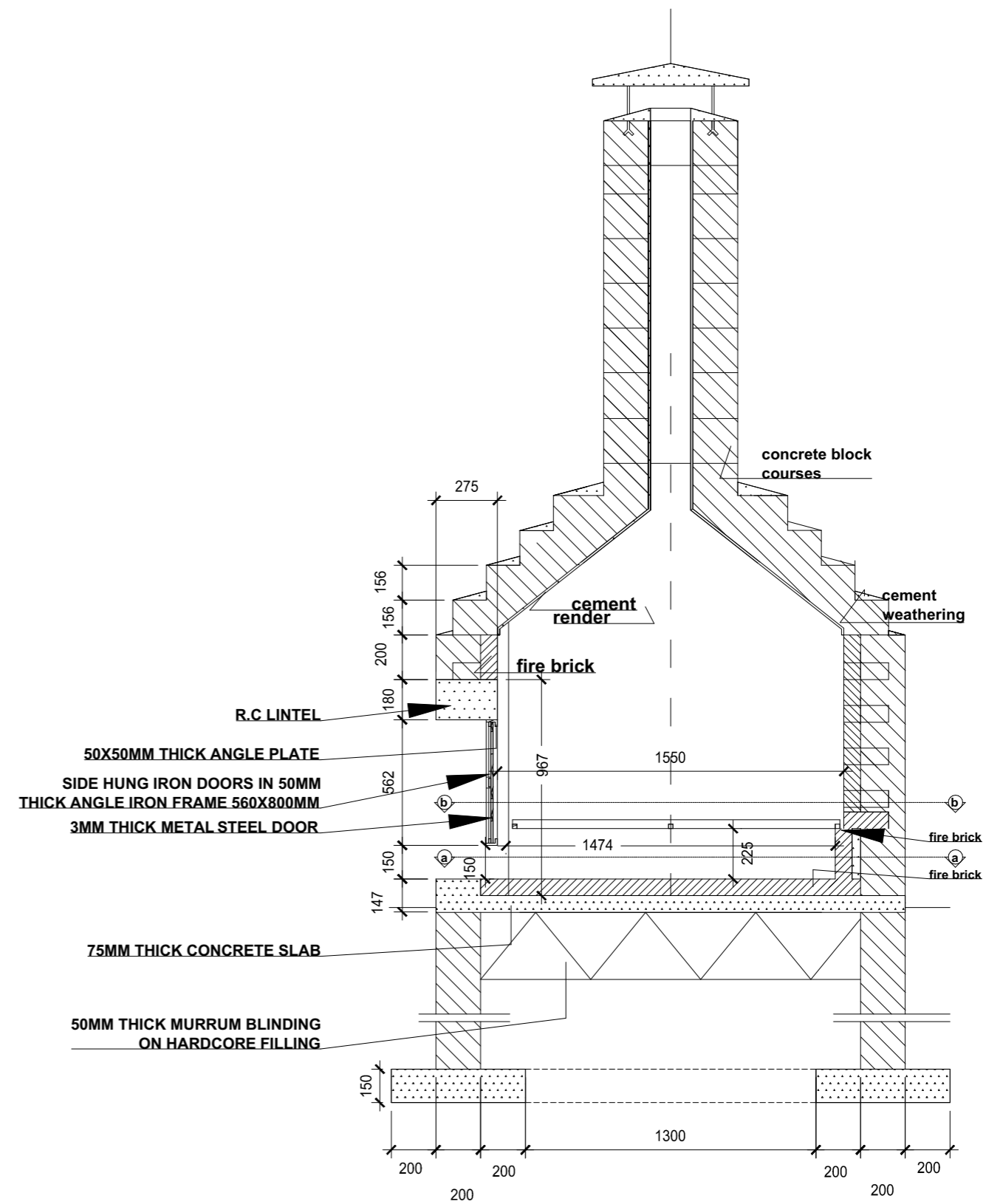
PRIMARY & SECONDARY DESIGN GUIDELINES

DRAWING TITLE **INCINERATOR**
SECTION - REVISED 2023
DRAWING NO. **SDP/ARC/CRB 1/00**

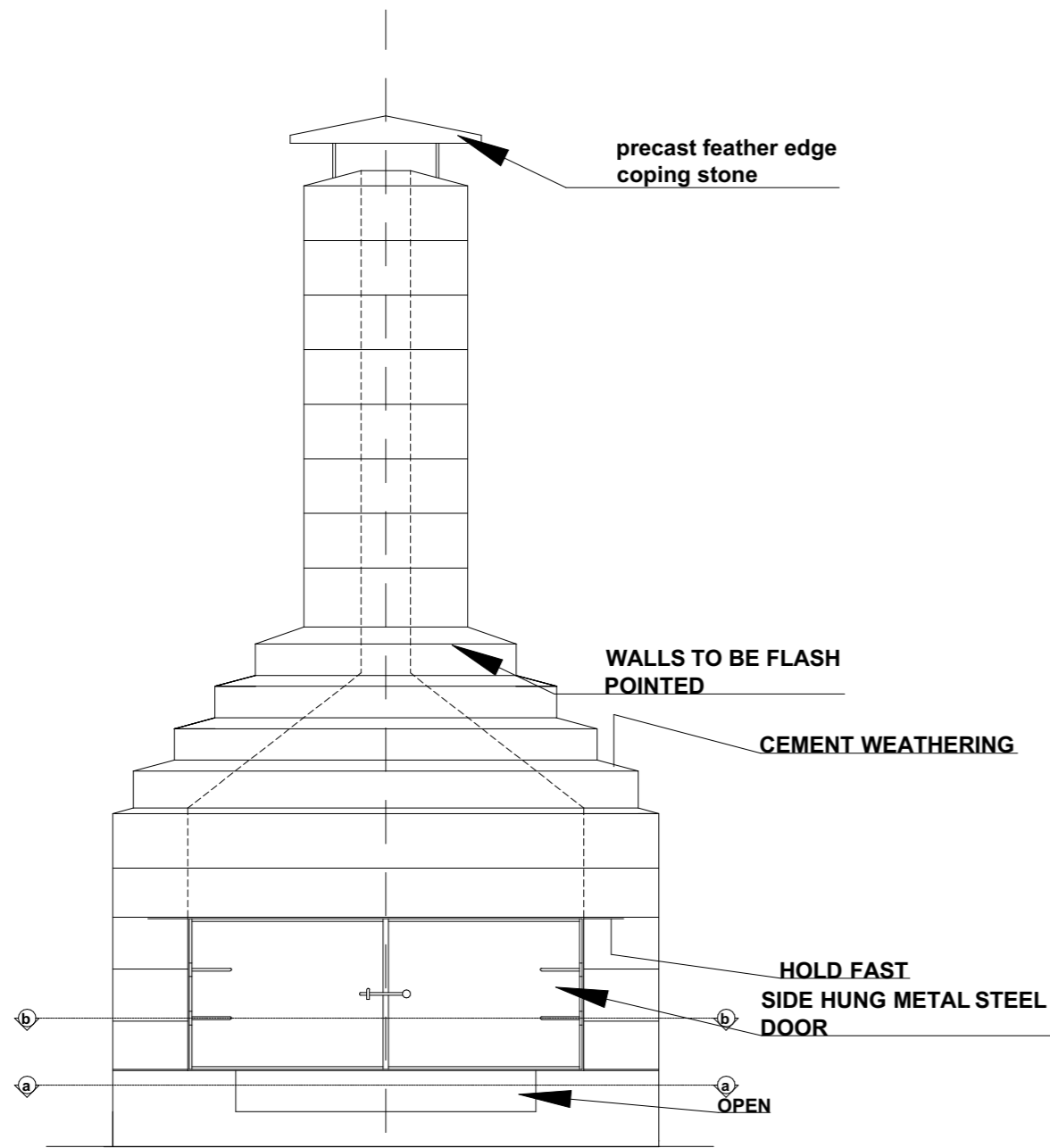
DRAWN BY: JCR
CHECKED BY NM
SCALE 1;25
JUNE,2023



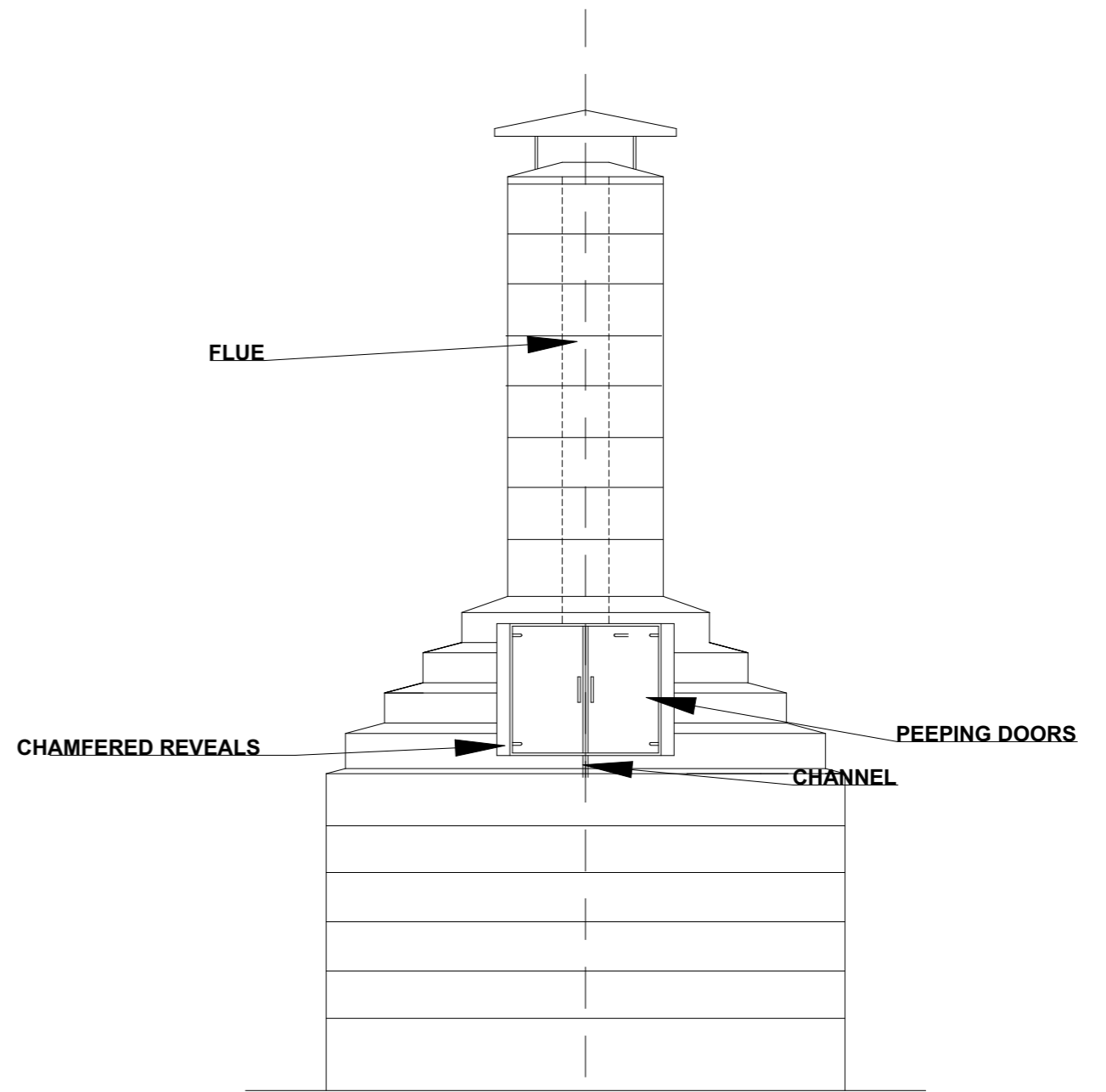
cross section c-c



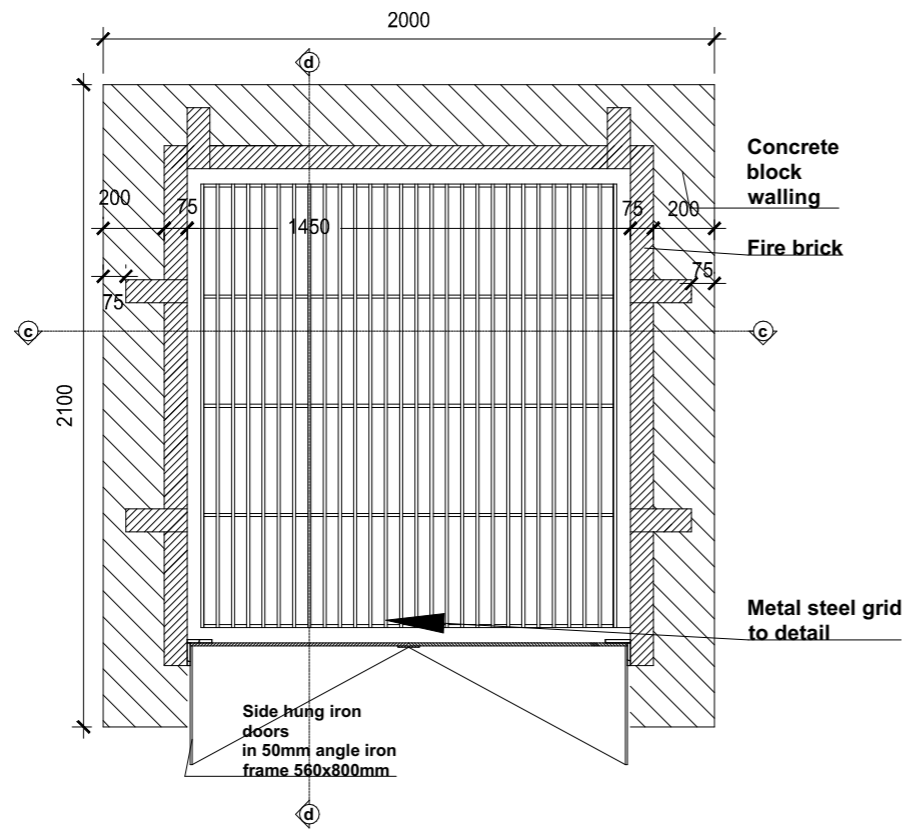
cross section d-d



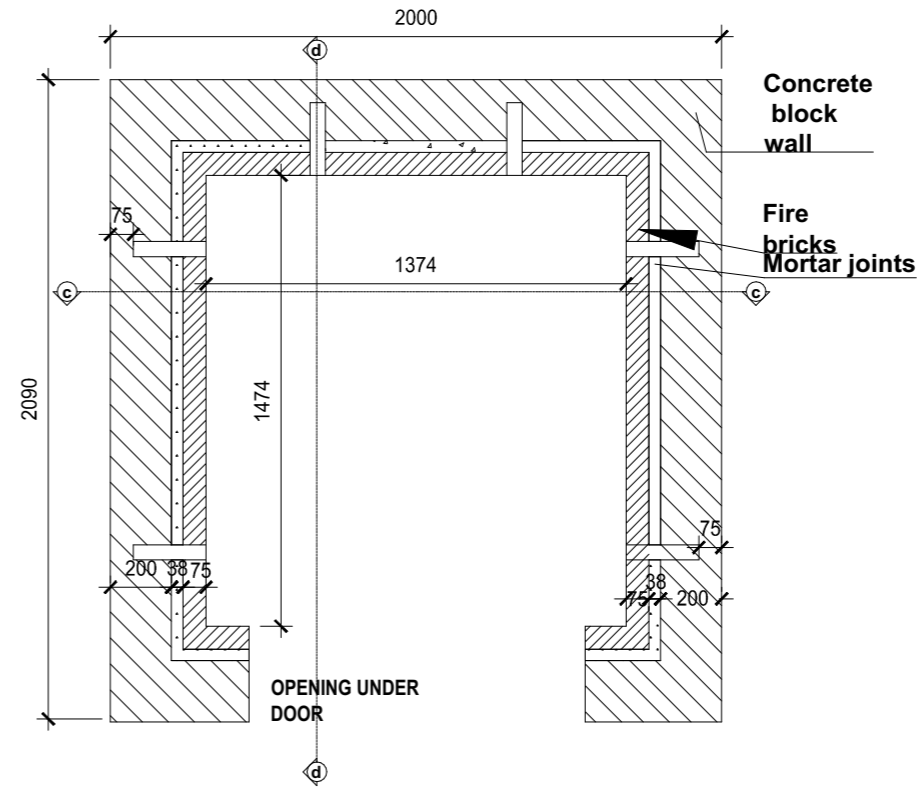
front elevation



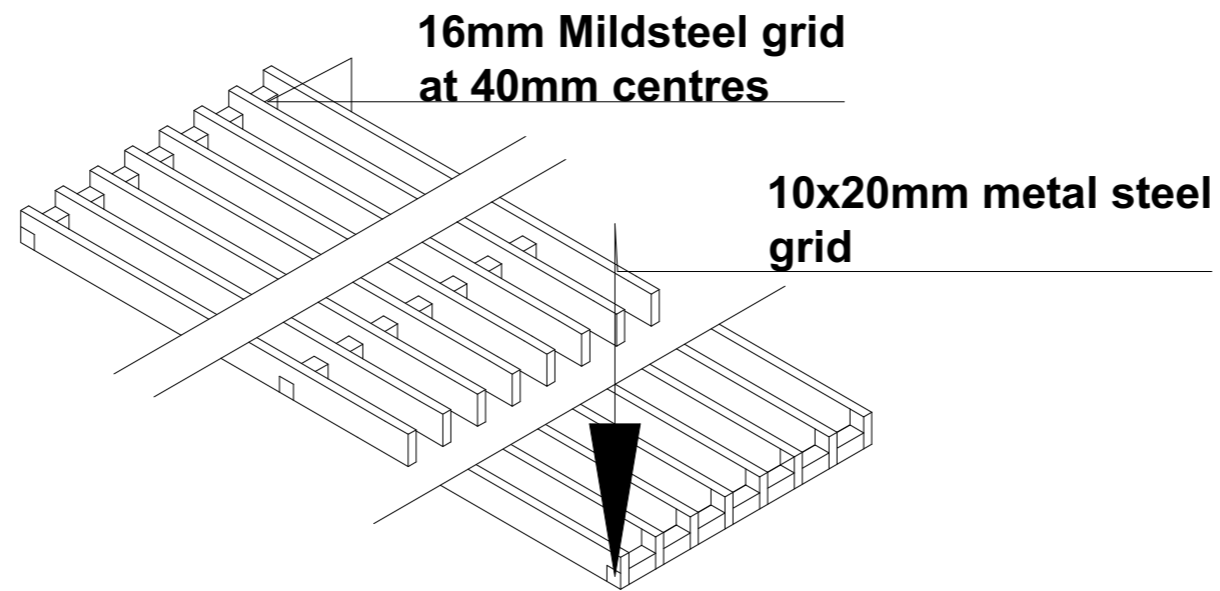
back elevation



PLAN AT b-b



PLAN AT a-a



Isometric view of grid

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Incinerator

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and
Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

SCHEDULE OF MATERIALS FOR THE CONSTRUCTION OF INCINERATOR

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<u>MATERIALS</u>				
A	SUB-STRUCTURE -PROVISIONAL				
1	<u>Strip Foundation - Grade 15 Plain</u>				
	Aggregate (3/4")	0.5	M3		
	Sand	0.45	M3		
	Cement-50kgs(42.5)	2	Bags		
2	<u>Foundation Walls</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	70	No		
	Sand	1	M3		
	Cement -50kgs	5	Bags		
3	<u>Moram, Hardcore & Site sterilization</u>				
	Moram (4.5m3 lorry)	1	M3		
	Hardcore (4.5m3 lorry)	1	Trips		
	Adrian 0.5% solution applied at a rate of 7 liters per square meter- 500mls	1	Bottle		
4	<u>Concrete work - Grade 20</u>				
	Cement -50kgs(42.5)	27	Bags		
	Aggregates (1/2")	2	M3		
	Sand	1	M3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	1	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	1	PC'S		
	Timber 1" X 8" (3.6m long)	3	PC'S		
	Timber 2" X 2" (3.6m long)	2	PC'S		
	Nails-4"	1	Kgs		
	Nails-3"	1	Kgs		
	Supporting props	3	PC'S		
5	<u>Blocks. Fire Bricks & Ring beam & Metal works</u>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	80	No		
	Sand	1	M3		
	Cement-50kgs(42.5)	5	Bags		
	Fire bricks 230mm x 115 x 75mm thick	320	pcs		
	Refractory fire cement	3	bag		
	Refractory fire clay 25kg @ bag	1	bag		
	Chimney shaft stainless steel rolled plate 4mm thick. 7.7 ft length	1	Pcs		
	Steel rods Stainless steel for grate fabrication 12mm thick @ 4m length	2	Pcs		

