# ESTABLISHMENT OF CONDUCTORS, CABLES AND LIGHT MANUFACTURING UNIT

**M/S FAST CABLES LTD.**

**MOUZA BHAI-KOT IJTIMA ROAD, RAIWIND, LAHORE**

## ENVIRONMENTAL IMPACT ASSESSMENT


**Head Office: 218 Upper Mall Scheme Lahore,**

**Tell Office:** +92 42 37897273 : **Email:** *inenvconsultants@yahoo.com;*

**Peshawar Office: Street # 9, Main Canal Road, Abshar Colony Warsak Road Peshawar.**

**Tell Office :** +92 91 5202323: **Web:** *www.iec-consultants.com*

## TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

## LIST OF ABBREVIATIONS

| | |
|---|---|
| PEPA | Punjab Environmental Protection Act |
| PEQS | Punjab Environmental Quality Standards |
| WAPDA | Water And Power Development Authority |
| EMP | Environmental Management plan |
| WWTF | Waste Water Treatment Facility |
| Pak-EPA | Pakistan Environmental Protection Agency |
| W.H.O | World Health Organization |
| PET | Punjab Environmental Tribunal |
| SWM | Solid Waste Management |
| CSR | Corporate Social Responsibility |
| MSWs | Municipal Solid Wastes |
| TMA | Town Municipal Authority |
| KVA | Kilo Volt Ampere |
| PPEs | Personal protective equipment‘s |
| PM | Particulate matter |

## EXECUTIVE SUMMARY

In Pakistan's rapidly industrializing economy, the demand for high-quality electrical infrastructure components—such as wires and cables—has grown significantly to support the expanding power, construction, and communication sectors. As urban centres like Lahore continue to develop, the need for reliable electrical transmission and distribution materials becomes critical to sustain both industrial operations and residential growth. M/S Fast Cables, a leading name in the electrical cable industry, is proposing the establishment of a state-of-the-art wires and cables manufacturing unit in Lahore to meet this rising demand. This project not only aims to enhance local manufacturing capacity and reduce reliance on imports but also contributes to job creation, technology transfer, and economic development within the region. In accordance with the legal obligations outlined in Section 12 of the Punjab Environmental Protection Act (Amended 2012), this Environmental Impact Assessment (EIA) report is being submitted to evaluate the potential environmental and social impacts of the proposed project and to ensure compliance with applicable environmental regulations and sustainability goals.

### I. PROJECT TITLE AND LOCATION

The subject project for which this Environmental Impact Assessment Study has been conducted is expansion of FCL Unit 2 Area comprising industrial halls (Hall 1-9), administrative buildings, warehouses, Sheds, Goth Shed, religious facilities, utility support structures, Power Cables Building and bachelors' accommodation for non-local employees only. The project is being developed on a site with a total covered area of approximately 308,053 square feet and a total area of 680,519 square feet within existing building of M/s Fast Cables Limited located at Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore. The buildings will be constructed using a combination of Reinforced Cement Concrete (RCC) and Pre-Engineered Building (PEB) technologies. The estimated project cost is approximately PKR 3.88 billion**.**

### II. PROJECT PROPONENT

Mr. Mr. Ali Karim proponent of proposed project wants to get NOC for compliance of Section 12 to establish its business.

| **Name** | **Mr. Muhammad Ali Ahmed Karim** |
|---|---|
| CNIC | 42000-6428862-7 |
| Address | Ijtima Chowk,Link Sundar Road, Raiwind,Lahore |
| Contact: | 0310-4443843 |

### III. THE EIA STUDY CONSULTANT

**Integrated Environment Consultants**

**Head Office :** 218-Upper Mall, Lahore, Pakistan.

**Tell Head Office :** +92 42 37897273
**Office :** Street No. 9, Main Canal Road, Abshaar Colony Warsak Road, Peshawar, Pakistan
**Head Office Email:** inenvconsultants@yahoo.com;
**Tell Peshawar Office** : +92 91 5202323, **Web**: www.iec-consultants.com

## IV. BRIEF DESCRIPTION OF THE PROJECT

M/s Fast Cables Pvt. Ltd., a leading manufacturer of electrical cables in Pakistan, proposes the expansion and development of a state-of-the-art Wires and Cables Manufacturing Unit. The project involves the construction of multiple production and utility buildings including Halls 1–9, administrative blocks, a mosque, warehouses, Sheds, Goth Shed PC block, dedicated utility areas and bachelors' accommodation for non-local employees only these structures are designed with modern engineering standards using RCC and PEB construction, with a total built-up area of approximately 680,172 sq.ft. and a project investment of PKR 3.88 billion. The plant will be equipped with advanced machinery for processes such as 2 Aluminium Furnace plants & 2 Copper Furnace plants, wires drawing, annealing, stranding, tinning, extrusion (Insulation / bedding/ sheathing), Catenary Continuous Vulcanization (CCV) Lines, assembly, armouring, coiling, rewinding, copper / mica tapping, ,packing and PVC compound manufacturing plant. Furthermore, have QA & QC labs (Mechanical, LV & MV), also have renewable energy i.e., Solar Energy generation & utilization processes. Fast cables have also started assembly lines for all types of LED lights along with their aging, testing and warehouses as well as their raw materials and FG products. A comprehensive Occupational Health and Safety Plan and Fire Safety Plan will be implemented, ensuring worker safety and emergency preparedness. Once completed, the development will serve as a modern, functional, and integrated facility designed to meet industrial, administrative, and community needs. The construction is expected to generate employment opportunities and contribute positively to the socio-economic development of the area.

## V. MAJOR IMPACTS & PROPOSED MITIGATION

Impact assessment is crucial for project initiation as it enables the identification and comprehension of a project's potential positive and negative effects. Understanding these impacts aids in tailoring the project to maximize benefits and minimize risks. Impact assessment assists in recognizing environmental, social and economic challenges and risks and gives the directions to develop strategies that mitigate these risks and adjust the plan accordingly

Table 0-1 **Summary of Major Impacts & their Proposed Mitigation during Operational Phase**

| Potential Impact | Criteria for determining Significance | Key Mitigation Measures |
|---|---|---|
| **Dust Emissions**— Dust and PM may be generated during construction and excavation activities.<br><br>Gaseous emissions from site generators and transportation vehicles may affect ambient air quality in the vicinity of the project site. | An increase in visible dust beyond the boundaries of the construction site or Concentration of $PM_{10}$ in excess of 150 µg/$m^3$<br><br>PEQS for Ambient Air | Sprinkling of water on dusty roads, tracts and surfaces is recommended;<br><br>During excavation works drop heights will be minimized to control the fall of materials reducing dust escape.<br><br>Use of wind shield around stockpiles is recommended<br><br>Vehicle speed restrictions should be applied in the project area; Raw materials should be transported in covered trucks. |
| **Solid waste Management—** If solid waste will not be managed properly, it may cause negative impacts | Generation of excessive waste; Recyclable waste and reusable waste is discarded, Littering, Improper disposal. | Constructional waste should be utilized for road filling and maintenance purposes.<br><br>Domestic waste should be disposed of properly, handed over to contractors, placed in bins.<br><br>Proper solid waste management plan should be devised and implemented. |
| **Waste water -** water used in construction process and excessive water generate as wastewater and it also produced from campsite domestic activities | PEQS parameters | Waste water after treatment from septic tank should be drain out in nearby drain |
| **Construction Noise**- Noise may be generated during landscaping activities and from generators and transportation vehicles at the | OSHA standards | Activities generating high levels of noise should be minimized at the project site.<br><br>If the noise level will exceed the permissible limits with reference to |

| | | |
|---|---|---|
| project site; which may be a nuisance for the workers. | | national standards, following recommendations are suggested to take action against the high noise levels:<br><br>• Proper tuning of construction machinery and vehicles is recommended.<br>• Ear muffs and ear plugs are recommended in case of high noise levels.<br><br>Rubber wounds should be placed underneath the generator to avoid the vibration (if any) |
| **Vegetation Loss/ Soil erosion**—Minor negative impact may arise as only some weeds and grasses are present at the project site which will be cleared for the purpose of construction. | Unnecessary or excessive removal of trees and shrubs. | No tree cutting/ vegetation loss issue will be involved in the subject project.<br><br>Preparation of a Reinstatement Plan to restore the land after the constructional activities is recommended. |
| **Soil Contamination**—Oil and Chemical spills can contaminate the soil. | Presence of visible amount of hydrocarbon in soil | Provision of spill prevention and control kits<br><br>Use of impermeable surfaces in workshops, and storage areas; Contaminated soil will be collected and incinerated (if any). |
| **Traffic issues-** Traffic issues may arise due to the constructional activities at the project site if traffic will not be managed properly. | TEPA rules | Speed limit of 10 km/h should be maintained on the access road. Ample parking area must be allocated at the project site.<br><br>Guards should be hired to manage the traffic at the project site. |
| **Socioeconomic impacts**—Inter-cultural differences between the project staff from other areas and the local community may arise due to the subject project. | No community complaints.<br><br>Increased employment facilities in the area;<br><br>Increased infrastructure | Training of the non-local project staff on local culture and norms. Avoidance of unnecessary interaction of local population with the non- local project staff.<br><br>Employment opportunities should be provided to the local people |

| | | |
|---|---|---|
| Positive socioeconomic impacts due to increased infrastructure, employment opportunities and economic growth. | | |

Table 0-2: **Summary of Major Impacts & their Proposed Mitigation during Operational Phase**

| Potential Impact | Criteria for determining Significance | Key Mitigation Measures |
|---|---|---|
| **Impact due to Location** | Seismic Region and flood Zone Specification | There are no significant negative impacts on the environment due to the project location/ selected site, as project is present in industrial area. |
| **Gaseous Emissions-**<br><br>During the operational phase of the project, gaseous emissions from project site generator and furnance may affect the air quality of the project area. | PEQS for Ambient Air | Industry should ensure the PEQS compliance and should not be allowed to emit hazardous pollutants. Air Emission Control Measures are recommended to control the air emissions (if any)<br><br>Vehicle emissions inspection should be done on regular basis.<br><br>Sprinkling should be done on the unpaved area to avoid dust pollution/ particulate matter on subject study area. |
| **Noise-** Noise due to industrial activity, | OSHA Standards | Activities generating high levels of noise should be minimized at the |

| | | |
|---|---|---|
| Machinery and generators can be a nuisance for the workers in the working area. | | Project site.<br><br>Personal Protective Equipment PPEs including Ear muffs, Ear plugs and other noise abating equipment will be provided to the workers and other staff in case of noise at the project site. Generator should be covered with canopy (if any)<br><br>Proper maintenance and tuning of the vehicles should be done.<br><br>Sound proof rooms should be built for generators (if any) to be installed at the project site to control the noise. |
| **Discharge of wastewater-** The discharge of untreated municipal wastewater may be a negative impact of the project. | PEQS for Municipal Effluents (mg/l, unless otherwise defined) | Wastewater must be treated before its discharge. Compliance of PEQS for effluents should be ensured.<br><br>Monitoring should be conducted as per PEQS and reports should be submitted to EPA. |
| **Health & Safety Issues-** different constructional and operational activities at the project site may cause health and safety issues for workers if precautionary measures will not be adopted. | OSHA Standards | Proper training of workers and staff should be conducted to avoid the accidents. Use of PPEs should be implemented at workplace.<br><br>First aid measures/medical facility should be provided at the project site.<br><br>Safe drinking water must be provided to workers, staff, and poor people of the area.<br><br>Safety signs & boards should be placed. |

| | | |
|---|---|---|
| **Solid waste management-** If solid waste will not be managed properly, it may cause negative impacts. | Exposure to potentially hazardous waste;<br><br>Generation of excessive waste;<br><br>Recyclable waste and reusable waste is discarded; Littering | A solid waste management plan should be formulated to deal with the proper disposal of solid waste, supervised by HSE Manager and other related personnel. |

## VI. PROPOSED ENVIRONMENTAL MONITORING

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Monitoring for following Environmental Parameters is recommended:

**Table 0-3 Environmental Monitoring**

| Sr. No. | Parameters | Monitoring Schedules | Monitoring Duration |
|---|---|---|---|
| 1 | Ambient Air Monitoring (NOx, COx, SOx, $PM_{10}$ ) | Quarterly | Instant |
| 2 | Noise Level | Quarterly | Instant |
| 3 | Water quality | Quarterly | Some parameters on site, Others in lab |

# 1 INTRODUCTION

As Pakistan continues to advance its industrial and urban infrastructure, the demand for high-quality electrical components—particularly wires and cables—has surged across the country. Recognizing this need, M/s Fast Cables, a leading name in the electrical manufacturing sector, proposes the establishment of a state-of-the-art Wires and Cables Manufacturing Unit at Mouza Bhai Kot, Ijtema Road, Raiwind, Lahore. Strategically located on the outskirts of one of Pakistan's fastest-growing cities, the facility is envisioned as a modern industrial hub that will not only meet rising domestic demand but also support future export potential. The project represents a significant step toward industrial self-reliance, job creation, and technological advancement. It will feature advanced, energy-efficient production lines and adhere to strict quality and safety standards. Moreover, the unit is designed with sustainability in mind—integrating environmental controls to minimize emissions, conserve energy, and manage waste responsibly. By producing essential components for power transmission and infrastructure, the facility will play a critical role in strengthening Pakistan's energy backbone and supporting national development goals.

In fulfilment of the legal obligations outlined under Section 12 of the Punjab Environmental Protection Act (Amended 2012**)**, this Environmental Impact Assessment (EIA) report is being submitted. The report aims to assess the potential environmental and social impacts of the proposed development and outlines appropriate mitigation measures to ensure responsible and sustainable project execution.

## 1.1 Purpose of the Report

The development of any project inevitably leads to changes in the environmental and social fabric of the surrounding area. The nature, scale, and intensity of these changes are determined by both the characteristics of the project and the baseline environmental conditions of the site. Over the past four decades, growing awareness at both governmental and public levels has led to the establishment of regulatory frameworks aimed at safeguarding the environment. As a result, comprehensive laws and guidelines have been enacted to ensure the protection and sustainable management of physical, biological, and socio-economic resources.

In accordance with these regulations, it is mandatory for project proponents to conduct an Initial Environmental Examination (IEE) or a more detailed Environmental Impact Assessment (EIA)—depending on the anticipated magnitude and severity of environmental impacts. Section 12 of the Punjab Environmental Protection Act, 1997 (Amended 2012) states:

"No proponent of a project shall commence construction or operation unless he has filed with the Federal Agency an Initial Environmental Examination (IEE) or, where the project is likely to cause an adverse environmental effect, an Environmental Impact Assessment (EIA), and has obtained from the Federal Agency approval in respect thereof."

In compliance with this legal requirement, the present Environmental Impact Assessment (EIA) report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab**.** The objective is to obtain the requisite No Objection Certificate (NOC) prior to initiating any construction or operational activities at the proposed project site.

## 1.2 IDENTIFICATION OF PROJECT AND PROPONENT

According to nature of project, cost of project and by also reviewing the IEE / EIA Regulation 2022, the project falls under Schedule II of PEPA Regulations. Mr. Ali Karim, the proponent of proposed project wants to get NOC for compliance of Section 12 to establish its business..

| **Name** | **Mr. Muhammad Ali Ahmed Karim** |
|---|---|
| CNIC | 42000-6428862-7 |
| Address | Ijtima Chowk,Link Sundar Road, Raiwind,Lahore |
| Contact: | 0310-4443843 |

## 1.3 DETAILS OF CONSULTANTS

**Integrated Environment Consultants**
**Head Office :** 218-Upper Mall, Lahore, Pakistan.
**Tell Head Office :** +92 42 37897273
**Office :** Street No. 9, Main Canal Road, Abshaar Colony Warsak Road, Peshawar, Pakistan
**Head Office Email:** inenvconsultants@yahoo.com;
**Tell Peshawar Office :** +92 91 5202323, **Web:** www.iec-consultants.com

## 1.4 Brief Description of Nature Size and Location Of Project:

The proposed project by M/S Fast Cables involves the construction of an industrial and administrative complex at Mouza Bhai-Kot, Ijtema Road, Raiwind, area of Lahore, which is well-connected to the main city and transportation networks. The location is suitable for industrial development due to its accessibility, availability of infrastructure, and distance from environmentally sensitive areas. It includes multiple halls, an admin block, mosque, utility buildings, a PC block, warehouses, Sheds, Goth Shed and bachelors' accommodation for non-local employees only, with a total area of 680,519 sq.ft**.** and covered area of 308,053 sq.ft**.** using RCC and PEB structures. The project is currently in the planning phase, with an estimated cost of PKR 3.88 billion**.**

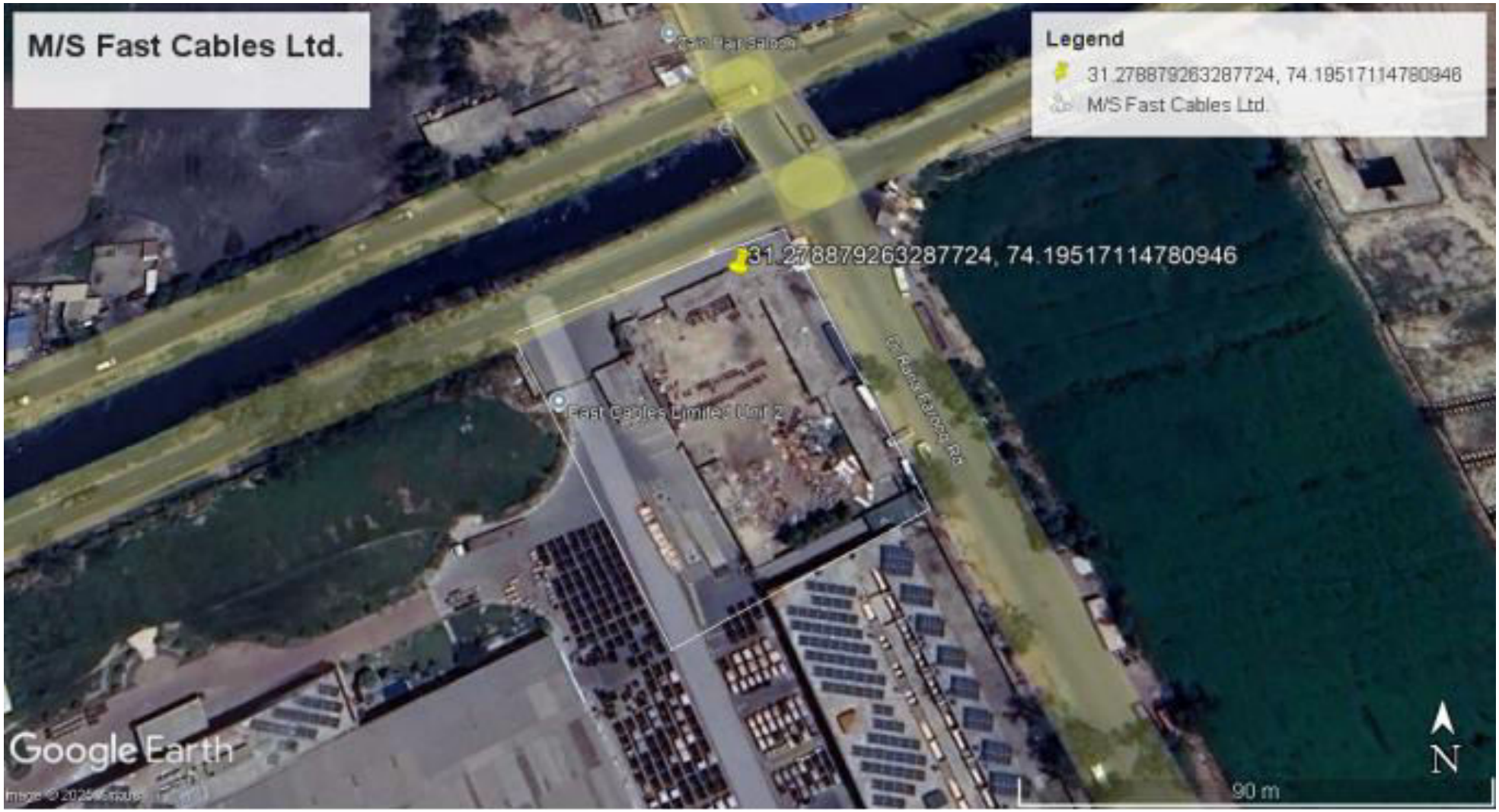



Figure 1-1: **Location Map of the project area**

## 1.5 LIST OF NAMES, QUALIFICATIONS AND ROLES OF TEAM MEMBERS CARRYING OUT THE EIA STUDY

The proponent has assigned the task of preparing EIA report to Integrated Environment Consultants, Lahore. The EIA study of the proposed project has been conducted according to Environmental Assessment Procedures, 1997, Review of IEE and EIA Regulation 2022 as prescribed by the Federal Environmental Protection Agency (Pak EPA), Government of Pakistan. The study team of Integrated Environment Consultants which completed the EIA report consists of following expert

| Name | Qualification | Status In Project |
|---|---|---|
| **Mr. Ahtasham Raza** | M.Phil, Ph.D. Scholar, (Environmental Sciences) | Team In-charge |
| **Mr. Adnan Sharif** | Postgraduate (Environmental Law) | Project Manager |
| **Mr. Mehmood Amjad** | B.S (Environmental Sciences) | Monitoring In-charge |
| **Maham Sarfraz** | Ph.D. Scholar Environmental Sciences | Environmentalist |
| **Nimra Shehzadi** | MPhil Environmental Sciences | Environmentalist |

*Only the main roles of the team members are given. However, their role was not restricted to these; rather it also includes many other studies in their respective fields in the context of this EIA study

## 1.6 OBJECTIVES OF THE STUDY

The overall objective of the EIA study is to identify and evaluate the environmental impacts from the construction activities associated with the Expansion of FCL Unit 2 and to develop an appropriate Environmental Management Plan (EMP) for the mitigation of the potential adverse impacts and ensure compliance with applicable EPA Punjab

regulations to obtain the NOC for the project.

The objectives of this EIA study are outlined as under,

- Collection of detailed baseline data comprising of physical, biological and socio-economic environmental aspects through extensive field surveys, geographical and topographical maps and other relevant literature;
- Environmental analysis of alternatives for the processes, technologies and approaches associated with the project development;
- Identification of potential impacts on existing physical, biological and socio-economic environments due to the construction activities at the site;
- Devising mitigation measures for the significant adverse impacts during both the construction and operation phases of the proposed Project;
- Develop a detailed Environmental Management and Monitoring Plan (EMMP) along with allocation of responsibilities to the concerned persons and authorities.

# 2 Screening of the Project

Based on the Punjab Environmental Protection Act 2012 and the Review of IEE & EIA Regulations, 2022 for filing, reviewing, and approving environmental assessments, the present project is classified under Schedule II class B (Mnufacturing and Processin). The project is proposed expansion of wires and cables manufacturing unit (FCL Unit 2) with a total covered area of approximately 680,519 sq.ft. at M/S Fast Cables Ltd. The facility will include multiple production halls, an administrative block, utility buildings, a mosque, and a PC block warehouses, Sheds, Goth Shed and bachelors' accommodation for non-local employees only. The plant will be equipped with advanced machinery for processes such as 2 Aluminium Furnace plants & 2 Copper Furnace plants, wires drawing, annealing, stranding, tinning, extrusion (Insulation / bedding/ sheathing), Catenary Continuous Vulcanization (CCV) Lines, assembly, armouring, coiling, rewinding, copper / mica tapping, ,packing and PVC compound manufacturing plant. Furthermore, have QA & QC labs (Mechanical, LV & MV), also have renewable energy i.e., Solar Energy generation & utilization processes. Fast cables have also started assembly lines for assembly of all types of LED lights, their aging, testing and warehouses of LED lights their raw materials and FG products

# 3 SCOPING OF THE PROJECT

The scoping process outlines the essential concerns and impacts requiring detailed investigation. It establishes the spatial and temporal limits, crucial concerns raised during consultations, and significant factors impacting the project.

## 3.1 Spatial and Temporal Boundaries of Environmental Assessment

Considering spatial and temporal boundaries in environmental assessments is vital to comprehensively evaluate the impact of a project. Spatial boundaries define the area affected, aiding in recognizing the extent of impact on ecosystems and nearby communities. Temporal boundaries assess short and long-term effects, enabling an understanding of how impacts evolve over time and helping in planning mitigation measures and long-term sustainability strategies. This approach ensures accurate, detailed assessments and effective addressing of potential environmental consequences related to the project. The proposed project is located at Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore.

## 3.2 Important issues and concerns raised during consultation

The EIA for the proposed project incorporated a two-stage consultation process, primarily focused on one-on-one meetings. In the initial stage, the consultation was specifically directed towards engaging local government authorities, affected individuals, and local communities. The primary goal of this stage was to evaluation both the short-term and long-term impacts that might result from the new development proposed for the project in its early stages. The intent was to gather insights and perspectives from key stakeholders in the immediate vicinity to better understand potential environmental, social, and economic implications of the project.

The second stage of consultations, as indicated, will be conducted through a more extensive process of public participation if deemed necessary. This broader involvement will allow for a wider outreach to the public, enabling a more comprehensive engagement to gather additional feedback, concerns, and insights from a larger cross-section of the community. This will ensure a more inclusive approach, providing an opportunity for a wider range of stakeholders to contribute their perspectives, concerns, and suggestions, which can be valuable in shaping and refining the EIA for the proposed project.

## 3.3 Significant impacts and factors to be determined

During the establishment of wires and cables manufacturing unit, the determination of significant impacts involves assessing environmental risks, safety and health concerns for workers, community impact, infrastructure and property damage, emergency response planning, regulatory compliance, and the adequacy of preventive measures. Understanding and addressing these factors are essential to ensure safe operations, mitigate risks, and protect the environment, workers, communities, and infrastructure from potential hazards.

## 3.4 Development of an Environmental Management Plan

The EMP in an EIA is crucial as it outlines strategies to mitigate environmental impacts, ensures regulatory compliance, guides project operations, promotes sustainability, reduces risks, assures stakeholders, and allows for ongoing improvement and adaptation to address environmental concerns throughout the project's lifecycle. These key parts of EMP include a

clear description of the project, an outline of potential environmental impacts and risks, specific mitigation measures tailored to address these impacts, a comprehensive monitoring and reporting system to track environmental indicators, protocols for emergency response and contingency planning, details on stakeholder engagement and communication strategies, and a framework for ongoing review and updates to ensure the plan's adaptability and effectiveness over the course of the project. Together, these components form a comprehensive EMP designed to guide environmental practices, minimize adverse impacts, and maintain compliance with regulations and best practices in environmental management

# 4 ALTERNATIVES OF THE PROJECT

The alternatives for the proposed project and their relative potential impacts on the environment were considered to evaluate the best project option. The following alternatives were considered for the project.

**Project Alternatives**

- No project option/worst scenario option.
- Site Alternative
- Technology Alternative

## 4.1 No Project Option / Worst Scenario Option

**Analysis**

**Strengths and Opportunities:**

If the proposed project is not undertaken, the proponent will avoid capital investment, operational expenditures, and any risks or delays associated with project implementation. No new land will be utilized, and the existing environmental baseline—both ecological and socio-economic—will remain undisturbed. There will be no emissions, industrial waste, generated from construction or manufacturing processes. Additionally, potential public inconvenience related to project activities, such as traffic congestion or temporary disruptions, will be avoided. These saved financial and logistical resources could be diverted to other ventures or retained by the company.

**Weaknesses and Threats:**

Choosing not to proceed with the project would result in significant missed opportunities for industrial growth, employment generation, and economic development. The local and national demand for high-quality electrical cables and wires would continue to be met through increased imports or overburdening existing facilities, leading to higher costs and reduced competitiveness. This could hinder the development of infrastructure projects in sectors such as power, telecommunications, and construction, which are heavily dependent

on reliable cable supply. Furthermore, local employment potential—both direct and indirect—would be lost, along with the opportunity to upskill the workforce and develop the industrial profile of the Raiwind-Lahore region. In the long run, this may limit regional economic diversification and innovation.

**Conclusion**

The “No Project Option” may seem to reduce immediate environmental impact and financial risk; however, it overlooks the long-term social, economic, and industrial benefits associated with the proposed manufacturing unit. The absence of the project would constrain local employment, technological progress, and the availability of essential electrical components vital for national development. Therefore, the **No Project Option is not recommended**, as it would impede both economic advancement and industrial self-reliance

## 4.2 Location alternative

To fulfill the commercial aspects of the project under reference of this EIA Report, it is to be sited at a place where commercial processing activity is either already going on or there are bright prospects of the same. Concurrently, it must also meet the legal requirements of the Punjab Environmental Protection Act, 1997 (Amended 2012). Availability of land at the best convenient place is equally important among other considerations for the site selection. Availability of access roads, communication facilities, electricity, basic infrastructure, sewerage etc. is yet the other necessary requirements. Considering operational efficiency, cost-effectiveness, environmental compatibility, and existing infrastructure availability, the use of the already existing factory building at Mouza Bhai-Kot, Ijtema Road, Raiwind, Lahore is the most practical and sustainable option for the proposed expansion.. This approach avoids unnecessary land development, reduces environmental impacts, and ensures timely commencement of operations. Therefore, this location is the most suitable and preferred alternative.

- The manufacturing unit will be housed in an already constructed and operational factory building, minimizing the need for new construction
- Existing infrastructure such as power supply, water connections, waste disposal systems,

internal roads, and administrative offices are readily available

- Proximity to Fast Cables' main operations ensures streamlined management and logistics
- No need for additional land acquisition, reducing environmental footprint and cost
- The site already complies with zoning and industrial land use regulations

## 4.3 Modified Construction Technology Alternatives:

The proposed development will be constructed using modern, locally and internationally accepted technology and materials to achieve public health, safety, security and environmental aesthetic requirements. Equipment that saves energy will be given first priority without compromising on cost or availability factors.

### 4.3.1 Technology Alternatives:

M/s Fast Cables Limited is an Environmental conscious company which intends to use modern and state of art machinery with minimum impacts on Environment.

# 5 DESCRIPTION OF THE PROJECT

This chapter presents all aspects of the proposed project. It details the nature of the proposed project involving the expansion of FCL Unit 2, its location, designs and site layout/plan. It presents the activities that will be involved during all stages of project; how product will form, detail of process and machinery as well as details on supportive resources i.e. man power and utility requirements. i.e., man power and utility requirements.

## 5.1 TYPE & CATEGORY OF THE PROJECT

The project is proposed Expansion of FCL Unit 2 within facility of M/s Fast Cables Limited, The project involves the construction of multiple production and utility buildings including Halls 1–9, administrative blocks, a mosque, PC block, and dedicated utility areas dedicated utility areas warehouses, Sheds, Goth Shed and bachelors' accommodation for non-local employees only. These structures are designed with modern engineering standards using RCC and PEB construction, with a total built-up area of approximately 675,263 square feet within and a project investment of PKR 3.88 billion. According to nature of project, cost of project and by also reviewing the IEE / EIA Regulation 2022, the project falls under Schedule II.

## 5.2 OBJECTIVE OF PROJECT

Objectives of the Project are to provide cables/wires to the markets all over the Pakistan and to make it accessible to everyone. Following are the main objectives of the proposed project:

- To enhance the economic growth of country;
- To develop a sustainable economic approach to interlink various industries;
- To provide more job opportunities to local public and to improve their living standards;
- To improve the economic activities

## 5.3 LOCATION & SITE LAYOUT OF PROJECT

Project site is located at Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore

| | |
|---|---|
| North | Rohi Nala Bypass |

| | |
|---|---|
| South | Transport service |
| East | Dr Rana Farooq Road |
| West | Fast cables Ltd unit |

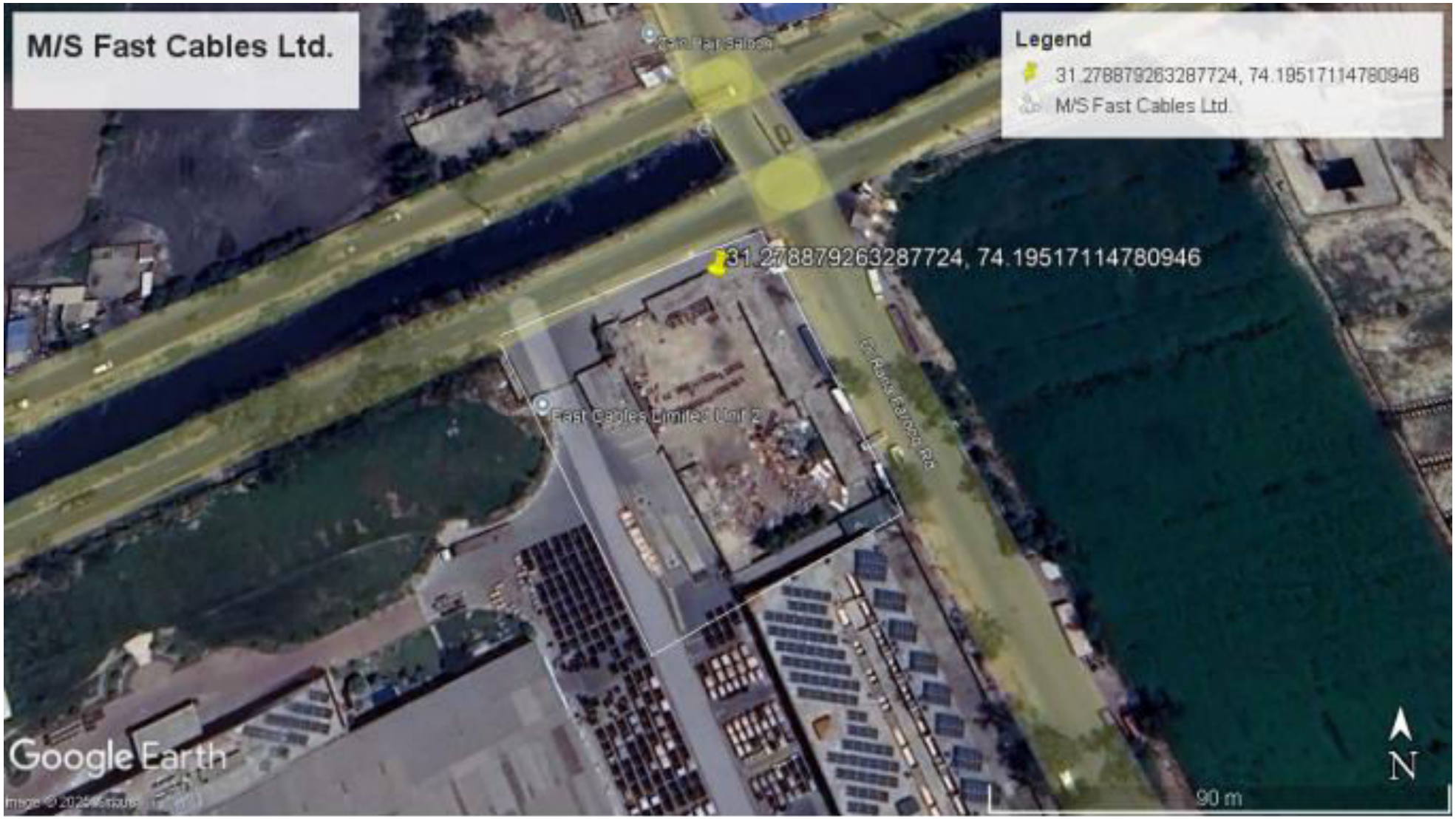



Figure 5-1: Location map of the project area

## 5.4 LAND USE & VEGETATION FEATURES ON SITE

Subject project will be the expansion of FCL unit 2; the land is property of M/s Fast Cables Limited, land ownership documents are attached with this report. There will be no involvement of tree cutting at any stage of the project construction activities.

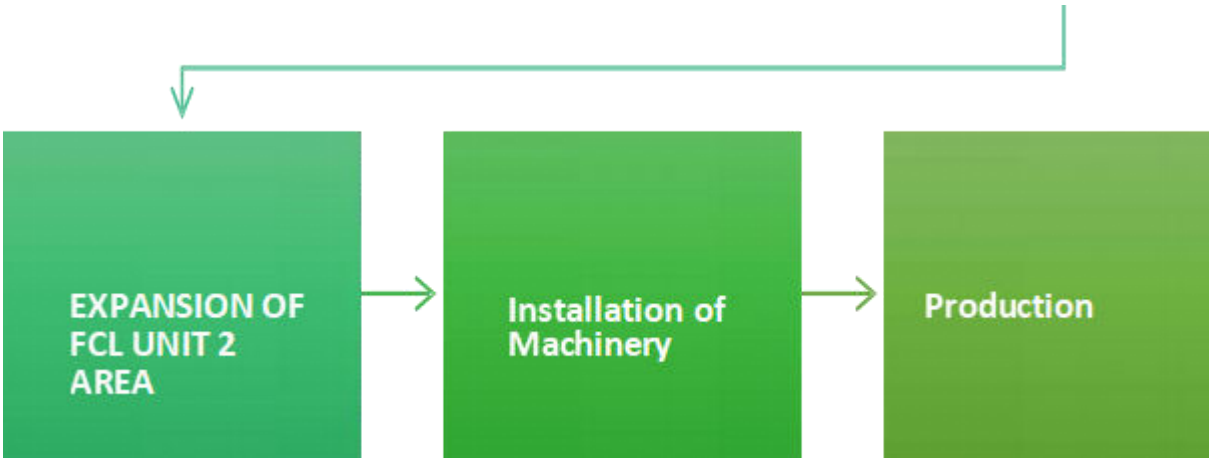
## 5.5 ROAD ACCESS

Manga Raiwind road is the main access road, which link the project area with main road.

## 5.6 Vegetation features of the site:

No vegetation feature is present at site, as machinery will be installed in already constructed building

## 5.7 COST & MAGNITUDE OF OPERATION




Approximate cost of the project is PKR 3.88 billion which include the cost of development works.

## 5.8 SCHEDULE OF IMPLEMENTATION

The project is proposed expansion of the FCL unit 2 area within facility of already existing building of M/s Fast Cables Ltd. The proposed construction will be completed within 6 months from the issued date of environmental approval.

## 5.9 PROJECT DESCRIPTION

The said project is proposed construction of building for manufacturing of cables under the name of M/s Fast Cables Limited. Project site is located at Mouza Bhai-Kot Ijtema Road,

Raiwind, Lahore. The proposed project is the development of a large-scale, state-of-the-art Wires and Cables Manufacturing Facility comprising multiple halls and support structures designed to accommodate various stages of production, utilities, administration, and auxiliary services. The facility is planned with modern infrastructure, blending conventional Reinforced Cement Concrete (RCC) structures and Pre-Engineered Building (PEB**)** technology to ensure efficiency, safety, and cost-effectiveness. The plant will be equipped with advanced machinery for processes such as 2 Aluminium Furnace plants & 2 Copper Furnace plants, wires drawing, annealing, stranding, tinning, extrusion (Insulation / bedding/ sheathing), Catenary Continuous Vulcanization (CCV) Lines, assembly, armouring, coiling, rewinding, copper / mica tapping, ,packing and PVC compound manufacturing plant. Furthermore, have QA & QC labs (Mechanical, LV & MV), also have renewable energy i.e., Solar Energy generation & utilization processes.The project is currently in the planning stage. The total area of the project is approximately 680,519 square feet, while the covered area is around 308,053 square feet, spread across various multi-storey blocks. The estimated project cost **i**s PKR 3.88 billion**.**

**Table 5-1: Overview of the Proposed Expansion**

| | |
|---|---|
| **Name of the proposed project** | M/s Fast Cables Limited |
| **Purpose of the Project** | Expansion of FCL unit 2 using these raw materials |

| | |
|---|---|
| XLPE for MV | Imported |
| Inner/outer semicon | Imported |
| XLPE for ABC | Imported |
| XLPO | Imported |
| LSZH compound | Imported |
| LSZH 90 degree | Imported |
| PP Filler Yarn | Imported |
| PP Foamed Tape | Imported |
| Chlorinated Parafin | Imported |
| PVC Resin | Imported |
| Copper tape | Imported |
| Copper Cathode | Imported |

| | |
|---|---|
| | Aluminium Ingots — Imported<br>Magnesium Ingot — Imported<br>Aluminum Boron — Imported<br>Tibor rod — Imported |
| **Final Product** | Wires and Cables after expansion of FCL Unit area 2 |
| **Equipments** | **Metallurgical / Furnace Equipment**<br>● Aluminum Furnace Plants (×2)<br>● Copper Furnace Plants (×2)<br>**Wire Production & Processing Equipment:**<br>● Wire Drawing Machines<br>● Annealing Units<br>● Stranding Machines<br>● Tinning Machines<br>● **Cable Manufacturing & Finishing Lines:**<br>● Extrusion Lines (for:<br>● Insulation<br>● Bedding<br>● Sheathing)<br>● Catenary Continuous Vulcanization (CCV) Lines<br>● Cable Assembly Lines<br>● Armouring Machines<br>● Coiling Machines<br>● Rewinding Machines<br>● Copper/Mica Taping Machines<br>● Packing Machines<br>● **Quality Assurance / Laboratory:**<br>● Mechanical Testing Lab Equipment<br>● Low Voltage (LV) Testing Lab Equipment<br>● Medium Voltage (MV) Testing Lab Equipment<br>● Raw Material Processing:<br>● PVC Compound Manufacturing Plant<br>● Sustainability / Utilities:<br>● Solar Energy Generation System (e.g., solar panels, inverters)<br>● Solar Energy Utilization Infrastructure |
| **Land Requirement** | |
| **Total Area of proposed expansion** | Total covered area of 308,053 sq.ft and total area of 680,519 sq.ft. |
| **Status and location** | |
| **Location of the proposed site** | Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore |

| Water Requirement | |
|---|---|
| **Water consumption for the project** | Approximately 1500-1800 Gallons/ day during construction phase. |

### 5.9.1 Manufacturing Process At Fast Cables Ltd.

The manufacturing process at Fast cables Ltd. Consists of following steps

1. Conductor
2. Insulation
3. Laying up
4. Additional Coverings
5. Outer Sheath
6. Quality control

**1. Conductor**

**I. Wire Drawing**

The first step in manufacturing process consists of reducing the diameter of the copper wire gradually to its final diameter.

- The copper arrives in large coils. This copper, 8 mm in diameter, is technicllay known as “Wire Rod”. The diameter of the wire rod is reduced to 2mm during this process.
- This 2mm wire is then drawn further to reduce the diameter of the wire to the size needed for each kind of conductor.

**II. Annealing**

After the wire drawing, all the wires undergo a heat treatment called Annealing, to increase the ductility and conductivity of the copper

**III. Stranding**

Annealing is followed by stranding step, in which the copper wire are grouped together to make conductors with different cross- sections e.g. 0.5mm$^2$, 240m m$^2$ ,400 m m$^2$ or even higher for higher capacities.


Figure 5-2: **WIRE DRAWING PROCESS**

## 2. Insulation

The next process in the manufacture of electric cables is the insulation. It involves the placement of an insulating cover over the conductor to prevent current leakages.

- The insulating material is added by a process of extrusion at high temperature.
- Several insulating materials may be used: PVC, EPR,XLPE etc
- The material's insulation capacity and its thickness determine the cables maximum service voltage

### 3. Laying up

The operation which allows putting together the various elements of the cable into its core, can be done in one or several steps.

- Phase wiring is the grouping of different insulated conductors to make a multicore cable.
- The phase can be identified by colour or by numbering them.
- A voltage test is also carried out on the whole length of the manufactured cable during the process

### 4. Additional Coverings

In some cases, the cable may require additional elements in order to improve its protection or operation.

- Mechanical coverings, also called “armour”, protects the cable from external damage.
- The armpur is made from steel or aluminium and can come in the form of metal strips, wires or braids
- Electrical coverings, also called circulate in the cable from possible external interference.

### 5. Outer Sheath

Cables usually have an outer polymer covering for protection. This is called “outer sheath”. This sheath protects the conductors and their insulation from external elements including mechanical aggression, which may occur during the insulation of the cable.

- The outer sheath is applied like the insulation via a process of extrusion at high temperature.
- The sheath may be made from different materials depending on the required protection level, the final flexibility of the cable, the work environment etc.

### 6. Quality Control

Once the cable is manufactured, Fast cables, verifies the quality of all cables by carrying out rigorous checks before shipping them.

- In order to deliver high quality, cables undergo extensive quality control checks at laboratories to ensure cables are free from defects and ready to be sold.
- The quality gurantee system ensures that the cables that the cables perform as per specifications

- The tests involve
- Stranding formation(No./size)
- D.C resistance of conductor
- Thickness of insulation
- Nominal armour wire diameter
- Thickness of sheath
- Hi-voltage
- Insulation resistance(I.R) test

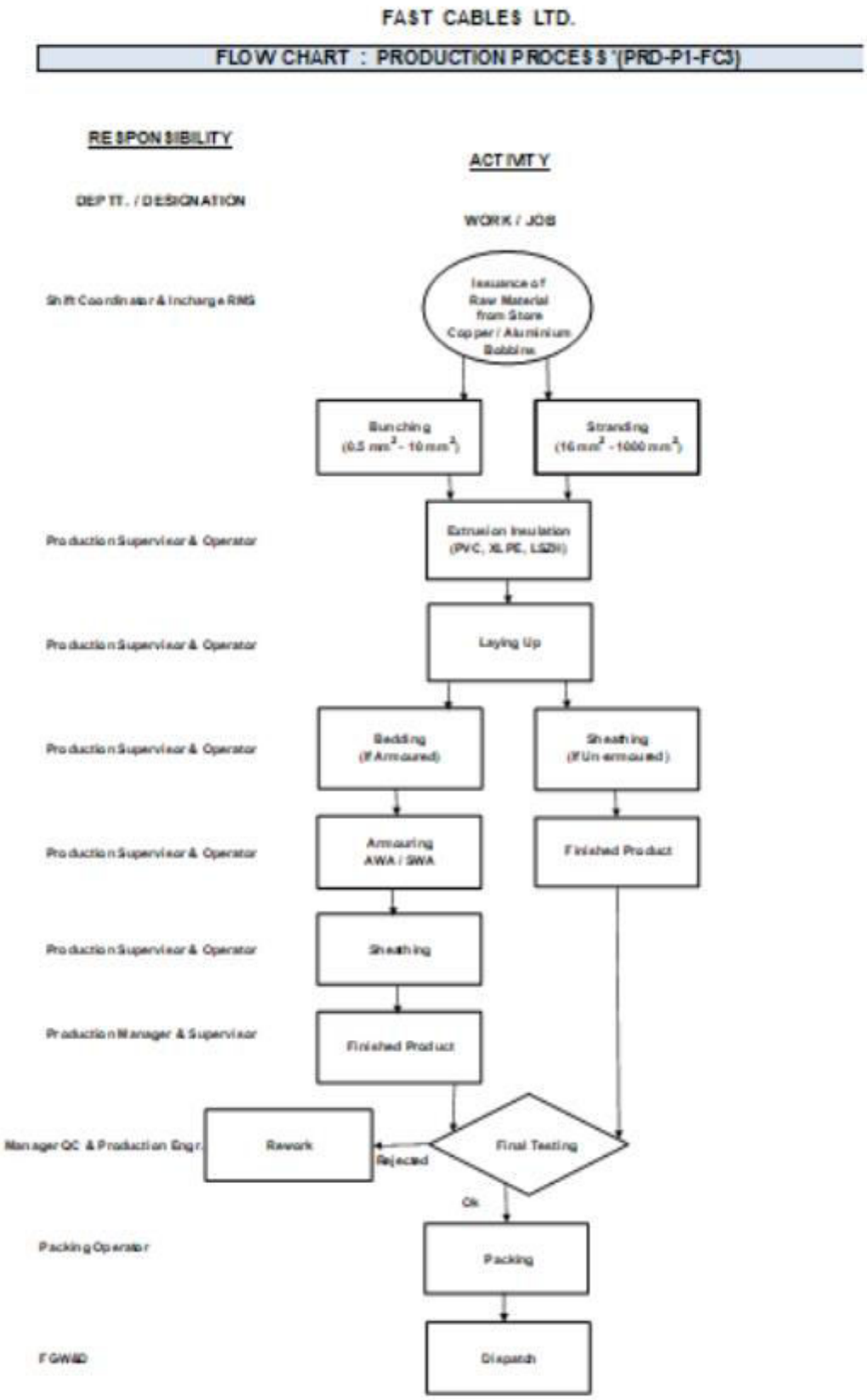



Figure 5-3: Production Process Flowchart

## 5.10 Key Components of the Project

### 5.10.1 Description of Hall 1-Machinery

| Production Hall - 1 Machinery | |
|---|---|
| **S. No.** | **Type of Machines** |
| 1 | Drawing (RBDs) |
| 2 | Stranding |
| 3 | Extruders |
| 4 | Drum Twister |
| 5 | Copper Taper |
| 6 | Laying Machines |
| 7 | Copper Screening |
| 8 | Armouring |
| 9 | HDR |
| 10 | Manual Rewinders |
| 11 | CCV Line |

1. **Drawing Machines (Rod Break Down)**

- The rod breakdown machine is basically capable of drawing wire down to diameters between
- 1.35 and 4.7 mm. A smaller portion of the material is paid off onto reels with a flange diameter.

2. **Stranding Machines:**

- In stranding machine, the process of particular number of stranding elements are joined together while winding them round a common axis. Stranding is a result of rotating and forward movement.

3. **Extruders**

- Wire extruder is used by wire and cable industries to heat extrude polyethylene, PVC, etc. to insulate the wire core of the wire.

4. **Drum Twister**

- Drum twister is used for laying- up Low and high voltage cables both circular / sector either Aluminum or Copper material.

**5. Copper Tapers**

- Copper tape machine is mainly used for copper tape screening on wires and cables. The machine can be used as taping head in other processing lines or in separate copper tape screening line.

**6. Laying Machines**

- Laying up machines is used for cable laying up with lapping and tapping process. The cables can be round shape and this machine is suitable for heavy-lifting and dragging needed for wire erection.

7. **Copper Screening**

- The copper wire screening machine is applied to screen the cables with copper wire and copper tape. The screening machine has front and back support.

**8. Armouring**

- In Armouring machine, armoured cable usually means steel wire armoured cable. Which is a hard-wearing power cable designed for the supply of mains electricity. Steel wire armoured cable is a power and auxiliary control cable, designed for use in mains supply electricity. Used for underground systems, cable networks, power networks, outdoor and indoor applications, and cable ducting.

**9. Manual Rewinder**

- Manual cable rewinder is used for winding small cables from small drums on rings or from rings to rings.

**10. HDR Machine**

- The HDR machine is engineered to wind wires from one reel size/type to a different reel size/type in order to prepare the product for a different internal process.

**11. CCV Line:**

- CCV line are meant to run long continuous production schedules taking care of frictional heat and pressure and delivers uniform production. The line is equipped with driven Pay off & Accumulator. The insulation process involves continuous vulcanizing (CV) in which polyethylene added with cross-link catalyst is spread on the conductor through extrusion coating, cross-linked under very high temperature and pressure, and cooled off under added pressure.

### 5.10.2 Description of Production Hall- (Aluminum Plant)

Aluminium plant has following machinery components

- Main melting furnace
- Two holding furnaces
- Casting wheel
- Rolling mill
- Coiler

The process of making aluminium rod, includes aluminium ingot as raw material. The initial stage of process of aluminium coil, insert the raw material in Melting furnace and after Melting it goes in holding furnace. Further it enters in casting wheel and rolling mill. At the end stage is coiler and then finished product of Aluminium plant is become Aluminium Rod Around 9.5mm of thickness.

After finished aluminium rod coil, overhead crane is being used for transfer of coil from coiler to weight scale for & at storage location.

Safety Features

Fire extinguishers, fire hydrant, fire hose reels & fire alarm system will be installed for plant and employee‘s safety. Required PPEs will also be provided to working staff in the aluminum plant.

**Safety Features in Aluminum Plant**

| Safety Equipment’s | Qty |
|---|---|
| Fire Extinguishers | 11 |
| Fire hydrant | 03 |
| Fire hose reels | 02 |
| Emergency Exits | 02 |
| Beam Detector | 02 |
| Smoke Detector | 04 |
| Manual Call Point | 06 |
| Sounder / Bells | 06 |
| Sand Bucket Stand (4 Buckets) | 01 |

- **Controls for Emission & Effluents**

Exhaust emission of the furnaces will be controlled through water showering system

inside the chimney, which dissolved heavy exhaust & dissolvable particles to reduce emission. Exhaust emission testing from local EPA approved laboratory shall also be conducted for monitoring & compliance. Water is being used for cooling purpose only and 100 % recycled.

### 5.10.3 Description of Hall 4(Copper plant)

| | |
|---|---|
| **Footprint Area** | 122,195 sq. ft |
| **No. of Storeys** | 2 |
| **Total Covered Area** | 244,390 sq. ft. |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 1,344.145 million |

**Purpose:** This will serve as a primary manufacturing block for extrusion, insulation, and sheathing processes for cable production.

**Hall 4 (Copper plant) Machinery**

Copper plant machinery has following components

**Table 5-2: Copper Plant Machinery**

| Machine/ Equipment | Manufacturer | Quantity | Size/capacity |
|---|---|---|---|
| **Copper Rod Breakdown Machine** | AF Industries, Pakistan | **1** | 13 Die non slip drawing machines. |
| **Bunching Machine 7 wires** | AF Industries, Pakistan | **1** | Line Speed 25 meters/Min |
| **Continues Casting (Copper) Oxygen Free Plant** | METLOGI (DANYANG) Machinery & Technology. LTD, Shanghai , China | **1** | 5000 Ton/Annual (8mm) |
| **Electric Power Cabinet (Copper Plant)** | YUEBO, China | **1** | 415 V, 50 Hertz |
| **Melting Furnace (Induction) (Copper Plant)** | METLOGI (DANYANG) Machinery & Technology . LTD, Shanghai | **1** | 630 Kg/Hr |

| | | | |
|---|---|---|---|
| | , China | | |
| **Holding Furnace (Induction) (Copper Plant)** | METLOGI (DANYANG) Machinery & Technology . LTD, Shanghai , China | **1** | 500 Kg/Hr |
| **Servo Motor (Pitch) (Copper Plant)** | YASKAWA , China | **10** | 2 ~ 3 / mm |

- **Production process**

Copper is a highly ductile metal that can be easily drawn into wires. These wires are inexpensive in nature and have low levels of resistivity, thereby making them a good conductor of electricity. This, combined with their excellent resistance to corrosion and high ductility, makes them a key component in power transmission, power distribution, and telecommunication applications.

The market is majorly driven by the rising utilization of copper wires in the power and energy sectors due to the increasing energy requirements across the globe. They can be utilized for electric supply across the residential and industrial sectors due to their numerous functional properties. This is further supported by the growing investments in infrastructural development across the globe.

- **Steps for manufacturing process of copper wire**

**Drawing Process**: In this first step of drawing the copper wire, manufactures take out EC grade continuous cast copper of minimum 8 mm diameter for kick-start the process of manufacturing the wire. Huge machines will be used for this drawing process to carve different gauge wires.

i. **Annealing Process**: Once the drawing out of copper wires will be done, the drawn- out copper wires will put in electric furnace, usually in a pot for getting it annealed soft wires which can be moulded into different shape and sizes.

ii. **Bunching / Stranding Process**: Once the wire will be annealed, it is wound on reels will be accommodated for various processes such as bunching and stranding. With this process, manufacturers can easily get different shape and sizes of the wire, easily. Once bunching and/or stranding will be done, the wires will made to pass through nuzzling process for a smooth surface.

iii. **Tinning Process**: There will be basically two processes included for tinning process:

a) Hot dip process: In this process, the bunched and/or stranded copper wire will be made to pass through pickled tin.

The tin will specifically picked for this unique process. Through this process, tin will be coated around the wire for best results. Additionally, the wire will also wound on reels in this process.

b) Electroplating Process: Generally, there will be a separate plant for this process. In this process, there exists a separate electro plating plant. The hot dipped wire will be made to dip in chemicals inside this plant. Afterwards, the wire will made to pass through various degrees of electrical current for the best results.

iv. **Braiding Process**: The final procedure will be the braiding process. In this, the wire will bound on reels and other twisting machines for the final part. Hence, different copper wires of varied shape and sizes will be carved out for use in industries and manufacturing units.

### 5.10.4 Description of Hall 5 (PVC Plant)

| | |
|---|---|
| **Footprint Area** | 22,870 sq. ft. |
| **No. of Storeys** | 2 |
| **Total Covered Area** | 45,740 sq. ft. |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | 251.57 million PKR |

**Purpose:** Dedicated to wire drawing and conductor formation operations.

**Hall 5 (PVC plant) Machinery**

**Table 5-2: Machinery of Hall 5**

| Machine/ Equipment | Manufacturer | Quantity | Size/capacity |
|---|---|---|---|
| **120 mm Extrusion Line** | Golden Technologies, China | **1** | 1050 Ton Per Month PVC |

**Production process at Hall 5**

PVC compound manufacturing process starts with weighing and mixing raw materials like PVC resin, plasticizers, stabilizers, fillers, and additives in precise proportions. These ingredients are blended in a high-speed mixer until a uniform dry mix is achieved.Next, the mixture is fed into an extruder, where heat and shear force melt and homogenize it into a consistent molten compound. The extruder forces the material through a die, forming strands.After extrusion, the material passes through a cutter to solidify. Finally, the granular undergo quality checks (for colour, density, and mechanical properties) before being packed into bags or bulk containers. The entire process ensures the PVC compound meets specific performance requirements for different applications like cables insulations process.

Figure 5-4: **Production process at Hall no. 5**

PVC plant has following machinery components

- Feeding hoppers
- High Speed mixer tank
- Extruders
- Single screw extruder
- Cooling Cyclone

➢ **What is PVC?**

Polyvinyl Chloride (PVC) insulated and sheathed cables will be used in a wide variety of applications from fixed wiring to flexible installations, and are available in a number of sizes, colors and conductor materials. Economical, versatile polyvinyl chloride (PVC, or vinyl) will be used in a variety of applications in wire and cable insulation. Insulation and sheath are the components of a cable that protect the conductor. The insulation isolates the flow of electricity, and the sheath wraps around the outside of the cable to protect the conductors inside.

➢ **Chemicals used in PVC Process**

i. **PVC (Resins)**

It is a thermoplastic resin, which means it can be softened by heating, and is produced by a process known as polymerization.

ii. **Calcium Carbonate**

Calcium carbonate ($CaCO_3$) is used for filler and the most widely used filler in polymer formulations.

iii. **Lead Stearate**

A white powder that is used for heat stability as a Drier in oil paints and varnishes to speed the polymerization and oxidation processes

**iv. Calcium Stearate**

Calcium stearate is primarily used for heat stability as an acid scavenger, release agent and lubricant in the Cables and conductor industry for waterproofing.

**v. TBLS**

This Chemical is used for Grounding resistance. Tri Basic Lead Sulphate, abbreviated into TBLS is a chemical in white powder form. It contains low molecular weight and moisture content.

**vi. Stearic Acid**

It is used as filler in the PVC Plant, stearic acid is widely used in the manufacture of PVC insulation, sheets. It is a PVC heat stabilizer with excellent lubricity and good light and heat stability.

**vii. DOP**

Dioctyl Phthalate (DOP) is a general use Plasticizer. As a PVC plasticizer, DOP is used in formulation of screen-printing inks.

**viii. Paraffin**

Paraffin is a white or colourless soft solid that is used as a lubricant and for other applications. Alkane is a saturated hydrocarbon Paraffin and used as additives in the production of printing inks and varnishes to improve the resistance of the products to friction or scratching.

- **PVC Manufacturing Process**

i. **Feed Hopper:**

PVC Resin & Calcium Carbonate will be fed into the feed hopper, which transferred into the high-speed mixer tank for mixing with additives.

ii. **High-Speed mixer Tank:**

In this first step of different Chemicals and Oils for PVC making. The Chemicals will be Calcium carbonate, Calcium Stearate, Lead Stearate, TBLS, Steric acid. Oils will be used for making the cables and conductors insulation.

iii. **Extruders:**

Extruders will be used to produce long continuous products such as tubing,

tire treads, and wire coverings. Once the Higher speed mixer tank will be done, the next phase of process will be mixing the chemicals and oils in Extruder for durability and stability.

iv. **Single Screw Extruder:**

A single screw extruder is a machine used to form a plastic product into the required shape. The machine heats the plastic raw material (e.g., PVC) to its melting point, after which it is pushed through a die that gives the material its shape. Once the Extruder process is completed, the next phase melting the chemicals with 120 to 150 degrees Celsius for Shaping and compress the material.

v. **Cooling Cyclone:**

In this process, the material is kept for cooling in room temperature

### 5.10.5 : Description of Hall 6

| | |
|---|---|
| **Footprint Area** | 36,000 sq. ft. |
| **No. of Storeys** | **3** |
| **Total Covered Area** | 108,000 sq. ft |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 594.0 million |

**Purpose:** Will house raw material storage on lower floors and intermediate processing on upper levels

### 5.10.6 .Description of Hall 7

| | |
|---|---|
| **Footprint Area** | 29,760 sq. ft |
| **No. of Storeys** | **2** |
| **Total Covered Area** | 59,520 sq. ft. |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 327.36 million |

**Purpose:** Finishing and quality control unit, including high-voltage testing bays and flame retardancy testing.

### 5.10.7 Description of Hall 8

| | |
|---|---|
| **Footprint Area** | 63,000 sq. ft. |
| **No. of Storeys** | **1** |
| **Total Covered Area** | 63,000 sq. ft. |
| **Nature** | PEB (Pre-Engineered Building) |
| **Status** | Planned |
| **Cost** | PKR 283.5 million |

**Purpose:** This PEB hall will host large-scale machinery for armouring, taping, and heavy-duty cable processing.

### 5.10.8 : Description of Hall 9

**Table 5-5: Description of Hall 9**

| | |
|---|---|
| **Footprint Area** | 63,750 sq. ft. |
| **No. of Storeys** | 2 |
| **Total Covered Area** | 127,500 sq. ft. |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 701.25 million |

**Purpose:** Final packaging, warehousing, and dispatch operations.

### 5.10.9 : Description of Utilities Hall

**Utilities Hall**

| | |
|---|---|
| **Footprint Area** | 960 sq. ft |
| **No. of Storeys** | 1 |
| **Total Covered Area** | 960 sq. ft |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 5.28 million |

**Purpose:** Will house electrical transformers, compressors, HVAC systems, and emergency backup power systems.

### 5.10.10 Description of Administrative Block

**Table 5-6: Description of Administrative Block**

| | |
|---|---|
| **Footprint Area** | 7,523 sq. ft |
| **No. of Storeys** | 2 |
| **Total Covered Area** | 15,046 sq. ft. |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 127.891 million |

**Purpose:** Will serve as the administrative headquarters with offices, meeting rooms, HR, finance, and record keeping.

### 5.10.11 : Construction of Mosque

| | |
|---|---|
| **Footprint Area** | 12,257 sq. ft. |
| **No. of Storeys** | 3 |
| **Total Covered Area** | 36,771 sq. ft. |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 202.24 million |

**Purpose:** Designed to cater to the spiritual needs of the workforce with ablution and prayer facilities.

### 5.10.12 Description of PC (process Control) Block

| | |
|---|---|
| **Footprint Area** | 2,500 sq. ft. |
| **No. of Storeys** | 3 |
| **Total Covered Area** | **:** 7,500 sq. ft. |
| **Nature** | RCC Structure |
| **Status** | Planned |
| **Cost** | PKR 41.25 million |

Purpose: Will contain control rooms, data monitoring systems, SCADA and DCS units for automated plant control and monitoring.

### 5.10.13 WATER CONSUMPTION & WASTEWATER DISPOSAL

In constructional phase, 1500-1800 gallons per day water will be required.

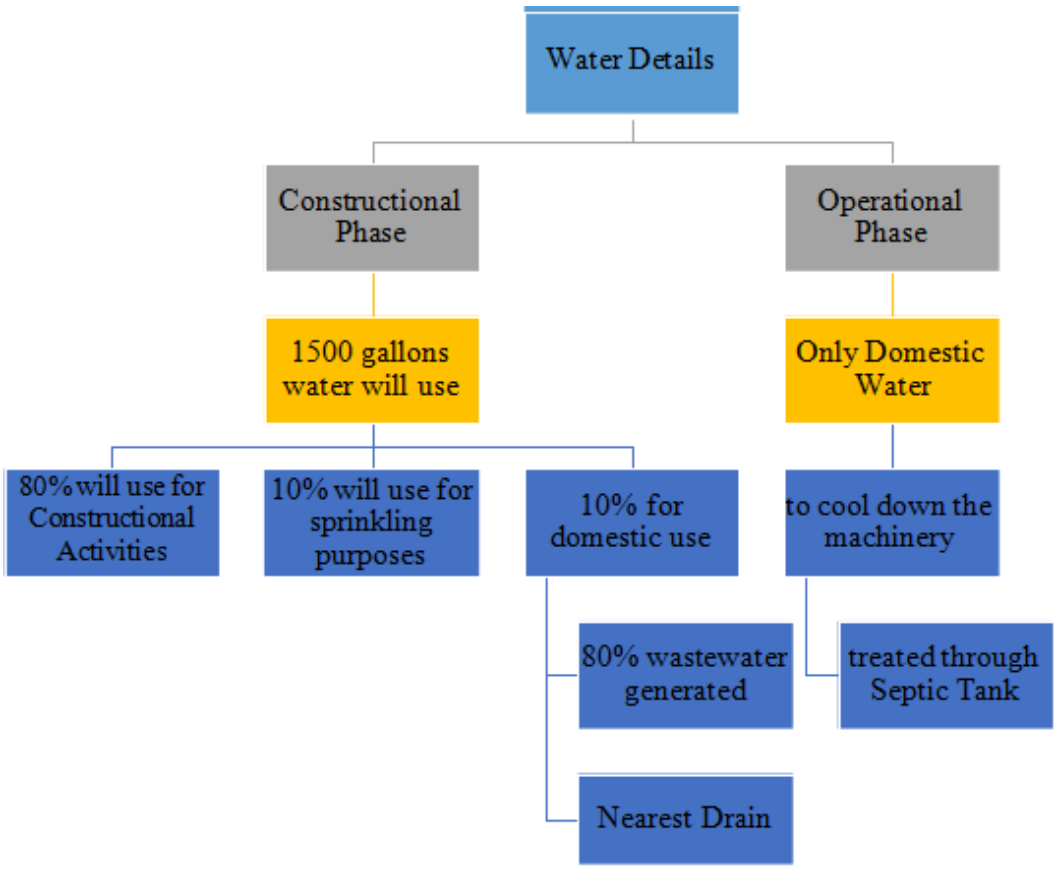



**Figure 5-5: Water Consumption Details**

### 5.10.14 Solid Waste Disposal

In constructional phase all waste materials such as landscape and land clearing debris, gravel and aggregate products, concrete, masonry scrap and rubble (brick, concrete masonry, stone), and plastics and paper from cement bags will be recycled during the construction activities as road filling and maintenance purposes. Solid waste by domestic sources will be generated during construction phase which will be placed in separate bins. In operational phase, the waste which will be generated will preferably be recycled, and remaining will be handed over to contractor. Solid waste disposal certificate is attached as annexure C.

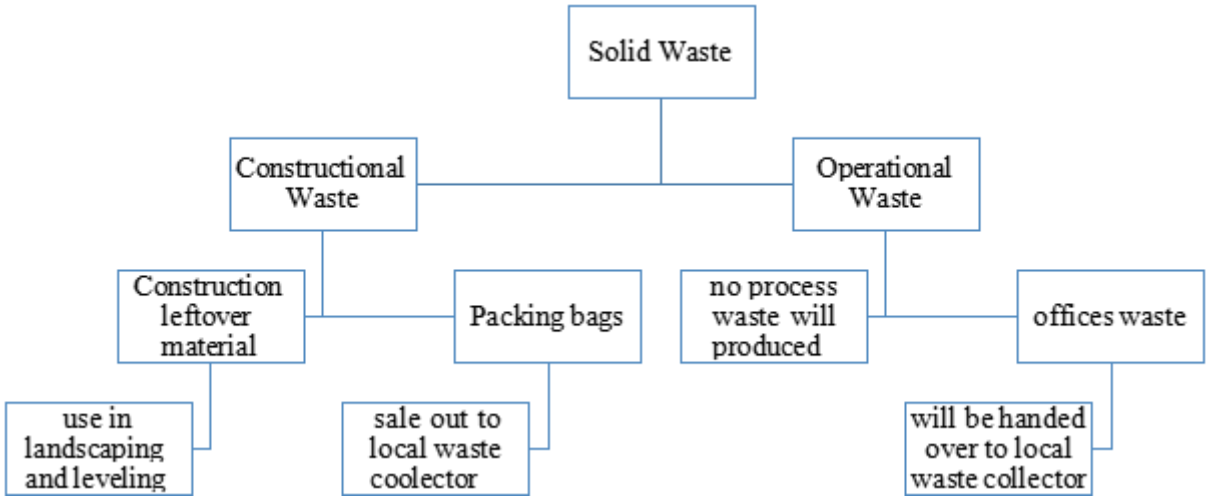



**Figure 5-6: Solid waste Disposal**

:

**Design and Construction Philosophy**

The project integrates vertical and horizontal expansion strategies to optimize land use and enhance production capabilities. The use of Pre-Engineered Buildings (PEB) for specific halls ensures faster construction and operational readiness, while RCC blocks ensure structural strength for multistorey units and critical processing operations. All structures will be built conforming to national building codes, fire safety regulations, and environmental standards. Special attention will be given to energy efficiency, occupational health and safety (OHS), and waste management.

**Project Benefits**

- Boost to local manufacturing capabilities in the electrical infrastructure sector.
- Creation of employment opportunities during both construction and operational phases.
- Improved quality and supply chain efficiency of wires and cables for domestic and export markets.
- Ancillary development in surrounding industrial zones and support service sectors.

# 6 DESCRIPTION OF THE ENVIRONMENT

## 6.1 Introduction

This chapter describes the baseline conditions, which cover the existing physical, ecological, and socio-economic environment of the Study Area. Information on these aspects has been derived from the desk study of available data, field visits to the project area as well as information obtained through visits to the Government departments and other agencies namely Irrigation Department, Meteorological Department, Forest offices and prevailing environmental laws and environmental quality standards etc.

## 6.2 Desk Studies

Project design data was collected from proponents. This data included the available documents, drawings, reports, etc related to the proposed project. The experts conducted a detailed desk study of the above available data before the field visit. Salient features of the Project were thoroughly reviewed to assess their environmental implications. The documents which were consulted and departments visited are Project Head Office, Project Site, Irrigation Department, Meteorological Department, Forest offices and other related officials.

## 6.3 Site Visits

A team of experts visited the proposed site to collect baseline environmental data for ambient air, noise levels, drinking water and waste water sampling, public consultation, baseline ecological environment data etc.

After the survey of the project area the environmental data regarding physical, ecological and socioeconomic aspects were collected for carrying out environmental assessment. Secondary data were also collected from various sources mainly studies carried out by project proponents and reports of other line Departments. A social survey of the proposed area was carried in which people living around the proposed unit site were interviewed to ascertain their views about the project commissioning and operational activities to perceive the impacts on the natural and socioeconomic environment around the proposed project site. This included information on land, surface water, groundwater, air, vegetation, animals and human.

## 6.4 PHYSICAL ENVIRONMENT

Lahore, the vibrant heart of Pakistan, is a city where history meets modernity. Renowned for its rich cultural heritage, architectural splendour, and dynamic spirit, Lahore stands as a symbol of resilience and progress The geography of Lahore Division comprises the various features relating to the land and climate. Lying between 31°15′—31°45′ N and 74°01′—74°39′ E, Lahore is bounded on the north and west by the Sheikhupura District, on the east by Wagha, and on the south by Kasur District. The Ravi River flows on the northern side of Lahore. Lahore city covers a total land area of 1014 km² and is still growing.

Lahore Division enjoys air, rail and road connections with rest of the country. The capital of the Punjab, Lahore has Allama Iqbal International Airport to cater the needs of District Lahore and its adjacent cities, as regular national and international flights run from here.

Lahore Station is a major railway junction serving links to major cities. On the south of Lahore National Highway N-5 links Multan, on northwest and north runs Motorway M-1 and National Highway N-5 towards Gujranwala. On the west, it is linked with textile hub Faisalabad with a 4-lane highway, built on BOO (Built - Operate - Own) basis. A historical Grand Trunk Road which was a major artery during subcontinent era, originally built by Sher Shah Suri, the Afghan ruler, leads toward Indian border passing through the city.Lahore boasts a rich and storied history that spans over a millennium, making it one of the oldest and most culturally significant cities in South Asia. Once the capital of several great empires—including the Ghaznavids, Mughals, and Sikhs—Lahore has long been a center of art, architecture, learning, and political power. The city flourished during the Mughal era, leaving behind iconic landmarks such as the Badshahi Mosque, Lahore Fort, and Shalimar Gardens. Under British colonial rule, Lahore evolved into a key administrative and educational center, home to institutions like Government College and the University of the Punjab. Today, the city's layered history is reflected in its vibrant streets, where ancient traditions and modern life coexist in harmony.

Lahore, a thriving industrial hub of Pakistan, stands as a beacon of industrial excellence, driving economic growth through its diverse and dynamic manufacturing sectors. Among its much industrial strength, the city has seen significant advancement in the production of wires and cables, supplying high-quality electrical components to meet both domestic and international demands. With state-of-the-art manufacturing units, skilled labor, and a focus on innovation, Lahore's wire and cable industry plays a crucial role in supporting the nation's infrastructure, energy, and construction sectors.

### 6.4.1 Topography

Topographically, Lahore City District comprises of level, and nearly level, surfaces. These surfaces had been used for irrigated-agriculture in the past. Currently, most of them are being urbanized at a rapid pace. The district is divided into 2 parts topographically:

- The low-lying areas along River Ravi (called hithar)
- The upland areas in the east of River Ravi (called uttar)

The lowlands, known as hithar are generally inundated by the waters of River Ravi which flows in the west of the district. The hithar areas are a part of the old bed of River Beas and, thus, usually receive inundation waters of the River Ravi during the Monsoons. The general height of the area is approximately 150-200 m above sea level. Uttar areas (upland) are situated in the north and form two-thirds of the entire land of the district, comprised mostly of fertile loamy soils.

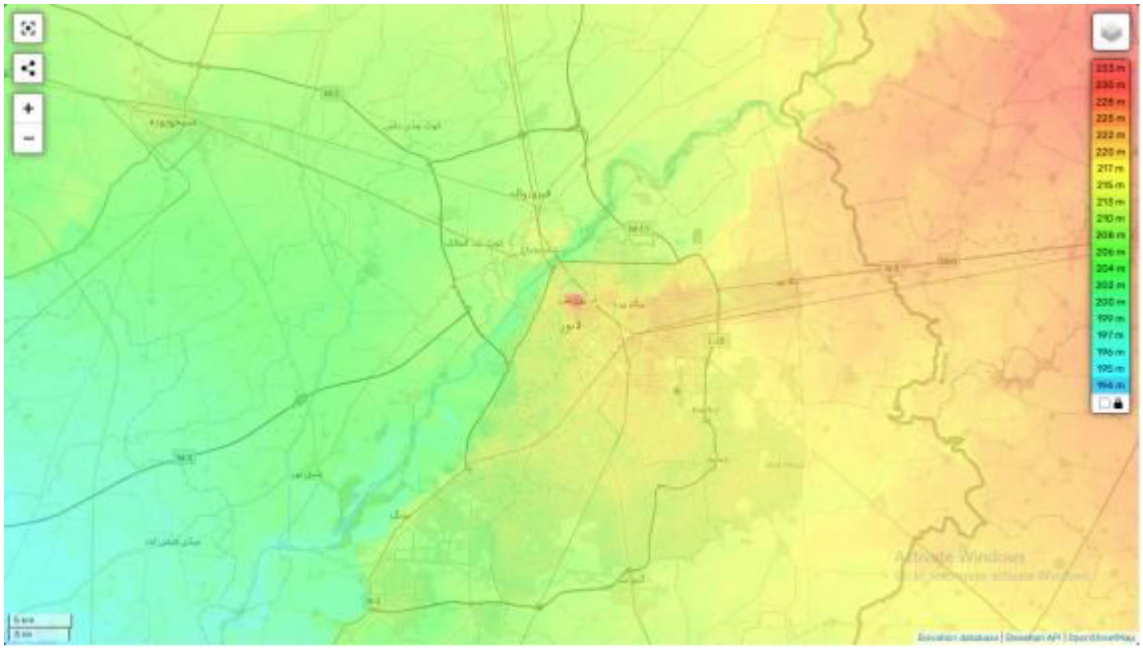


Figure 6-1: **Topographic map of the project area**

### 6.4.2 Soils

The soil of the district is entirely alluvial and rich in potential plant nutrients. The soils of the hithar areas are soft alluvial and loam, but in some places, the soils are too sandy to be fertile. The soils of Lahore District are deposited by the Ravi River and its tributaries. These soils are generally fertile, well-drained, and suitable for a variety of agricultural activities. They range from sandy loam to clay loam in texture, supporting crops such as wheat, rice, sugarcane, and vegetables. However, in some areas, soil fertility is affected by salinity and waterlogging, requiring proper management practices. Overall, the district's soil profile supports both agriculture and urban development due to its favorable composition and structure.

### 6.4.3 Climate and Meteorology

Lahore experiences an extreme climate characterized by scorching summers and chilly winters. The summer season begins in April and lasts until September, with May, June, and July being particularly oppressive. June is the hottest month, with average maximum temperatures reaching up to 40°C and minimums around 27°C. Occasional dust storms and intense heat waves are common features of this period. The monsoon typically arrives toward the end of June, bringing intermittent rain spells through mid-September.

Winter spans from November to February, with January being the coldest month. During this time, average maximum and minimum temperatures are about 20°C and 6°C, respectively, though temperatures can drop as low as 0°C.

Lahore's semi-arid climate includes five distinct seasons:

- **Foggy winter** (Nov 15 – Feb 15), with cold temperatures and occasional western disturbances.

- **Pleasant spring** (Feb 15 – Apr 15).
- **Hot and dusty summer** (Apr – Jun), marked by intense heat and storms.
- **Rainy monsoon** (Jul – Sep 15), with heavy rainfall and thunderstorms.
- **Dry autumn** (Sep 16 – Nov 14).

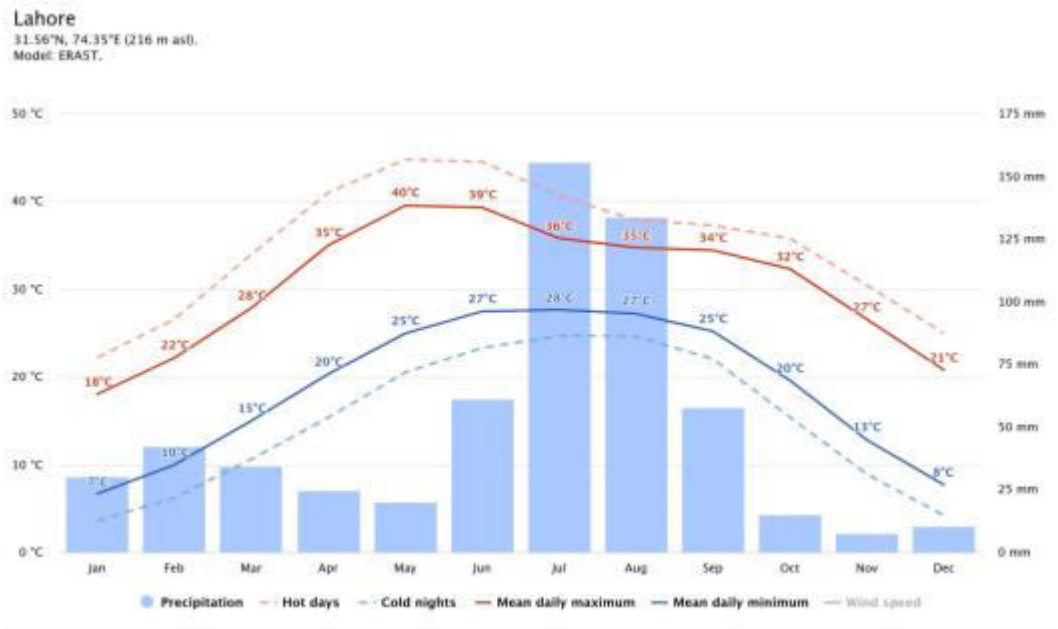



Figure 6-2: **Average Temperature and Precipitation in Lahore**

The average annual rainfall is approximately 630 mm, with July being the wettest month. Lahore has recorded extreme temperatures, including a high of 48.3°C on May 30, 1944, and a low of –1°C on January 13, 1967.

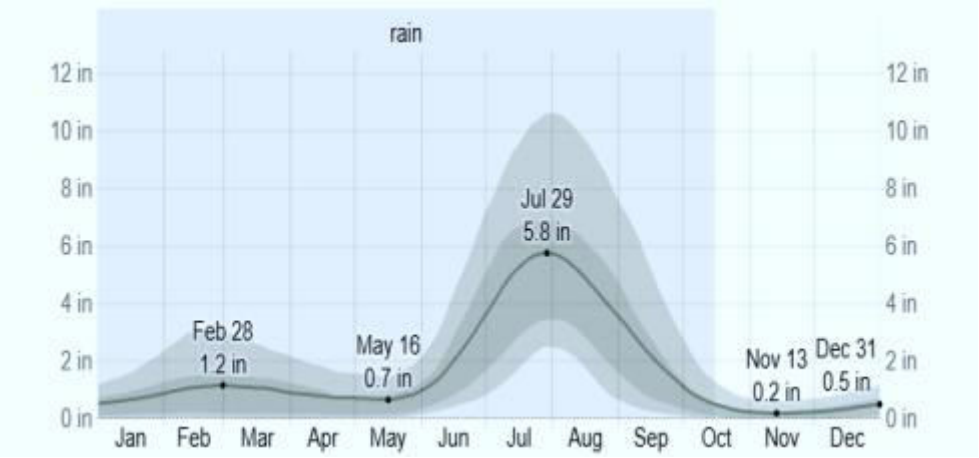



Figure 6-3: **Average Monthly Rainfall in Lahore**

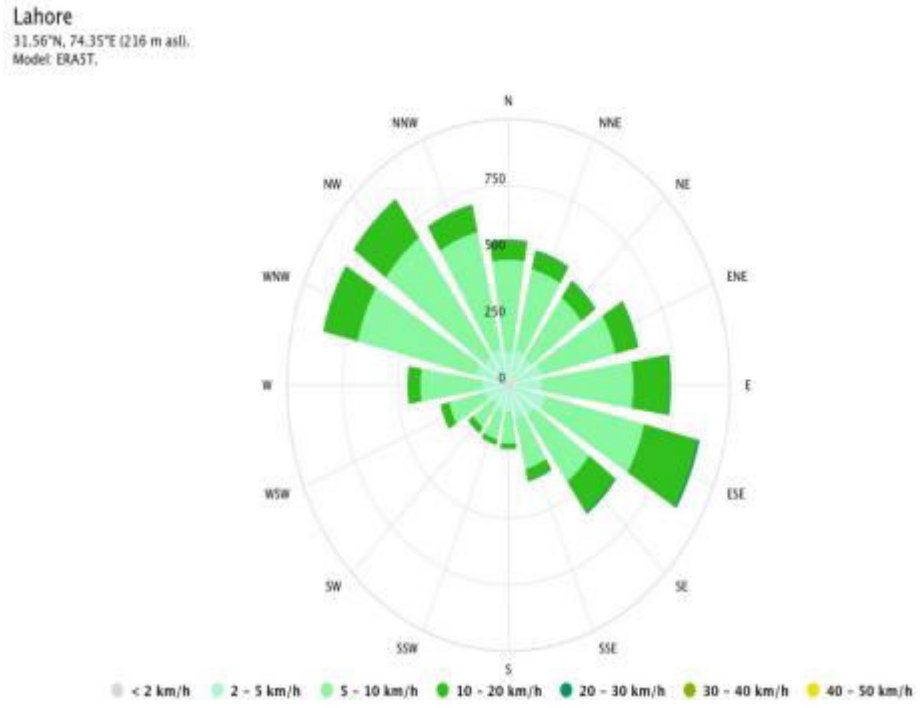



Figure 6-4: **Wind Rose in Lahore**

### 6.4.4 SURFACE AND GROUND WATER RESOURCE

**Surface Water**

- The Ravi River is Lahore's primary surface water source, yet its flow is heavily seasonal and often **c**ontaminated by untreated sewage and industrial effluents
- Upstream diversions have reduced the river flow in Pakistan to around 15% of its historic levels.
- Pollution in the Ravi not only degrades its own ecosystem but also leaches into urban aquifers, deteriorating groundwater quality

**Groundwater**

- Lahore's groundwater, extracted through thousands of deep WASA tube-wells, is the city's primary water source
- Annual abstraction (~1161 MCM) exceeds recharge (~1013 MCM), causing the water table to drop by approximately 1 m per year
- Groundwater quality is being compromised by the river's polluted water percolating into aquifers.

**Main Recharge Sources**

- Rainfall, the Ravi River during the monsoon, and irrigation canals provide limited natural recharge
- However, average precipitation is insufficient to offset heavy groundwater extraction.
- The river-based recharge is largely negligible outside the monsoon period

**Emerging Solutions**

- Initiatives like WWF-led rainwater harvesting and aquifer recharge schemes aim to boost groundwater levels — targeting up to 331,000 m³/yr recharge
- Sustainable management requires wastewater treatment, controlled extraction, and artificial recharge through rooftop capture or recharge wells.

| Aspect | Detail |
|---|---|
| Surface water dependency | Ravi River — seasonal & polluted |
| Groundwater extraction | ~1161 MCM/year |
| Annual recharge | ~1013 MCM/year |
| Water table decline | ~1 m/year |
| Pollution risk | Sewage and industrial effluent infiltrate aquifers |
| Recharge methods | Monsoon rain, canal flow, artificial recharge projects |

## 6.5 Seismology

Lahore lies in a region of moderate seismic activity and situated within Seismic Zone 2B as classified by the Pakistan Building Code (2007). This zone indicates a region **with** low to moderate risk**,** where seismic events are possible but generally not highly destructive.

The city is not located directly on any major active fault line, but it can be affected by distant seismic sources from northern and western Pakistan, including the Main Boundary Thrust (MBT) and the Salt Range Fault System**.** Earthquakes originating from these zones can produce tremors felt in Lahore, especially from significant seismic events such as those in the Hindukush or Kashmir regions.

While Lahore is not highly prone to strong earthquakes, it remains vulnerable to secondary effects such as structural damage due to moderate tremors, especially in poorly constructed or unregulated buildings. Therefore, adherence to seismic-resistant construction codes and proper urban planning is essential for risk mitigation.

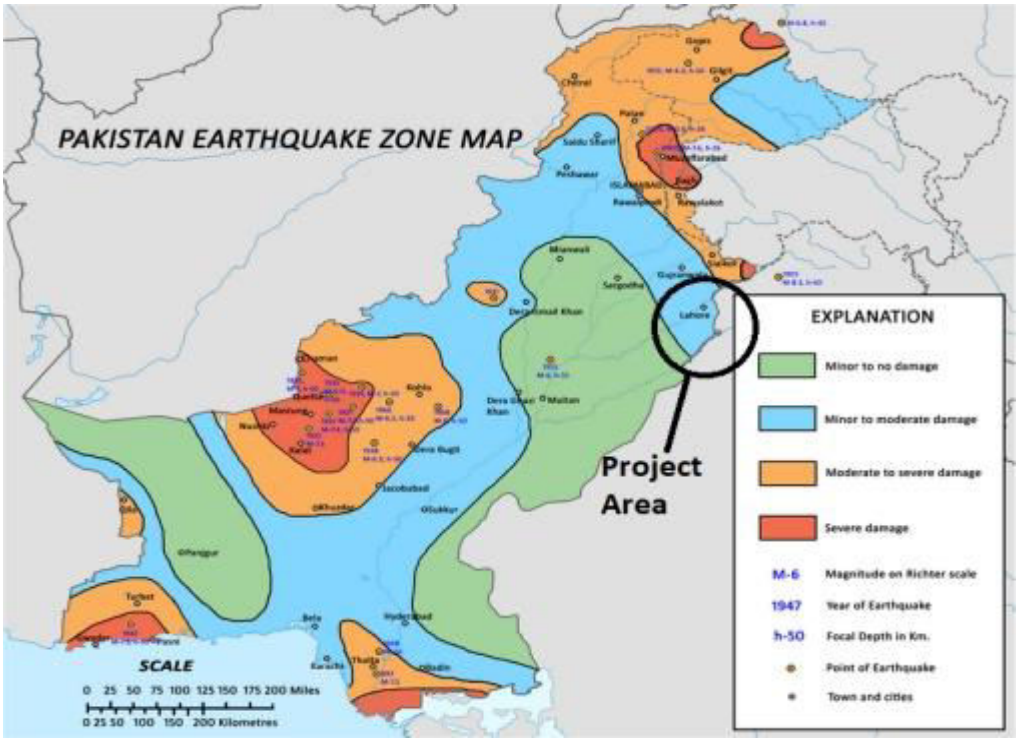



Figure 6-5: **Seismic zones map of Pakistan**

## 6.6 ECOLOGICAL RESOURCES

Lahore's ecological resources, though challenged by rapid urbanization, remain vital for the city's environmental health and biodiversity. Green spaces such as parks, botanical gardens, canal banks, and urban forests support a variety of native flora and fauna, contributing to air purification, temperature regulation, and habitat preservation. Key ecological assets include the Lahore Canal greenbelt, Jallo Park, and the Lahore Botanical Garden, which serve as urban biodiversity hotspots. These resources play a crucial role in enhancing the city's resilience to climate change and improving the quality of life for its residents.

**Flora**

**Table 6-1: Flora of the Project Area**

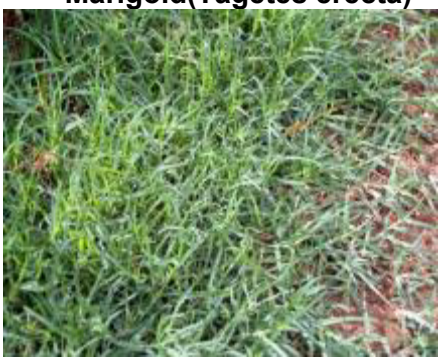
| Common Name | Scientific Name | IUCN Status |
|---|---|---|
| Neem | *Azadirachta indica* | LC |
| Peepal | *Ficus religiosa* | LC |
| Banyan | *Ficus benghalensis* | LC |
| Eucalyptus | *Eucalyptus camaldulensis* | LC |
| Shisham (Indian Rosewood) | *Dalbergia sissoo* | NT |
| Amaltas (Golden Shower) | *Cassia fistula* | LC |
| Gulmohar | *Delonix regia* | LC |
| Bougainvillea | *Bougainvillea glabra* | Not Evaluated (NE) |
| Marigold | *Tagetes erecta* | Not Evaluated (NE) |
| Alstonia | *Alstonia scholaris* | LC |
| Grass (Doob Grass) | *Cynodon dactylon* | LC |

**EX** (Extinct), **EW** (Extinct in the Wild), **CR** (Critically Endangered), **EN** (Endangered), **VU** (Vulnerable), **NT** (Near Threatened), **LC** (Least Concern), **DD** (Data Deficient), **NE** (Not Evaluated).

Neem(Azadirachta indica)

Marigold(Tagetes erecta)

Alstonia(Alstonia scholaris)



Doob Grass(Cynodon dactylon)

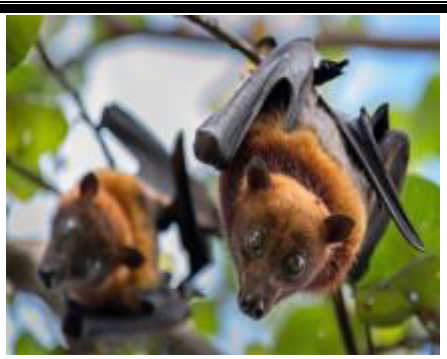
Figure 6-6: **Flora of the project area**

**Fauna**

**Table 6-2: Fauna of the Project Area**

| Common Name | Scientific Name | IUCN Conservation Status |
|---|---|---|
| Indian Palm Squirrel | *Funambulus palmarum* | LC |
| Fruit Bat | *Pteropus giganteus* | LC |
| House Mouse | *Mus musculus* | LC |
| Common Rat | *Rattus rattus* | LC |
| House Sparrow | *Passer domesticus* | LC |
| Common Myna | *Acridotheres tristis* | LC |
| Rock Pigeon | *Columba livia* | LC |
| Red-wattled Lapwing | *Vanellus indicus* | LC |
| Indian Cobra | *Naja naja* | LC |
| Common Toad | *Duttaphrynus melanostictus* | LC |

**EX** (Extinct), **EW** (Extinct in the Wild), **CR** (Critically Endangered), **EN** (Endangered), **VU** (Vulnerable), **NT** (Near Threatened), **LC** (Least Concern), **DD** (Data Deficient), **NE** (Not Evaluated).



**Fruit Bat(Pteropus giganteus)**

**Indian Palm Squirrel(Funambulus palmarum)**

**House Sparrow(Passer domesticus**

**Common Toad(Duttaphrynus melanostictus)**

Figure 6-7: **Fauna of the project area**

- **Protected wildlife areas and endangered wildlife**

Following are the wildlife protected areas of the district

- Game Reserve, a part of 5-Mile Border Strip
- Jallo Wildlife Park
- Tehra Plantation Wildlife Sanctuary

Mammals found and protected in Jallo Park include Asian black bear, Bactrian camel, cheetal, chinkara, and sambar deer. Reptiles given sanctuary are Indian cobra, and mugger crocodile. Birds that are protected include Indian pea fowl and game birds.

## 6.7 SOCIO-ECONOMIC ENVIRONMENT

Lahore, the second-largest city of Pakistan, is a dynamic socio-economic hub with a rapidly growing population exceeding 13 million. As the provincial capital of Punjab, it serves as a center for education, commerce, culture, and industry. The city boasts a high literacy rate of around 77%, supported by numerous universities, colleges, and technical institutions.

Economically, Lahore has a diversified base, with major contributions from the services sector, manufacturing industries (notably textiles, electronics, and cables), retail, and construction. Employment opportunities range from formal public and private sector jobs to informal labor markets. Despite its economic vibrancy, the city faces challenges such as income disparity, urban poverty, and housing shortages in peri-urban areas.

Healthcare facilities are relatively advanced, yet unevenly distributed. The city's robust infrastructure, cultural richness, and industrial activity make it a key driver of regional development, though rising population pressure continues to strain public services and environmental resources.

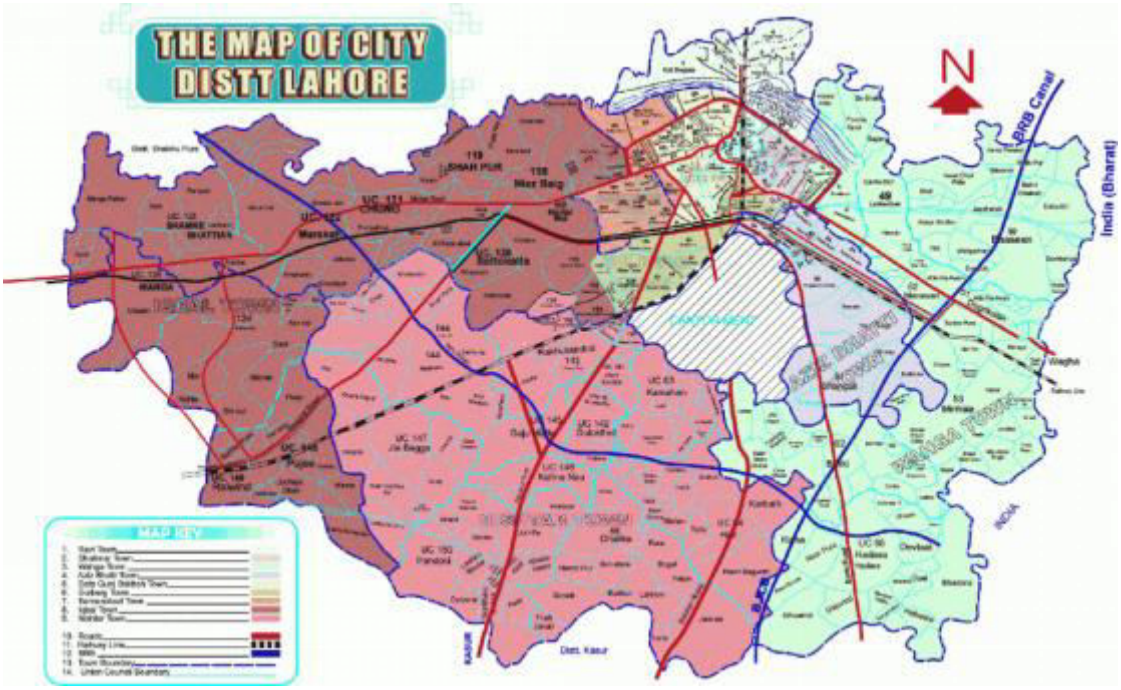



Figure 6-8: **Map of Lahore city**

### 6.7.1 Population and Demographics

Lahore, the capital of Punjab province, is the second-largest city in Pakistan after Karachi. According to the 2023 census, the population of Lahore exceeds 13 million, making it one of the fastest-growing urban centres in South Asia.

| | | |
|---|---|---|
| **Total population** | 13,004,135 | |
| **Annual growth (2017–2023)** | ~2.65% | |
| **Gender split** | Male | 52.9% |
| | Female | 47.1% |

| | | |
|---|---|---|
| | Transgender | 0.026% |
| **Population density** | 7,339 ppl/km² | |
| **Age Distribution** | 0–9 years<br>10–19<br>20–29 | 3.23 M<br>2.67 M<br>2.30 M |
| **Literacy Rate (age 10+)** | Overall 79.6% | |
| | Male<br>Female | 81.4%<br>77.6% |

## 6.8 Eductaion and Literacy in Lahore

Lahore is often hailed as Pakistan's educational capital, home to a rich network of schools, colleges, and universities—both public and private. It boasts some of the country's most prestigious institutions, such as Government College University (est. 1864), University of the Punjab (est. 1882), University of Engineering & Technology (est. 1921), and Lahore University of Management Sciences (LUMS), the only AACSB-accredited business school in Pakistan.

## 6.9 Literacy & Enrollment

- The overall literacy rate in Lahore is approximately 79.6%**,** with male literacy at 81.4% and female literacy at 77.6%**,** ranking among the highest in the country
- Enrollment is strong, particularly at the primary and secondary levels, reflecting Punjab's provincial averages—gross enrollment rates (GER) around 90% and net enrollment (NER) approximately 56%
- Youth literacy (15–24 years) in Punjab—where Lahore is located—surpasses 92% for both males and females in urban areas

| | | |
|---|---|---|
| **Total Schools** | 1120 | |
| **Total Colleges** | 63 | |
| | 26 boys | 37 girls |

## 6.10 Higher Education & Institutions

Major universities in Lahore include:

- **Government College University (GCU)**: Over 10,600 students; long history and top performance
- **University of the Punjab**: More than 45,000 on-campus students; one of South Asia's oldest public universities

- **University of Lahore (UoL)**: Private university with ~45,000 students and strong program offerings .

There are also many reputable private schools (e.g., Lahore Grammar School, Beaconhouse) producing graduates who go on to top universities such as LUMS and abroad

Government College university Lahore (GCU)

Punjab University Lahore (PU)

Figure 6-9: **Educational Institutions in Lahore**

## 6.11 Health Facilities

Lahore hosts one of the most extensive and diverse healthcare systems in Pakistan, catering to its rapidly growing population through a combination of public, private, military, and charitable facilities. The public health sector includes major teaching and tertiary care hospitals such as Mayo Hospital, Jinnah Hospital, Services Hospital, and Punjab Institute of Cardiology. These institutions handle high patient loads and offer specialized services in cardiology, surgery, neurology, pediatrics, and emergency care, though they often face challenges like overcrowding, limited equipment, and long wait times.The private healthcare sector has seen significant growth and includes modern hospitals like Shaukat Khanum Memorial Cancer Hospital, Evercare Hospital, Doctors Hospital, Hameed Latif Hospital, and National Hospital. These facilities offer high-quality medical services, including advanced diagnostics, surgical procedures, intensive care, and maternity services, often in better environments but at a higher cost.Military hospitals such as CMH Lahore provide high-standard medical care and are accessible to both military personnel and civilians. Specialized institutions like Gulab Devi Hospital (for chest and respiratory diseases), Children's Hospital (for pediatric care), and the Punjab Institute of Mental Health (for psychiatric services) also serve critical health needs.Additionally, Lahore has a vast network of small private clinics, diagnostic laboratories, and outpatient services that improve access to healthcare across urban and semi-urban areas. Public health initiatives like the Sehat Sahulat Program (Sehat Card) have improved access for low-income populations by covering hospital expenses in many empaneled hospitals. While the city's healthcare infrastructure is advanced compared to other regions, disparities in quality, affordability, and access still persist, especially for vulnerable populations.

**Table 6-3: No. Of Hospitals in Lahore**

| | |
|---|---|
| Teaching Hospitals (Specialized Health | 19 |
| THQ Hospitals | 01 |
| Indus THQ Hospital | 05 |
| RHCs | 05 |
| BHUs | 38 |
| Rural Dispensaries | 21 |
| MCH Centers | 50 |
| **Total** | 139 |

## 6.12 **Economic Activity**

The economy of Lahore has a diversified base, including telecommunications, information technology, manufacturing industry, engineering, pharmaceuticals, steel, chemicals, and construction material. The economy of Lahore is prosperous, as it is a major urban center. Lahore is one of the more industrialized districts of Pakistan and is home to the largest IT Park. in the country, which is called the Arfa Software Technology Park. Lahore is the country's second largest economic hub and also the commercial capital of Punjab. The Lahore Stock Exchange is Pakistan's second largest stock exchange, with the Karachi Stock Exchange being the largest

**Table 6-1: Major Economic sectors in Lahore**

| | |
|---|---|
| Agriculture with its Allied Livestock Breeding, Fishing, Forestry | 5.7% |
| Manufacture | 9.6% |
| Construction | 30% |
| Wholesale/ Retail, Hotel/ Restaurant | 15.6% |
| Transport, Storage & Communication | 6.7% |
| Community, Social & Personal Services | 17.1% |
| Financing, Insurance, Real Estate | 5.4% |
| Activities not adequately defined | 9.4% |
| Electricity, Gas & Water | 0.5% |

## 6.13 **Industries**

Major industries contributing to the economic activity are given below

**Table 6-2: Major Industries in Lahore**

| | |
|---|---|
| ICI Soda Ash | 01 |
| Pakistan Tobacco Company | 01 |
| Cement | 02 |

| | |
|---|---|
| Mari Petroleum | 01 |
| OGDCL | 01 |
| Brick Kilns | 80 |
| Flour Mills | 16 |
| **Total** | **102** |

### 6.13.1 Economic Infrastructure

The district is linked with Sheikhupura, Gujranwala, Okara, Kasur, and Narowal districts through metaled roads.The main Peshawar-Karachi railway line passes through Lahore District, and it is linked with Sheikhupura, Narowal, Gujranwala, and Kasur Districts through the railway network. District Amritsar of India is also connected by rail with Lahore for international traffic only.Lahore Transport Company (LTC) was established in 1984 to ease the traffic congestion in Lahore and improve bus services. LTC was given all the transport responsibilities of Lahore in December 2009. A Bus Rapid Transit System (BRTS) fleet of 650 buses was introduced, and named TransLahore. However, the BRTS did not have dedicated lanes and had to share the roads with regular traffic, with no right-of-way privileges. This resulted in a system that was a BRTS only in name. The Lahore Metro Bus Service was inaugurated on 10 February 2013. The first section consists of a 27 km road track, from Gajumata to Shahdara. It has 27 bus stations and incorporates e-ticketing.

**Table 6-4: Lahore Road Statistics**

| | |
|---|---|
| Total Road length | 1,309.93 km |
| National Highways | 48.43 km |
| Provincial Highways | 1261.5 km |

### 6.13.2 Religion

The religious composition of the district as per the 1998 Census is as follows:

**Table 6-3: Religions in the project area**

| | |
|---|---|
| Muslims | 93.9% |
| Christians | 5.8% |
| Hindus | Negligible % |
| Ahmadis | 0.2% |
| Scheduled Castes | Negligible % |
| Others | Negligible % |

### 6.13.3 Ethnic Structure

Lahore is home to various ethnic structures. Major ethnic groups existing in the area are follows:

**Table 6-4: Ethic groups in Lahore**

| Cast | Percentage | Numbers |
|---|---|---|
| Kamboh | 05 | 0.55 million |
| Rajput | 05 | 0.55 million |
| Miscellaneous | 20 | 2.23 million |
| Kashmiris | 30 | 3.33 million |
| Arain | 40 | 4.45 million |

### 6.13.4 Languages

The project area is linguistically diverse, with Punjabi being the most widely spoken language among the local population. Urdu, the national language, is also commonly understood and used for formal communication and administrative purposes.

**Table 6-5: Language distribution in Lahore**

| | |
|---|---|
| Urdu | 2,742,020 |
| Punjabi | 9,549,169 |
| Sindhi | 27,074 |
| Pushto | 267,809 |
| Balochi | 4,266 |
| Saraiki | 62,016 |
| Hindko | 33,061 |
| Brahvi | 176 |

# 7 SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

## 7.1 General

The importance of impact assessment in EIA cannot be overstated, as it serves as a fundamental tool for evaluating and understanding the potential effects of a proposed project on the environment. Impact assessment systematically identifies, predicts, and evaluates the anticipated positive and negative consequences of a project, considering various environmental aspects such as air and water quality, biodiversity, soil health, and community well-being. This process is pivotal in informed decision-making, enabling stakeholders to assess the trade-offs and make choices that balance development with environmental conservation. The impact assessment phase provides a comprehensive understanding of the project's potential impacts, allowing for the development of effective mitigation measures and strategies to minimize or eliminate adverse effects. Additionally, it fosters transparency and accountability by providing a basis for public consultation and engagement, ensuring that the concerns and perspectives of affected communities are considered. Overall, impact assessment in EIA is essential for promoting sustainable development practices, preventing environmental degradation, and fostering responsible and informed decision-making in the planning and execution of projects.

## 7.2 Project Area of Influence

Before commencing the environmental analysis of the project, it is essential to define the specific area of influence. While the primary construction activities will be contained within predetermined boundaries, there are certain aspects where construction-related tasks may extend beyond these confines. These include

- Establishment of construction camps and erection of material grinding plants on temporarily acquired land
- Borrowing soil material from temporarily acquired land
- Quarrying aggregate material; and Construction of haul tracks for transportation of construction material, etc.

Environmental impacts have been identified within the Project Area of Influence; which lies within 0.5 km boundary of the proposed plant building. Therefore, the identification of Project impacts and recommendations of mitigation measures will be limited within this area.

## 7.3 Methodology for impact assessment

In conducting the impact assessment for the project, a comprehensive methodology was adopted, encompassing both qualitative and quantitative assessments to provide a well-rounded understanding of potential effects. The qualitative assessment involved a systematic and in-depth analysis of the project's potential impacts on various environmental and social aspects. This included considering factors such as air and water quality, biodiversity, community health, and cultural heritage. Qualitative data, often derived from expert opinions, literature reviews, and consultations, were employed to evaluate the significance of these impacts. Simultaneously, a quantitative assessment was carried out to provide a numerical representation of specific parameters, allowing for a more precise measurement of the potential consequences. This involved data collection through field measurements, modeling, and statistical analyses to quantify environmental and social variables. The combination of qualitative and quantitative assessments ensured a holistic and rigorous evaluation, enabling a more nuanced understanding of the project's potential impacts and contributing to the formulation of effective mitigation strategies.

## 7.4 Project Design related Environmental Problems

The design of the storage plant has been meticulously crafted with a steadfast commitment to adhering to standard operating procedures (SOPs), thereby prioritizing safety, operational efficiency, and compliance with industry benchmarks. The emphasis on stringent SOPs ensures that the storage facility operates seamlessly and securely. Beyond functional considerations, a thoughtful tree plantation initiative has been seamlessly integrated into the project's framework, enhancing both the aesthetics and environmental sustainability of the site. This strategic incorporation goes beyond mere visual enhancement; it signifies a conscientious effort to align the project with ecological objectives. The introduction of trees not only contributes to the visual appeal of the surroundings but also plays a pivotal role in fostering environmental well-being, reflecting a holistic approach to the storage plant's development. This harmonious blend of

meticulous design, safety protocols, and environmental consciousness underscores the project's commitment to excellence and responsible stewardship.

## 7.5 IMPACTS DURING CONSTRUCTION PHASE

The detailed risk Matrix of Construction phase is shown in the table.

**Table 7-1 Screening of Possible impacts during Construction Phase**

| Potential Impacts | Likelihood (Certain, Likely, Unlikely, Rare) | Consequences (Catastrophic, Major, Moderate, Minor) | Risk Level (Significant, Medium, Low) |
|---|---|---|---|
| Soil Erosion | Likely | Minor | Low |
| Land Contamination | Likely | Minor | Low |
| Soil Contamination | Likely | Minor | Low |
| Solid Waste | Likely | Minor | Low |
| Contractor Camp | Likely | Minor | Low |
| Ground Water | Likely | Minor | Low |
| Dust | Likely | Minor | Low |
| Noise | Likely | Minor | Low |

### 7.5.1 SUMMARY OF IMPACTS AND THEIR MITIGATION MEASURES

**Table 7-2: Summary of Impacts and their Mitigation Measures**

| Impacts | Mitigation Measures |
|---|---|
| **Project Location** | |
| • Acquisition of land<br>• Loss of environmentally sensitive areas<br>• Changes in traffic pattern<br>• Potential conflicts with stakeholders<br>• Resettlement issues | ✓ There is not any sensitive area near the project site.<br>✓ Many other industries are also working near the project site.<br>✓ The project proponent will achieve the PEQS at the boundary walls of the subject project to avoid the environmental impacts on the nearby industrial unit.<br>✓ There is no need to change the traffic pattern due the development of the subject project because few industries have been developed at the same road.<br>✓ It is recommended to settle the issues through scoping and specific group discussions.<br>✓ No resettlement issues.<br>✓ It is recommended for obtaining of approval from other relevant departments. |
| **Project Design** | |
| • Soil structure and soil bearing capacity<br>• Road infrastructure design<br>• Emergency exits<br>• Fire fighting system<br>• Wastewater disposal system design<br>• Electricity hazards | ✓ Safe road infrastructure design should be provided at the project site.<br>✓ Emergency exit points should be marked at the project site.<br>✓ Fire fighting equipment must be maintained at the site in good working condition to cope with any emergency situation.<br>✓ Efficient wastewater disposal system should be designed for proper treatment of wastewater.<br>✓ Electricity system should be designed safe and sound. |
| **Construction and Operation phase** | |

| | |
|---|---|
| **Land & Soil** | |
| • Land or Soil Erosion during the construction phase<br>• Habitat destruction<br>• Scarring of the landscape and aesthetic beauty.<br>• Clearing of native plants will disturb the complexity of the ecosystem of the proposed area.<br>• Leakage of oil from storage area may contaminate soil | ✓ Sprinkling of water is recommended<br>✓ After construction phase, the project proponent will restore the land by plantation.<br>✓ All spoils will be disposed of as desired and the site will be restored back to its original conditions<br>✓ Aesthetics of the area will be maintained.<br>✓ Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or store rooms, which should be safe from rainfall and away from any potential source of fire |
| **Air pollution and Dust emission** | |
| • The transportation of the project machineries and material also may cause dust.<br>• Un-metaled roads may cause dust.<br>• Dust raised on dirt tracks by project-related vehicles.<br>• Dust from drilling of deep holes.<br>• Combustion products from vehicles used for project-related activities | ✓ Air emissions controlled devices must be installed to control the air pollution (if any)<br>✓ Water the construction site periodically to minimize fugitive dust generation while laying foundation.<br>✓ Store all construction materials in a manner to minimize generation of dust and spillage on roads.<br>✓ During excavation works drop heights will be minimized to control the fall of materials reducing dust escape.<br>✓ Sprinkling of water must be done to control the dust or PM<br>✓ Vehicle emissions inspection should be done on regular basis<br>✓ Sprinkling should be done on the unpaved area to avoid dust pollution/ particulate matter.<br>✓ Vehicles/ trucks should be serviced regularly<br>✓ All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke. |
| **Noise** | |
| • The major sources of the noise at proposed project site are project related machinery. | ✓ Personal Protective Equipment PPEs including Ear muffs, Ear plugs and other noise abating equipment will be provided to the workers and other staff of the subject project. |

| | |
|---|---|
| • High noise level cause hearing loss, deafness, high blood pressure, headache, depression and mental disturbance.<br>• Noise level will not exceed 75 dB(A) at the distance of 2 km radius, activity site is located at a safe distance from the nearest human settlement .<br>• Noise from construction activities from site preparation, earth works, foundation and plant<br>• equipment installation | ✓ Proper maintenance and tuning of the vehicles should be done.<br>✓ Sound proof room should be built for generator (if any) to control the noise.<br>✓ A speed restriction of 40 km/h will be imposed on all construction vehicles |
| **Waste Water** | |
| • Domestic waste water from the camp<br>• Minor generation of waste water from construction activity.<br>• Water Contamination due to improper storage of construction material,<br>• Water contamination due to improper debris disposal,<br>• Spread of diseases, underground water contamination | ✓ Domestic waste water will be drained out in nearby local drain after treated in septic tank which will be installed within facility of M/s Fast Cables Limited<br>✓ Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or store rooms, which should be safe from rainfall. |
| **Solid waste** | |
| • Solid waste may generate from construction activity, domestic and packing material of project related machineries.<br>• Solid waste may generate from operation of project. | ✓ A solid waste management division should be formulated to deal with the proper disposal of solid waste, supervised by HSE Manager, SW Manager, and other related personnel.<br>✓ Solid waste generated from the construction activity as sand, stones residues etc. that should<br>be utilized in restoration of the quarry area whereas solid waste from the domestic |

| | |
|---|---|
| | sources should be disposed of properly<br><br>✓ Proper solid waste management system is recommended for industrial unit.<br>✓ Industrial ecology practices will be adopted wherever possible.<br>✓ 7 R's of sustainability is recommended<br>✓ Sludge will be removed and dispose of in scientific way.<br><br>Solid waste related to the operation will also manage in scientific way. |
| **Health and Safety** | |
| • Health and safety issues will be arose during construction activity, handling of material, machinery and improper practices of work<br>• Health and safety issue may arise during regular operations | ✓ Use of PPEs should be implemented at workplace.<br>✓ First aid measures/medical facility should be provided to project related employees.<br>✓ Safe drinking water must be provided to workers, staff, and poor people of the area.<br>✓ Water consumption records should be maintained.<br>✓ Safety signs & boards should be placed at during construction activity.<br>✓ Construction site should be fenced properly to avoid any damage to nearby settlements.<br>✓ Smoking or any drugs should be prohibited during working hours or performing work.<br>✓ At the time of earthwork, fencing will be ensured for the area under the exploration. |

# 8 ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

The primary objectives of the EMMP are to:

1) Facilitate the implementation of the mitigation measures identified in the EIA.
2) Define the responsibilities of the project proponent.
3) Define a monitoring mechanism and identify monitoring parameters in order to:
4) Ensure the complete implementation of all mitigation measures.
5) Ensure the effectiveness of the mitigation measures.
6) Provide a mechanism for taking timely action in the face of unanticipated environmental situations.
7) Identify training requirements at various levels.

## 8.1 INSTITUTIONAL CAPACITY

The overall responsibility for compliance with the environmental management plan rests with the project proponent. He will appoint a HSE/Project Manager of relevant qualification. HSE/Project Manager will act as Environmental Manager and will manage all HSE conditions at the PEQS.

A certain degree of redundancy is inevitable across all management levels, but this is in order to ensure that compliance with the environmental management plan is crosschecked.

Following functionaries will be involved in the implementation of EMP

- Project Proponent
- HSE Officer
- In-Charge Administration
- Supervisor of project

## 8.2 TRAINING SCHEDULE

Trainings will be conducted at unit after completion of constructional phase; It will be imparted by a team of experienced trainers.


**Figure 8-1: Institutional Capacity for the implementation of EMP**

Management will hire HSE officer, HSE officer will be responsible for conducting the training of the labor, which will be organized either by the management of industry or by the contractor. Following schedules of training will be implemented:

Table 8-1 **Training Program**

| Sr.No | Description of program | Labor/ Personnel involved | Time/ duration |
|---|---|---|---|
| 1) | General HSE Training | Trainers and whole labor | Quarterly for 1 hour |
| 2) | Instrument use/ workplace specific items | Trainers and whole labor | Quarterly for 1 hour |
| 3) | PPEs use and safe work practices at work site. | Trainers and whole labor | Quarterly for 1 hour |
| 4) | Reporting and investigating accidents/ incidents | Trainers and whole labor | Quarterly for 1 hour |
| 5) | Emergency procedures | Trainers and whole labor | Quarterly for 1 hour |
| 6) | Medical and first aid | Trainers and whole labor | Quarterly for 1 hour |

| | | | |
|---|---|---|---|
| 7) | Health and safety promotion | Trainers and whole<br><br>Labor | Quarterly for 1 hour |

In order to raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. HSE/Project Manager should play a key role in this respect and arrange the training programs. HSE/Project Manager will provide training to staff and workers about the best environmental management practices at the construction site and affective implementation of the EMMP. The training modules will include air, noise and water pollution monitoring, social awareness, Environmental Laws, Punjab Environmental Quality Standards (PEQS), Usage of personal protection equipment's, and health and safety related issues on the construction site.

The HSE/Project Manager will train all workers & staff in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of Sexually Transmitted Infections (STI) HIV/AIDS and in general health and safety matters, and on the specific hazards of their work. Training should also consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation.

## 8.3 TRAINING OF BUILDING CONTRACTOR

Training of building contractor & workers will be the part of the TORs regarding the construction of the scheme.

TORs will be including the training and submission of reports in the following area

1) Handling of Machineries in a safe way
2) Use of PPEs
3) Maintenance of vehicles and submission of Environmental Monitoring Reports
4) Maintenance of Water Consumption records
5) Testing of water and waste water and submission of Environmental Monitoring Reports
6) Placement of safety signs/boards during construction
7) Sprinkling of water on the roads and dusty tracks

8) Monitoring of generator emissions

Training regarding all other aspects of HSE will be ensured by the contractor during the construction phase.

## 8.4 EQUIPMENT MAINTENANCE DETAIL

The management of the subject project will maintain records for Health, Safety & Environment and will hire Environmental / unit manager to check and deal with the unit issues. All mobile equipment is to be inspected and maintained according to the following Equipment Inspection Schedule as a minimum. Records of all inspections and maintenance are completed and maintained for review and approval.

Maintenance of equipment, release of lubrication fluids, etc., is performed only in approved areas. Spills and leaks from equipment are cleaned up promptly.

Table 8-2: **Equipment Inspection Detail**

| Type of Equipment | Type of Inspection | Schedule |
|---|---|---|
| Cranes – Crawler, Truck, Hydraulic, etc. | Complete inspection and certification | Before put to work and annually |
| | Critical items, controls, overall functioning | Daily |
| | Safety device, hooks, cables, electrical | Monthly |
| | Complete inspection | Every 3 months |
| | Repair | When failure occurs |
| | Preventative maintenance | Manufacturer‘s recommendation |
| Heavy Equipment | Complete inspection | Before put to work |
| Dozers, Backhoes | Complete inspection | Every 3 months |
| Compactors, Trucks | Repair | When failure occurs |
| | Preventative maintenance | Manufacturer‘s recommendation |
| | Operator‘s checklist | Daily |
| Miscellaneous | Complete inspection | Before put to work |
| Compressors, Welding | Complete inspection | Every 3 months |

| | | |
|---|---|---|
| Machines, Generators | | |
| | Repair | When failure occurs |
| | Preventative maintenance | Manufacturer‘s recommendation |

### 8.4.1 ENVIRONMENTAL MANAGEMENT PLAN FOR M/S FAST CABLES LIMITED

Table 8-3: Environmental Management Plan

| Sr. # | Aspects | Impact & Mitigations to be taken | | | |
|---|---|---|---|---|---|
| | | **Impacts** | **Mitigation measures Construction/Operation** | **Responsibility** | **Monitoring** |
| **Land acquisition for the proposed project** | | | | | |
| 1 | Land acquired for the proposed project | Nil | The site proposed for the subject project is the property of the M/s Fast Cables Limited | Proponent | Environmental Consultant/ EPA<br><br>PUNJAB |
| **Land use & soil erosion** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Land Use & Soil | Particulate Matters (PM) pollution, Clearing of the vegetation<br><br>Undulated patches.<br><br>Scarring of the landscape and aesthetic beauty.<br><br>Clearing of native plants will disturb the complexity of the ecosystem of the proposed area. Dust emissions will be generated during the construction.<br><br>Flue gases will be generated due to the involvement of generators and other machinery | Measures will be taken to avoid soil erosion and dust pollution.<br><br>Restoration and reclamation plan will be developed to restore the natural landscape of the area.<br><br>Plant nursery, garden will be developed to rehabilitate the native plants of the area. Fast cables already have organized massive tree plantation activities. The details have been attached in Tree plantation plan.<br><br>Project proponent will make all possible efforts to limit the impact on flora and fauna.<br><br>The Management has serious concern and will take measures to preserve the environment and natural aesthetic beauty of the site. | HSE Department | Environmental Consultant/ EPA PUNJAB |

| Ambient Air Quality | | | | | |
|---|---|---|---|---|---|
| 3 | Air Quality | Particulate matter and fugitive dust emissions.<br><br>Dust emission due to vehicles on un-metaled roads.<br><br>Dust due to Construction.<br><br>Dust raised on dirty tracks by project-related vehicles.<br><br>Dust emission during earthwork Gaseous emissions from the vehicles<br><br>Air pollution due to site visiting vehicles/ transporting trucks, hauled trucks, machinery. | Sprinkling of water is recommended on dusty roads and unpaved tracks to control the generation of dust and PM.<br><br>Water the construction site periodically to minimize fugitive dust generation while laying foundation.<br><br>Store all earthwork and construction materials in a manner to minimize generation of dust and spillage on roads.<br><br>During excavation works drop heights will be minimized to control the fall of materials reducing dust escape: Temporary cover may be provided for earthwork if necessary.<br><br>Vehicle emissions inspection should be done on regular basis.<br><br>Sprinkling should be done on the unpaved area to avoid dust pollution/ particulate matter.<br><br>Vehicles/ trucks should be serviced regularly.<br><br>All project vehicles will be checked regularly to ensure that engines are in sound working | Manager Operation | Environmental Consultant/EPA PUNJAB |

| | | | | | |
|---|---|---|---|---|---|
| | | | condition and are not emitting smoke.<br><br>Regular monitoring is recommended to check the compliance with PEQS as per EPA PEQS Rules. | | |

| | | | | | |
|---|---|---|---|---|---|
| **Noise & Vibration** | | | | | |
| 4 | Noise | The major sources of the noise at site are project related machinery.Operation of furnaces, associated blowers, and exhaust systems may generate consistent noise levels.<br><br>High noise level cause hearing loss, deafness, high blood pressure, headache, depression and mental disturbance.<br><br>Noise level will not exceed 75 dB (A) at the distance of 2 km radius, project site is located at a safe distance from the nearest human settlements.<br><br>Noise from construction activities from site preparation, earth works, foundation and plant equipment installation. | Personal Protective Equipment PPEs including Ear muffs, Ear plugs and other noise abating equipment will be provided to the workers and other staff of the subject project.<br><br>Proper maintenance and tuning of the vehicles should be done.<br><br>Sound proof room should be built for generator (if any) to control the noise.<br><br>A speed restriction of 10 km/h will be imposed on all construction vehicles.<br><br>Regular monitoring is recommended to check the compliance with PEQS as per EPA PEQS Rules. Noise level monitoring was conducted at different location and results are attached with the report. | HSE department | Environmental Consultant/ EPA PUNJAB |
| **Soil Contamination** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 5 | Soil contamination | Contamination of soil due to oil and other chemicals leakage or spillage<br><br>Soil contamination due to waste<br><br>water generated from the project activities | SOPs will be developed for the storage of oil and other chemicals handling and transportations (if any)<br><br>Soil contamination must be controlled by adopting mitigation measures such as storage of oil, fuels etc. under paved area, by maintaining | HSE Department | Environmental Consultant/ EPA PUNJAB |
| | | | leakage record of construction vehicles, and by regular inspection (admitted by proponent).<br><br>Septic Tank should be installed during construction and operational phases of the project to treat the wastewater.<br><br>Water from Septic tank must not be injected into the sub soil.<br><br>Tarpaulin sheets should be placed under generators and other leaching substances (if any) Treated water will be used for plantation.<br><br>Proper storage of oil, fuel etc. is recommended under paved area. | | |
| **Health and safety** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 6 | Health and safety | Health & safety issues of workers and nearby community | Trainings of the workers is recommended for health & safety, first aid and firefighting.<br><br>Proponent must provide First aid facilities to workers in case of any injury or accident.<br><br>Safe drinking water must be provided to workers, staff, and poor people of the area.<br><br>Water consumption records should be maintained.<br><br>Provision of Proper PPEs must be ensured at workplace.<br><br>Assembly point and exit points must be available at workplace.<br><br>Electric wires, D.Bs must be kept covered & closed to avoid any electric hazards. | HSE Department HSE Manager has already been hired<br><br>Trainings have been conducted All documentary proofs are Attached with this report. | Environmental Consultant/ EPA |

| | | | | | |
|---|---|---|---|---|---|
| | | | Smoking or any drugs should be prohibited during working hours or performing work.<br><br>Safety signs & boards will be placed at the time of construction activity.<br><br>Security guards will be appointed at the construction site.<br><br>At the time of construction and earthwork, fencing will be ensured for the area under the exploration. Further proper housekeeping and safety arrangements must be ensured at the subject project. | | |
| **Waste Water** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 7 | Waste water | Minor generation of waste water from construction activity.<br><br>Water Contamination due to improper storage of construction material,<br><br>Water contamination due to improper debris disposal,<br><br>Waste water pollution,<br><br>Spread of diseases, | Waste water generated from the constructional activity will be used as sprinkling on the dusty tracks or for restoration of the land.<br><br>Waste water monitoring is recommended on regular basis.<br><br>Waste water treatment facility is recommended for each individual industry to treat waste water. After the treatment in wastewater treatment facility, water will be disposed of in the wastewater collection system present at the project site and will be disposed into nearest<br><br>drain. | Wastewater treatment facility has already been installed within facility of M/s Fast Cables Limited.<br><br>Waste will be drained out into nearest drain after treatment in septic Tank | Environmental Consultant |

| | | | | | |
|---|---|---|---|---|---|
| **Solid waste generation** | | | | | |
| 8 | Solid Waste Generation | Land & soil contamination, aesthetic degradation, foul smell etc.<br><br>Solid waste generation from the construction activity, domestic and project process sources<br><br>Slag, ash, and furnace lining residues may be produced and require proper disposal. | A solid waste management division will be formulated to deal with the proper disposal of solid waste, supervised by HSE Manager, SW Manager, and other related personnel.<br><br>Constructional waste must be utilized for maintenance purposes.<br><br>Recycling of material should also be implemented up to possible extent.<br><br>Existing Project related solid waste should be handed over to contractors.<br><br>Sludge from the septic tank must be replaced on regular basis.<br><br>It is recommended to ensure Proper housekeeping.<br><br>It is recommended to adopt proper waste management system.<br><br>Industrial ecology practice will be adopted wherever applicable and possible.<br><br>7 R‘s of sustainability is recommend | HSE Department | Environmental Consultant/ EPA PUNJAB |

| | | | | | |
|---|---|---|---|---|---|
| **Odor** | | | | | |
| 9 | Odor | There will be no source of odor from the both construction and operation of the project | Nil | NA | |
| **Energy requirement** | | | | | |
| 10 | Energy requirement | Resource depletion | Do not waste the energy/electricity when there is no need of it.<br><br>Use energy efficient machinery and equipment<br>Use energy saving products<br><br>Conduct and maintain records for energy audits<br>Do not leave the machinery in running form when there is no working being done<br><br>Machinery must never be left unattended<br><br>It is recommended to save and conserve the energy and adopt energy efficient technologies during the construction phase | HSE Department | Environmental Consultant/ EPA PUNJAB |
| **Socio economic impacts** | | | | | |
| 11 | Resettlement | Resettlement issues | The proposed area under the investigation is devoid-off any human settlement and it is the property of the M/s Fast Cables Limited. | NA | NA |

| | | | | | |
|---|---|---|---|---|---|
| 12 | Language | Change in cultural language | Maximum employment of Local people is recommended to preserve the local cultural language.<br><br>It will help in communication with the local<br><br>people to resolve any emerging issue near the project area | Proponent | NA |
| 13 | Health | Social performance of the individuals in the area | The project proponent shall assist the local impacted community for the improvement of health services<br><br>Health clinic must be established for the project workers. | Proponent | Proponent |
| 14 | Culture and norms of the area | Change in culture by the influx of nomadic people | Maximum local employment should be ensured to preserve the culture of the area | Proponent | NGO<br><br>survey/Envir onm ental Consultant |
| 15 | Sewage and waste disposal | Diseases caused by improper sanitation | Subject project will uplift the economic status of the nearest human settlements.<br><br>Awareness program will be initiated regarding the disposal of waste. | Proponent/ local NGO | NGO survey/ Environmental Consultant |

## 8.5 PROPOSED ENVIRONMENTAL MONITORING

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Monitoring for following Environmental Parameters is recommended:

**Table 8-4 Environmental Monitoring**

| Sr. # | Parameters | Monitoring Schedules | Monitoring Duration |
|---|---|---|---|
| 1 | Ambient Air Monitoring (NOx, COx, SOx, $PM_{10}$ ) | Quarterly | 8 Hours |
| 2 | Noise Level | Quarterly | Instant |
| 3 | Water quality | Quarterly | Some parameters on site, Others in lab |

## 8.6 Environmental management team along with their roles and responsibilities

The project proponent bears the responsibility for overseeing all the project activities. To cater to the varying requirements during operational phase, the proponent will hire personnel specifically dedicated to environmental management at the project site. This step is crucial to ensure the effective implementation and operations of the EMP.

Assigning the responsibilities to designated individuals is paramount to uphold accountability in the event of any oversight or mishap. Each appointed person will have specific duties outlined within the EMP. These responsibilities will be tailored to their roles, ensuring they are accountable for the successful execution of environmental protocols and procedures.

By delineating and assigning these responsibilities to individuals, the project proponent establishes a framework where each person understands their role and obligation within the broader context of environmental management. This structuring allows for a more efficient response to any environmental issue. This approach aims to create a clear chain of accountability, ensuring that the implementation of

EMP is conducted diligently and that there are identifiable points of contact for any concerns or queries related to environmental management during the project's operational phase.

### 8.7 Environmental Monitoring Program

An EMP is a structured system designed to consistently observe, assess, and record the environmental conditions and impacts associated with the construction of LPG storage plant. It involves systematic data collection related to air quality, water quality, soil conditions, and biodiversity. This collected data is analyzed to detect any deviations from the PPEQs.

It also involves impact assessments, communication of findings to stakeholder, and adaptive management –making necessary adjustments to mitigate environmental risks and issues. The program's goal is to ensure sustainable environmental practices, minimize adverse impacts, and maintain compliance with set standards, contributing to better environmental management and long-term sustainability.

The objectives of the Environmental Monitoring Plan are given below;

- ✓ Detecting environmental changes to prevent and minimize potential negative impacts on the environment.
- ✓ Ensuring compliance with environmental laws, permits, and regulations by regular monitoring and reporting environmental parameters. This helps in meeting legal requirements and avoiding penalties or sanction.
- ✓ Assessing and managing potential risks to the environment caused by human activities. This involves evaluating the impact of these risks and implementing strategies to mitigate or manage them effectively.
- ✓ Monitoring and managing the use of natural resources such as water, air, soil, and biodiversity. The goal is to conserve these resources and maintain ecological balance.
- ✓ Assessing the impact of specific actions, projects, or processes on the environment to understand their consequences and make informed decisions regarding future actions.
- ✓ Using collected data to improve environmental performance, refine strategies, and adapt measures to achieve better outcomes over time.
- ✓ Establishing protocols and responses for emergencies or unexpected environmental incidents, ensuring a rapid and effective reaction to minimize damage.

Table 8-5: **Monitoring Parameters**

| | Monitoring parameters | Monitoring location | Monitoring mechanism | Remarks |
|---|---|---|---|---|
| **A. Construction phase** | | | | |
| 1. | **Noise** | Construction vehicle/ machinery/ generators/welding work | Noise meter | Construction vehicles/ machinery/ generators will be checked regularly for noise level by the contractor during construction phase. |
| 2. | **Air Emissions** | Construction vehicle/ machinery/ generators | Ambient particulate matter monitoring. | Construction vehicles / machinery / generators will be checked regularly for smoke emissions by the contractor during construction phase. |
| **B. Operation phase** | | | | |
| 1. | **Air Emissions** | Filling of Storage Tanks | Gaseous Emissions | Will be carried out on quarterly basis |
| 2. | Wastewater monitoring | Wastewater discharging | Detection of residual | Will be carried out on quarterly basis. |

| | | | | |
|---|---|---|---|---|
| | | points | hydrocarbons and Particulate Matter | |

## 8.8 Environmental Budget

An environmental budget is a crucial aspect for the construction of LPG storage tank, as it delineates the financial allocation specifically designated for environmental management, sustainability, and mitigation potential ecological impacts. Before the commencement of the project, a detailed environmental budget was carefully formulated and allocated to ensure the responsible management of environmental aspects throughout the project's lifecycle.

The environmental budget outlined a comprehensive plan detailing financial resources for various environmentally significant aspects of the project. It encompassed expenses associated with the implementation of sustainability measures, compliance with environmental regulations, and the execution of eco-friendly initiatives. Moreover, the budget accounted for costs related to environmental impact assessments, monitoring systems, and routine environmental audits to ensure adherence to established standards and regulations.

Table 8-6: **Environmental Budget**

| Environmental Component | Amount PKR | Details | Remarks |
|---|---|---|---|
| **A. Environmental Management Cost** | | | |
| **Fire and Health & Safety Measures** | 35,000,000 | The workers are required to provide the PPEs for work site safety precaution and to avoid any safety hazard. | Amount to be included in the Project Budget. |
| **B. Environmental Monitoring Cost** | | | |

| | | | |
|---|---|---|---|
| (i) Air, Water and Noise Monitoring | 10,000,000 | Monitoring will be performed as per EPA Standards | Amount to be Included in Project Budget |
| **C. Tree Plantation**<br><br>Tree Plantations of Endemic / Local Species | 12,600,000 | Landscaping around the project site. | Required for implementation of true spirit of EMP |
| **Total Environmental Management and Monitoring Cost in PKR (A+B+C)** | 77,600,000 | Summing up A,B, C | Amount to be included in the Project Budget. |

# 9 TREE PLANTATION PLAN

The incorporation of a tree plantation plan within an EIA is of paramount importance for several compelling reasons. Trees play a pivotal role in environmental sustainability, acting as natural carbon sinks, enhancing biodiversity, and mitigating the impacts of climate change. A well-designed tree plantation plan contributes significantly to offsetting carbon emissions associated with a project, thereby fostering a more balanced and ecologically friendly footprint. Beyond their role in carbon sequestration, trees contribute to soil stabilization, preventing erosion and promoting water retention. They also provide habitat for diverse wildlife, supporting biodiversity conservation. Moreover, trees contribute to the improvement of air quality by filtering pollutants and releasing oxygen, thereby enhancing the overall health and well-being of surrounding communities. Integrating a tree plantation plan into the EIA showcases a commitment to ecological stewardship and reflects a proactive approach toward environmental sustainability, aligning the project with broader conservation goals and community well-being.

## 9.1 Objectives of tree plantation

The following objectives of tree plantation help to clarify its basic purpose.

- ✓ Trees in urban areas provide shade and heat reduce heat, mitigation the urban heat island heat.
- ✓ Trees store carbon in their biomass, helping and reduce the atmospheric carbon dioxide levels.
- ✓ Trees contribute to visual appeal of urban and rural landscapes, making areas more attractive.
- ✓ Trees yield valuable resource such as timber, fruits, nuts, and medicinal plants.
- ✓ Trees plantations create employment opportunities for the people living in the vicinity of the project area.
- ✓ Trees act as a natural air filters by trapping airborne pollutants and particulate matter.
- ✓ Trees release oxygen during photosynthesis, improving air quality.
- ✓ Trees help maintain healthy watersheds, reducing the risk of floods and ensuring a consistent water supply.
- ✓ Trees help prevent soil erosion by anchoring soil with roots.
- ✓ Trees planted strategically can safeguard against landslides and protect roads and buildings.

- ✓ Trees absorb carbon dioxide and release oxygen, helping reduce greenhouse gas level and circumvent climate change.
- ✓ Trees can efficiently serve as windbreaks.

### 9.2 Benefits of Tree Plantation

A well-executed tree plantation plan offers numerous advantages, covering all the environmental, economic and soil aspects. Some of the key benefits of tree plantation are enlisted below;

- Plants absorb carbon dioxide ($CO_2$) from the atmosphere and store this carbon in the biomass helping to circumvent climate change by reducing greenhouse gas emissions.
- Roots of the trees help to stabilize soil and prevent soil erosion.
- Trees act as a natural air filter, by trapping particulate matter which leads to healthier living environments.
- Trees can provide habitat and food residues to birds contributing to local biodiversity.
- Trees act as a natural buffer that helps to control and purify water entering into the streams and rivers reducing the risks for the contamination of water.
- Well-maintained tree plantation enhances the visual appeal of the landscapes, making area more attractive.
- Tree roots can improve soil quality by increasing its organic matter content and nutrient availability.
- Tree plantation contribute to climate resilience by moderating temperature extremes, reducing the risk of heatwaves, and providing shelter from extreme weather events.
- Trees can help to enhance the mental and physical well-being of the people living around the project area.
- A well-designed tree plantation plan serves as a long-term investment in the environment and the future, as they continue to provide benefits for generations to come.

### 9.3 Area Enhancement Plan

Tree plantation plan of the area has been prepared keeping in view the project area and length. The plan is based on best possible estimations and can be modified accordingly at the execution stage.

### 9.4 Trees Recommended

Tree species are recommended for the plantation are the indigenous species of District Rawalpindi.

**Table 9-1 Trees to be planted**

| Sr. No. | Local Name | Scientific Name |
|---|---|---|
| 1. | Shisham | Dalbergia sissoo |

| | | |
|---|---|---|
| 2. | Keekar | Acacia arabica |
| 3. | Siris | Albizzia lebbeck |
| 4. | Ber | Ziziphus jujuba |

## 9.5 COST OF TREE PLANTATION

The cost for the plantation and maintenance of trees at the project site is estimated as12.3 million. The budget has been calculated for the procurement of manure, continued supply of water throughout the year. The proponent will make a proper record of the current number and conditions of the planted trees.

## 9.6 Tree Plantation Drives

Fast Cables Ltd. has remained committed to environmental sustainability and afforestation through organized and large-scale tree plantation activities over recent years. These efforts are part of our broader initiative to mitigate climate change, improve air quality, and promote green urban environments.

**Key Tree Plantation Achievements:**

**2023**

- Over 4,500 trees planted under the Miyawaki Urban Forest initiative.
- Partnership established with Parks & Horticulture Authority (PHA) Lahore
- Certificate awarded in recognition of contribution to urban afforestation.

**2024**

- 2,000 trees planted as part of the #TogetherForGreenPakistan campaign.
- Joint initiative with Rotary Club of Lahore Corporate and Punjab Forest Department.

**2025**

- 2,000 trees planted along River Ravi in collaboration with AlKhidmat Foundation and PHA Lahore, aimed at combating deforestation and enhancing the region's air quality.
- A plantation drive was also conducted at Fast Cables Ltd. Raiwind manufacturing facility, reinforcing Fast Cables' commitment to sustainability and ecological responsibility.

These ongoing green initiatives are aligned with company's corporate environmental policies and support Pakistan's broader afforestation and climate resilience goals

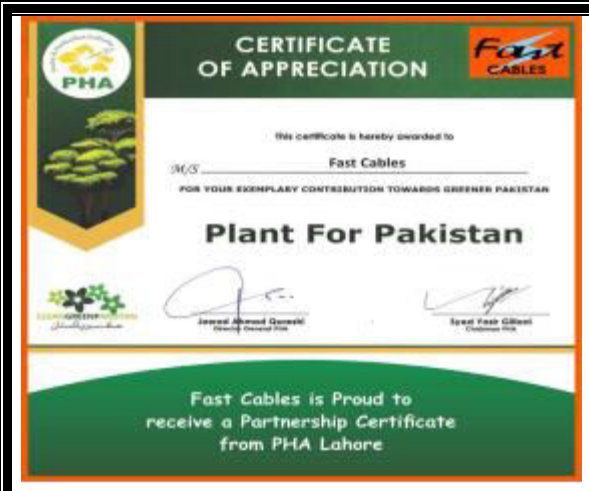





**Figure 9-1**

Figure 9-1: **Tree Plantaion Drive in 2023(4500+ Trees were planted)**

Figure 9-2: Tree Plantation in 2024 (2000 Trees were planted)


**Figure 9-3**

Figure 9-3: Tree Plantation in 2025 (2000 Trees were planted)

# 10 OCCUPATIONAL HEALTH AND SAFETY PLAN

The Occupational Health and Safety (OHS) plan holds paramount importance within the framework of an EIA. This plan is a comprehensive document that outlines strategies and protocols to safeguard the well-being of workers involved in the project. Beyond the ethical imperative of ensuring a safe working environment, the OHS plan is integral to regulatory compliance and risk management. It identifies potential occupational hazards associated with the project, establishes preventive measures, and details emergency response procedures. By incorporating an OHS plan into the EIA, not only is the health and safety of the workforce prioritized, but it also contributes to the overall success and sustainability of the project. A well-executed OHS plan minimizes the likelihood of accidents, injuries, and occupational health issues, fostering a workplace culture that values the welfare of its personnel. In essence, the OHS plan, as part of the EIA process, aligns with responsible and ethical project management, ensuring that occupational health and safety considerations are seamlessly integrated into the project's design, implementation, and ongoing operations.

## 10.1 Objectives of Occupational Health and Safety

The objectives of Health and Safety plan at M/S Fast Cables are given below

- ✓ Protect the health and safety of employees, contractors, visitors, and the surrounding community**.** This includes preventing injuries, illnesses, and fatalities caused by wires and cables manufacturing unit.
- ✓ Comply with all applicable health, safety, and environmental regulations.

## 10.2 Scope of Occupational Health and Safety Plan

This plan shall be applicable to all phases of the facility, including:

- Construction and erection of production halls and utilities
- Commissioning and testing of equipment
- Routine operations, maintenance, and repairs
- Storage and handling of raw materials and chemicals (e.g., PVC, copper)
- Waste management and emergency response

### 10.2.1 Key Components Covered in the OHS Scope

1. **Hazard Identification & Risk Assessment (HIRA)**
    - Assessment of physical, chemical, electrical, and mechanical hazards.
    - Job hazard analysis for high-risk activities (e.g., extrusion, annealing, tinning).
2. **Safe Work Practices**
    - SOPs for equipment operation (drawing machines, extruders, electroplating units).
    - Lockout/tagout (LOTO) protocols during maintenance.

- Permits to work for hot works, confined spaces, and working at heights.

3. **Personal Protective Equipment (PPE)**
   - Mandating use of helmets, gloves, eye protection, safety shoes, hearing protection.
   - PPE issuance, inspection, and training.
4. **Fire Safety & Emergency Preparedness**
   - Installation of fire alarms, extinguishers, hydrants, and smoke detectors.
   - Emergency response drills (fire, chemical spill, electrical short-circuit).
   - Designated evacuation routes and muster points.
5. **Occupational Health Surveillance**
   - Periodic medical screening of workers (especially for noise exposure, chemical handling).
   - Monitoring of indoor air quality and noise levels in operational zones.
6. **Training & Awareness**
   - Induction training for new employees and contractors.
   - Periodic HSE training (e.g., fire safety, first aid, use of PPE, hazard communication).
   - Toolbox talks before high-risk jobs.
7. **Incident Reporting and Investigation**
   - Procedures for reporting near misses, injuries, and unsafe conditions.
   - Root cause analysis and corrective action implementation.
8. **Monitoring and Compliance**
   - Regular safety inspections and audits by HSE team.
   - Compliance with national HSE laws (e.g., PEPA, Punjab Occupational Safety Act).
   - Coordination with regulatory authorities during inspections or audits.
9. **Occupational Safety Infrastructure**
   - Dedicated first aid rooms, HSE office, safety signage.

## 10.3 PERSONAL PROTECTIVE EQUIPMENT

- In the wires and cables manufacturing industry, workers are routinely exposed to a range of occupational hazards involving mechanical equipment, high temperatures, electrical components, and chemical substances. The use of Personal Protective Equipment (PPE) is essential for ensuring a safe and compliant workplace. Below are key PPE-related safety considerations specific to this sector:

- PPE provides a crucial line of defence against various occupational hazards prevalent. It includes items such as safety helmets, gloves, safety glasses, and respiratory protection, which shield workers from potential injuries, chemical exposures, and airborne particles.

- Utilizing PPE is often a legal requirement and is mandated by occupational health and safety regulations. Adhering to these regulations not only ensures the safety of workers but also prevents regulatory penalties and legal issues for the manufacturing unit.

- **Chemical Exposure Protection**

- During processes such as extrusion, insulation, sheathing, and electroplating, workers may be exposed to various chemicals including PVC compounds, plasticizers, lubricants, and acids used in cleaning or plating.
- Chemical-resistant gloves, face shields, aprons, and protective suits safeguard workers from skin contact, chemical burns, and potential toxic exposure.
- **Airborne Particulates and Fumes**
- The manufacturing environment may contain fine dust particles, polymer fumes, or metallic vapors, especially in the drawing, tinning, and annealing sections.
- Use of respirators or industrial-grade face masks is essential to prevent inhalation of harmful substances, protect respiratory health, and reduce the risk of long-term respiratory issues.
- **Mechanical and Electrical Hazards**
- Operators working with high-speed machines (e.g., wire drawing, bunching, and stranding units) face risks of cuts, entanglement, or electrical shocks.
- Safety helmets, anti-static overalls, steel-toed boots, insulated gloves, and safety goggles provide robust protection against physical and electrical hazards.
- **Emergency Response Readiness**
- In the event of fire, chemical spills, or equipment failure, PPE plays a critical role in protecting workers from immediate danger.
- Hard hats, flame-resistant clothing, and reinforced footwear provide extra protection during accidents or evacuation procedures.
- **Worker Comfort and Compliance**
- Properly fitted, ergonomic PPE ensures worker comfort, especially during long shifts in high-temperature zones (e.g., extrusion or annealing areas).
- Comfortable PPE encourages consistent usage, helps reduce fatigue, and promotes a culture of safety and responsibility.
- **Employer Commitment and Workforce Morale**

- Provision of high-quality PPE reflects the employer's dedication to worker welfare and regulatory compliance (e.g., under PEPA, OSHA, and provincial labor laws).
- This boosts employee trust, morale, and retention, while also enhancing productivity and overall operational safety.

## 10.4 PPE REQUIRED FOR CONSTRUCTION PHASE

During the construction of a project, including a paper manufacturing unit, a comprehensive set of Personal Protective Equipment (PPE) is necessary to safeguard the health and safety of workers involved in various tasks. The specific PPE requirements may vary based on the nature of construction activities, potential hazards, and regulatory standards. Here is a general list of PPE commonly required during construction:

**Head Protection:** Hard hats to protect against falling objects, impact, or head injuries.

**Eye and Face Protection**: Safety glasses or goggles to shield the eyes from dust, debris, or other airborne particles. Face shields for additional protection during tasks with a higher risk of facial exposure.

**Hearing Protection:** Earplugs or earmuffs to reduce exposure to loud noises, especially in areas with heavy machinery or construction equipment.

**Respiratory Protection**: Dust masks or respirators to protect against inhalation of dust, particulates, or hazardous substances.

**Hand Protection**: Safety gloves appropriate for the specific tasks, such as cut-resistant gloves, leather gloves, or chemical-resistant gloves.

**Body Protection**: High-visibility vests or clothing to enhance visibility, especially in areas with moving equipment. Reflective clothing for nigh time or low-visibility construction activities. Protective clothing, such as coveralls, for tasks involving exposure to hazardous substances.

**Foot Protection**: Steel-toed safety boots or shoes to protect against crushing injuries, falling objects, or punctures.

**Fall Protection**: Safety harnesses, lanyards, and other fall protection systems for workers operating at heights or in elevated areas.

**Hand and Arm Protection**: Elbow and knee pads for tasks that involve kneeling or crawling. Wrist support or braces for tasks with repetitive motions.

**Weather Protection:** Weather-appropriate clothing, such as rain gear, insulated clothing, or sunscreen, depending on the climate and weather conditions.

**First Aid Kit**: Access to a well-equipped first aid kit to provide immediate care for minor injuries.

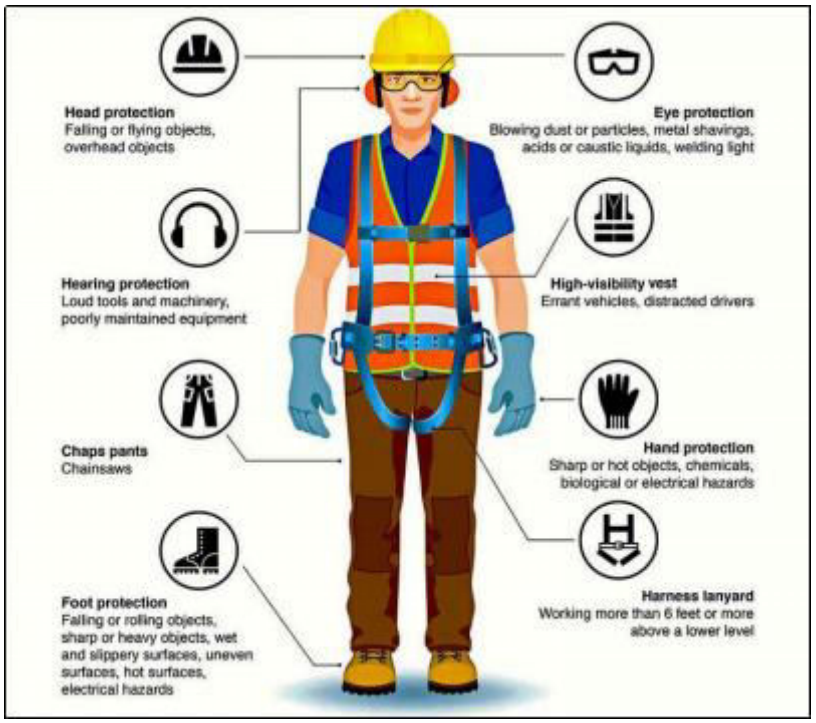



Figure 10-1:**PPEs for Construction Phase**

It is essential for the construction project management to conduct a thorough hazard assessment to identify the specific risks associated with each construction activity and determine the appropriate PPE for the workers involved. Regular training, monitoring, and enforcement of PPE usage contribute to a safer construction environment.

## 10.5Safety Signs During Construction Phase

Safety signs serve as critical elements in maintaining a secure and hazard-free environment at construction sites. Their importance lies in their ability to effectively communicate potential risks and hazards to workers, visitors, and contractors. By providing clear information about safety procedures, required personal protective equipment, and safe work practices, these signs play a pivotal role in preventing accidents and injuries. Moreover, safety signs contribute to regulatory compliance, ensuring

adherence to local regulations and occupational health and safety standards. They also serve as essential tools for emergency response by indicating the location of emergency exits, first aid stations, fire extinguishers, and other emergency equipment. In addition to their role in risk reduction, safety signs assist in site navigation, guiding individuals to specific areas and enhancing overall organization. Beyond practical benefits, safety signs contribute to fostering a culture of safety awareness among the workforce. They communicate important safety policies, promote compliance with site-specific regulations, and reduce the project's liability by showcasing a commitment to responsible construction practices. Ultimately, safety signs are integral components in creating a safe, compliant, and organized construction site conducive to the well-being of all involved parties.


Figure 10-2:**Safety signs for Constructional Phase**

## 10.6**Personal Protective Equipment During Operationlal Phase**

Personal protective equipment (PPE) is an important part of any health and safety plan at wires and cables manufacturing units. PPE can help to protect employees from a variety of hazards, including:

- PPE can help to protect employees from exposure to LPG vapors, which can be harmful to the respiratory system and can cause burns.
- PPE can help to protect employees from flying debris and from the heat and flames associated with an explosion.

- PPE can help to protect employees from burns and from exposure to smoke and toxic gases.
- PPE can also help to protect employees from other hazards, such as slips, trips, and falls.


Figure 10-3: **PPES for Operational Phase**

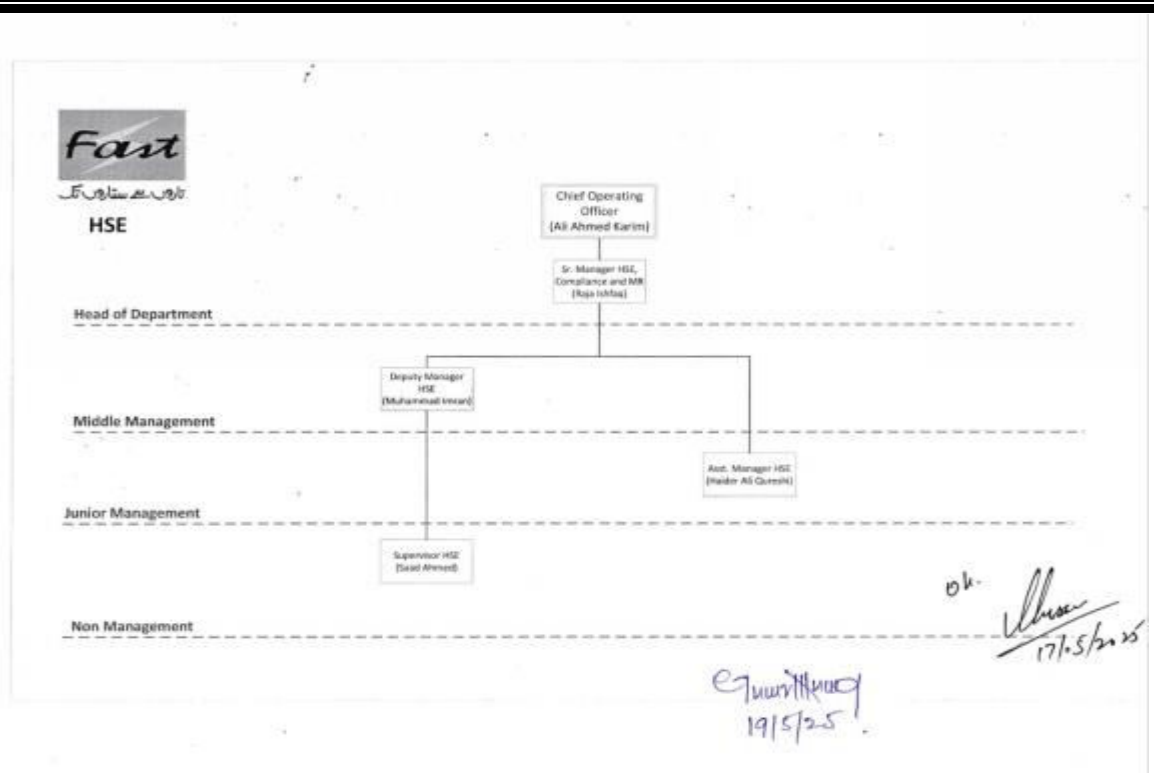



Figure 10-4: **HSE Organogram at Fast Cables Ltd.**

# 11 EMERGENCY RESPONSE PLAN AND EVACUATION/EXIT PLAN


## 11.1 EMERGENCY PREPAREDNESS AND RESPONSE

**Policy:**

Fast Cables Ltd. is committed to ensuring the safety of its employees, protecting the environment, and maintaining compliance with applicable legal and regulatory requirements. In line with BASEC PCR 14 requirements and Environmental Management System (EMS), an effective **Emergency Preparedness and Response Procedure** is established and maintained to identify potential emergency situations and respond appropriately.

**Purpose:**

This procedure covers all the emergency situations & incidents that may be occurred by the activities & products of Fast Cables or which may happen in Fast Cables or associated with its activities & products..

**RESPONSIBILITY & FREQUENCY**

The responsibility of emergency response and evacuation plan of Fast Cables is aligned in table

**Table 11-1: Responsibility for Implementation of Emergency and Evacuation Plan**

| TASK | RESPONSIBILITY |
|---|---|
| Overall Implementation of this SOP | HOD HSE |
| Identify potential emergency situations | All Staff |
| Preparation of contingency plan | HOD HSE |
| Make necessary arrangements to deal with | HOD HSE |
| Organize awareness / training employees of regarding | HOD HSE |
| Review & revise emergency preparedness | HOD HSE |
| Periodic test of procedure | HOD HSE |

The implementation of the emergency and evacuation plan is a **continuous and ongoing process**, integrated into company's routine safety practices. Regular drills, reviews, and updates ensure preparedness and adaptability to changing risks.

## 11.2 PROCEDURE

Fast Cables Ltd. has established and maintained a well-defined emergency preparedness and response system as part of its commitment. Given that cable manufacturing is a continuous and complex process involving various mechanical, electrical, and chemical operations, the potential for unforeseen emergency situations cannot be overlooked. Emergency situations have been characterized as follow:

| Sr. # | Unnatural Hazards / Disaster | Natural Hazards / Disaster |
|---|---|---|
| 1 | Accident | Flood |
| 2 | Fire incident | Earthquake |
| 3 | Major spillage incident | Thunderstorm |
| 4 | Hazardous gas release | - |
| 5 | Food poisoning | - |
| 6 | Bomb threat | - |
| 7 | Strike | - |

## 11.3 General Evacuation Procedure:

Not all emergencies require evacuation. Before evacuating, evaluate risks such as hazardous materials and building integrity.

## 11.4 Fire Emergency Response:

In Case of Fire at Fast Cables Ltd, following emergency response protocol have been established by the HOD HSE:

- Sound the alarm and call 0 (Main Gate).
- Use nearest extinguisher if safe.
- Isolate power and fuel.
- Evacuate calmly to assembly point.
- Call fire brigade if fire is uncontrolled.
- Use PPE and assist trained teams under supervision.

## 11.5 Emergency exits and designated Assembly points

As part of its comprehensive Fire Emergency Response Plan, Fast Cables Ltd. has established clearly marked **emergency exits** and designated **assembly points** across all operational areas, including **6 Halls, Electrical Workshop, Mechanical Workshop, and the LED Section**, to ensure safe and efficient evacuation during fire incidents. These exits and assembly areas are regularly inspected and maintained to remain visible, accessible, and free from obstruction, reinforcing the company's commitment to employee safety and emergency readiness.

### 11.6 Fire Fighting Equipment's:

As part of its comprehensive Fire Emergency Response Plan, Fast Cables Ltd. has established clearly marked emergency exits and designated assembly points across all operational areas (Hall 1-8) to ensure safe evacuation during fire incidents. The company maintains a full inventory of firefighting equipment, including extinguishers, fire trolleys, fire pumps, hose reel, Sand buckets, and hydrant systems, all of which are subject to a routine inspection and maintenance schedule.

A formal Firefighting Equipment Inspection Plan is implemented to ensure all fire safety tools remain functional and compliant with safety standards. In addition, a Firefighting Drill Program is conducted on a quarterly basis, and drill reports are systematically documented to assess response effectiveness and improve readiness. These proactive measures reflect Fast Cables Ltd.'s strong commitment.

#### 11.6.1 Quarterly Firefighting Drills

Fast Cables Ltd. conducts quarterly firefighting drills as part of its ongoing HSE training program. These drills function as refresher sessions to reinforce employees' understanding of emergency evacuation procedures, firefighting equipment usage, and safe response techniques during fire incidents. The objective is to enhance preparedness, ensure timely response, and minimize risk during actual emergencies. Each drill is systematically recorded and reviewed in a Quarterly Fire Fighting Drill Report, which is maintained for compliance, performance evaluation, and continuous improvement in fire safety management.

#### 11.6.2 Major spillage incident

Fast Cables Ltd. ensures that all potential spillage areas are structurally designed to contain and control any accidental release. Preventive measures are in place to minimize the risk of major spills. In case of a major spillage, all employees, contractors, workers, and visitors in the affected area must proceed to the designated assembly point and remain there until a clear signal is given by the HSE team. A detailed Emergency Response Plan for Major Spillage is documented in Work Instruction # HSE-P7-W2, which outlines step-by-step procedures for response and recovery.

- Stop pump and valve.
- Inform in-charge + call emergency (0).
- Cut power if safe.

- Cordon off area.
- Use PPE, transfer chemical if leaking.
- Clean, repair, and inspect before restart.

### 11.6.3 Bursting of Steam Line or valve

ERP for Bursting of Steam Line is as follows

- Close the steam supply valve immediately to stop leakage.
- Inform the shift in-charge / sectional in-charge / departmental head.
- Notify the concerned department to stop steam supply.
- If uncontrolled, activate emergency alarm, isolate the area, evacuate, and proceed to the assembly point as per the Safety Arrangement Layout.
- Repair the burst line or valve urgently and inspect the system thoroughly before resuming operation.

### 11.6.4 ERP for Explosion of Oxyacetylene Cylinder

- Check for injuries or casualties and provide first aid immediately
- Evaluate fire – if controllable, attempt to extinguish using available equipment.
- Call emergency number Zero (0) at the main gate immediately.
- If out of control, cordon off / isolate the area.
- Request additional assistance if needed
- Use appropriate fire fighting tools suited to the type of incident
- For major incidents, respond promptly and ensure injured individuals are sent to hospital

### 11.6.5 Food Poisoning

In the event of a suspected food poisoning case, the HSE department is immediately informed. Affected individuals are promptly shifted to the nearest hospital or clinic for medical attention. If required, a medical team may be arranged onsite to provide emergency treatment within the factory premises. These actions ensure swift response and prioritization of employee health and safety.

### 11.6.6 Bomb Threat


In case of a bomb threat, Fast Cables Ltd. immediately informs the Shift In-Charge and HSE Head. The affected area is evacuated, and all personnel move to designated assembly points. Operations are halted, and firefighting teams remain on high alert. HSE contacts local authorities for bomb disposal support. Re-entry is allowed only after official clearance, followed by an internal investigation by the HSE Department.

## 11.7 Natural Hazards / Disaster

**Flood**

In case of rising floodwaters that threaten to disrupt operations, all machines are safely shut down. Immediate measures are taken to protect both personnel and equipment. The HSE team coordinates efforts to minimize damage and ensure safety.

**Earthquake**

Upon experiencing earthquake tremors, all on-duty personnel are instructed to evacuate buildings immediately and move to the nearest open or assembly area. A post-event damage assessment and repair plan is prepared by the HOD HSE in coordination with relevant departments.

**Thunderstorm**

When a thunderstorm is anticipated, HSE ensures protective arrangements for personnel and equipment. Staff is advised to stay indoors during the storm. After the storm passes, the HOD HSE prepares a damage report and repair strategy, if necessary.

## 11.8 Fast Cable ltd. Hall wise evacuation plan

### 11.8.1 : Evacuation Plan For HSE Copper Hall

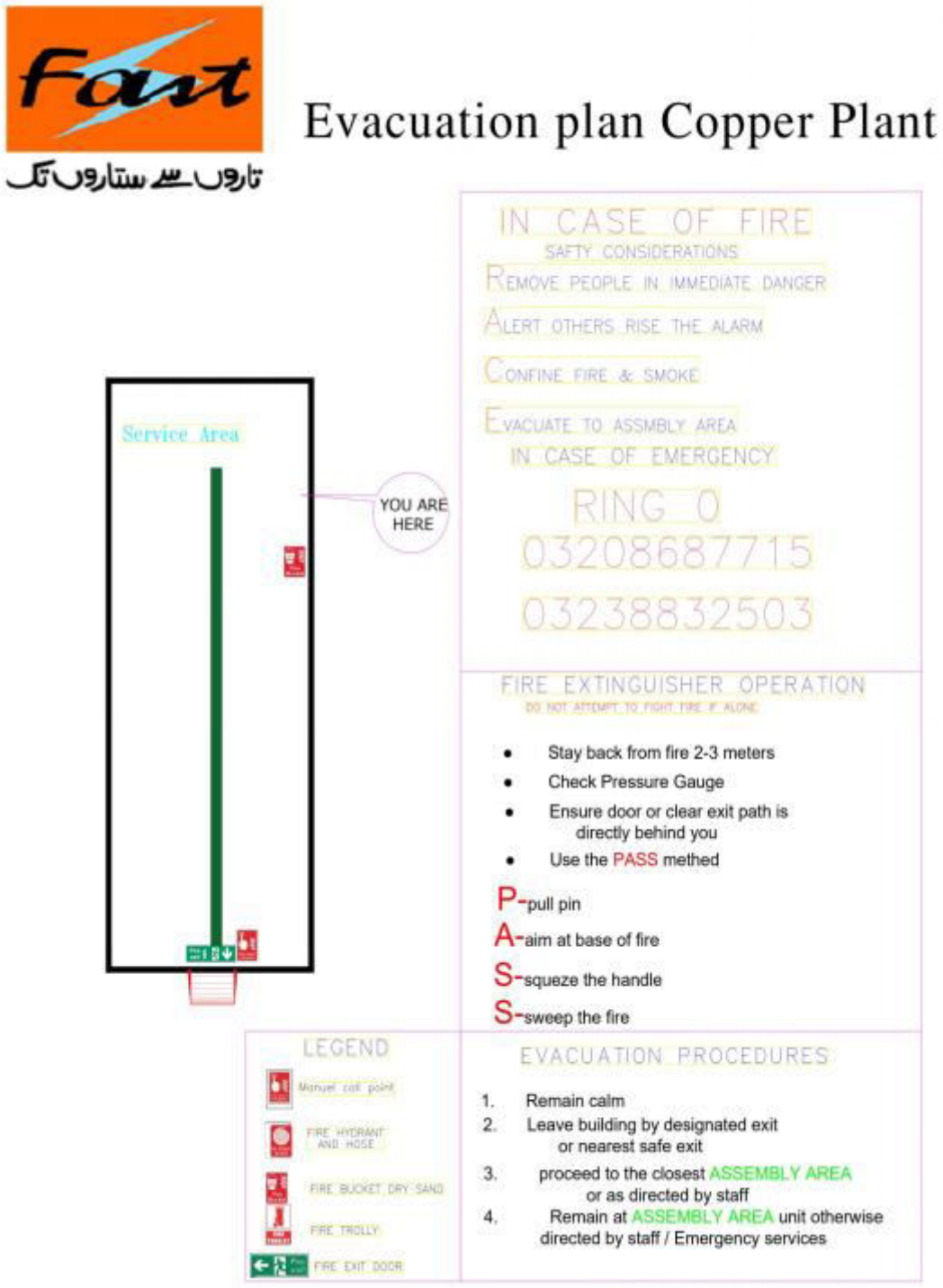



**Figure 11-1: Evacuation plan for HSE Copper Hall**

## 11.8.2 : Evacuation plan for Hall 1 CCV lines

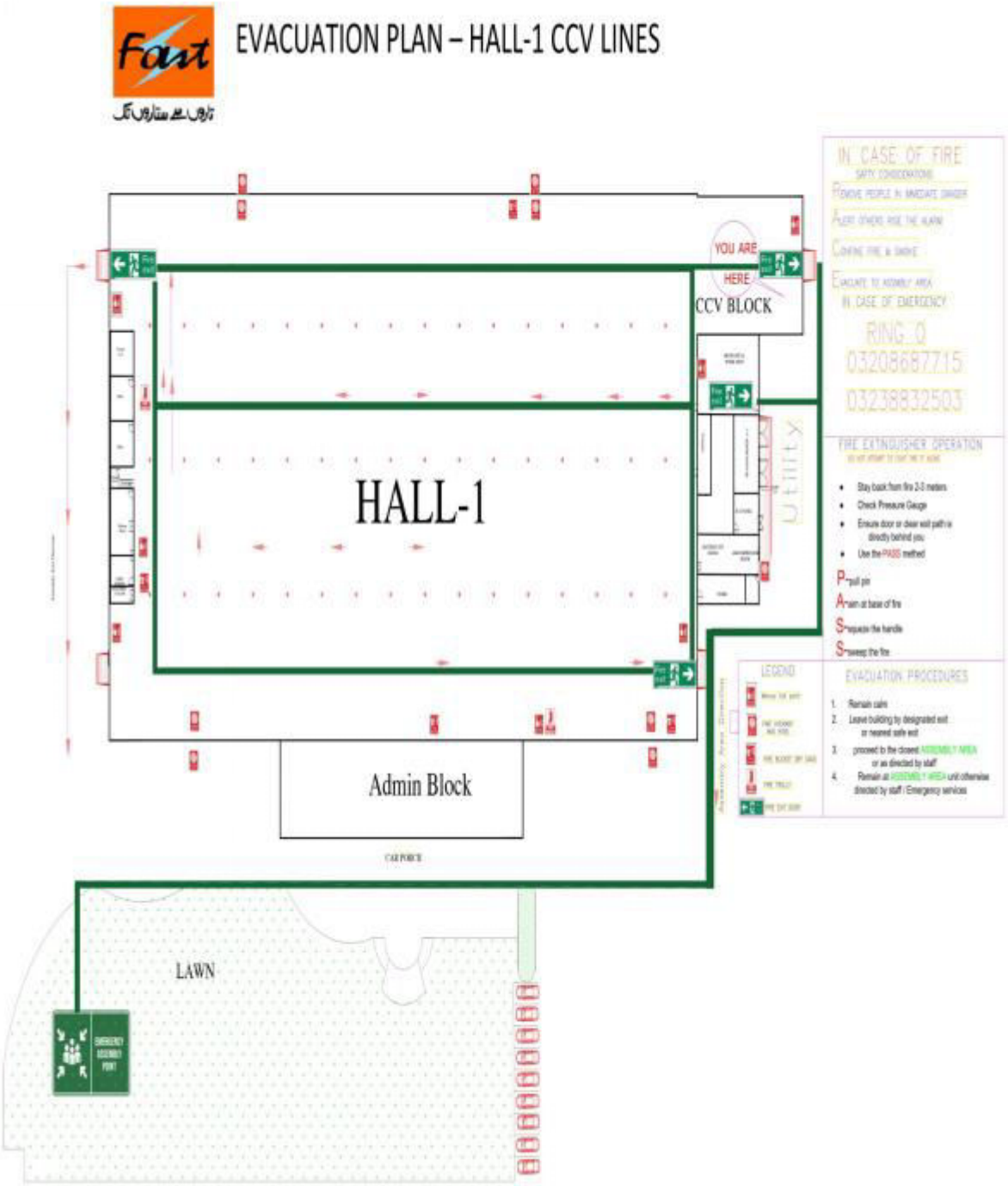



Figure 11-2: **Evacuation plan for Hall 1 CCV lines**

11.8.3 **: Evacuation plan for Hall 1 electrical workshop**

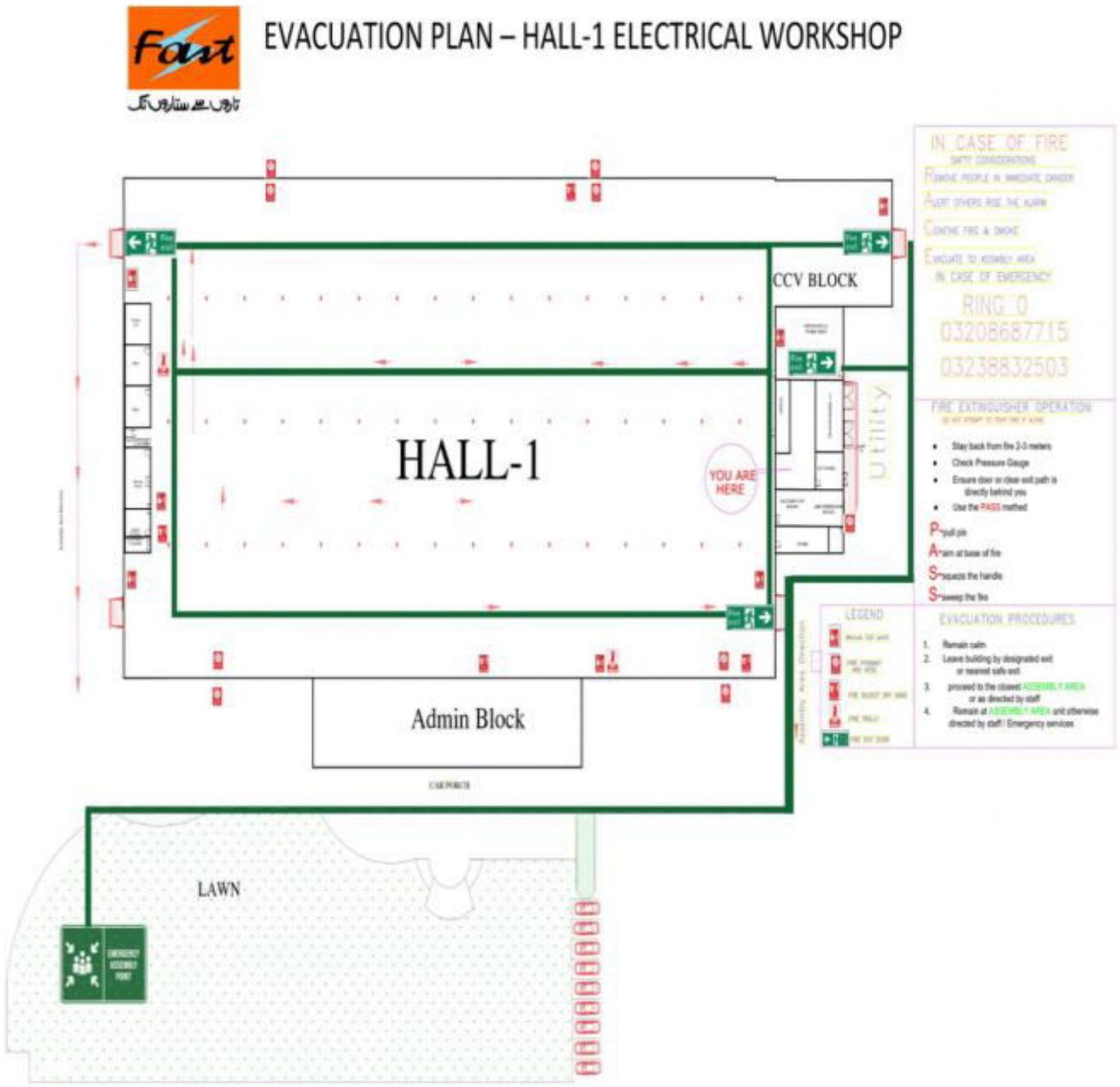


Figure 11-3: Hall 1: Electrical workshop

### 11.8.4 : Evacuation plan for Hall-1, meeting room

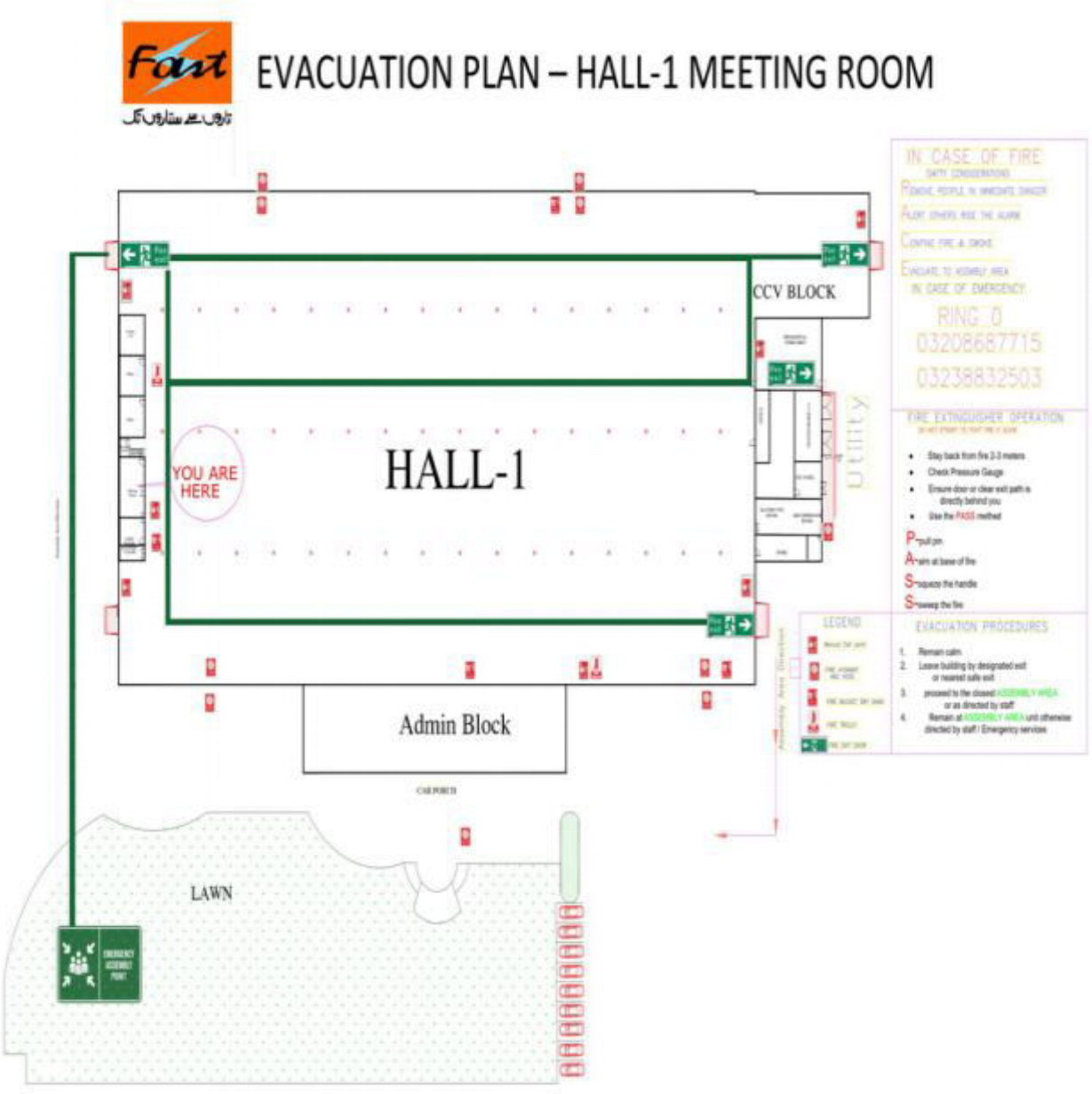



Figure 11-4: Evacuation Plan for Hall-1, Meeting Room

11.8.5 **: Evacuation Plan for QC Lab**

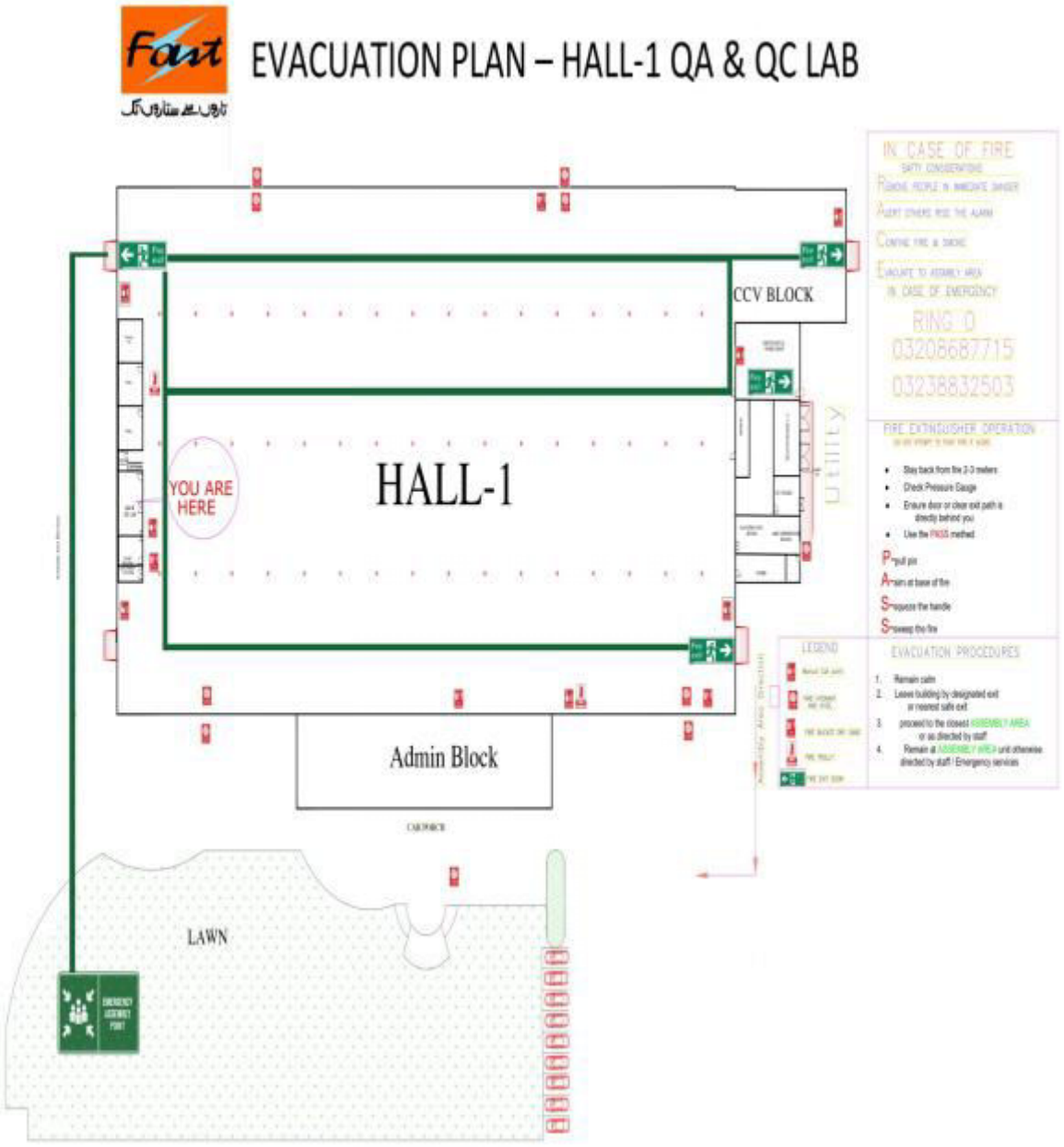


**Figure 11-5**

Figure 11-5: **Evacuation plan for QC-Lab**


Figure 11-6: **Evacuation plan for HSE Hall 2**

11.8.6 **: Evacuation plan for Aluminium plant**


**Figure 11-7: Evacuation plan for Aluminium plant**

11.8.7 **: Evacuation plan for Hall 5**

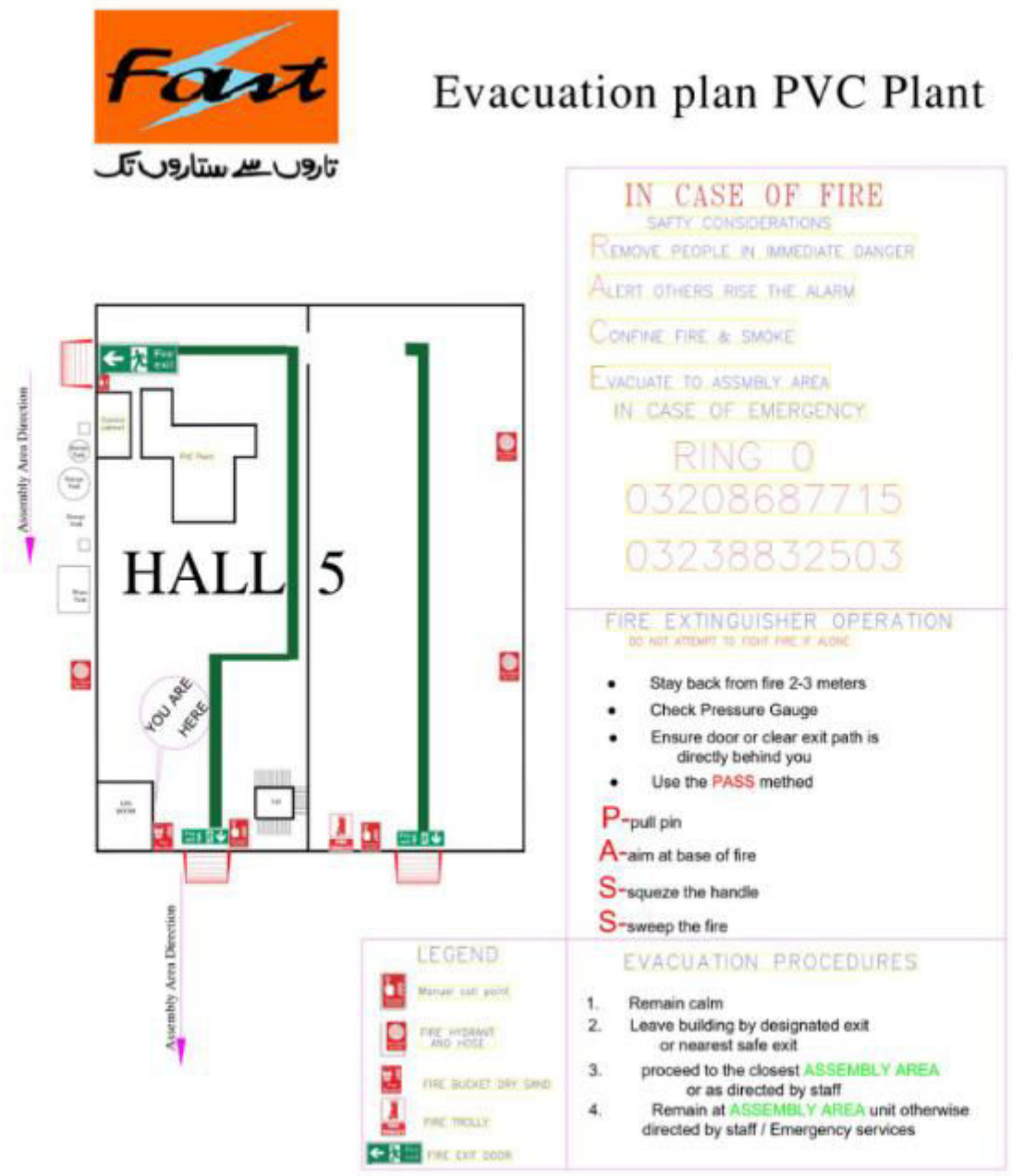



Figure 11-8**: Evacuation plan for Hall 5**

11.8.8 **: Evacuation plan for hall 6**


**Figure 11-9: Evacuation plan for hall**

11.8.9 : **Evacuation plan for HSE Store**


Figure 11-10: **evacuation plan for HSE Store**


# 12 FIRE SAFETY PLAN

## 12.1.1 Purpose of the Plan

The purpose of this Fire Safety Plan is to ensure effective fire prevention, preparedness, response, and evacuation measures across all operational phases of the wires and cables manufacturing facility. It is designed to safeguard life, property, equipment, and the environment from fire-related risks and ensure compliance with local building codes, NEQS, OSHA, and PEPA regulations.

## 12.1.2 Fire Hazard Identification

Key potential fire hazards in the plant include:

- Electrical faults from heavy machinery and panels
- Overheating during extrusion and annealing
- Flammable chemicals (PVC compounds, lubricants, solvents)
- Sparks during welding and maintenance
- Accumulated combustible waste (e.g., plastic scraps, packaging)

## 12.1.3 Fire Prevention Measures

- Preventive Maintenance**:** Regular inspection of all electrical systems, motors, panels, and machines to detect faults.
- Good Housekeeping**:** Proper disposal of combustible waste, ensuring no blockage of exit routes.
- Chemical Storage**:** Segregated and ventilated storage for flammable chemicals with MSDS displayed.
- No-Smoking Zones**:** Strict enforcement of no-smoking policies inside production and storage areas.
- Fire Risk Signage**:** Fire risk zones clearly marked with hazard signs and instructions.

**Fire Detection and Alarm Systems**

## 12.1.4 Fire Suppression Systems

- Portable Extinguishers**:** ABC-type and $CO_2$ extinguishers available at all key points (e.g., control panels, chemical areas, near machinery)
- Fire Hose Reels & Hydrants**:** Strategically located across the facility, especially outside halls and near chemical storage
- Automatic Sprinklers**:** Installed in high-risk zones such as cable sheathing/extrusion halls and storage rooms
- Sand Buckets / Fire Blankets**:** Positioned in designated emergency corners

FAST CABLES LTD.

Fire Fighting Equipment Inspection Plan

| Sr. # | Equipment | Location / Department | Frequency | Responsibility |
|---|---|---|---|---|
| 1 | Fire Extinguishers | All Department of Unit 2 | Monthly/Bi Monthly | HSE Representative |
| 2 | Fire Pump, Fire Hydrants, Hose reel | All Department of Unit 2 | Monthly | HSE Representative |
| 3 | Sand Buckets | All Department of Unit 2 | Monthly | HSE Representative |

Checked By: Muhammad Imran Designation: DM HSE Signature:
Reviewed By: Raja Ishfaq Hussain Designation: Sr Manager HSE Compliance & MR Signature:

HSE-P7-F6

Figure 12-1: **Fire Fighting Equipments at Fast Cable Ltd.**

## 12.2 Safety Features across Halls in FCL Unit 2

Fire extinguishers, fire hydrant, fire hose reels & fire alarm system installed for plant and employee‘s safety. Required PPEs will also be provided to working staff in the aluminum plant.

Table 12-1: **Safety Features at Aluminum Plant**

| Safety Equipment’s | Qty |
|---|---|
| Fire Extinguishers | 11 |
| Fire hydrant | 03 |
| Fire hose reels | 02 |
| Emergency Exits | 02 |

| | |
|---|---|
| Beam Detector | 02 |
| Smoke Detector | 04 |
| Manual Call Point | 06 |
| Sounder / Bells | 06 |
| Sand Bucket Stand (4 Buckets) | 01 |

## 12.3 Controls for Emission & Effluents

Exhaust emission of the furnaces will be controlled through water showering system inside the chimney, which dissolved heavy exhaust & dissolvable particles to reduce emission. Exhaust emission testing from local EPA approved laboratory shall also be conducted for monitoring & compliance. Water is being used for cooling purpose only and 100 % recycled.

### 12.4 Safety Features at PVC Plant

Fire extinguishers, fire hydrant, fire hose reels will be installed whereas fire alarm system shall be installed for plant and employee‘s safety. Required PPEs will be provided to working staff in the PVC plant.

**Table 12-2:Safety Features for PVC Plant**

| Safety Equipment’s | Qty |
|---|---|
| Fire Extinguishers | 06 |
| Fire hydrant | 04 |
| Fire hose reels | 02 |
| Emergency Exits | 02 |
| Sand Bucket Stand (4 Buckets) | 01 |

## 12.5 Controls for Emission & Effluents

There will be no emission or effluent of the PVC plant operation,

## 12.6 Safety Features at Copper plant

### 12.6.1.1 Proposed Safety Features

Fire extinguishers, fire hydrant, fire hose reels & fire alarm system shall be installed for plant and employee's safety. Required PPEs shall be provided to working staff in the copper plant.

Table 12-3: *Safety Features for Copper Plant*

| Safety Equipment's | Qty |
|---|---|
| Fire Extinguishers | 06 |
| Fire hydrant | 02 |
| Fire hose reels | 02 |
| Emergency Exits | 02 |
| Beam Detector | 02 |
| Smoke Detector | 04 |
| Manual Call Point | 02 |
| Sounder / Bells | 02 |
| Sand Bucket Stand (4 Buckets) | 01 |

## 12.7 Controls for Emission & Effluents

Exhaust emission of the furnaces shall be controlled through water showering system inside the chimney, which dissolved heavy exhaust & dissolvable particles to reduce emission. Exhaust emission testing from local EPA approved laboratory shall also being conducted for monitoring & compliance.

Water shall be used for cooling purpose only and 100 % recycled.

# 13 STAKEHOLDER CONSULTATION

Stakeholder consultation is of paramount importance in the EIA process as it facilitates inclusive decision-making, fosters transparency, and enhances the overall quality of the assessment. Involving stakeholders, including local communities, governmental bodies, non-governmental organizations, and affected parties, ensures that diverse perspectives, concerns, and local knowledge are taken into account. This inclusive approach contributes to the identification of potential environmental and social impacts that might not be evident from a solely technical or regulatory standpoint. Stakeholder consultation is a way to involve both the primary and secondary stakeholders in making decisions about the project. Stakeholder engagement builds trust, allows for the exchange of valuable information, and empowers communities by giving them a voice in the decision-making process. Moreover, it helps to align the project with the needs and expectations of the local population, minimizing conflicts and fostering a sense of shared responsibility for environmental stewardship. In essence, stakeholder consultation transforms the EIA into a more robust and credible tool, enhancing the sustainability and social acceptance of proposed projects.

## 13.1 OBJECTIVES OF STAKEHOLDER CONSULTATION

In 1992, the United Nations Conference on the Environment and Development (UNCED) supported the idea of involving the public in decision-making, and this was outlined in one of the key documents of the conference called Agenda 21.

Agenda 21 is a comprehensive plan for global actions focused on sustainable development and deals with how people interact with the environment. It highlights the importance of including the public in making decisions about the environment to achieve sustainable development.

The objectives of stakeholder consultation in the context of EIA are multi-faceted, aiming to foster meaningful engagement, inclusivity, and informed decision-making. Some key objectives include:

- ✓ Ensure the inclusion of diverse stakeholder perspectives in the decision-making process, promoting a more comprehensive understanding of potential environmental and social impacts.
- ✓ Provide a platform for stakeholders to express their concerns, values, and local knowledge related to the project, contributing to a more nuanced understanding of potential impacts and benefits.

- ✓ Gather valuable insights and feedback that can be integrated into the project design, helping to address and mitigate potential adverse impacts and enhance positive contributions.
- ✓ Establish trust among stakeholders by being transparent, responsive, and open to dialogue. Building trust is essential for the successful implementation of the project and its long-term acceptance by the community.
- ✓ Fulfill regulatory requirements by actively engaging with stakeholders, demonstrating a commitment to compliance with environmental and social standards, and addressing concerns raised during the consultation process.
- ✓ Facilitate an open and inclusive dialogue to build understanding and acceptance of the project within the affected communities, minimizing potential conflicts and fostering a sense of shared responsibility.
- ✓ Integrate local knowledge and community input to enhance the overall sustainability of the project, aligning it with the needs and aspirations of the affected stakeholders.
- ✓ Disseminate accurate and accessible information about the project, its potential impacts, and proposed mitigation measures to ensure that stakeholders are well-informed and can actively participate in the decision-making process.
- ✓ Consider the needs and interests of all affected parties, including vulnerable or marginalized groups, to ensure that the benefits and burdens of the project are distributed equitably.
- ✓ Create a platform for addressing conflicts and disputes, allowing for the resolution of issues through open communication and negotiation.


Figure 13-1**Stakeholder Management**

By achieving these objectives, stakeholder consultation contributes to the overall success and sustainability of the project, enhancing its social, environmental, and economic outcomes while fostering positive relationships with the communities it impacts.

## 13.2**PROPONENT ENVIRONMENT MANAGEMENT TEAM**

A comprehensive discussion on all conceivable impacts and corresponding mitigation measures related to the project was conducted with both the proponent and project management. In this collaborative dialogue, a thorough examination of potential environmental, social, and economic implications of the project took place. The proponent and management, demonstrating a proactive commitment to responsible practices, assured the incorporation of all suggested mitigation measures to effectively control and address any discrepancies that may arise during the project's implementation. Their pledge to embrace these measures underscores a dedication to environmental stewardship and sustainable practices. By actively engaging in this discourse, the proponent and management not only exhibit a commitment to regulatory compliance but also demonstrate a broader responsibility to the well-being of the community and the preservation of the surrounding environment. This collaborative approach ensures that the project aligns with best practices, fostering a positive impact on the environment and minimizing any potential adverse effects.

## 13.3 THE RESPONSIBLE AUTHORITY

The Proponent assumes the crucial role of the responsible authority, pledging to undertake all necessary measures both prior to the commencement of the project and throughout its operational phases. This commitment encompasses a comprehensive approach to project management, ensuring that all regulatory requirements, environmental standards, and best practices are diligently adhered to. Before project initiation, the Proponent commits to conducting thorough assessments and implementing necessary preparatory measures to mitigate potential impacts. This includes adopting robust environmental management strategies, obtaining required permits, and addressing any concerns raised during stakeholder consultations. Throughout the operational phase, the Proponent maintains an ongoing commitment to environmental sustainability and regulatory compliance. This involves continuous monitoring, prompt response to emerging issues, and the implementation of adaptive management practices. By assuming the mantle of responsibility, the Proponent not only safeguards the project's integrity but also prioritizes the well-being of the environment, local communities, and all stakeholders involved. This proactive stance ensures that the project operates within the parameters of environmental and ethical standards, reflecting a dedication to responsible and sustainable project execution.

**Table 13-1: Stakeholders and Their Roles and Responsibilities**

| Stakeholders | Roles |
|---|---|
| Proponent/Responsible Authority | The discussion with the proponent proposed the mitigation measures and alternatives to control any disparity in the project. |
| Environmental Expert | The consultants from the Integrated Environment Consultants survey the project site to gather relevant information and to record the local community stance and behaviors regarding the project. And also the evaluation of socio-economic impacts of the project has been done. |
| Government Departments | The consulted government department includes Environmental protection agency, wildlife, planning, and development. The departments overviewed the proposed projects and its socio-economic impacts. |

| | |
|---|---|
| Local affected communities | The surveys determined the extent of community that could be affected and their verdict about the proposed project. |

### 13.3.1 Other departments and agencies

A comprehensive impact analysis was conducted in collaboration with key stakeholders, including project management, the local community, educational institutes, health institutions, hospitals, and non-governmental organizations (NGOs). This inclusive approach sought to gather diverse perspectives and insights related to the implementation of the project. The engagement process involved scoping sessions, focused group discussions, and wayside consultations, providing a multifaceted platform for dialogue and information exchange. Through these forums, all pertinent issues associated with the project were thoroughly examined, including potential environmental, social, and economic impacts. The proactive involvement of stakeholders, representing various sectors of the community, ensured that a holistic understanding of the project's implications was achieved. This collaborative effort not only fostered transparency but also allowed for the incorporation of valuable local knowledge and concerns into the impact analysis. By actively engaging with stakeholders through diverse communication channels, the project management demonstrated a commitment to responsible and inclusive decision-making, setting the stage for a well-informed and socially accepted project implementation process.

## 13.4 ENVIRONMENTAL PRACTITIONERS AND EXPERTS

Our dedicated team undertook a comprehensive site visit, engaging in extensive discussions with a broad spectrum of project stakeholders. This inclusive approach involved reaching out to residents from nearby villages and beyond, ensuring a diverse representation of perspectives to assess the socio-economic impacts of the project. The community demographic was richly diverse, encompassing individuals from various professions, such as those employed in different fields, business owners, doctors, expatriates, military personnel, and educators. In a conscious effort to ensure gender inclusivity, consultations with women were prioritized to gather their unique perspectives on how the project could contribute to the improvement of the area. While some women openly shared their thoughts, it was evident that social norms in the area made many feel hesitant, creating discomfort with speaking or being photographed. This nuanced understanding allowed our team to respect and navigate the cultural sensitivities of the community. The local community, nonetheless, proved to be a wellspring of information, offering valuable insights into the project and expressing predominantly positive views regarding its potential for development. This holistic approach to stakeholder engagement not only highlights the diverse fabric of the community but also underscores the importance of cultural sensitivity in ensuring meaningful and respectful interactions during the assessment of socio-economic impacts.

## 13.5 DISCUUSED POINTS

The points that have been kept in view while consulting stakeholders are as follows:

- Activities of the project and their consequences.
- Requirements of the people likely to be affected.
- Mitigation measures or compensation strategies.
- Role of the affected people in the implementation and development of the project.

## 13.6 AFFECTED AND WIDER COMMUNITY

In the vicinity of the proposed project, there is no identified affected community; however, the proactive engagement of the proponent with inhabitants from various villages has been instrumental in understanding and addressing local perspectives. The absence of a distinct affected community does not diminish the importance of comprehensive consultations. The proponent has undertaken conscientious efforts to reach out to residents across different villages, fostering a dialogue to assess the community's sentiments towards the project. Remarkably, the feedback from these consultations has been overwhelmingly positive, with residents expressing favorable views regarding the proposed endeavor. This positive reception is indicative of the proactive communication and collaborative approach adopted by the proponent, establishing a foundation of mutual understanding and support within the broader community. While the absence of an affected community streamlines certain aspects of the engagement process, the commitment to inclusive consultations with diverse stakeholders remains integral to building a harmonious relationship with the local population.

# 14 CONCLUSION & RECOMMENDATIONS

Based on the study conducted for Environmental Impact Assessment (EIA) for the subject project, the following conclusions are made:

## 1.1 CONCLUSION

The EIA study reveals that the project is economically viable and socially acceptable and the management will implement the project in the environment friendly manner. Management will adopt all the necessary measures to control any impact if resulting from the project. Management will provide the safe drinking water, safe working environment, proper training and first aid facility to all workers and staff. The project will generate additional jobs during construction and operation phases.

## 1.2 RECOMMENDATIONS

In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.

- Tree plantation inside and near the project area is recommended.
- The Management of will continue to assist the local communities as a corporate/social responsibility (CSR).
- Any seepage and leakage will be controlled through proper mitigation measures (if any)
- Sound proof room should be constructed for generator to control its sound.
- Use of narcotics and smoking must be prohibited during working, filling or handling of fuel.
- PPEs must be provided to workers such as gloves, masks, etc.
- Proper solid waste management system must be adopted.
- Safety signs, safety board‘s etc. must be placed on site during various developmental stages.
- Machinery will never be left in running condition.
- First Aid measures, health & safety Equipment (PPEs) will be provided to workers.
- Fire Fighting station & system will be installed.

## 15 REFERENCES:

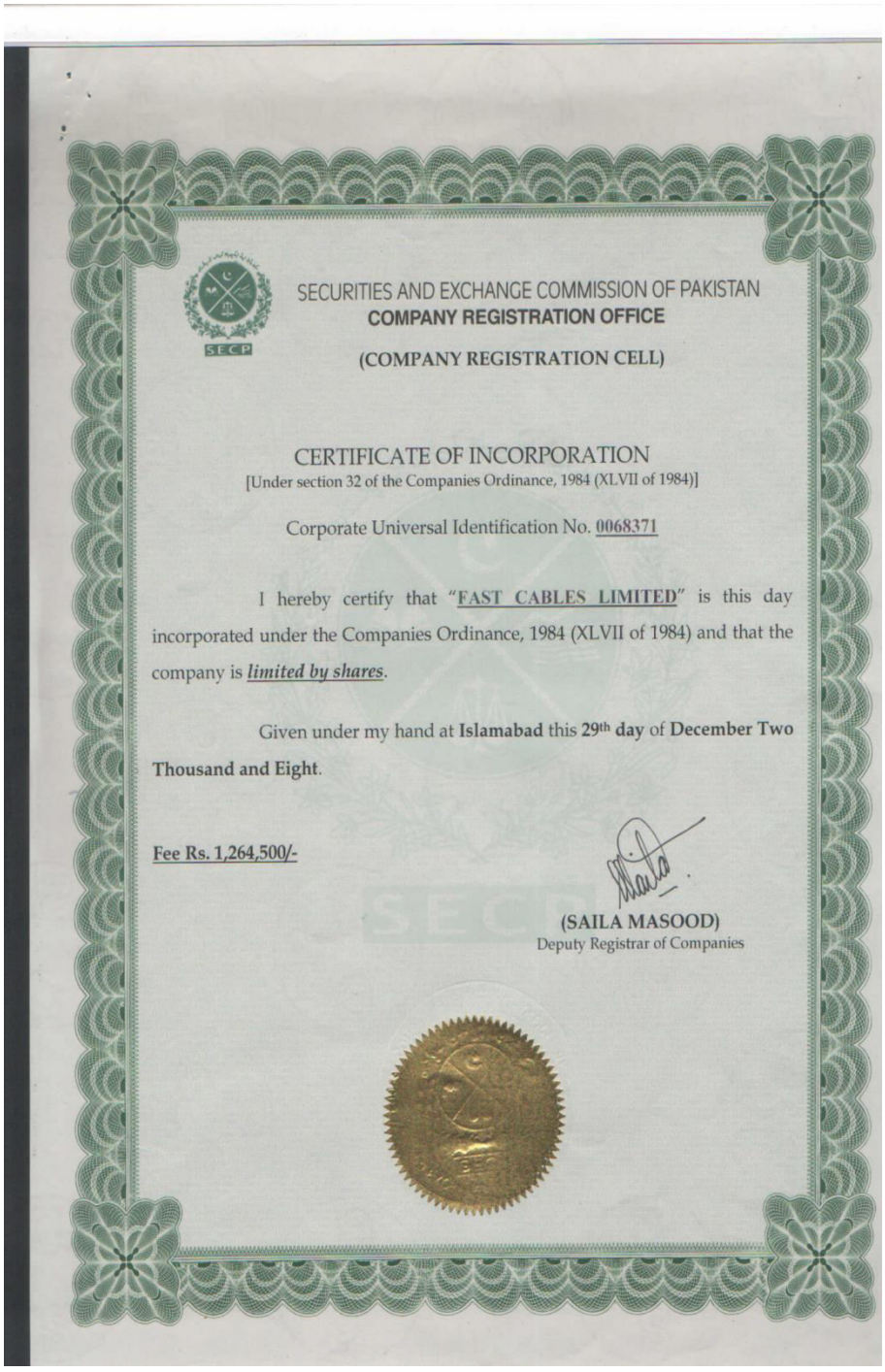

- https://www.epa.gov/sites/production/files/2015-10/documents/njmc-wpp-2.pdf
- Schedule I of Punjab Environmental Protection Act 1997 (Amended 2012)
- *section 12 of Punjab Environmental Protection Act 1997 (Amended 2012)*
- Pakistan Environmental protection act 1997
- Punjab Environmental Protection Act 1997 (Amended 2012)
- Guideline for the Environmental Assessment
- Regulations of Environmental Assessment, Regulations 2000
- National Conservation Strategy- Pakistan
- Guideline for the public consultation
- National Resettlement Policy and Ordinance
- National Environmental Quality Standards (Self-monitoring and reporting by the industry)
- Labor laws
- Canal And Drainage Act, 1873
- National Environmental Policy 2005.
- The Land Acquisition act, 1894
- The Punjab local Governmental ordinance, 2001.
- Meteorological data from meteorological department and website
- Pakistan Environmental agency (review of IEE/EIA) regulation 2000.
- Punjab Portal (http://www.punjab.gov.pk/attock)
- Sectorial Guideline for environmental reports, industrial states
- Pakistan Environmental Protection ordinance (PEPO), 1983
- OSHAS 1800 for health and safety

# 16 GLOSSARY

| Words | Dictionary |
|---|---|
| mitigation | The action of lessening in severity or intensity |
| legislation | law enacted by a legislative body |
| compliance | Acting according to certain accepted standards |
| flora | All the plant life in a particular region or period |
| fauna | All the animal life in a particular region or period |
| demarcated | Separate clearly, as if by boundaries |
| Screening | The display of a motion picture |
| substitutions | An event in which one thing is substituted for another |
| regulations | An authoritative rule |
| stakeholders | A person or organization with an interest or concern in something |
| vulnerable | Susceptible to attack |

# ANNEXURES

# ANNEXURE A: COMPANY REGISTRATION CERTIFICATE



SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN
**COMPANY REGISTRATION OFFICE**

**(COMPANY REGISTRATION CELL)**

CERTIFICATE OF INCORPORATION
[Under section 32 of the Companies Ordinance, 1984 (XLVII of 1984)]

Corporate Universal Identification No. 0068371

I hereby certify that "FAST CABLES LIMITED" is this day incorporated under the Companies Ordinance, 1984 (XLVII of 1984) and that the company is *limited by shares*.

Given under my hand at **Islamabad** this **29th day** of **December Two Thousand and Eight**.

Fee Rs. 1,264,500/-

**(SAILA MASOOD)**
Deputy Registrar of Companies

# ANNEXURE B:TAXPAYER REGISTRATION CERTIFICATE

FBR
PAKISTAN

Revenue Division
Federal Board of Revenue
Government of Pakistan

## TAXPAYER REGISTRATION CERTIFICATE

ORIGINAL

| | |
|---|---|
| NTN | 3251950-8 |
| Category | COMPANY-(PUBLIC LTD.) |
| Status | RESIDENT |
| Reg. / Inc No. | 0068371 |
| Reg. / Inc Date: | 29-DEC-2008 |
| Name | FAST CABLES LIMITED |
| Address | 192 Y BLOCK,COMMERCIAL AREA,PHASE III, DHA,LAHORE, DISTT:LAHORE,PUNJAB |
| Principal Activity | OTHER MANUFACTURING N.E.C. |
| Other Activities | 1) EXPORTER<br>2) IMPORTER<br>3) NON-SPECIALIZED WHOLESALE TRADE |
| Registered for | Income Tax w.e.f 30-JAN-2009<br>Sales Tax w.e.f 12-AUG-2009<br>( EXPORTER, IMPORTER, MANUFACTURER, WHOLESALER ) |
| Representative's | CNIC/ NTN 2528301<br>Name NADEEM AHMAD<br>Email Address nadlhr07@hotmail.com |
| Tax Office | RTO-II LAHORE |
| Business Name | 1) REGISTERED FOR SALES TAX w.e.f 12-Aug-2009<br>FAST CABLES LIMITED<br>192 Y BLOCK,COMMERCIAL AREA,PHASE III, DHA,LAHORE,LAHORE,PUNJAB |

This Certificate Shall be prominently displayed at a conspicuous place of the premises in which business or work for gain is carried on. NTN number is also required to be indicated on the signboard.

NOTE:- The NTN must be written on all returns, payment challans, invoices, letter heads, advertisements,etc. and all correspondence made with the tax departments.

RGCRT-032013-29047422-0

Date of Printing:19-MAR-2013

FBR HELPLINE

PARTNER IN PROGRESS ▶▶ www.fbr.gov.pk helpline@fbr.gov.pk 0800 00 227, 051 111 227 227

# ANNEXURE C: WASTE DISPOSAL CERTIFICATE

PREMIER WASTE MANAGEMENT

*Solution for Generation...!*

*EPA License No: 44/DD(Lab)/EPA/LHR/F.RO(AP)/EPA/12/2023*
*Ref/PWM/01/2024*
*Issuing Date: 15 August, 2024*

## DISPOSAL CERTIFICATE

**DETAILS OF THE WASTE:**

| | |
|---|---|
| Name of Client: | **Fast Cables Ltd (Unit-2)** |
| Location: | **Ijtimah Chowk Link Sundar Road Raiwind.** |
| PWM OGP #: | **08818** |

**Detail of Waste:**

| | |
|---|---|
| Oily Rags | 25/- Kg |
| Paint / Oil | 05/- Kg |
| Broken Glass | 15/- Kg |
| Sharp Object | 10/- Kg |
| Battery | 42/- Kg |

**Total Weight Received:** **97/- Kgs**

**Date of Receiving:** **13 August, 2024**
**Completion of Work:** **15 August, 2024**

**Comments:**

Total Material was disposed off in accordance with laws.

**Note: In case of any issue regarding waste Quantity, you can contact us within 15 days from the Receiving date of Disposal Certificate.**

**On the behalf of**
**PREMIER WASTE MANAGEMNT**

**Official Seal & Stamp of the Company**

Suit No. 307. Al-Qadir Heights, 1-Babar Block,
New Garden Town, Lahore. | Tel. 042-35864111-12
E-mail: info@pwmc.com.pk Web: www.pwmc.com.pk

# ANNEXURE D:POLLUTION ABATEMENT TECHNOLOGY: SCRUBBER AT PLANT SITE

# ANNEXURE E: MONTHLY FIRE FIGHTING EQUIPMENT INSPECTION REPORT

## FAST CABLES LTD.

### MONTHLY FIREFIGHTING EQUIPMENT INSPECTION REPORT

Date: 02-05-2025

| Area / location | Equipment / Items | Ok | | Observations (if any) |
|---|---|---|---|---|
| | | Yes | No | |
| All Area of unit-02 | Fire Extinguisher Qty-126 | OK | | Details are attached for reference |
| All Area of unit-02 | Fire Hydrants & Hose Reels | OK | | Details are attached for reference |
| All Area of unit-02 | Fire Sand Buckets & Shovels | OK | | Details are attached for reference |
| | | | | |
| | | | | |
| | | | | |

**Remarks:**
All Fire Extinguisher are installed at recquired location & aticker'sa have been placed .

**Checked By:** M Imran **Designation:** DM HSE **Signature:** 05/5/25

**Reviewed By:** Raja Ishfaq Hussain **Designation:** Sr. manager HSE **Signature:** 05/05/25

HSE-P7-F7

# ANNEXURE F: QUARTERLY FIRE FIGHTING DRILL REPORT

FAST CABLES LTD.

## Quarterly Fire Fighting Drill Report

Department / Area: Outside of Hall-04 Date : 27 Feb-2025

**Participants: (Fire Fighting Staff):** HSE Staff (02 Persons)

1. **Other Participants:** All Department **(42 Employees)**

2. **Type of fire:** **Class A Fire**

**Equipment used:** **Portable Fire Extinguishers, Fire Hydrant**

3. **Action Time:** 2 hours

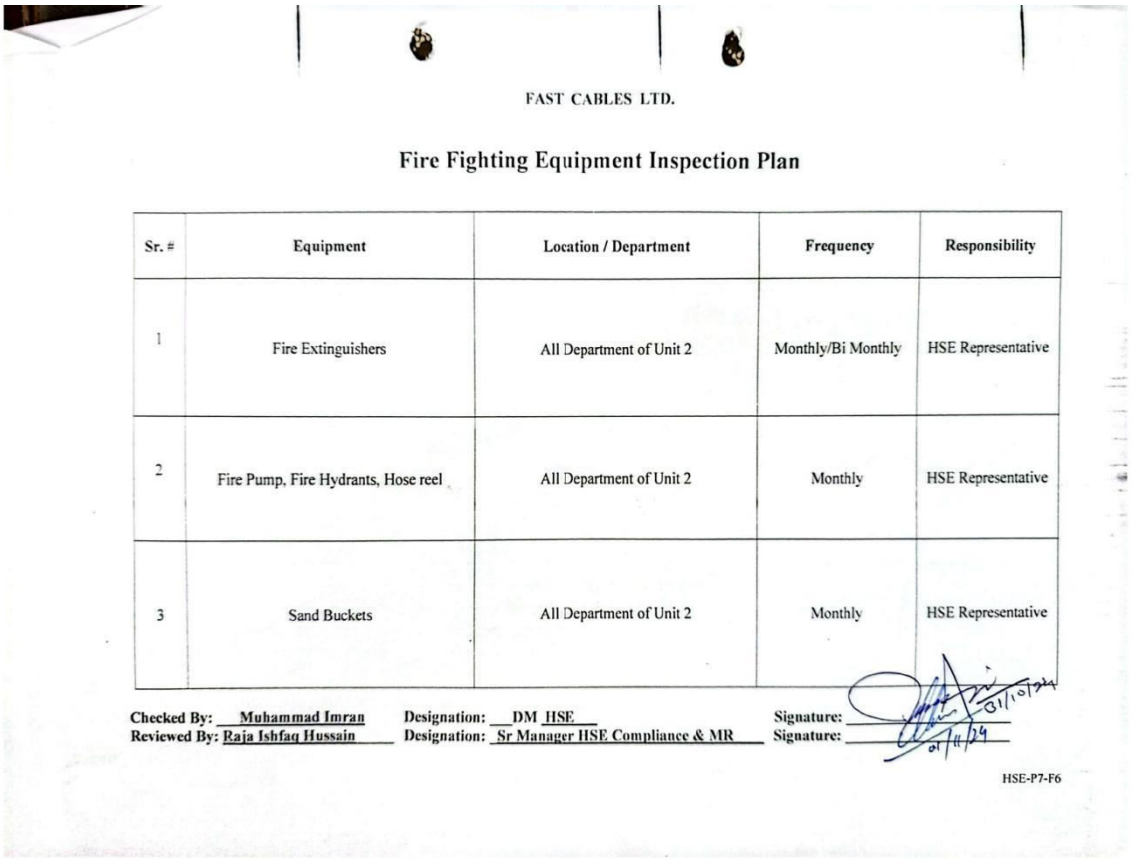
4. **Remarks:** Workers participated in Fire Safety training & Hands on practice of fire extinguishers and Fire Hydrant drill.

**Checked By:** **M-IMRAN** **Designation:** **DM-HSE** **Signature:** 27/02/25

**Reviewed By:** **RAJA ISHFAQ HUSSAIN** **Designation:Sr. Manager HSE Signature:** 28/02/25

HSE-P7-F5

# ANNEXURE G: FIRE FIGHTING EQUIPMENT INSPECTION PLAN



FAST CABLES LTD.

**Fire Fighting Equipment Inspection Plan**

| Sr. # | Equipment | Location / Department | Frequency | Responsibility |
|---|---|---|---|---|
| 1 | Fire Extinguishers | All Department of Unit 2 | Monthly/Bi Monthly | HSE Representative |
| 2 | Fire Pump, Fire Hydrants, Hose reel | All Department of Unit 2 | Monthly | HSE Representative |
| 3 | Sand Buckets | All Department of Unit 2 | Monthly | HSE Representative |

**Checked By:** Muhammad Imran **Designation:** DM HSE **Signature:** 31/10/24

**Reviewed By:** Raja Ishfaq Hussain **Designation:** Sr Manager HSE Compliance & MR **Signature:** 01/11/24

HSE-P7-F6

# ANNEXURE H: CONTINGENCY PLAN(2024-2025)

**Fast Cables Ltd.**

**Contingency Plan (2024-2025)**

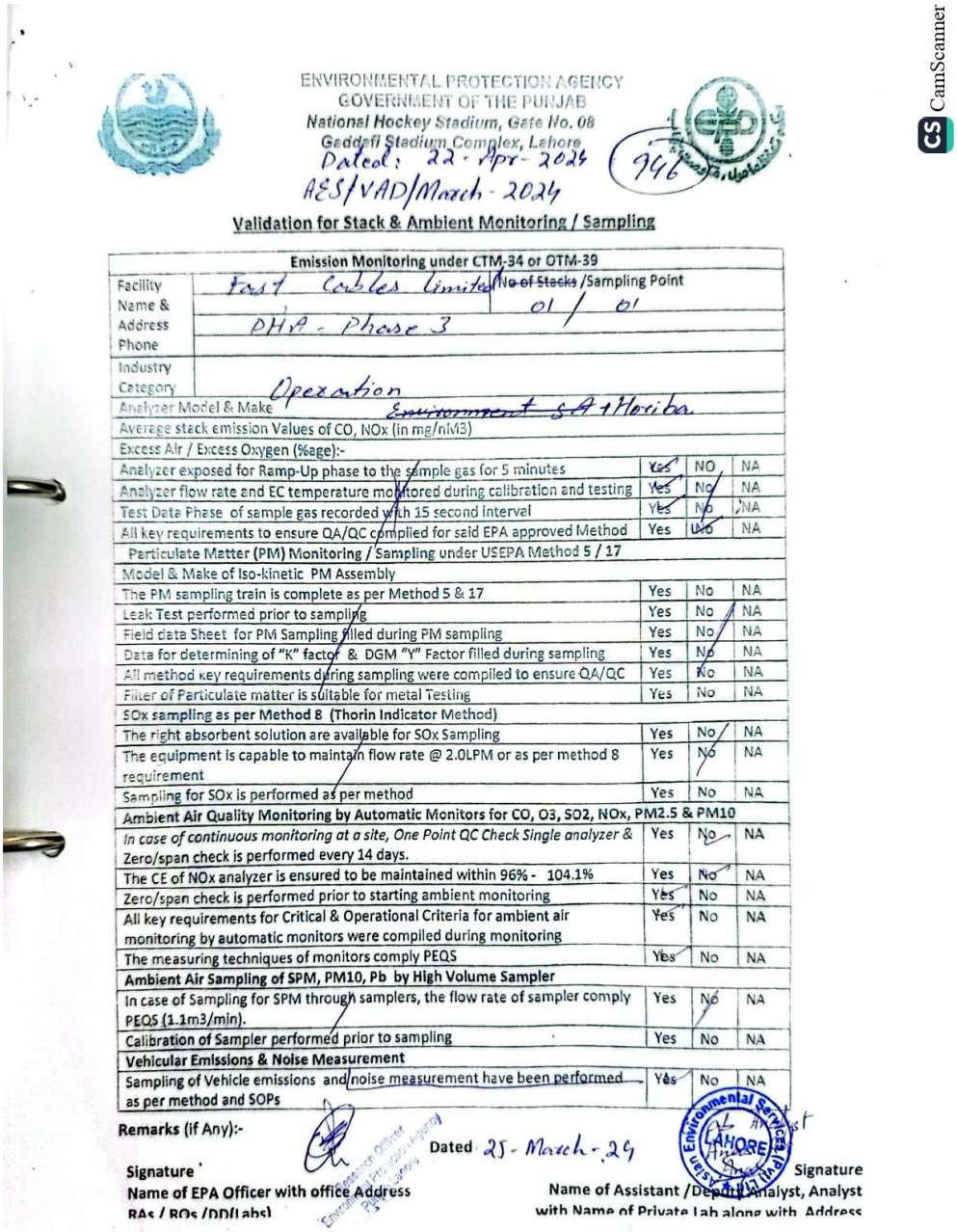
| Sr. # | Type of Hazard / Emergency | Identification / Indication | Responsibility | Communication Means | Activities | Follow-up Actions |
|---|---|---|---|---|---|---|
| 1 | Accident | Observe Visual | Obervers/ Supervisors/ Area Owners | Telephone/ Physically | Send to nearest Hospital | |
| 2 | Fire Incident | Observe Visual/ Smoke detector | Obervers/ Supervisors/ Area Owners | Telephone/ Physically | Fire alarm, Emergency service, Rehabilation work | |
| 3 | Major Spillage | Observe Visual | Obervers/ Supervisors/ Area Owners | Telephone/ Physically | Stop valve, inform shift incharge, disconnect electrical suppy,barricad area, Chemical spillage, Cleaning of area, Prohibition of fire, Disposals of wastage. | |
| 4 | Hazardous Gas Release | Observe Visual | Obervers/ Supervisors/ Area Owners | Telephone/ Physically | Evacuation of staff, provide first aid, Stop valve/close leakage | |
| 5 | food poisoning | Observe/ Effected person | Obervers/ Supervisors/ Area Owners | Telephone/ Physically | Shift nearest hospital, First aid at workplace | |
| 6 | Bomb Threat | Observe Visual/ Intimation | Obervers/ Supervisors/ Area Owners | Telephone/ Physically | Stop work, evacuate building,stay in assembly line, bomb Call to bomb disposal squad for response. | |
| | | | | | | |
| | | | | | | |

Issue #: ____ Effective from: ____

Prepared by: M-Imran Reviewed by : 04/06/24

HSE-P7-F1

# ANNEXURE I: VALIDATION FOR STACK AND AMBIENT MONITORING



ENVIRONMENTAL PROTECTION AGENCY
GOVERNMENT OF THE PUNJAB
National Hockey Stadium, Gate No. 08
Gaddafi Stadium Complex, Lahore
Dated: 22-Apr-2024
AES/VAD/March-2024

946

**Validation for Stack & Ambient Monitoring / Sampling**

| Emission Monitoring under CTM-34 or OTM-39 | | | |
|---|---|---|---|
| Facility Name & Address Phone | Fast Cables Limited DHA - Phase 3 | ~~No of Stacks~~ /Sampling Point 01 / 01 | |
| Industry Category | Operation | | |
| Analyzer Model & Make | Environment SA + Horiba | | |
| Average stack emission Values of CO, NOx (in mg/nM3) | | | |
| Excess Air / Excess Oxygen (%age):- | | | |
| Analyzer exposed for Ramp-Up phase to the sample gas for 5 minutes | ~~Yes~~ | NO | NA |
| Analyzer flow rate and EC temperature monitored during calibration and testing | ~~Yes~~ | No | NA |
| Test Data Phase of sample gas recorded with 15 second interval | ~~Yes~~ | No | NA |
| All key requirements to ensure QA/QC complied for said EPA approved Method | Yes | ~~No~~ | NA |
| **Particulate Matter (PM) Monitoring / Sampling under USEPA Method 5 / 17** | | | |
| Model & Make of Iso-kinetic PM Assembly | | | |
| The PM sampling train is complete as per Method 5 & 17 | Yes | No | NA |
| Leak Test performed prior to sampling | Yes | ~~No~~ | NA |
| Field data Sheet for PM Sampling filled during PM sampling | Yes | No | NA |
| Data for determining of "K" factor & DGM "Y" Factor filled during sampling | Yes | ~~No~~ | NA |
| All method key requirements during sampling were compiled to ensure QA/QC | Yes | ~~No~~ | NA |
| Filter of Particulate matter is suitable for metal Testing | Yes | No | NA |
| **SOx sampling as per Method 8 (Thorin Indicator Method)** | | | |
| The right absorbent solution are available for SOx Sampling | Yes | ~~No~~ | NA |
| The equipment is capable to maintain flow rate @ 2.0LPM or as per method 8 requirement | Yes | ~~No~~ | NA |
| Sampling for SOx is performed as per method | Yes | No | NA |
| **Ambient Air Quality Monitoring by Automatic Monitors for CO, O3, SO2, NOx, PM2.5 & PM10** | | | |
| *In case of continuous monitoring at a site, One Point QC Check Single analyzer &* Zero/span check is performed every 14 days. | Yes | ~~No~~ | NA |
| The CE of NOx analyzer is ensured to be maintained within 96% - 104.1% | Yes | ~~No~~ | NA |
| Zero/span check is performed prior to starting ambient monitoring | ~~Yes~~ | No | NA |
| All key requirements for Critical & Operational Criteria for ambient air monitoring by automatic monitors were compiled during monitoring | ~~Yes~~ | No | NA |
| The measuring techniques of monitors comply PEQS | ~~Yes~~ | No | NA |
| **Ambient Air Sampling of SPM, PM10, Pb by High Volume Sampler** | | | |
| In case of Sampling for SPM through samplers, the flow rate of sampler comply PEQS (1.1m3/min). | Yes | ~~No~~ | NA |
| Calibration of Sampler performed prior to sampling | Yes | No | NA |
| **Vehicular Emissions & Noise Measurement** | | | |
| Sampling of Vehicle emissions and noise measurement have been performed as per method and SOPs | ~~Yes~~ | No | NA |

**Remarks (if Any):-**

Dated 25-March-24

**Signature**
**Name of EPA Officer with office Address**
**RAs / ROs /DD(Labs)**

Assistant Director (Environmental Protection Agency) Punjab Lahore

Environmental Services (Pvt) Ltd LAHORE

**Signature**
**Name of Assistant /Deputy Analyst, Analyst with Name of Private Lab along with Address**

## ANNEXURE J: VALIDATION FOR WASTE WATER AND DRINKING WATER



ENVIRONMENTAL PROTECTION AGENCY
GOVERNMENT OF THE PUNJAB
*National Hockey Stadium, Gate No. 08*
*Gaddafi Stadium Complex, Lahore*

### Validation for Wastewater & Drinking Water

| | |
|---|---|
| Facility /Project Name & Address Phone | Fast Cables, Ittimar Chowk, Rivind Road, Lahore. Sampling Point 02 |

Waste Water (WW) Treatment facility: Primary Secondary Tertiary NA

Drinking Water (W) Treatment Facility

Total WW collected Sample 01 | Total Collected Drinking water samples 01

| | | | |
|---|---|---|---|
| Sample Tag for testing parameter is assigned on sample container | Yes | NO | NA |
| Sample is preserved properly for each testing parameter | Yes | NO | NA |
| Sample size is adequate for testing the target parameters | Yes | NO | NA |
| Wastewater Flow Measurement performed to ensure sample representativeness | Yes | No | NA |

| No. of Waste Water outlets | Waste Water Flow $m^3$/hr from each outlet (Optional) | Water intake $m^3$/hr (Optional) | Water Mass balance complied during sampling (Optional) | Sample Type |
|---|---|---|---|---|
| | | | Yes No | Grab Composite |

| Parameter | Matrix W | Matrix WW | Container | Sample Size | Preservation | Yes | NO | NA |
|---|---|---|---|---|---|---|---|---|
| Coliform, Total or Fecal | ✓ | ✓ | Sterile Container | 100 mL | Refrigerate 6 C | ✓ | | |
| Coliform, Total or Fecal, Chlorinated Water | ✓ | ✓ | Sterile Container | 100 mL | 0.008% Thiosulphate & cooled 6 C | ✓ | | |
| Color, Turbidity | ✓ | ✓ | P,G | 500 mL | Cool 6 C | ✓ | | |
| Hardness, Total | ✓ | ✓ | P,G | 500ml | HNO3 to pH<2 | ✓ | | |
| Nitrogen, Nitrate + Nitrite, Phenolic Compounds, Oil & Grease, COD, NH3 | ✓ | ✓ | P,G | 2000 mL | H2SO4 to pH < 2, Cool 6C | ✓ | | |
| Metals, General | ✓ | ✓ | P,G Rinsed 1.1 HNO3 | 500 mL | HNO3 to pH < 2 | ✓ | | |
| Cyanide, Total | ✓ | ✓ | P,G | 500 mL | NaOH to pH > 12, Cool 6C | ✓ | | |
| Pesticides, General | — | — | Glass | 1 Liter | Cool 6 C | — | | |

**Field Parameters***

| Field parameter | | pH meter, Model Make | Measurement Method | Calibrated in Field | Measured Value |
|---|---|---|---|---|---|
| pH | ✓ | Hanna | Electrometric | Yes (NO) | |
| Temp | ✓ | | Thermometer | | |
| Cl | — | | | | |

* Field testing parameters only be validated by RAs, ROs, DD (Labs)

Remarks for Sample Quality (if Any):-

Research Officer Environmental Protection Agency Lahore

Signature
Name of EPA Officer with office Address
Inspectors /RAs / ROs or ADs /DDs

Dated: 25/06/2024 (proposed) 28/06/2024 (monitored)

Lab Analyst

Signature
Name of Assistant /Deputy Analyst, Analyst with Name of Private Lab along with Address