

Pak Green Enviro-Engineering Pvt. Limited

Environmental Impact Assessment Fast Cables Limited

Mouza Bhai-Kot Ijtema Road, Raiwind Road
Lahore

Pak Green Enviro-Engineering Pvt. Limited

2021

46 M Gullberg III, Lahore

**ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES
LIMITED**

DISCLAIMER

The data was based on the originality of project site shown by the project proponent/ stakeholders/ promoters, provided maps, verbal communications and all other related documents. The authenticity of supra-mentioned relies with the proponent/ stakeholders/ promoters, not with the environmental consultant. The EIA report can't be negotiated in any court of law.

Author: _____

EIA Team

**ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES
LIMITED**

DETAIL OF EISA TEAM

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5)	Analyst	Narmeen Sana M.Phil. Environmental Sciences	2 year Experience

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LIST OF ABBREVIATIONS

PEPA	Punjab Environmental Protection Act
PEQS	Punjab Environmental Quality Standards
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

PROJECT TITLE AND LOCATION

The subject project for which this Environmental Impact Assessment Study has been conducted is the addition of 3 Furnaces (1 melting Furnace having capacity of 20 ton, and 2 Holding Furnaces having capacity of 10 ton each) and proposed installation of machinery within existing building of M/s Fast Cables Limited located at Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore. The environmental approval for already established has been secured under Letter No. DD (EIA)/EPA/F-299(IEE)/1107/2014/1268 Dated: 23-07-2014 and copy of Environmental approval is attached herewith.

According to IEE / EIA Regulation 2000, the proposed project falls under Schedule II of Review of IEE and EIA Regulations, 2000. TORs of the study under clause 5 (f) of policy and procedure for the filing, review and approval of environmental assessment are annexed as **Annexure-A**.

PROJECT PROPONENT

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

Table 1: Detail of Proponent

Name	Mr. Muhammad Usman
CNIC	35201-1200084-9
Address	House No. 997 C Phase DHA Lahore Cantt. Lahore
Mailing Address	Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore

THE EIA STUDY CONSULTANT

This EIA report has been prepared by a team of Pak Green Enviro-Engineering (Pvt.) Ltd, a registered environmental consultancy from EPA Punjab. The names and expertise of other experts are given in Chapter – 1 (page 19)

BRIEF DESCRIPTION OF THE PROJECT

The project is proposed installation of machinery and addition of 3 Furnaces within the facility of name of M/s Fast Cables Limited site is located at Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore over an area of 895905-SFT. Area detail can also be shown on map attached as **Annexure B**

N 31° 16'42.19 N 74° 11'43.29 E

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Front-----Road
Back -----Open Land
Right-----Industrial Unit
Left -----Road

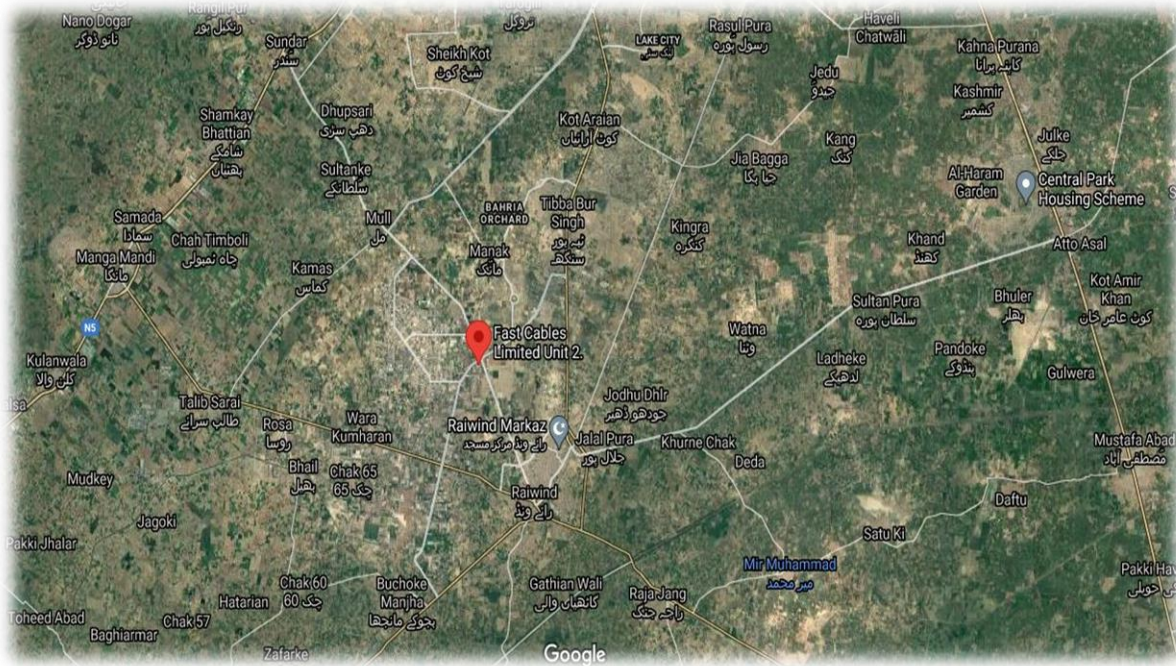


Figure 1: Project Site

ENVIRONMENTAL CONDITIONS OF THE SITE

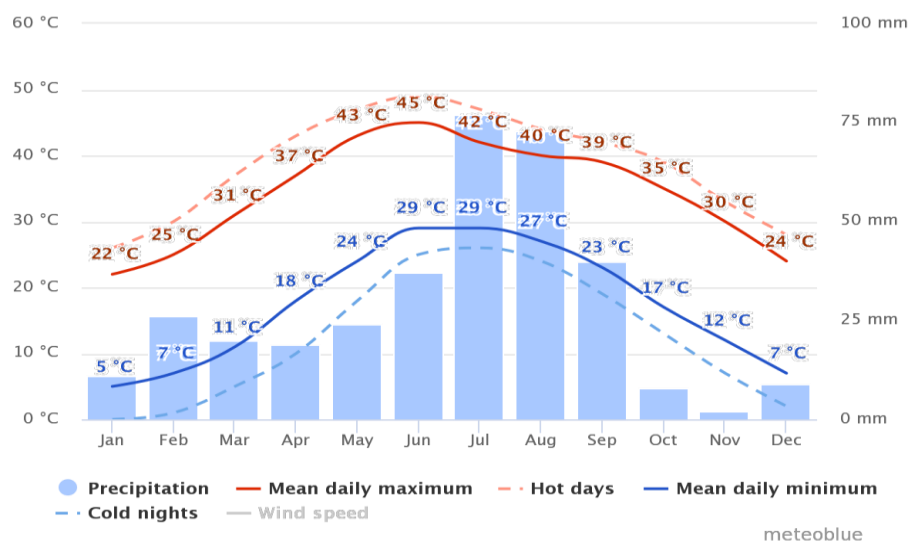


Figure 2: Temperature and Precipitation Data of Proposed Site

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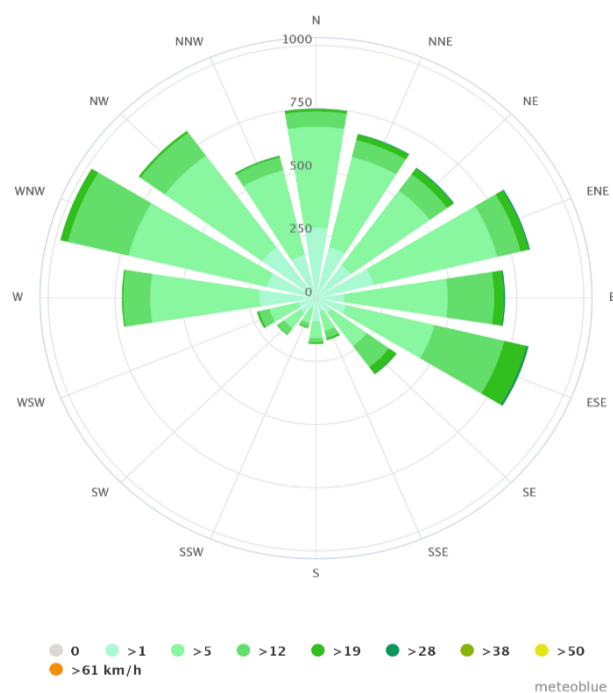


Figure 3: Wind Patterns of Project Site

MAJOR IMPACTS & PROPOSED MITIGATION

The following major impacts associated with the project during constructional phase of the project have been identified and mitigation measures suggested:

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Table 1: Summary of Major Impacts & their Proposed Mitigation during Construction Phase

Potential Impact	Criteria for determining Significance	Key Mitigation Measures
Dust Emissions — Dust and PM may be generated during road construction and excavation activities. 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 PEQS for Ambient Air	Sprinkling of water on dusty roads, tracts and surfaces is recommended; During excavation works drop heights will be minimized to control the fall of materials reducing dust escape. Use of wind shield around stockpiles is recommended 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. Domestic waste should be disposed of properly, handed over to contractors, placed in bins. 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 should be drain out in nearby drain
Construction Noise - Noise may be generated during landscaping activities and from generators and transportation	OSHA standards	Activities generating high levels of noise should be minimized at the project site. If the noise level will exceed the permissible limits with reference to

ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES LIMITED

vehicles at the project site; which may be a nuisance for the workers.		<p>national standards, following recommendations are suggested to take action against the high noise levels:</p> <ul style="list-style-type: none"> • Proper tuning of construction machinery and vehicles is recommended. • Ear muffs and ear plugs are recommended in case of high noise levels. • 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.	<p>No tree cutting/ vegetation loss issue will be involved in the subject project.</p> <p>Preparation of a Reinstatement Plan to restore the land after the constructional activities is recommended.</p>
Soil Contamination —Oil and Chemical spills can contaminate the soil.	Presence of visible amount of hydrocarbon in soil	<p>Provision of spill prevention and control kits</p> <p>Use of impermeable surfaces in workshops, and storage areas;</p> <p>Contaminated soil will be collected and incinerated (if any).</p>
Traffic issues- Traffic issues may arise due to the constructional activities at the project site if traffic will not be managed properly.	TEPA rules	<p>Speed limit of 10 km/h should be maintained on the access road.</p> <p>Ample parking area must be allocated at the project site.</p> <p>Guards should be hired to manage the traffic at the project site.</p>
Socioeconomic impacts —Inter-cultural		

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<p>differences between the project staff from other areas and the local community may arise due to the subject project.</p> <p>Positive socioeconomic impacts due to increased infrastructure, employment opportunities and economic growth.</p>	<p>No community complaints.</p> <p>Increased employment facilities in the area;</p> <p>Increased infrastructure</p>	<p>Training of the non-local project staff on local culture and norms.</p> <p>Avoidance of unnecessary interaction of local population with the non-local project staff.</p> <p>Employment opportunities should be provided to the local people.</p>
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Table 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, and management has got the map approval from TMA, same has been attached with this report.
Gaseous Emissions- During the operational phase of the project, gaseous emissions from project site generator 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) Vehicle emissions inspection should be done on regular basis. 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

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machinery and generators can be a nuisance for the workers in the working area.		<p>project site.</p> <p>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)</p> <p>Proper maintenance and tuning of the vehicles should be done.</p> <p>Sound proof rooms should be built for generators (if any) to be installed at the project site to control the noise.</p>
Discharge of wastewater- The discharge of untreated municipal wastewater may be a negative impact of the subject project.	PEQS for Municipal Effluents (mg/l, unless otherwise defined)	<p>Wastewater must be treated before its discharge.</p> <p>Compliance of PEQS for effluents should be ensured.</p> <p>Monitoring should be conducted as per PEQS and reports should be submitted to EPA.</p>
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	<p>Proper training of workers and staff should be conducted to avoid the accidents. Use of PPEs should be implemented at workplace.</p> <p>First aid measures/medical facility should be provided at the project site.</p> <p>Safe drinking water must be provided to workers, staff, and poor people of the area.</p> <p>Safety signs & boards should be placed.</p>
Solid waste management- If solid waste will not be managed properly, it may cause negative impacts.	<p>Exposure to potentially hazardous waste;</p> <p>Generation of excessive waste;</p> <p>Recyclable waste and reusable waste is discarded; Littering</p>	<p>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.</p>

ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES LIMITED

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 3: Environmental Monitoring

Sr. No.	Parameters	Monitoring Schedules	Monitoring Duration
1	Ambient Air Monitoring (NO _x , CO _x , SO _x , PM ₁₀)	Quarterly	Instant
2	Noise Level	Quarterly	Instant
3	Water quality	Quarterly	Some parameters on site, Others in lab

CHAPTER # 1

1 INTRODUCTION

1.1 PURPOSE OF REPORT

The development of any Project brings about changes, both positive and negative, in the environmental and social settings of the Project Area. The intensity and level of change, however, depends upon the nature of the Project and the baseline environmental conditions of the area. For the last four decades, this aspect has gained momentum both at official and public level. Because of this, official regulations and laws have been promulgated for the protection and conservation of the physical, biological and social environment. The law makes it mandatory to carry out Initial Environmental Examinations (IEE) or detailed Environmental Impact Assessment (EIA) of the development Projects depending upon the nature and magnitude of the impacts.

Section 12 of Punjab Environmental Protection Act, 1997 (Amended 2012) states that “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.” Environmental Impact Assessment (EIA) report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab for the compliance of Section 12 of Punjab Environmental Protection Act, 1997 (Amended 2012) for obtaining No Objection Certificate (NOC) before starting the construction activity at the project site.

1.2 IDENTIFICATION OF THE PROJECT

According to nature of project, cost of project and by also reviewing the IEE / EIA Regulation 2000, the project falls under Schedule II of PEPA Regulations.

ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES LIMITED

1.3 THE PROPONENT

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

Table 3: Detail of Proponent

Name	Mr. Muhammad Usman
CNIC	35201-1200084-9
Address	House No. 997 C Phase DHA Lahore Cantt. Lahore
Mailing Address	Mouza Bhai-Kot Ijtema Road, Raiwind, Lahore

CNIC and other relevant documents are attached as **Annexure C**

1.4 The CONSULTANT

Pak Green Enviro-Engineering (Pvt.) Ltd is an independent company, who conducts IEE, EIA, EMP and other environmental investigations through its panel of environmental consultants, public participation practitioners and experienced environmental managers. The company has its own recommended instruments to check the baseline environmental data/PEQS and lab analysis facility for water, waste water priority parameters.

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Email: info@pakgreen.pk; pak.green@hotmail.com

The current study was carried out by the following professionals:

Sr. No.	Designation	Name/Qualification	Experience
1	Chief Environmentalist/ Lead Environmental Professional	Abdul Hafeez Nasir PhD Scholar Environmental Management	Ten Years' Experience as Environmentalist
2	Senior Environmentalist/ Environmental Professional	Iftikhar Ahmed M.Phil Environmental Sciences	Seven Years' Experience as Environmentalist
3	Sr. Environmental professional	Kiran Irshad M.phil. GCU, Lahore	6 Years' Experience as Environmentalist
4	Analyst	Narmeen Sana M.phil.	3 Year Experience as Environmentalist

ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES LIMITED

1.5 BRIEF DESCRIPTION OF PROJECT

1.5.1 NATURE & SIZE OF PROJECT

The said project is proposed installation of machinery and addition of 3 furnaces (1 is melting furnace with capacity of 20 ton, and 2 would be holding furnaces with capacity of 10 ton each) within facility of M/s Fast Cables Limited. Project site is located Mouza Bhai Kot Ijtema Road, Raiwind Lahore. The total area of the project is 895905 SFT. Total cost of the project will be 2.9 billion.

1.5.2 LOCATION

Project site is located at Mouza Bhai Kot Ijtema Road, Raiwind Lahore. Land coordinates of the project site are given below:

Front-----Road

Back -----Agricultural Land

Left -----Open Plot

Right-----Road

ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES LIMITED

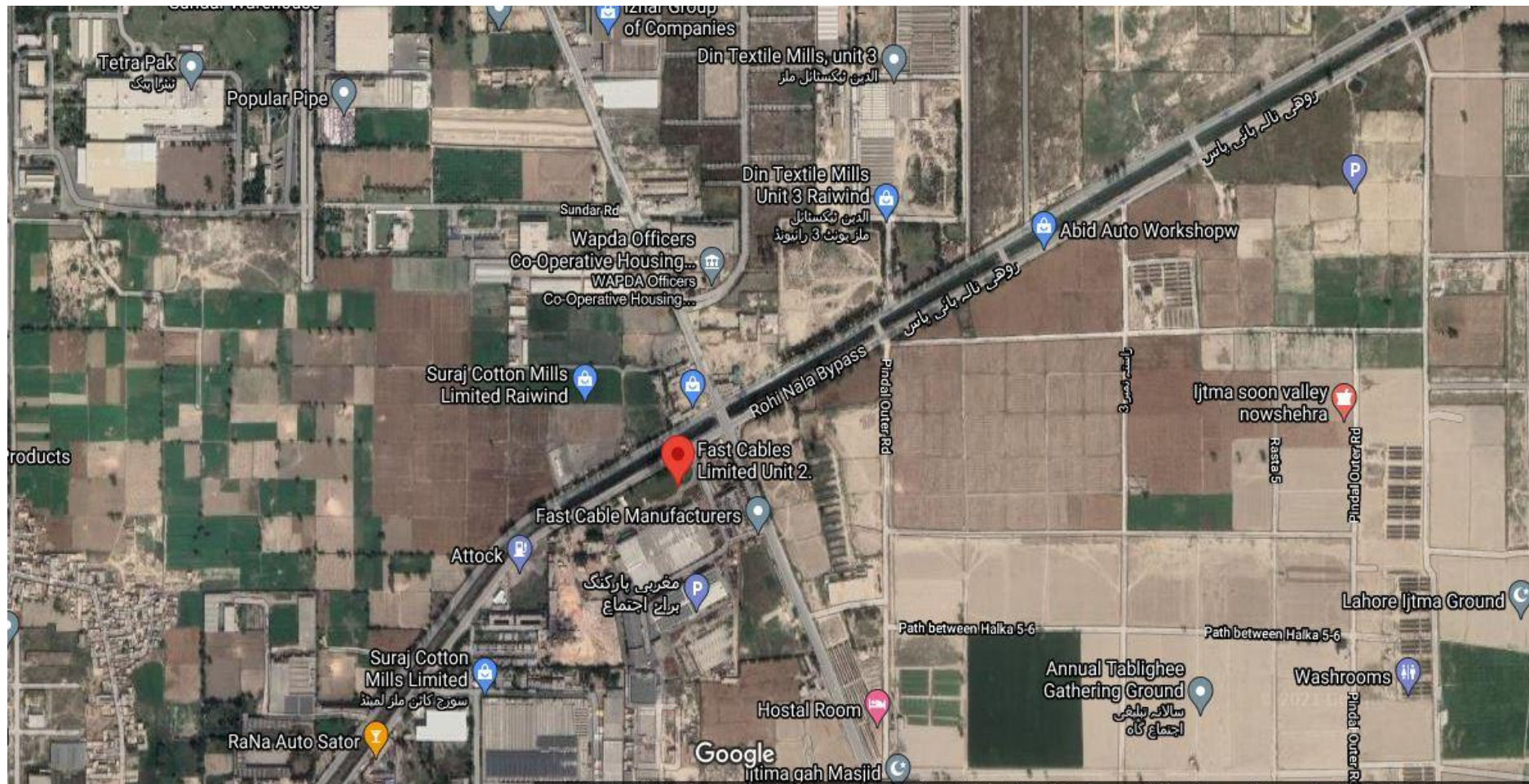


Figure 4: Google Earth Map of Project Site

1.6 OBJECTIVES OF THE STUDY

The overall objective of the EIA study is to identify and evaluate the environmental impacts from the addition of 3 furnaces and proposed installation of machinery 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 EIA study addresses the initial phases of 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.

CHAPTER # 2

2 DESCRIPTION OF PROJECT

This chapter presents all aspects of the proposed project. It details the nature of the proposed installation of machinery and addition of 3 furnaces, 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.

2.1 TYPE & CATEGORY OF THE PROJECT

The project is proposed installation of machinery and addition of 3 furnaces within facility of M/s Fast Cables Limited, after installation of machinery project capacity would be 700 tons/month

According to nature of project, cost of project and by also reviewing the IEE / EIA Regulation 2000, the project falls under Schedule II.

2.2 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

2.3 Alternative Considerations:

2.3.1 Location alternatives:

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.

ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES LIMITED

Availability of access roads, communication facilities, electricity, basic infrastructure, sewerage etc. is yet the other necessary requirements.

2.3.2 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.

2.3.3 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.

2.4 LOCATION & SITE LAYOUT OF PROJECT

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

Front Road

Back Open Land

Left Industrial Unit

Right Road

For further details layout map of the project, Google earth map and aerial view of the project site indicating its distances from nearby residential, commercial and industrial areas on A3 page is attached as ***Annexure-D*** with the report.

ENVIRONMENT IMPACT ASSESSMENT REPORT OF M/S FAST CABLES LIMITED

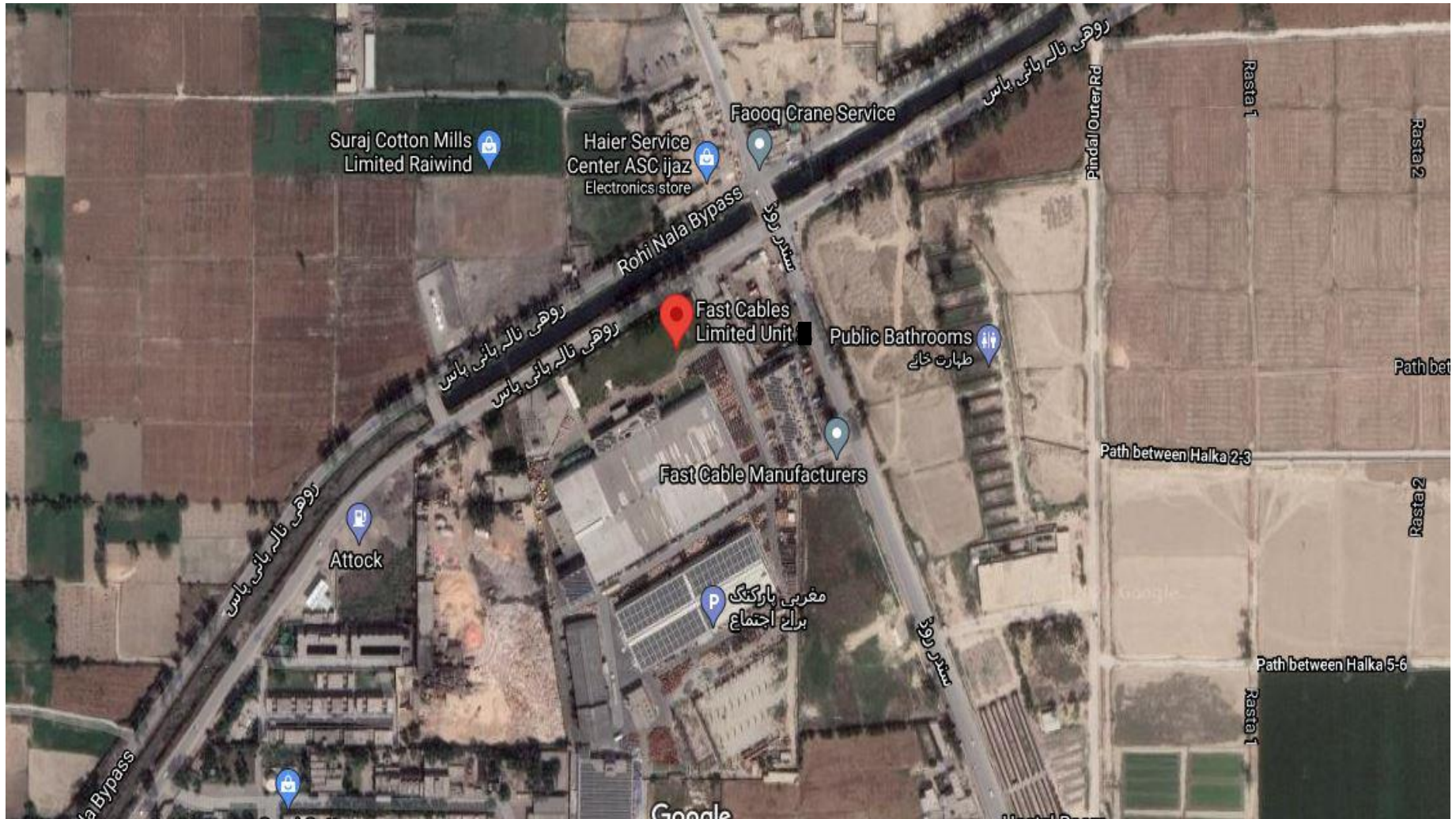


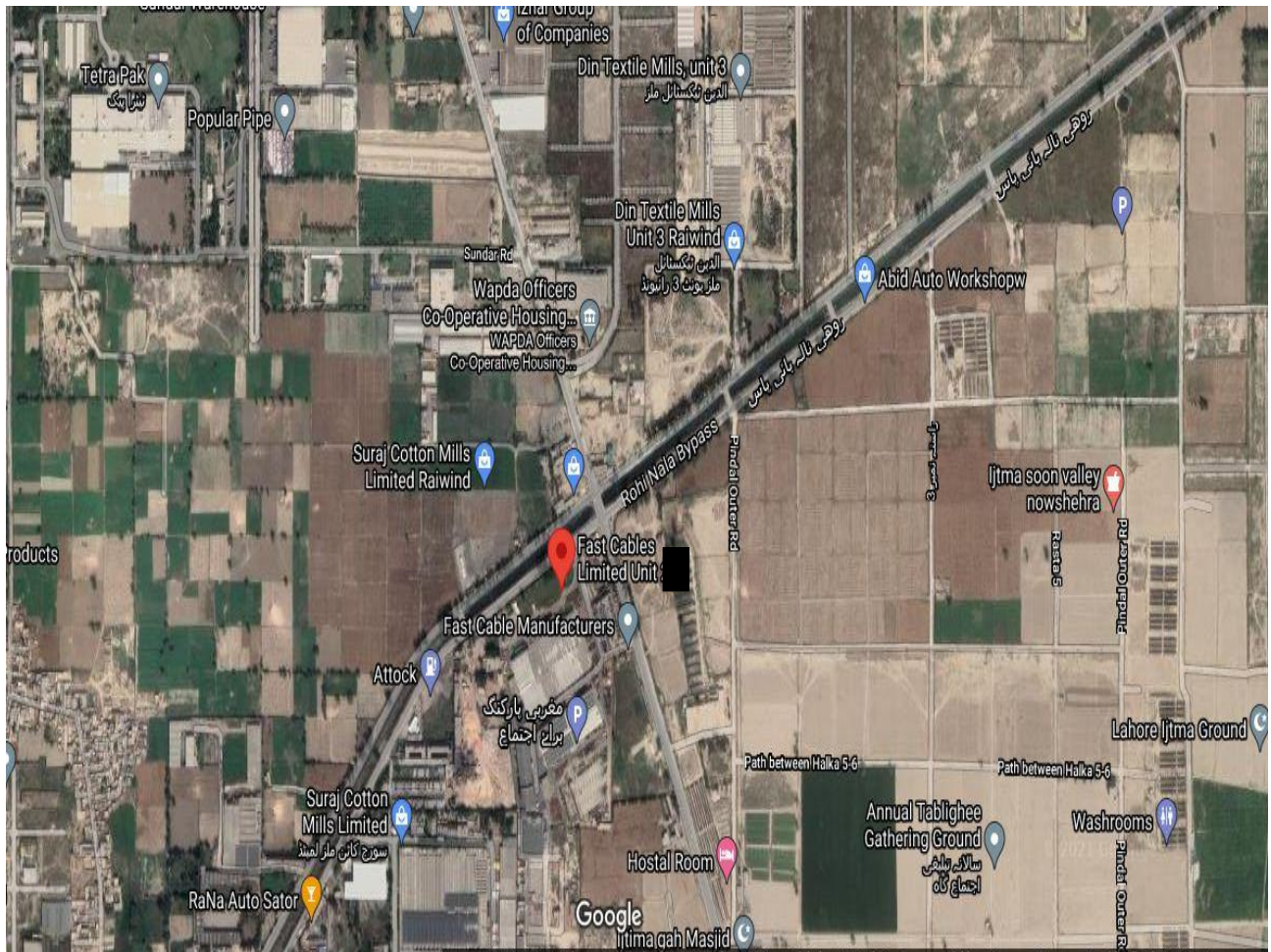
Figure 6: Google earth Map of Project Site

2.5 LAND USE & VEGETATION FEATURES ON SITE

Subject project will be addition of 3 furnaces 1 melting furnace with capacity of 20 ton, 2 holding furnaces with capacity of 10 ton each ; 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.

2.6 ROAD ACCESS

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



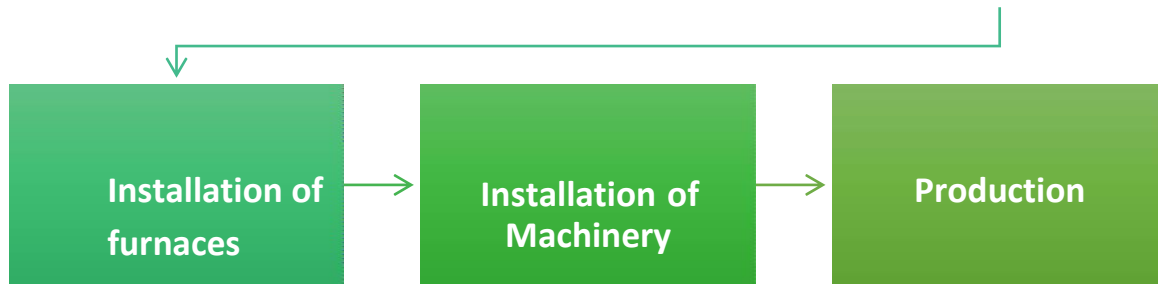
Name of the proposed project	M/s Fast Cables Limited		
Purpose of the Project	Installation of machinery for manufacturing of Wires and cables using these raw materials		
	Copper Cathod	300	Local
	PVC	150	Own plant
	Steel wire	150	Local industries (Pakistan)
Final Product	Wires and Cables after installation of machinery		
Land Requirement			
Total Area	895905 SFT		
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.		

2.7 Vegetation features of the site:

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

2.8 COST & MAGNITUDE OF OPERATION

Approximate cost of the project is 2.9 billion which include the cost of development works



2.9 SCHEDULE OF IMPLEMENTATION

The project is proposed installation of machinery and addition of 3 furnaces within facility of already existing building of M/s Fast Cables Limited, said installation will be completed within few months from the issued date of environmental approval.

2.10 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.

Figure 10: Proposed Plan

2.11 Description of Production 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

2.12 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.

2.13 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.

2.14 Extruders

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

2.15 Drum Twister

Drum Twister is used for Laying-up of low and high voltage cables both circular / sector either Aluminum or Copper material. It can also be used for round Wire Armouring.

2.16 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.

2.17 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.

2.18 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.

2.19 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.

2.20 Manual Rewinder

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

2.21 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.

2.22 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.

2.23 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.

2.24 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

2.25 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.

2.26 DESCRIPTION OF PVC Plant

PVC plant has following machinery components

- Feeding hoppers
- High Speed mixer tank
- Extruders

- Single screw extruder
- Cooling Cyclone

2.27 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.

2.28 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.

2.29 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.

2.30 Safety Features

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.

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

2.31 Controls for Emission & Effluents

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

2.32 DESCRIPTION OF Under Construction Hall

2.33 Copper Plant

Copper plant is part of our proponent (upcoming) project.

Proposed copper plant building shall be inside production hall No 4. Copper plant is 43.33 m long and 18.49 m wide, whereas height is 7.61 m.

Hall -4 & copper plant buildings consist of RCC structure.

Copper plant machinery has following components

- Main melting furnace
- One holding furnace
- Casting wheel
- Rolling mill
- Coiler

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.

2.34 steps for manufacturing process of copper wire

- i. **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.
- ii. **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 molded into different shape and sizes.
- iii. **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.
- iv. **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 pickled for this unique
 - b)

c) 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.

- v. **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.

2.35 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.

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

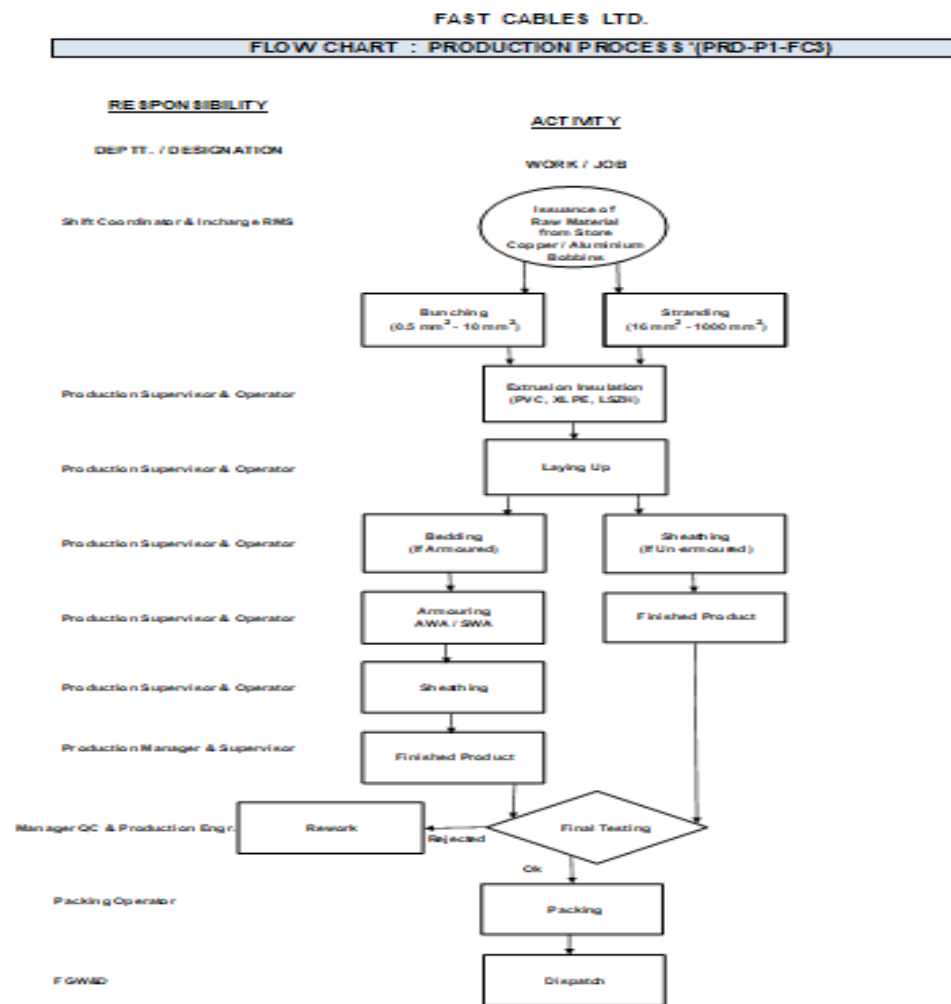
2.36 Controls for Emission & Effluents

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.

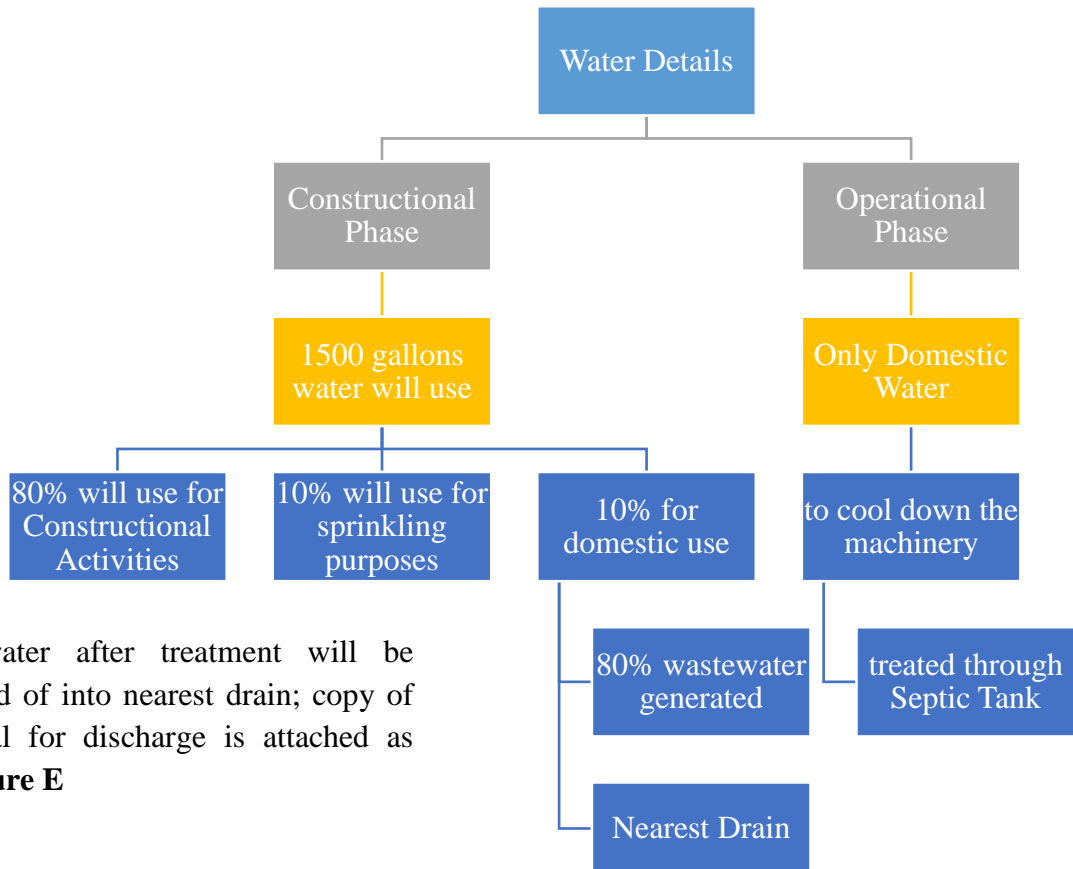
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PROCESS OF PRODUCTION OF POWDER COATING



2.36.1 WATER CONSUMPTION & WASTEWATER DISPOSAL

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



Wastewater after treatment will be disposed of into nearest drain; copy of approval for discharge is attached as **Annexure E**

Figure 8: Water Detail

2.36.2 Solid Waste:

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, a comprehensive plan has been formulated for safe disposal of solid waste and same is attached herewith as **Annexure F**

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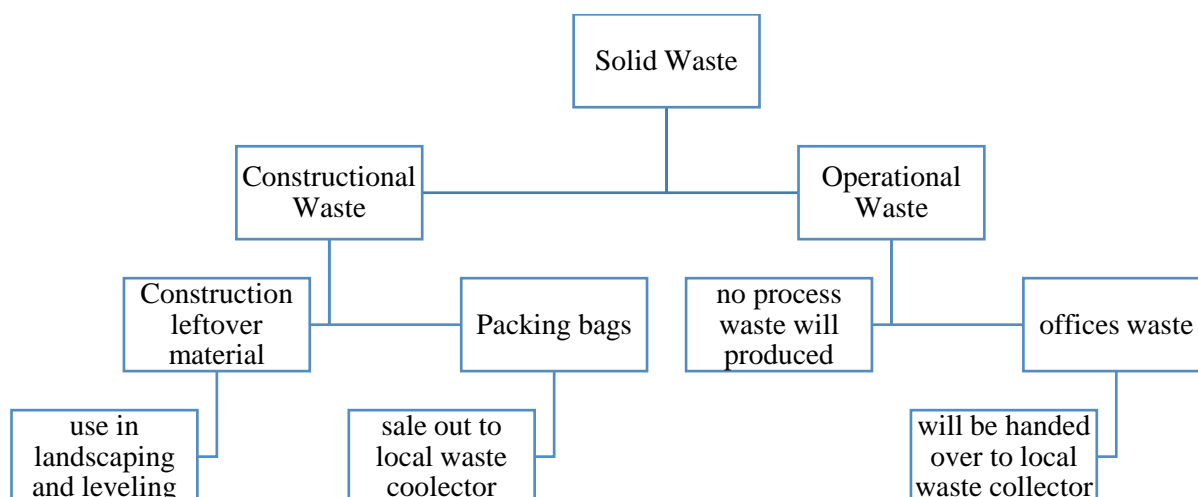


Figure 2-9: Solid Waste Detail

2.36.3 HEALTH AND SAFETY

A well maintained health and safety plan will be formulated and same will be followed throughout the project operational activities. It will assure the contractor will maintain all the safety measures in construction. Mainly ear muffs and helmets will be provided at the time of operation. In operation no activity is involved because 98% system is automated. Beside this safety mats, shoes, gloves all will be part of the work's dress.

Table 4: Details of PPEs

Protection	Occupational Hazards	PPEs
Head Protection	Falling objects, inadequate height clearance, and overhead power cords	Helmets with or without electrical protection
Hand protection	Hazardous material, cuts or lacerations, vibrations, extreme temperatures	Synthetic or Rubber gloves, leather, insulating material etc.
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation	Glasses, shield protective, etc.
Hearing protection	Noise, ultra sound	Hearing protectors like ear plugs, ear muffs
Respiratory protection	Dust, fogs, fumes, gases, smokes, vapors, oxygen deficiency	Facemasks or air supply
Body protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration	Aprons, insulating clothing etc. of appropriate materials

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2.37 SAFETY SIGNS/SAFETY BOARDS:

At any workplace Safety signs and symbols are very important to avoid many accidents. They must be in easy and understandable language to all the workers. Workers should have the knowledge of sign wordings and they must be trained and aware about them. Safety signs, symbols and boards must be provided by every site to protect the workers and employees from the risks of hazards that has not been controlled by other means. Safety signs and boards give safety message and they must be of different colors that workers could understand their meanings easily. At the subject project, safety signs and boards will be placed to avoid the workers and staff from any risk.

2.38 PLANTATION

Maximum plantation will be done, within and around the project area; tree plantation plan has been made same will be followed after completion of constructional activities, tree plantation plan is attached herewith as **Annexure G**

2.39 FIRE PROTECTION SYSTEM:

An addressable fire protection system with detection and alarm annunciation and other installations etc. will be provided to protect against any fire hazards in the proposed project. Fire buckets and fire extinguishers will be installed at all sensitive places within the working area of proposed project.

2.40 RESTORATION AND REHABILITATION PLANS:

All possible precautions will be taken to prevent an untoward incident in terms of life and property losses. On completion of the project, solid waste will be removed from the site in order to maintain aesthetics of the area. All measures will be undertaken for ensuring occupational safety, security and clean environment during the working hours. Vegetation and landscaping will be done by the proponent after the completion of project.

2.41 DETAILS OF RESTORATION AND REHABILITATION AT THE END OF THE PROJECT LIFE:

There will be no matter of rehabilitation as the proposed site is already owned by the project proponent. At the end of the life of the project, it will be duly dismantled with special precautions to avoid/ minimize pollution and at the same time taking all safety precautions to protect human life and property around the building.



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Debris or any other wastes resulting from demolishing of the building will be disposed of in environmentally sustainable fashion. The materials capable of recycling/reuse will be either sold in the market or to be reused for other suitable purposes. While dismantling the building all Government rules and regulations are applicable to such activities will be strictly adhered to.

2.42 GOVERNMENT APPROVALS:

It has been ensured by management that all the approvals/certificates from concerned departments will be obtained after getting Environmental Approval from EPA Punjab and will be submitted to EPA at the time of operational phase Environmental approval.

CHAPTER # 3

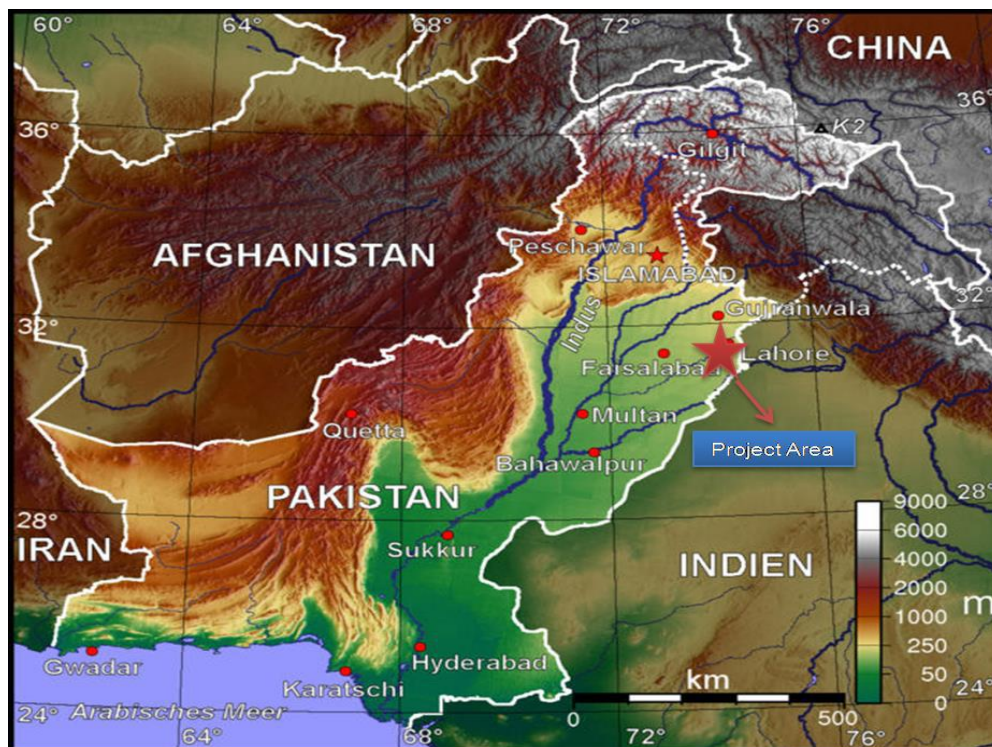
3 DISCRIPTION OF ENVIRONMENTAL & SOCIAL BASELINE CONDITONS

This section describes the baseline conditions, which cover the existing Physical, ecological and socio-economic environment of the project as well as study area. Data was collected by reviewing secondary data and field survey.

3.1 PHYSICAL ENVIRONMENT/ RESOURCES

3.1.1 TOPOGRAPHY:

The topography of the project area is flat. The General height of the area is approximately 220 meters above the Mean Sea Level (MSL). The district Lahore is divided into two parts. The low-lying alluvial soil is along the Ravi River, and the upland in the east. Upland is a plain slope from north-east to south-west. The lowlands are generally inundated during the monsoon season by Ravi River, flowing in the west of district along its boundary with Lahore. Below figure is showing the topography of the area.



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3.1.2 SOIL:

The soil in the Project Area is cohesion less and is of alluvial type. Various soil layers below the ground level includes: silt, silty clay, silty sand, poorly graded sand with silt, lean clay etc. The soil is different in character and generally inclined to be dry. However, it is rich in potential plant nutrients.

3.2 CLIMATE AND METROLOGY:

Seasonal climatic conditions must be considered for the design and execution of Project. The climate including air, temperature, precipitation, humidity and evaporation is an influencing factor, affecting the construction of project and other engineering structures. However, to determine the overall effect of the climatic stresses, daily and seasonal temperature changes, site altitude, direct solar radiation, and precipitation must be considered. The Project Area has extreme climate: it has hot summer and cold winters. The summer starts from April and lasts till September. May, June, and July are the hottest months. The mean maximum and minimum temperature ranges from 40.4 °C and 27.3 °C respectively for these months.

The winter seasons lasts from November to March. December, January and February are the coldest months. The mean maximum and mean minimum temperature ranges from 19.8°C to 5.9°C in January. Temperatures in the Project Area vary from 5.9 °C to 40.4 °C.

The project area receives rains in all the seasons but monsoon rain is pronounced and constitutes a definite rainy season between the month of July and September. The average rainfall is about 629 millimeters per year. Below figure is showing the temperature, precipitation, and relative humidity trends in the study area.

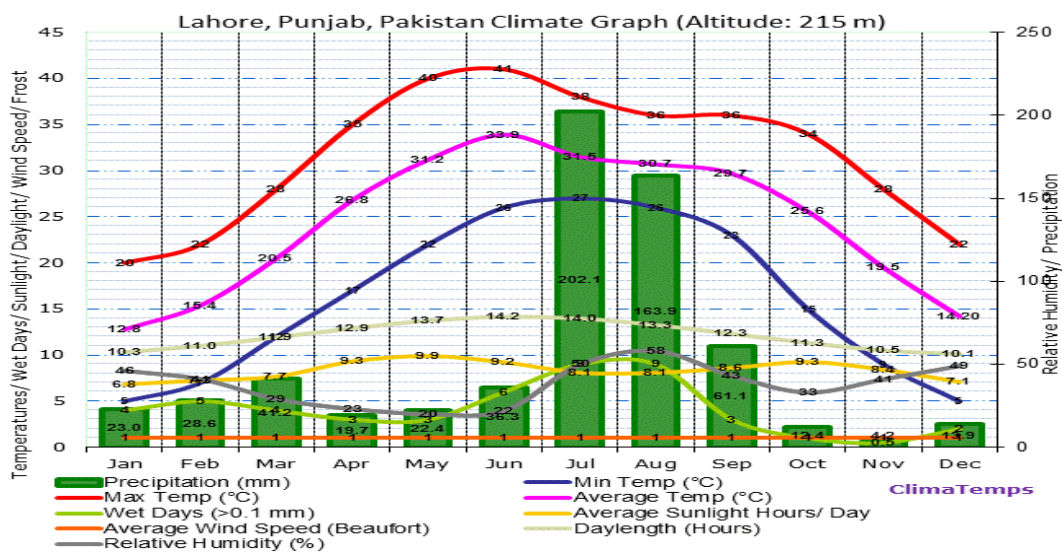


Fig: Picture showing the temperature, precipitation, and relative humidity trends in the study area.

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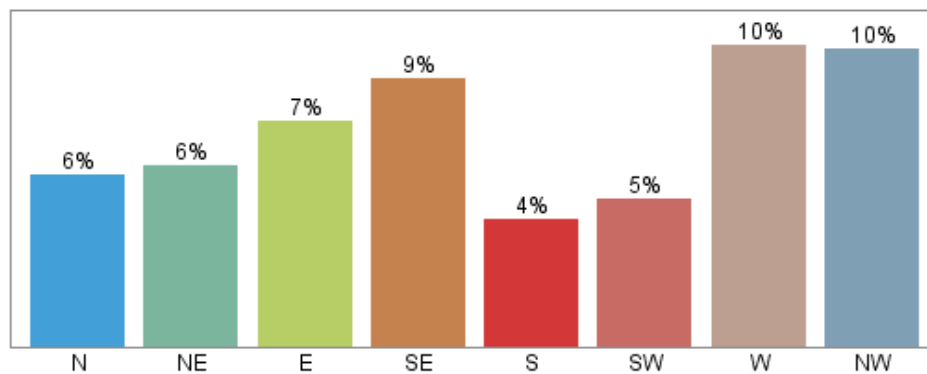
3.2.1 WIND SPEED IN THE PROJECT AREA:

Over the course of the year typical wind speeds vary from 0 m/s to 6 m/s (calm to moderate breeze), rarely exceeding 11 m/s (strong breeze).

The *highest* average wind speed of 3 m/s (light breeze) occurs around June 21, at which time the average daily maximum wind speed is 6 m/s (moderate breeze).

The *lowest* average wind speed of 1 m/s (light air) occurs around November 21, at which time the average daily maximum wind speed is 3 m/s (light breeze).

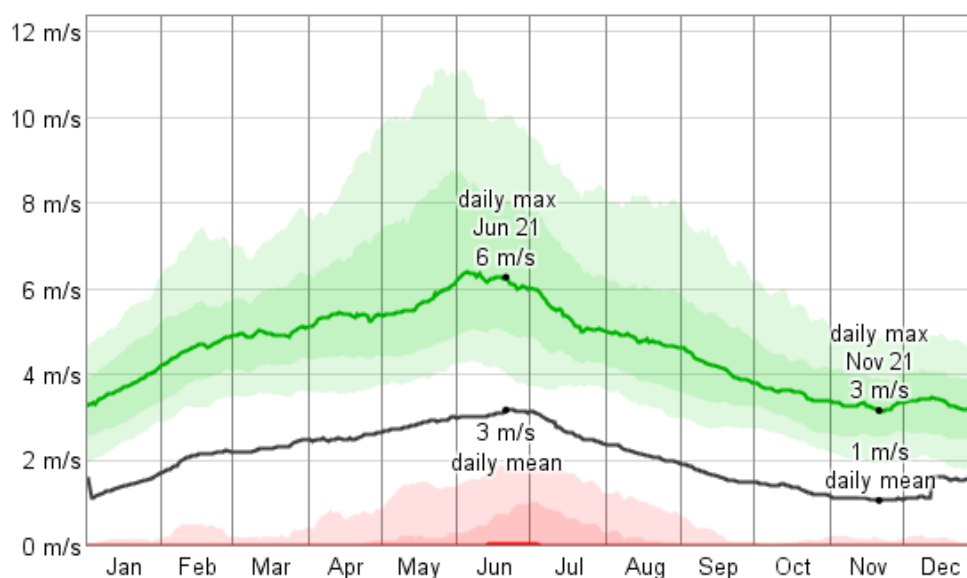
Wind Directions Over the Entire Year



The fraction of time spent with the wind blowing from the various directions over the entire year. Values do not sum to 100% because the wind direction is undefined when the wind speed is zero.

Reference: <https://weatherspark.com/averages/32865/Lahore-Punjab-Pakistan>

Wind Speed



The average daily minimum (red), maximum (green), and average (black) wind speed with percentile bands (inner band from 25th to 75th percentile, outer band from 10th to 90th percentile).

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3.2.2 WIND DIRECTION IN THE PROJECT AREA:

The wind direction is highly variable and is not predominantly from any single direction. The wind is least often out of the south (4% of the time) and south west (5% of the time).

3.3 AMBIENT AIR QUALITY:

Atmospheric pollution, particularly in urban areas like Lahore, has a strong impact on daily life. Motor vehicles are a major source of air pollution in the project area. Monitoring was conducted at the project site by using Fine Dust Sampler IPM-FDS 2.5/10 μ and Ambient Air Analyzer.

To record the baseline ambient air quality of the project area, monitoring was conducted at advised locations to assess the concentration of priority pollutants (Carbon monoxide, Nitrogen dioxide, Sulphur dioxide and PM₁₀) in the air.

3.3.1 NOISE LEVEL MONITORING:

3.3.2 BASIC ENVIRONMENTAL CONDITIONS:

During the measurement following conditions were prevailed on workplace:

3.3.3 METROLOGICAL CONDITIONS:

During the noise level monitoring weather was dry and sky was clear. Air was blowing at normal speed

3.3.4 MONITORING INSTRUMENT:

The description of the instrument used for the noise level monitoring is given below:

Name: Digital sound level meter

Model: AR824

Company: Intel Instruments plus

3.3.5 METHODOLOGY ADOPTED:

Noise level was monitored at four points; lab results are within PEQ's.

3.4 GROUND WATER:

The underground water will be used as a source of water at unit. Sample was taken from the tube well near the project area to test its parameters, lab reports are attached as **Annexure H**

3.5 ECOLOGICAL RESOURCES

As climate of Lahore is semi-arid and subtropical, the vegetation of the district falls under scrub, dry, tropical thorn forest type as per phyto-geographical classification of the area but

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this vegetation is confined to the graveyards in the Lahore city and the project site is free from such type of vegetation.

3.5.1 FAUNA:

Different birds were observed at the project site during the site visit including sparrow, crow, pigeon and dove etc. Other than that no fauna was observed at the site during the site visit.

3.6 SOCIOECONOMIC ENVIRONMENT:

Socioeconomic environment of district Lahore has been studied through secondary sources and a brief introduction has been given below:

3.6.1 DEMOGRAPHIC CHARACTERISTICS OF THE PROJECT AREA

The total population of Lahore District has crossed 10 million.

3.6.2 RELIGION

The population of the district is predominantly Muslims i.e. approx. 95 percent, other minorities like Christians, Sikhs and Hindus etc. are approx. 5 percent.

3.6.3 EDUCATION

Lahore is known as Pakistan's education capital, with more colleges and universities than any other city in the country. Lahore is Pakistan's largest producer of professionals in the fields of science, technology, IT, engineering, medicine, nuclear sciences, pharmacology, telecommunication, biotechnology and microelectronics. Most of the reputable universities are public, but in recent years there has also been an upsurge in the number of private universities. The current literacy rate of Lahore is 74%. Lahore hosts some of Pakistan's oldest educational institutes: Government College Lahore (now Government College University), established in 1864; Forman Christian College, a chartered university established in 1864; University of the Punjab, established in 1882; Kinnaird College, established in 1913; and University of Engineering and Technology, Lahore (UET Lahore), established in 1921. UET is also Pakistan's oldest technical degree-awarding institute and its first university in the field of engineering and technology.

Lahore's institutes in the fields of computer science, IT, and engineering include the National University of Computer and Emerging Sciences (NUCES or FAST-NU) and Punjab University College of Information Technology. Notable architecture schools include Beaconhouse National University, COMSATS Institute of Information Technology, University of South Asia, National College of Arts and University of Engineering and

PAK GREEN ENVIRO-ENGINEERING PVT. LIMITED

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Technology, Lahore. Notable business schools include the Lahore University of Management Sciences (LUMS), Lahore School of Economics, Forman Christian College, and University of Management and Technology. University of Education, established in 2002, is Pakistan's first specialized university in the field of education.

Lahore also provides education in many fields of health sciences. Notable medical colleges offering MBBS degrees include Allama Iqbal Medical College, Fatima Jinnah Medical College, King Edward Medical University, Lahore Medical and Dental College, Services Institute of Medical Sciences, Shaikh Khalifa Bin Zayed Al-Nahyan Medical and Dental College and Shalamar Medical and Dental College. Important postgraduate institutes are Punjab Institute of Cardiology and University of Health Sciences, Lahore. University of Veterinary and Animal Sciences is the only college in Lahore providing education in the field of veterinary medicine. De'Montmorency College of Dentistry is an important college of dentistry. There are many institutes offering education in fields of nursing and pharmacy as well.

Notable schools include Aitchison College, St. Anthony's College, Lahore College of Arts and Sciences, Lahore Grammar School and Salamat School System. Aghaz School System is present near the subject project.

3.6.4 HEALTH FACILITIES

Medical and health facilities are available in the Lahore Metropolitan Corporation area and its suburbs. Shaukat Khanam Hospital is the latest addition in the medical care facilities in Lahore for the most dangerous disease in the country. i.e. Cancer. There are also other hospitals of voluntary organizations which provide health cover to the general public. King Zaid Bin Sultan Hospital is also a very advanced addition in the medical care for Lahore. Among the prominent hospitals are General Hospital, Lady Willington Hospital, Mayo Hospital, Fatima Jinnah Hospital, The Children Hospital, Services Hospital, and Ganga Ram Hospital etc. Besides, a number of private medical practitioners, Hakims and homeopathic doctors are also practicing in the city. Some famous Health facilities located in the Project vicinity are Hameed Latif Hospital, Wapda Hospital and Lady Willington.

3.7 QUALITY OF LIFE VALUES

All classes of people are present in Lahore City; People lead lives according to their income.

3.7.1 CIVIC AMENITIES

Civic amenities like potable drinking water, dispensary and rest area are available near the project site.

3.7.2 GAMES:

Cricket, Football, badminton, Hockey, Volleyball, Kabbadi and Kushti are major sports of Lahore District.

3.7.3 WELFARE OF EMPLOYEES

Management of project is mindful of the fact that the satisfied employees will deliver better output.

3.7.4 HISTORICAL BUILDINGS NEAR THE PROJECT SITE:

Pakistan Radio, Agriculture department, Punjab Public Service Commission are the historical buildings near the project site.

3.7.5 AESTHETIC VALUES:

Like the general trend among the citizens of area, most of the people have low awareness about environment. Even then, some people take cleanliness and neatness of the environment lightly. Some people throw municipal solid wastes (MSWs) on the streets. Sense of personal responsibility to keep the environment clean as good citizens is even now lacking among a few people.

CHAPTER # 4

4 POTENTIAL ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

The following chapter describes the overall possible impacts of project on the physical, biological and socioeconomic environment because of construction and operation phases and mitigation measures to minimize the significance of the possible impacts up to an acceptable level. The anticipated impacts related to location, design, construction and operation of the proposed project have been assessed and mitigation measures have been suggested in this report.

Impacts are assessed by analyzing their magnitude and sensitivity. The sensitivity and magnitude of the impact are described with reference to legal requirements, accepted scientific standards or accepted impact assessment practice, and/or social acceptability; where possible.

But where no known published ‘standard’ criteria exists for determining the magnitude of effects, established professional criteria and best practice techniques are used.

4.1 METHODOLOGY FOR IMPACT EVALUATION:

The methodology adopted for impact evaluation includes the Modified Leopold Matrix.

4.1.1 Leopold Matrix

The analysis is performed with the Leopold Matrix (LM). This matrix has:

- 1) On the horizontal axis, the actions which cause environmental impact, and
- 2) On the vertical axis, the existing environmental conditions which may be affected by those actions.

This provides a format for comprehensive review of the interactions between proposed actions and environmental factors.

The most important blocks marked are evaluated individually, and a number between 1 and 10 is placed in the upper left-hand corner to indicate the relative magnitude of the impact (1 represents the least magnitude, and 10 the greatest). Likewise, a number between 1 and 10 is placed in the lower right-hand corner to indicate the relative importance of the impact (again, 1 represents the least magnitude and 10 the greatest).

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Table 5: Scale Table of Importance & Magnitude

Sr. No.	Type of Impact	Scale of Magnitude (0 – 10)	Scale of Importance (0 – 10)
1	No Impact	0	0
2	Low Impact	1 – 4	1 – 4
3	Medium Impact	5 – 6	5 – 6
4	High Impact	7 – 10	7 – 10

For the evaluation of this project, each action checked was evaluated in terms of magnitude of effect on environment characteristics and conditions [on the vertical axis]. From upper right to lower left across each block where significant interaction is expected slash \ was placed diagonally. The most important blocks marked are evaluated individually, and a number between 0 to 10 is placed in the upper left-hand corner to indicate the relative magnitude of the impact 1 is the best magnitude, and 10 the greatest magnitude. In the same way, a number between 0 and 10 in the lower right-hand corner to indicate the relative importance of the impact again, 0 is the magnitude, and 10 the greatest.

The next step is to evaluate the numbers which have been in the slashed boxes. The high or low numbers on any one box indicates the degree of impact of the appropriate action on the given characteristic of the environment. The assignment of magnitude and importance numbers is based, to the extent possible, on factual data rather than on the evaluator's preference.

For the rating design regarding the probable impacts requires the evaluator to quantify his/her judgment. The rating scheme\ scheme allows the reviewers to thoroughly follow the evaluator's line of reasoning, to aid in identifying points of agreement and disagreement. In fact, matrix is the abstract for the text of the environmental impact assessment.

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Table 6: Leopold Matrix

Construction Phase															
<div>Magnitude</div> <div>Importance</div>			Actions											Total Score of Impact	Average Score of Impact
			Transportation of raw material	Construction Activities	Operation of generators	Water consumption	Wastewater generation	Storage of raw materials	Social activities	Public welfare	Economic activities	Employment	Infrastructure improvement		
PHYSICAL	Soil	Soil Quality	2 1	3 2	0 0	1 1	5 2	4 4	1 1	0 1	1 1	1 3	4 6	22 22	2 2
		Erosion	2 1	6 6	0 0	0 0	2 2	1 1	2 1	0 0	1 1	1 1	3 4	18 17	1.6 1.5
		Geomorphology	0 0	5 5	0 0	4 2	5 3	2 1	0 0	0 0	1 1	2 1	4 6	23 19	2.09 1.7
	Water	Surface Water	0 0	0 0	0 0	6 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	6 0	0.5 0
		Subsurface Water	1 2	1 1	0 0	7 8	5 7	1 1	0 0	0 0	1 1	0 0	2 2	18 22	1.6 2
	Air	Air Quality	2 1	6 6	0 0	0 0	2 2	1 1	2 1	0 0	1 1	1 1	3 4	18 17	1.6 1.5
		Odors	1 1	1 1	3 3	0 0	5 7	4 6	1 1	0 1	0 1	1 1	1 1	17 23	1.5 2.0
		Noise	5 6	9 10	7 8	0 0	5 4	2 2	5 0	0 1	5 6	4 6	4 6	46 55	4.1 5

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BIOLOGICAL	Fauna & Flora	Crops	2 2	5 6	3 2	0 0	4 6	2 2	2 3	4 3	5 7	3 3	3 3	33 37	3 3.3
		Birds	2 2	7 7	5 5	2 1	4 4	1 1	5 4	0 0	5 5	3 4	4 4	34 37	3.4 3.3
		Mammals	5 4	6 7	2 2	2 1	4 3	2 1	3 3	0 0	4 3	3 4	3 3	34 31	3.3 2.8
SOCIO-ECONOMIC	Social	Industrial	5 6	7 7	5 5	4 6	6 7	4 5	6 6	5 6	8 8	9 9	7 7	66 72	6 6.5
		Recreational Use	2 3	3 4	2 3	3 3	3 3	1 1	3 4	4 5	4 5	2 1	4 3	31 35	2.8 3.1
		Historical / Cultural	2 2	7 7	2 2	2 1	4 4	1 1	5 4	4 4	5 5	3 4	4 4	39 38	3.5 3.4

Over all the impact of project is positive in term of employment and infrastructure improvement. Mostly the average values are falling in 0.2-5 range which means the overall impact will be low to moderate. Due to the construction activities dust and gases will generate which may affect ambient air quality. To counter with the negative impacts Environmental Management plan is formulated which will be ensured by the project proponent. Beside this Environmental monitoring plan is also formulated for Environmental monitoring of various parameters which will be also implemented by the proponent.

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Operational Phase															
<div>Magnitude</div> <div>Importance</div>			Actions										Total Score of Impact	Average Score of Impact	
			Transportation of raw material	Production Activities	Operation of generators	Water consumption	Wastewater generation	Storage of raw materials	Social activities	Public welfare	Economic activities	Employment			Infrastructure improvement
PHYSICAL	Soil	Soil Quality	2 1	3 2	0 0	1 1	5 2	4 4	1 1	0 1	1 1	1 3	4 6	22 22	2 2
		Erosion	2 1	6 6	0 0	0 0	2 2	1 1	2 1	0 0	1 1	1 1	3 4	18 17	1.6 1.5
		Geomorphology	0 0	5 5	0 0	4 2	5 3	2 1	0 0	0 0	1 1	2 1	4 6	23 19	2.09 1.7
	Water	Surface Water	0 0	0 0	0 0	6 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	6 0	0.5 0
		Subsurface Water	1 2	1 1	0 0	7 8	5 7	1 1	0 0	0 0	1 1	0 0	2 2	18 22	1.6 2
	Air	Air Quality	2 1	6 6	0 0	0 0	2 2	1 1	2 1	0 0	1 1	1 1	3 4	18 17	1.6 1.5

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		Odors	1 1	1 1	3 3	0 0	5 7	4 6	1 1	0 1	0 1	1 1	1 1	17 23	1.5 2.0
		Noise	5 6	9 10	7 8	0 0	5 4	2 2	5 5	0 1	5 6	4 6	4 6	46 55	4.1 5
BIOLOGICAL	Fauna & Flora	Crops	2 2	5 6	3 2	0 0	4 6	2 2	2 3	4 3	5 7	3 3	3 3	33 37	3 3.3
		Birds	2 2	7 7	5 5	2 1	4 4	1 1	5 4	0 0	5 5	3 4	4 4	34 37	3.4 3.3
		Mammals	5 4	6 7	2 2	2 1	4 3	2 1	3 3	0 0	4 3	3 4	3 3	34 31	3.3 2.8
SOCIO-ECONOMIC	Social	Industrial	5 6	7 7	5 5	4 6	6 7	4 5	6 6	5 6	8 8	9 9	7 7	66 72	6 6.5
		Recreational Use	2 3	3 4	2 3	3 3	3 3	1 1	3 4	4 5	4 5	2 1	4 3	31 35	2.8 3.1
		Historical / Cultural	2 2	7 7	2 2	2 1	4 4	1 1	5 4	4 4	5 5	3 4	4 4	39 38	3.5 3.4

4.2 IMPACT ANALYSIS AND PREDICTION:

In order to evaluate the socioeconomic and environmental impacts, filed surveys are extremely essential. In addition to the surveys at the preliminary stage, consultation with the community and their active participation plays a vital role in successful implementation of the project. For the impact analysis and predictions following methods were adopted:

4.2.1 CONSULTATIONS/ CASE STUDIES:

To study the impacts of the project on physical and biological environment, site visits were conducted by the environmental practitioners and experts and possible physical and biological impacts which may arise due to the subject project were identified through consultations and case studies and their mitigation measures were suggested accordingly.

4.2.2 MEETINGS:

For the identification of the social impacts of the project, meetings and group discussions were held with the local people, stakeholders, nearby residents and passerby because social acceptability of the project and the area is a key to success. Consultation with the stakeholders is a tool for managing two-way communication between the project proponent and the affected public. Its goal is to improve decision making and built understanding by actively involving individuals, groups and organizations, which have stake in the project. This involvement increases project's long term viability and enhances its benefits to locally affected people and other stakeholders.

To identify the different types of stakeholders and ascertain their perceptions about the project, an initial environmental examination was conducted. Informal group discussions were also held as an additional tool for obtaining feedback from the stakeholders that are being discussed in the following.

The EIA team carried out public consultations at various locations around the Project Site. The stakeholder's consultation during this phase of the work targeted the project area, administrative and private offices, Govt. offices, shops, etc. near the Project area:

- Selection of the stakeholders for consultation, reconnaissance of the proposed project site and initial discussions with the neighboring factory workers, villagers, shopkeepers, drivers etc.
- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

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4.3 CHARACTERISTICS OF IMPACTS:

4.3.1 IMPACT ASSESSMENT CRITERIA:

The impacts were assessed in the light of criteria given as under:-

- Magnitude or degree of impact
- Time and duration of impact
- Likelihood of impact occurrence
- Sensitivity of impact
- Risk related to impact

Table 7: Impact Assessment criteria

Rating of Consequence of Effect on Environment	Rating of Frequency of Occurrence				
	A. Very low: Not heard of but could occur	B. Low: Has occurred in other industry	C. Medium Has occurred in oil and gas industry	D. High: Occurs several times a year in oil and gas industry	E. Very high: Occurs several times a year in PDO
Slight effect: Local environmental damage. Within the fence and within systems. Negligible financial consequences	LOW RISK				
Minor effect: Contamination. Damage sufficiently large to attack the environment. Single exceedence of statutory or prescribed criterion. Single complaint. No permanent effect on the environment.		MEDIUM RISK			
Localized effect: Limited loss of discharges of known toxicity. Repeated exceedence of statutory or prescribed limit. Affecting neighborhood.					
Major effect: Severe environmental damage. The company is required to take extensive measures to restore the contaminated environment to its original state. Extended exceedence of statutory limits		HIGH RISK			
Massive effect: Persistent severe environmental damage or severe nuisance or nature conservancy extending over a large area. In terms of commercial or recreational use, a major economic loss for the company. Constant, high exceedence of statutory or prescribed limits				EXTREME RISK	

4.4 ANALYSIS OF IMPACTS AND RECOMMENDED MITIGATIONS

4.5 ENVIRONMENTAL IMPACTS DUE TO PROJECT LOCATION:

If the project proponent maintains HSE conditions and comply with the PEQS limits than, there will not be any significant impacts of the project on the environment because subject project site is present within facility of M/s Fast Cables Limited.

If the mitigation measures are effectively implemented, the residual impact of the Subject project activities on the area's geophysical environment is expected to be insignificant.

Impact significance: Low to moderate

Nature of impact: Direct

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Duration: Long-term

Timing: Construction & Operation phase

Reversibility: NA

Likelihood: Low

Consequences: Mild or may be positive

Mitigation Measures

- Project site will have good and efficient road infrastructure
- Location can be considered as the positive impacts due to enhanced infrastructure.
- The project will also have positive socioeconomic impacts because of provision of jobs to the local residents of the area.
- No human settlement within the radius of the study area
- There would be no issue of congestion of traffic due to presence of good road network in the area.
- Provision of embankments, designed by considering the Geotechnical investigation studies.

4.6 ENVIRONMENTAL IMPACTS DUE TO THE PROJECT DESIGN

Area for parking, Septic tank and solid waste management will be present in design of building. Firefighting plan, health & safety plan, tree plantation plan, emergency response plan will be the part of unit.

Following are the major Environmental impacts due to the development related to the design:

- Low utilization of available space
- Soil structure and soil bearing capacity
- Improper road infrastructure design
- Firefighting system
- Electricity hazards
- Low social acceptability & functionality of design

Impact significance: moderate to high

Nature of impact: direct

Duration: Long-term

Timing: Designing Phase

Reversibility: NA

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Likelihood: moderate to high

Consequences: moderate to high

4.6.1 Mitigation measures and recommendations

Following are the mitigation measures and recommendations to minimize the anticipated impacts:

- Industrial unit will incorporate all HSE measures regarding the design of project.
- Structure stability of the building should be ensured.
- Emergency exist points should be marked within the project building and in overall plan.
- Firefighting system should be designed for the emergency situations.
- Electricity system should be design safe and sound.
- Electricity wires should be covered by thick plastic/electricity resistant covers.
- Design should be professional which accommodate the maximum space and has high social acceptability & functionality.

4.7 ENVIRONMENTAL IMPACTS DURING CONSTRUCTION PHASE:

4.7.1 IMPACTS ON PHYSICAL ENVIRONMENT

4.7.1.1 TOPOGRAPHY

In the proposed area there are herbs and shrubs and excavation and leveling will be involved in this construction.

Impact:

- Change in topography due to excavation
- Land filling of the area
- Construction of roads

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Very Low

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Mitigation:

- Cuttings of trees will be avoided
- Use of existing paved tracks as many as possible.
- Working should be in such a way that minimum excavation is involved

4.7.1.2 AIR QUALITY:

Air quality will be affected by fugitive dust emissions from construction machinery; dust from the unpaved surface and construction vehicles. The critical sources of dust pollution during the construction phase will be

- Unpaved road surface
- Transportation of materials and other construction activities that create dust emissions

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Very Low

4.7.1.2.1 Impact:

Air quality deterioration, particulate matter/dust emissions due to construction activities; stand by generator (if any) equipment's and vehicle.

4.7.1.2.2 Mitigation:

- Sprinkling of water on track will reduce dust pollution
- Provision of dust masks for workers.
- Air quality monitoring is recommended on regular base
- Proper paved road infrastructure is recommended
- All vehicles, machinery, equipment and generators used during construction activities should be kept in good working condition and be properly tuned and maintained in order to minimize the exhaust emissions
- Blowing of dust and particulate matter from stockpiled loose materials (e.g. sand, soil) should be avoided either by sheeting them with tarpaulin or plastic sheets or by sprinkling them with light shower of water
- Open burning of solid waste from the Contractor's should be strictly banned;

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4.7.1.3 NOISE

Noise is a by-product of human activity, and area of exposure increases as function of mobility and construction activities. Sources of noise during construction are heavy machinery such as bulldozers, excavators, stabilizers and other equipment. Noise generated by construction machinery is likely to affect sensitive receptors located within 50 meter of the proposed Project.

4.7.1.3.1 Impact

- Persistently higher noise levels can produce psychological effects of distraction of attention, irritation and short temperedness in the exposed persons
- Noisy settings and higher background levels can cause temporary threshold shift and the consequent habit of speaking loud, which may cause damage to vocal cords in the persons exposed
- Noise produced from moving construction vehicles and blowing of pressure horns, at times, could be intolerable particularly during quiet hours of night

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Low

Mitigation:

- Selection of up-to-date and well-maintained plant or equipment with reduced noise levels ensured by suitable in-built damping techniques or appropriate muffling devices
- Confining excessively noisy work to normal working hours in the day, as far as possible
- Providing the construction workers with suitable hearing protection like ear cap, or earmuffs and training them in their use
- Preferably, restricting construction vehicles movement during night time
- Vehicles and equipment used should be fitted, as applicable, with silencers and

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properly maintained

- Use of low noise machinery, or machinery with noise shielding and absorption
- Contractors should comply with submitted work schedule, keeping noisy operations away from sensitive points; implement regular maintenance and repairs; and employ strict implementation of operation procedures

4.7.1.4 WATER RESOURCES

There will be no impact on surface water quality during the construction of the project area. Persistent and prolonged withdrawal of groundwater higher than the safe yield limits of the aquifer can initiate early depletion of aquifer. This situation can result in reduced water supplies for other users who share the same groundwater resource. Abstraction of the groundwater over and above the safe yield limit can produce serious hydrological and environmental consequences.

4.7.1.4.1 Impact:

- Early depletion of the aquifer resources
- Persistent lowering of the water table
- Reduced availability or non-availability of the groundwater to the neighboring communities sharing the same aquifer

These impacts are temporary and minor negative in nature

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Low

4.7.1.4.2 Mitigation:

- Water required for construction must obtain in such a way that the water availability and supply to nearby communities remain unaffected.
- Regular water quality monitoring according to determined sampling schedule.
- Prohibit washing of machinery and vehicles in surface waters, provide sealed washing basins and collect wastewater in sedimentation/retention pond.

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- Continuous withdrawal and over pumping of groundwater should be avoided. Instead, intermittent pumping be carried out to conserve the groundwater resources.

4.7.1.5 SOIL

The project area is open land with no paved area. Soil erosion and contamination may occur on site due to the following likely impacts,

4.7.1.5.1 Impact:

- Excavation of earth/cutting operations
- Land leveling activities
- If the excavated area will be left unfilled for long, which may lead to rainfall induced soil erosion.
- The unspent materials and debris produced from consumed up materials, if left as such and allowed to mix with soil underneath, can degrade the quality of receiving soils and may render them unfit for plantation later on.
- Leakages of oils, lubricants, chemicals, and other similar substances from their storage sites and from engines of the generators, machines, equipment and vehicles can spoil the receiving soils and may undermine ability of the spoiled soils to support growth of vegetation and plants.
- Washing of the gadgets, machinery and equipment without proper drainage of the washout water can adversely affect the soil quality. This impact is, however, temporary.

Impact significance: Low to Moderate

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Low

4.7.1.5.2 Mitigation:

- Non-bituminous wastes from construction activities will be dumped in designated sites, in line with the legal prescriptions for dumpsites, and covered
- As applicable and needed, plantation of grasses and shrubs will be done at

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appropriate place where required

- Unnecessary excavations should be avoided
- 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.
- All machineries and materials should be stored at the designated areas and compounds.
- All the unspent and left over materials should be completely removed offsite upon completion of construction.

4.7.1.6 WASTEWATER

4.7.1.6.1 Impact:

- Wastewater generation due to construction activities

4.7.1.6.2 Mitigation:

- Wastewater generated during construction and domestic activities will be treated in septic tank, from where it will be routed to local drain present near the project.
- Waste segregation measures will be employed to minimize entry of solid waste into the wastewater stream.

4.8 Solid Waste

Due to construction activities waste will be generated at construction and contractors camp site. The construction waste will include wastewater, oil spillage from machinery, domestic waste and solid waste etc. This will result in unhygienic conditions, health risk to work force and public at the camp site.

4.8.1 Impact

- Insecure and unhygienic disposal of the solid wastes generated at the worksite, particularly garbage and trash may cause degradation of soil and land
- Insecurely disposed of heaps of wastes containing kitchen garbage and food waste can serve as breeding grounds for the disease spreading vectors and rodents
- Throwing away of solid wastes into water channels and the wastewater network can result into choking of the latter.

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

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Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Moderate

4.8.1.1.1 Mitigation:

- An efficient and responsive solid waste management system should be devised for the entire duration of the construction phase. Such a system should provide for separate collection of different categories of constructional wastes. Training of working force in the storage and handling of materials and chemicals that can potentially cause soil contamination.
- Solid waste generated during construction and camp sites will be safely disposed in demarcated waste disposal sites or handed over to the contractor.

4.8.1.2 Health and Safety

Health risks and work safety problems may result at the workplace if the working conditions provide unsafe and/or unfavorable working environment and due to storage, handling and transport of hazardous construction material. Workers should be provided with safe and healthy working environment taking into account risks inherent to the particular sector and specific classes of hazards in project area. Mitigation measures will include:

Impact significance: Low to Moderate

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Moderate

4.8.1.2.1 Mitigation:

- Providing basic medical training to specified work staff and basic medical service and supplies to workers.
- Layout plan for site, indicating safety measures taken by the contractor, e.g. firefighting equipment, safe storage of hazardous material, first aid, security, fencing, and contingency measures in case of accidents

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- Work safety measures and good workmanship practices are to be followed by the contractor to ensure no health risks for laborers
- Protection devices (ear muffs) should be provided to the workers doing job in the vicinity of high noise generating machines.
- Provision of adequate sanitation, washing, cooking and dormitory facilities including light up to satisfaction.
- Provision of protective clothing for laborers handling hazardous materials, e.g. helmet, adequate footwear for bituminous pavement works, protective goggles, gloves etc.
- Ensure strict use of wearing these protective clothing during work activities
- Instruct foremen to strictly enforce the keeping out of non-working persons, particularly children, off work sites

4.8.2 IMPACT ON BIOLOGICAL ENVIRONMENT

There is no any fauna or flora is present on the proposed project site at the time of visit. Few herbs and shrubs were there.

4.8.3 IMPACT ON SOCIO-ECONOMIC ENVIRONMENT

4.8.3.1 ECONOMIC ACTIVITY

Due to the construction of the proposed Project, economic activity will be generated in the project area as the laborers and semi-skilled staff will have an opportunity to work for the construction of the proposed project. This will help in developing their skills and capacities. This is a moderate positive impact.

4.8.3.1.1 LIFESTYLE AND CULTURE

There are chances of arising of issues related to cultural differences/conflict between the Contractor's workforce and the local inhabitants, conflicts arising due to the mix of local and migratory job seekers as the use of local resources and products will be increased. In this situation, local residents may resist contractor's workforce attitudes, cultural clashes particularly when local/international contractors are engaged, social disturbance and dissatisfaction with employing outsiders may arise. This impact is temporary and minor negative in nature.

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4.9 IMPACTS DURING OPERATIONAL PHASE:

The positive and negative impacts of subject project, during its operation are discussed below:

4.9.1 IMPACTS ON PHYSICAL ENVIRONMENTS

4.9.2 SOLID WASTE/ SLUDGE MANAGEMENT:

In the operation of proposed project proper solid waste management system will be adopted for the prompt, timely and efficient disposal of solid waste & sludge for the reduction of its impacts. Impacts due to solid waste & sludge may be temporary and minor in nature.

Nature of impact: Direct

Duration: Short term

Timing: operation

Reversibility: Not applicable

Likelihood: Low (unlikely) if mitigation measures will ensure that Solid waste management in efficient way.

Consequences: Mild, as it will be removed from site within few hours

Impact significance: Low, based upon low likelihood and mild to moderate consequence.

4.9.2.1 Mitigation measures:

- Devise plan & develop guidelines for the safe handling, storage & disposal
- Sludge will be placed at the site after cleaning of Septic Tank
- PPEs will be strongly recommended for workers for the handling of sludge
- Separate bins at various places must be present for solid waste collection and segregation;
- Waste will be handed over to waste contractor;
- Solid waste will be recycling at maximum level;
- Industrial ecology practices will be implemented wherever possible;

4.9.3 WASTEWATER

Waste water will be produced only from domestic activities. In operation, no activity is place to used water and wastewater produced from it.

Nature of impact: Direct

Duration: Short term

Timing: operation

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Reversibility: Not applicable

Likelihood: Low

Consequences: Mild

Impact significance: Low.

4.9.3.1 Mitigation measure

- Wastewater that is finally disposed of, will be in limits of PEQS
- Water conservation approaches will be follow to reduce its wastewater
- Wastewater treatment facility i.e. Septic Tank will be installed to treat the domestic wastewater prior to disposal into nearest drain.

4.9.4 GASEOUS EMISSIONS:

Emissions can be produced by vehicles and equipment will similar to those produced by generators in terms of the resulting pollutants (SO₂, NO_X, PM, etc.). However, the extent to which they can produce would keep considerably lower, since much smaller engines will use in vehicles and construction machinery.

Nature of impact: Direct

Duration: long term

Timing: operation

Reversibility: irreversible

Likelihood: moderate if mitigation measures will be ensured.

Consequences: moderate, if pollutant levels in the ambient air will be control within acceptable limits by adopting proper mitigations.

Impact significance: moderate, based upon low likelihood and mild to moderate consequence.

4.9.4.1 Mitigation Measures

None of the potential effects discussed above will be exceeded to acceptable limits.

The mitigation measures given below used to reduce their impact, and ensure that they remain within acceptable limits.

- All equipment and vehicles during the operation of project will be properly tuned and maintained in good working condition in order to minimize exhaust emissions.
- Vehicle speed will be reduced on track passing through or close to shops

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- Speed limits will be imposed and encourage more efficient journey management worked to reduce the dust emissions produce by vehicular traffic. Water sprinkling will be done where necessary.
- Management make sure process will be environment friendly

4.9.5 ENERGY REQUIREMENT

Energy consumption in industrial area is usually very high. Machinery work runs all day in different industries. Energy conservation technique should be in mind.

4.9.5.1 Mitigation measures

- Do not waste the energy/electricity when there is no need of it.
- Use energy efficient machinery and equipment
- Use energy saving products
- Conduct and maintain records for energy audits
- Do not leave the machinery in running form when there is no working being done
- Machinery must never be left unattended

It is recommended to save and conserve the energy and adopt energy efficient technologies during the construction phase

4.9.6 NOISE LEVEL:

Noise is the major concern during the operation phase. It can be generated from the traffic on the road and from the machinery used for operations.

Nature of impact: Direct

Duration: long term

Timing: operation

Reversibility: Not applicable

Likelihood: low

Consequences: slightly significant

Impact significance: moderate, based upon low likelihood and mild to moderate consequence.

4.9.6.1 Mitigation measures:

- Machinery and vehicles will be tuned and maintained
- Limits will impose on unnecessary use of horns
- Safety signs will be displayed. public & drivers will be aware of them

4.10 IMPACT ON BIOLOGICAL ENVIRONMENT

4.10.1 NATURAL VEGETATION

Project activities will not impose any potential impact on the area's natural vegetation and plantation.

Assessment of Impact:

A significant impact can be caused due to the unnecessary or excessive removal and burning of plants for fuel wood (If any)

Nature of impact: Direct

Duration: long term

Timing: construction phase

Reversibility: irreversible

Likelihood: moderate

Consequences: Mild, as no rare plant species were present in the areas.

Impact significance: significant

4.10.1.1 Mitigation Measures:

The following mitigation measures will reduce the impact on vegetation:

- Prohibition to park vehicles on green belts/ grass;
- Unnecessary damage to vegetation is strictly avoided;
- Proponent will plant trees and other species after construction phase;
- Proponent will plant 10 trees if he removes a single plant during the construction/ development of the project.

4.10.2 FAUNA

The fauna including wildlife specially endangered species do not exist at the project site.

Nature of impact: Direct

Duration: short term

Timing: construction phase

Reversibility: not applicable

Likelihood: low

Consequences: Nil, as no rare animal species are present in the areas.

Impact significance: not significant

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4.10.2.1 Mitigation:

- Maximum plantation is recommended
- Fauna will be preserved by different conservation strategies (in-situ and ex-situ), if any.

4.11 POTENTIAL ENVIRONMENTAL ENHANCEMENT MEASURES

The proposed project will be constructed with all precautionary measures to enhance and safe the environment. Following necessary measures will be adopted during construction and operational phase of the project:

- Sprinkling of water will be done on dusty roads and tracks.
- PPEs will be provided during construction activity.
- Constructional waste and domestic solid waste will be disposed-off or utilized properly.
- Local people will be informed in advance when work is about to start in an area.
- Machinery will never be left unattended.
- Efforts should also be made to discuss traffic conditions so that regular traffic is not disturbed. Transporters engaged for the project would be forced to adhere to the load specifications of the access road. No overloading would be allowed in any case.
- Safety signs and boards will be placed during construction.
- Machinery will be kept maintained.
- Waste water will be treated through septic tank that will be installed within the premises of the subject project.
- Proper SOPs will be followed with proper schedule along with the HSE conditions.
- Area will be restored with native plants. A proper tree plantation plan will be formulated to save the environment.
- Solid waste will be handed over to contractors and agreement will be made.
- Noise will be controlled by adopting proper measures.
- PPEs will be provided to workers during working.
- Firefighting equipment's and system will be installed.
- Safety signs will be placed at all locations where required.
- Hygienic conditions will be ensured and proper quality will be maintained by quality control testing.
- First aid facilities will be made available.

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4.12 PURPOSE OF MITIGATION MEASURES

4.12.1 What is the problem i.e. In terms of “major environmental impacts” which may arise by the subject project activity?

The major impacts which may arise by the subject project are air, water and noise pollution. Other impacts are of minor importance. These impacts may arise during operational phase of the project because the constructional phase of the project includes the construction of boundary walls, roads and offices, so they will not cause any major harmful impacts on the environment and during the operational phase of the subject project, as different industries will be installed in the industrial estate, they may cause the issues of air, water and noise pollution if proper precautionary measures to avoid this pollution will not be taken but it will be ensured that precautionary measures will be adopted prior to start the activity, during the activity and post activity to cause minimum impacts to the environment.

4.12.2 When the problem will occur and when it should be addressed?

Negative impacts may arise during the constructional phase of the project if proper precautionary measures and procedures will not be followed. If proper precautionary measures and procedures will be implemented, there will not be any major problem. If any impact would arise due to the subject project activity, it will be addressed on site. Trainings will be conducted on site prior to start work while other precautionary measures will also be adopted to make the project safe and environmental friendly.

4.12.3 Where and how the problem should be addressed?

The problem should be address at the site and immediate response should be provided to address the problem which may arise. Institutional capacity responsible for the implementation of EMMP will be responsible for addressing such problems if arise. They will assess any impact that could be arisen during both phases and they would also be responsible to address the problem and to mitigate it.

4.13 WHYS OF ACHIEVING MITIGATION MEASURES

4.13.1 Changing in planning and design:

By adopting proper mitigation measures, any anticipated major or minor environmental impacts could be controlled or mitigated. The details of impacts and mitigation measures have been discussed in previous chapters.

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4.13.2 Improved monitoring and management practices:

Management shall take appropriate measures to provide pollution free and safe environment during the proposed project activity by implementing improved management practices and monitoring techniques suggested in EMP.

4.13.3 Compensation in money terms:

Site proposed for the subject project is the property of the M/s Fast Cables Limited and free of any activity that's why there is no need of money in terms of land cost or any other mean. However, rehabilitation will be done in the vicinity of the project site to restore the beauty of the area.

4.13.4 Replacement, relocation and rehabilitation:

Subject project site is the property of M/s Fast Cables Limited there is no need of replacement or relocation of a single person or economic activity. Management will develop Restoration/ reclamation or tree plantation plan to restore the project area after the construction phase of the project. Maximum Plantation will be done with native species within and outside the premises of the industrial estate, along the boundary wall and road side if directed. Also, in-front of main area, horticulture plan will be formulated and area for this will be kept reserved.

CHAPTER # 5

5 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.

5.1 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

5.2 TRAINING SCHEDULE

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

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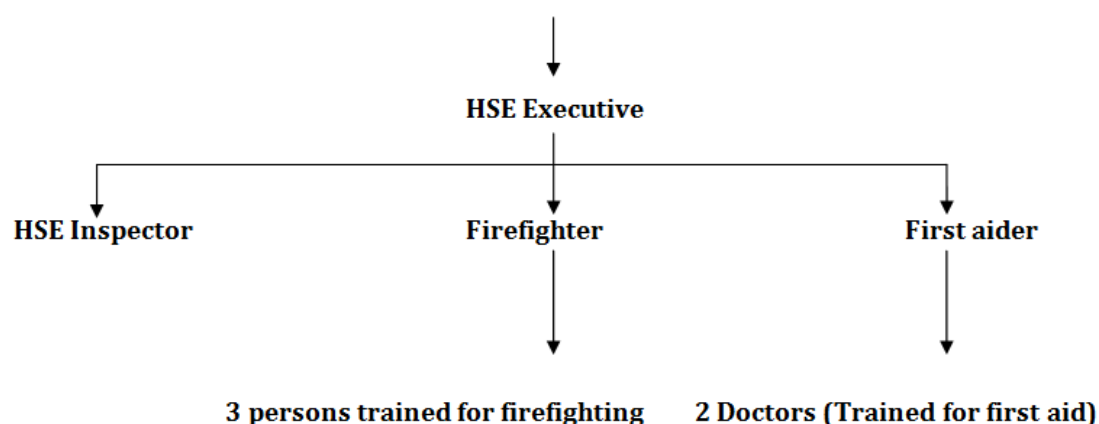


Figure 10: Institutional Capacity for the implementation of EMP

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: 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 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

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effective 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.

5.2.1 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.

5.3 SUMMARY OF IMPACTS AND THEIR MITIGATION MEASURES

Table 9: Summary of Impacts and their Mitigation Measures

Impacts	Mitigation Measures
Project Location	
<ul style="list-style-type: none"> • Acquisition of land • Loss of environmentally sensitive areas • Changes in traffic pattern • Potential conflicts with stakeholders • Resettlement issues 	<ul style="list-style-type: none"> ✓ There is not any sensitive area near the project site. ✓ Many other industries are also working near the project site. ✓ 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. ✓ 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. ✓ It is recommended to settle the issues through scoping and specific group discussions. ✓ No resettlement issues. ✓ It is recommended for obtaining of approval from other relevant departments.
Project Design	
<ul style="list-style-type: none"> • Soil structure and soil bearing capacity • Road infrastructure design • Emergency exits • Firefighting system • Wastewater disposal system design • Electricity hazards 	<ul style="list-style-type: none"> ✓ Safe road infrastructure design should be provided at the project site. ✓ Emergency exit points should be marked at the project site. ✓ Firefighting equipment must be maintained at the site in good working condition to cope with any emergency situation. ✓ Efficient wastewater disposal system should be designed for proper treatment of wastewater. ✓ Electricity system should be designed safe and sound.
Construction and Operation phase	
Land & Soil	

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<ul style="list-style-type: none"> • Land or Soil Erosion during the construction phase • Habitat destruction • Scarring of the landscape and aesthetic beauty. • Clearing of native plants will disturb the complexity of the ecosystem of the proposed area. • Leakage of oil from storage area may contaminate soil 	<ul style="list-style-type: none"> ✓ Sprinkling of water is recommended ✓ After construction phase, the project proponent will restore the land by plantation. ✓ All spoils will be disposed of as desired and the site will be restored back to its original conditions ✓ Aesthetics of the area will be maintained. ✓ 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	
<ul style="list-style-type: none"> • The transportation of the project machineries and material also may cause dust. • Un-metalled roads may cause dust. • Dust raised on dirt tracks by project-related vehicles. • Dust from drilling of deep holes. • Combustion products from vehicles used for project-related activities 	<ul style="list-style-type: none"> ✓ Air emissions controlled devices must be installed to control the air pollution (if any) ✓ Water the construction site periodically to minimize fugitive dust generation while laying foundation. ✓ Store all construction materials in a manner to minimize generation of dust and spillage on roads. ✓ During excavation works drop heights will be minimized to control the fall of materials reducing dust escape. ✓ Sprinkling of water must be done to control the dust or PM ✓ Vehicle emissions inspection should be done on regular basis ✓ Sprinkling should be done on the unpaved area to avoid dust pollution/ particulate matter. ✓ Vehicles/ trucks should be serviced regularly ✓ All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke.
Noise	
<ul style="list-style-type: none"> • The major sources of the noise at proposed project site are project related machinery. 	<ul style="list-style-type: none"> ✓ 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.

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<ul style="list-style-type: none"> • High noise level cause hearing loss, deafness, high blood pressure, headache, depression and mental disturbance. • 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 . • Noise from construction activities from site preparation, earth works, foundation and plant equipment installation 	<ul style="list-style-type: none"> ✓ Proper maintenance and tuning of the vehicles should be done. ✓ Sound proof room should be built for generator (if any) to control the noise. ✓ A speed restriction of 40 km/h will be imposed on all construction vehicles.
Waste Water	
<ul style="list-style-type: none"> • Domestic waste water from the camp • Minor generation of waste water from construction activity. • Water Contamination due to improper storage of construction material, • Water contamination due to improper debris disposal, • Spread of diseases, underground water contamination 	<ul style="list-style-type: none"> ✓ 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 ✓ 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	
<ul style="list-style-type: none"> • Solid waste may generate from construction activity, domestic and packing material of project related machineries. • Solid waste may generate from operation of project. 	<ul style="list-style-type: none"> ✓ 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. ✓ Solid waste generated from the construction activity as sand, stones residues etc. that should be utilized in restoration of the quarry area whereas solid waste from the domestic sources should be disposed of properly

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	<ul style="list-style-type: none"> ✓ Proper solid waste management system is recommended for industrial unit. ✓ Industrial ecology practices will be adopted wherever possible. ✓ 7 R's of sustainability is recommended ✓ Sludge will be removed and dispose of in scientific way. ✓ Solid waste related to the operation will also manage in scientific way.
Health and Safety	
<ul style="list-style-type: none"> • Health and safety issues will be arose during construction activity, handling of material, machinery and improper practices of work • Health and safety issue may arise during regular operations 	<ul style="list-style-type: none"> ✓ Use of PPEs should be implemented at workplace. ✓ First aid measures/medical facility should be provided to project related employees. ✓ Safe drinking water must be provided to workers, staff, and poor people of the area. ✓ Water consumption records should be maintained. ✓ Safety signs & boards should be placed at during construction activity. ✓ Construction site should be fenced properly to avoid any damage to nearby settlements. ✓ Smoking or any drugs should be prohibited during working hours or performing work. ✓ At the time of earthwork, fencing will be ensured for the area under the exploration.

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5.4 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 10: 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 Machines, Generators	Complete inspection	Every 3 months
	Repair	When failure occurs
	Preventative maintenance	Manufacturer's recommendation

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5.5 ENVIRONMENTAL BUDGET

The cost which is required to effectively implement the mitigation measures is important for the sustainability of the Project in operation stage of the Project. Management will allocate 2% of total cost of the project as Environmental Budget for meeting the following purposes:

Table 11: Allocation of Environmental Budget

HSE training	On quarterly basis
Maintenance and management of environment	On regular basis
Maintenance of equipment	On regular basis
Restoration	As per requirement
Plantation	During the operation phase
Availability of PPEs	During construction and operation
Strategic planning to cope with any emergency	As per policy
Formulate the disaster management plan to cope with natural disaster	As per policy

Implementation of all these parameters will be included in the environmental budget. Any equipment failure will not be included in this budget.

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5.6 ENVIRONMENTAL MANAGEMENT PLAN FOR M/S FAST CABLES LIMITED

Table 12: 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 subject proposed project	Nil	The site proposed for the subject project is the property of the M/s Fast Cables Limited	Proponent	Environmental Consultant/ EPA PUNJAB
Land use & soil erosion					
2	Land Use & Soil	Particulate Matters (PM) pollution, Clearing of the vegetation Undulated patches. Scarring of the landscape and aesthetic beauty. Clearing of native plants will disturb the complexity of the ecosystem of the proposed area. Dust emissions will be generated during the construction. Flue gases will be generated	Measures will be taken to avoid soil erosion and dust pollution. Restoration and reclamation plan will be developed to restore the natural landscape of the area. Plant nursery, garden will be developed to rehabilitate the native plants of the area. Project proponent will make all possible efforts to limit the impact on flora and fauna. 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

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		due to the involvement of generators and other machinery.			
Ambient Air Quality					
3	Air Quality	<p>Particulate matter and fugitive dust emissions.</p> <p>Dust emission due to vehicles on un-metalled roads.</p> <p>Dust due to Construction.</p> <p>Dust raised on dirty tracks by project-related vehicles.</p> <p>Dust emission during earthwork</p> <p>Gaseous emissions from the vehicles</p> <p>Air pollution due to site visiting vehicles/ transporting trucks, hauled trucks, machinery.</p>	<p>Sprinkling of water is recommended on dusty roads and unpaved tracks to control the generation of dust and PM.</p> <p>Water the construction site periodically to minimize fugitive dust generation while laying foundation.</p> <p>Store all earthwork and construction materials in a manner to minimize generation of dust and spillage on roads.</p> <p>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.</p> <p>Vehicle emissions inspection should be done on regular basis.</p> <p>Sprinkling should be done on the unpaved area to avoid dust pollution/ particulate matter.</p> <p>Vehicles/ trucks should be serviced regularly.</p> <p>All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke.</p> <p>Regular monitoring is recommended to check the compliance with PEQS as per EPA PEQS Rules.</p>	Manager Operation	Environmental Consultant/EPA PUNJAB

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Noise & Vibration					
4	Noise	<p>The major sources of the noise at site are project related machinery.</p> <p>High noise level cause hearing loss, deafness, high blood pressure, headache, depression and mental disturbance.</p> <p>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.</p> <p>Noise from construction activities from site preparation, earth works, foundation and plant equipment installation.</p>	<p>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.</p> <p>Proper maintenance and tuning of the vehicles should be done.</p> <p>Sound proof room should be built for generator (if any) to control the noise.</p> <p>A speed restriction of 10 km/h will be imposed on all construction vehicles.</p> <p>Regular monitoring is recommended to check the compliance with PEQS as per EPA PEQS Rules.</p> <p>Noise level monitoring was conducted at different location and results are attached with the report.</p>	HSE department	Environmental Consultant/ EPA PUNJAB
Soil Contamination					
5	Soil contamination	<p>Contamination of soil due to oil and other chemicals leakage or spillage</p> <p>Soil contamination due to waste water generated from the project activities</p>	<p>SOPs will be developed for the storage of oil and other chemicals handling and transportations (if any)</p> <p>Soil contamination must be controlled by adopting mitigation measures such as storage of oil, fuels etc. under paved area, by maintaining</p>	<p>HSE Department</p> <p>Wastewater treatment facility</p>	Environmental Consultant/ EPA PUNJAB

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			<p>leakage record of construction vehicles, and by regular inspection (admitted by proponent).</p> <p>Septic Tank should be installed during construction and operational phases of the project to treat the wastewater.</p> <p>Water from Septic tank must not be injected into the sub soil.</p> <p>Tarpaulin sheets should be placed under generators and other leaching substances (if any)</p> <p>Treated water will be used for plantation.</p> <p>Proper storage of oil, fuel etc. is recommended under paved area.</p>	<p>has already been installed within facility of M/s Fast Cables Limited; design specification is attached with this report.</p>	
Health and safety					
6	Health and safety	Health & safety issues of workers and nearby community	<p>Trainings of the workers is recommended for health & safety, first aid and firefighting.</p> <p>Proponent must provide First aid facilities to workers in case of any injury or accident.</p> <p>Safe drinking water must be provided to workers, staff, and poor people of the area.</p> <p>Water consumption records should be maintained.</p> <p>Provision of Proper PPEs must be ensured at workplace.</p> <p>Assembly point and exit points must be available at workplace.</p> <p>Electric wires, D.Bs must be kept covered & closed to avoid any electric hazards.</p>	<p>HSE Department HSE Manager has already been hired</p> <p>Trainings have been conducted</p> <p>All documentary proofs are attached with this report.</p>	Environmental Consultant/ EPA

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			<p>Smoking or any drugs should be prohibited during working hours or performing work.</p> <p>Safety signs & boards will be placed at the time of construction activity.</p> <p>Security guards will be appointed at the construction site.</p> <p>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.</p>		
Waste Water					
7	Waste water	<p>Minor generation of waste water from construction activity.</p> <p>Water Contamination due to improper storage of construction material,</p> <p>Water contamination due to improper debris disposal,</p> <p>Waste water pollution,</p> <p>Spread of diseases, underground water contamination</p>	<p>Waste water generated from the constructional activity will be used as sprinkling on the dusty tracks or for restoration of the land.</p> <p>Waste water monitoring is recommended on regular basis.</p> <p>Waste water treatment facility is recommended for each individual industry to treat waste water.</p> <p>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 drain.</p>	<p>Waste will be drained out into nearest drain after treatment in septic Tank</p>	<p>Environmental Consultant</p>

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Solid waste generation					
8	Solid Waste Generation	Land & soil contamination, aesthetic degradation, foul smell etc. Solid waste generation from the construction activity, domestic and project process sources	<p>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.</p> <p>Constructional waste must be utilized for road filling or maintenance purposes.</p> <p>Recycling of material should also be implemented up to possible extent.</p> <p>Existing Project related solid waste should be handed over to contractors.</p> <p>Sludge from the septic tank must be replaced on regular basis.</p> <p>It is recommended to ensure Proper housekeeping.</p> <p>It is recommended to adopt proper waste management system.</p> <p>Industrial ecology practice will be adopted wherever applicable and possible.</p> <p>7 R's of sustainability is recommended.</p>	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	

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Energy requirement					
10	Energy requirement	Resource depletion	<p>Do not waste the energy/electricity when there is no need of it.</p> <p>Use energy efficient machinery and equipment</p> <p>Use energy saving products</p> <p>Conduct and maintain records for energy audits</p> <p>Do not leave the machinery in running form when there is no working being done</p> <p>Machinery must never be left unattended</p> <p>It is recommended to save and conserve the energy and adopt energy efficient technologies during the construction phase</p>	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	<p>Maximum employment of Local people is recommended to preserve the local cultural language.</p> <p>It will help in communication with the local people to resolve any emerging issue near the project area</p>	Proponent	NA
13	Education	Change in social behavior and economic gains	School and colleges exist in the area. The project proponent must initiate an educational awareness	Proponent	NGO survey

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			program with the coordinator of the local people.		
14	Health	Social performance of the individuals in the area	The project proponent shall assist the local impacted community for the improvement of health services Health clinic must be established for the project workers.	Proponent	Proponent
15	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 survey/Environmental Consultant
16	Sewage and waste disposal	Diseases caused by improper sanitation	Subject project will uplift the economic status of the nearest human settlements. Awareness program will be initiated regarding the disposal of waste.	Proponent/ local NGO	NGO survey/Environmental Consultant

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5.7 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 13: Environmental Monitoring

Sr. No.	Parameters	Monitoring Schedules	Monitoring Duration
1	Ambient Air Monitoring (NO _x , CO _x , SO _x , PM ₁₀)	Quarterly	8 Hours
2	Noise Level	Quarterly	Instant
3	Water quality	Quarterly	Some parameters on site, Others in lab

CHAPTER # 6

6 STAKEHOLDERS AND PUBLIC CONSULTATION

The consultation process with various stakeholders of Pak Green Enviro-Engineering (Pvt.) Ltd. has been carried out to involve community and other stakeholders at earlier stages. Information dissemination during public consultation is fundamental to successful conclusion of the Project. This chapter describes the objectives and details of the consultative process adopted; its outcome and the conclusions drawn thereafter.

Public consultation has been done during the planning and design phases of the Project with line agencies and affected persons of the Project area; concerns and suggestions thereafter have been taken into account and included where appropriate. The consultative process to date has been effective in addressing the concerns over the Project construction and operational impacts.

6.1 OBJECTIVES OF CONSULTATION

Public consultation plays a vital role in studying the effects of any development project on stakeholders and in its successful implementation and execution. It affords an opportunity to exchange knowledge with those who as members of the society are concerned with the Project, immediately or remotely. Referring particularly to a Project related to environmental assessment, involvement of public is all the more essential, as it leads to better and more acceptable decision-making.

The objectives of the stakeholder and Public consultation conducted in Project Area were;

- To apprise the Project community and stakeholders about Project interventions and potential impacts.
- To record the community concerns and recommendations regarding the proposed Project.
- To address/incorporate those recommendations in the Project design to the extent possible and;
- To share the mitigation measures with the local communities.

6.2 CONSULTATIVE ASPECT

The proposed Project involves stakeholders from various segments of the society, who have direct or indirect interest in the developmental activity. The Environment and Social team has endeavored to hold consultative sessions with a number of prominent stakeholders (Project Proponent, line agencies, NGOs and affected persons of the Project Area) to evince their views on the proposed Project and their opinions, suggestions, understanding on various issues and concerns. The consultations aimed specifically at:

- Dissemination of Project information through discussions, education and liaison.
- Eliciting the comments and feedback on the proposed Project.
- Documentation of information narrated by the stakeholders.
- Documentation of mitigation measures proposed by the stakeholders.
- Incorporation of public concerns and their addressal in the EIA/EMMP.

6.3 IDENTIFICATION OF MAIN STAKEHOLDERS

There are two types of stakeholders related to the project i.e. primary and secondary stakeholders. Primary stakeholders are those which are directly affected by the Project activities and secondary stakeholders are those which are affected indirectly.

The proposed Project does not have direct impacts on any individual; therefore, no primary stakeholders are identified. Secondary stakeholders are institutional stakeholders, which includes Project Proponent, local Government representative's general public, local residents, shop keepers, vendors, hospital owners/staff, teachers, pedestrians, and businessmen/traders of the city. The categories of the stakeholders who provided useful feedback, included:

- Project Proponent
- Environmental practitioners and experts
- Teachers/students
- Shopkeepers

All those stakeholders have different types of stakes according to their involvements in various aspects of the Project. The consultant tried to contact all the stakeholders and shared their views and concerns and also interacted with the community-based organizations that can support the community.

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6.4 MEETINGS WITH STAKEHOLDERS

A series of consultation was carried out with stakeholders and general public in Lahore and nearby areas. Further list of official stakeholders and local people consulted is attached as **Annexure-I**

The purpose of this survey was to achieve the objectives of the consultation, highlight the main issues in the implementation of the proposed Project and finally propose mitigation measures. Open and close ended questionnaire was used to collect the views concerning the assessment survey. Scoping sessions and informal group discussions were also carried out with local residents and local government representatives regarding the proposed Project. The outcome of whole consultation process was very encouraging. The following issues were discussed during Informal Meetings with local representatives:

- i. Brief Description of the Project
- ii. Current economic condition in the area
- iii. Suggestions for improvement in the current industrial system and all activities related to industry
- iv. Perceptions about the proposed Project
- v. Perceived impacts of the proposed Project

The local poor people predominantly requested for unskilled and semi-skilled jobs during implementation of the Project. On the basis of the consultations so far, it appears that the Project will have no insurmountable environmental and social impact. The community generally supported the proposed Project. They have opinion that the Project will not only provide livelihood during construction stage, but also will help to eradicate the burning issue of regarding import of materials.

6.5 ANALYSIS OF STAKEHOLDER CONSULTATION

6.5.1 SAMPLE SIZE

30 sample sizes were selected by the Team of consultants for conducting the socioeconomic survey. Women were also consulted for the said survey; some of their names are mentioned in the above list of respondents while most of them were not willing to give personal information.

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6.5.2 STATISTICAL ANALYSIS

SPSS 19.0 has been used for the statistical analysis of the data collected during the visit of study site villages through questionnaires.

6.5.3 RESULT AND DISCUSSION

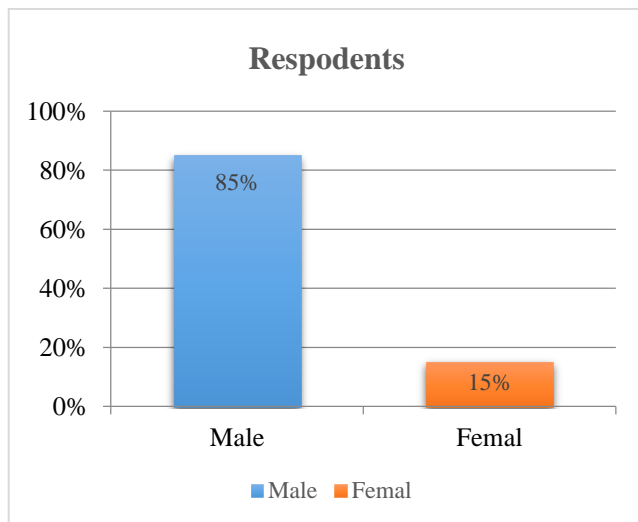


Figure 11: Gender Ratio of Respondents

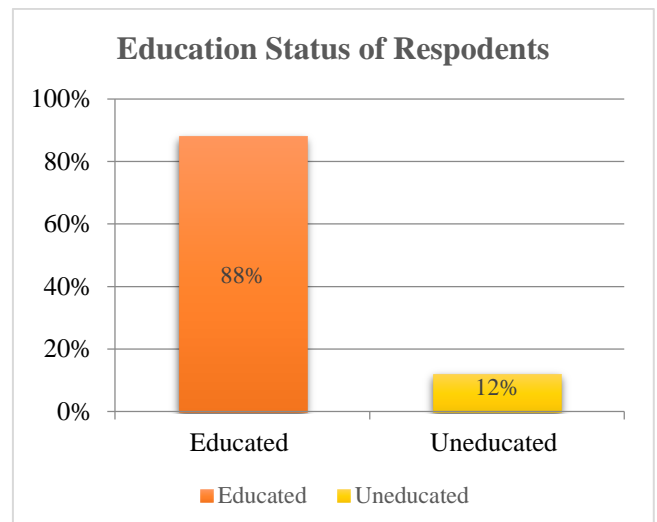


Figure 12: Education status of respondents

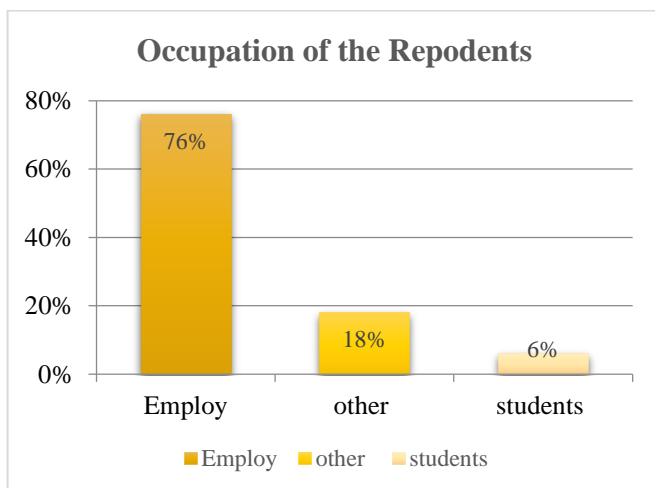


Figure 13: Occupation of respondents



Figure 14: Satisfaction of respondents

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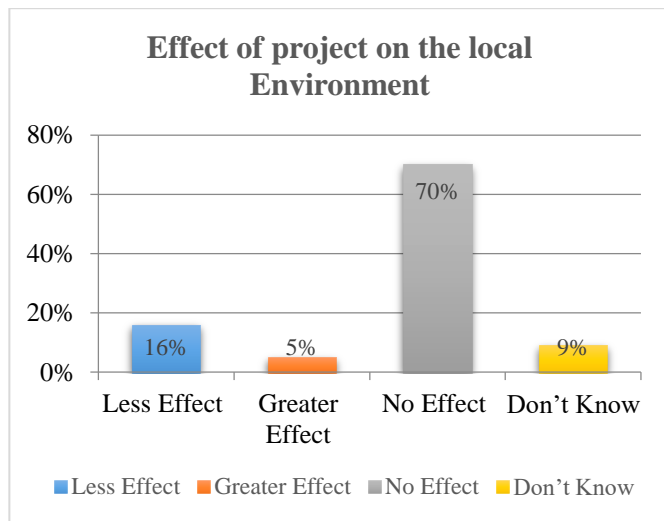


Figure 15: Effect of project on local environment

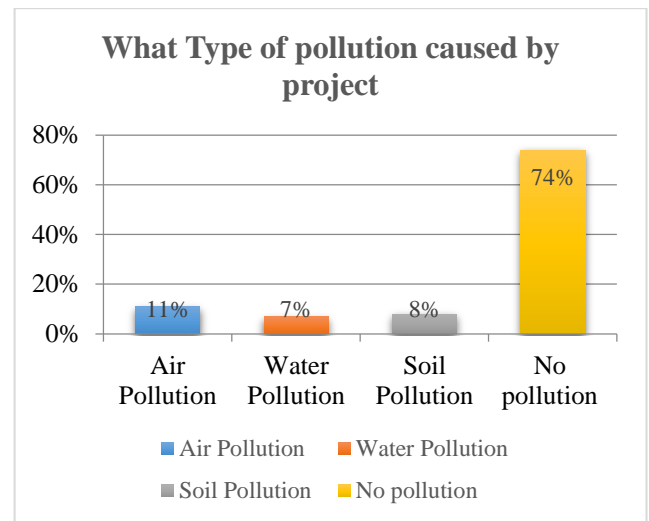


Figure 16: What type of pollution caused by project

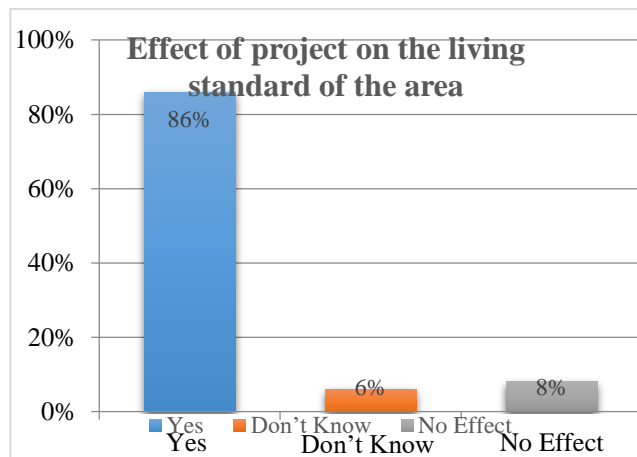


Figure 17: Effect of project on the living standard of area

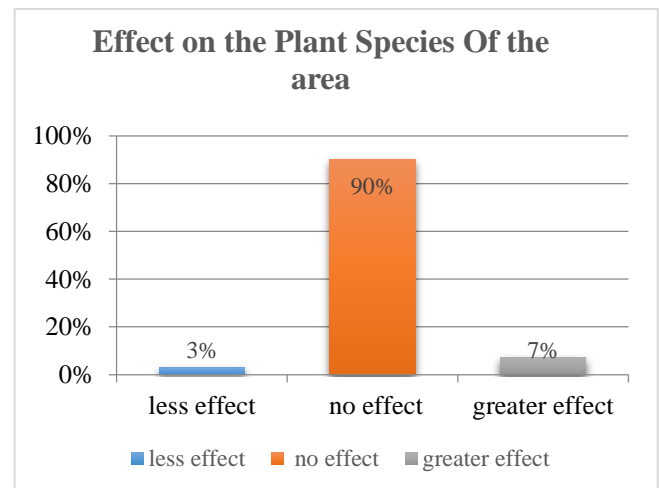


Figure 18: Effect on plant species of area

According to graphical representation, 85 respondents were male while 15 % respondents were female. The number of female respondents is less as compared to male respondents because according to the social binding female hesitates to respond or communicate comfortably. 88 % respondents were educated while 12% were uneducated. So, according to the survey overall education status of the area is good.

As per survey, 78% people were satisfied with the proposed project and they gave positive remarks regarding proposed project as they got job over there, their living standard raise over working there. While 13% respondents were have no opinion regarding the project and 9% respondents were not satisfied with the production unit due to their concern regarding the

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aesthetic degradation and no preference to local people for jobs. Majority were in favor that no effect will produce by this project.

6.6 SUMMARY OF ISSUES RAISED BY STAKEHOLDERS

A summary of the key issues raised by stakeholders and how these are being addressed by Project Proponent is provided in Table below.

Table 14: Summary of issues and commitments by Proponent

Issue	Aspect/Concern raised by Stakeholders	Project Proponent Commitments
Employment Opportunities	Expectations of employment are very high. Job opportunities are less for herders as they generally have less skills and training.	Employment is the main priority of the industry. Mostly locally skill and unskilled labor will be prioritized and also there will be job in executive level. Around 20-30 person will be employed by the industry.
Training Opportunities	People are keen to consult with subject industry if the Project offers training and upgrading opportunities to enhance their trade or professional skills.	Development of the Training Strategy, including commitment of allocation of budget investment for training infrastructure, delivery and design. Installation of training facilities in for worker of the company and students will also be accommodating.
Health & safety	Truck traffic is a main concern because the road used by the Project passes through a number of small communities and different industries and there will be a high volume of trucks transporting concentrate.	Traffic safety training. Traffic advisory signs will be installed along project site and all nearby specific areas.
Local economy and business development	Local service providers are keen to participate in providing services to provide raw material and expect to receive in order to adjust their businesses to meet specific needs. Local businesses want to receive support in terms of finance and facilities to diversify their businesses. Local/regional companies and entrepreneurs have limited understanding about meeting the high volumes required by the Project and the quality standard, but are keen to know these requirements so they can become suppliers.	Proponent has main focus that they will all the material regarding construction and plant operation to buy from the local market. This will help the local and small business and to people who are keen interested to become suppliers.
Environmental Issues	Dust and noise impacts, particularly from the construction activities and in operation of	Implementation of controls under the Environmental Management Plans,

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	mechanically unfit machines, are of concern to herders and other residents. Environmental degradation during road construction and use. Loss and change of vegetation due to soil degradation. Increased waste along project boundary and around economic zone.	including on and off-site dust and noise monitoring. A Participatory Environmental Monitoring Program will be launched to spread awareness.
Water quantity and quality	Water quality and quantity, and impacts from the wastewater disposal are all key concerns for nearby herders.	Implementation of consultation in relation to water use and development of the Participatory Environmental Monitoring Program.

CHAPTER # 7

7 CONCLUSION & RECOMMENDATIONS

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

7.1 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.

7.2 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.



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- The management of subject project will assist the local communities as a corporate social responsibility.
- Jobs and employment will be provided to the local area.

The present EIA report is enough to meet the administrative and legal framework. After the complete study of the project, it is concluded that project will not have significant adverse impacts on the nearby community and on environment. Overall the project will have positive impacts on the local population and country as a whole. Therefore, it is requested for the environmental approval for the subject project.

8 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 Biosafety rules 2005
- Pakistan Environmental agency (review of IEE/EIA) regulation 2000.
- Punjab Portal (<http://www.punjab.gov.pk/attock>)
- Attock Chamber of Commerce Industries (<http://www.acci.org.pk/Attock.html>)
- Sectorial Guideline for environmental reports, industrial states
- Pakistan Environmental Protection ordinance (PEPO), 1983
- OSHAS 1800 for health and safety

9 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