ENVIRONMENTAL EXAMINATION REPORT

M/S SUFI GAS PAKISTAN PRIVATE LIMITED

ADDRESS: CHAK NO 109/JB, TEHSIL CHAK JHUMRA, DISTRICT FAISALABAD

PREPARED BY:

ENVIRONMENTAL SERVICES PAKISTAN (PVT) LTD

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List of Abbreviation

EMMP	Environment Management and Monitoring Plan
EPA	Environment Protection Agency
EPD	Environmental Protection Department
EIA	Environmental Impact Assessment
IEE	Initial Environment Examination
PEQS	Punjab Environmental Quality Standards
NGO	Non-Government Organizations
NOC	No Objection Certificate
HSE	Health, Safety and Environment
PEPA	Pakistan Environment Protection Act
PEPC	Pakistan Environmental Protection Council
PMD	Pakistan Meteorological Department
RO	Reverse Osmosis
TDS	Total Dissolve Solids
TOR	Terms of Reference
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Agency
USA	United States of America

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

This executive summary presents an overview of the main findings of the Environmental Impact Assessment Report for the Construction of LPG Storage and Filling Plant by M/S Sufi Gas Private Limited located at 1.5 KM, Deputy Wala Interchange, Millat Road, Faisalabad. This unit is likely to meet the increasing market demand for storage and distribution facilities for. This objective stems from the opportunity to capitalize on the growing industrial activities, urbanization, and infrastructure development in the region, thereby expanding the owners' business operations strategically while ensuring compliance with regulatory standards for safe storage and handling. M/S Sufi Gas Private Limited has successfully secured permission from the Oil and Gas Regulatory Authority (OGRA), under License **No. OGRA-LPG-17(1300)/24**. License from OGRA is attached as **Annexure-I.**

For this instance, Environmental Impact Assessment of the project has been conducted in accord with the Punjab Environmental Protection Act, 1997 and IEE/EIA Regulations 2022. The process for conducting environmental assessment and the results of EIA is described in this document.

SALIENT FEATURES OF PROJECT:

1.	Project Title	Construction of LPG Storage and Filling Plant by M/S Sufi Gas Private Limited.
2.	Project Location	Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad
3.	Nos of Storage Tanks and storage capacity	**Total Nos of Tanks:** 02 **Total LPG Capacity:** 25 MT/Day **Total Storage Capacity:** 50*2 MT
3.	Proponent	Mr. Saad Ashfaq
4.	Consultant	Environmental Services Pakistan
5.	Total Area of Project	11 Kanal 3 Marla
9.	Present status of Land Use	Barren Plot
10.	Cost of Project	Approx. 9 crore rupees.
15.	Status of Project	Pre-Construction Phase

PROJECT OBJECTIVES

The Construction of LPG Storage and Filling Plant at Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad is driven by various objectives, including meeting the growing market demand for storage and distribution facilities for LPG, expanding their business operations strategically, improving logistics efficiency through dedicated storage infrastructure, ensuring compliance with regulatory requirements for safe handling and storage, enhancing competitiveness by offering superior storage solutions and reliable supply to customers, mitigating risks associated with storing materials, and fulfilling corporate social responsibility goals by contributing to the local economy.

SITE ALTERNATIVES

No alternative sites were considered, as the proposed land is already jointly owned by the project proponent and his brother. The brother, who holds a 50% ownership share, has granted consent for the project's development. The selected location is deemed most suitable for commercial activities due to its ownership status and strategic suitability. This site is chosen because site is well located in regard to the following:

- Easy access
- No settlements in close vicinity
- No ecologically sensitive or declared protected area
- No historical, educational or religious site nearby
- No vegetation at the selected site

As no important religious, archaeological, historical or recreational site, or any other ecologically sensitive, declared protected area or poor population exists within close vicinity of the selected site. In view of these facts, it can be concluded that the Selected Site is best suited for the project and will not pose any adverse impact or threat on any component of the environment and will not disturb ecology.

ECONOMIC ALTERNATIVE

The immediate economic benefits of the proposed project are a generation of employment opportunities and revenue. The direct and indirect jobs creation will occur in a broad range of industries such as construction services, repair and maintenance, electricity supply, hardware and building supplies retailing, motor vehicle and parts retailing, water supply, sewerage and drainage services, waste collection, treatment and disposal services, gas supply, rental and hiring services, garden supplies retailing, cleaning and janitorial, pest control, printing, etc.

Direct Job Creation: The project timeline is of three years, which means that the project will create multiple jobs.

ENVIRONMENTAL ALTERNATIVE

The proposed project site is located in an urban area. There may be potential environmental and human health impacts of the proposed project during the construction phase of the project. However, the proposed project will have an efficient solid waste management system, and features of the eco-friendly building, such as the use of energy-efficient items, have been planned.

Considering the environmental protection measures to be taken during the construction and operational phase of the project and the sustainable features of the proposed project, it can be implied that the proposed project will enhance the environment of the project area during the operational phase of the project especially when looking at the alternatives to the project.

SCREENING

Section 12 of Punjab environmental protection act, 1997 amended (2017) states "No proponent of project shall commence construction or operation unless he has filed with the government agency designated by Federal Environmental Protection Agency or provincial agencies, as the case may be or, where the project is likely to cause and adverse environmental effects an environmental impact assessment (EIA), and has obtained from the government agency approval in respect thereof." PEPA act provided the guidelines for categorizing the projects.

The Proposed Project; i.e., Construction of LPG Storage and Filling Plant falls under Schedule-II, Category A (Energy), Clause 5 "Oil and gas extraction projects including exploration, production, gathering systems, separation and storage, under Punjab Environmental Protection (Review of EIA/IEE) Regulations,2022. Thus, and EIA report is being prepared and submitted accordingly for approval. TORs of the study under clause 5 (f) of policy and procedure for the filing, review and approval of environmental assessment are attached as **Annexure-A** with this EIA report.

ENVIRONMENTAL CONSULTANT

An Environmental Impact Assessment (EIA) study report has been prepared to identify and predict the significant environmental impacts likely to arise from the commencement of the Proposed Project, along with environmental impact statement followed by delineation of appropriate Environmental Management Plan and Environmental Monitoring Plan to have a

control over the adverse environmental impacts and to check the efficiency and effectiveness of the mitigation measures being implemented. For the purpose of this EIA, and to get Environmental Approval from Environmental Protection Agency (EPA) Punjab, management of M/S Sufi Gas Private Limited has decided to engage the services of Environmental Consultant, M/S Environmental Services of Pakistan (ESPAK).

PROJECT OUTLINE

The Proposed Project is entitled as "LPG Storage and Filling Plant by M/S Sufi Gas private Limited at Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad". The proposed land is already jointly owned by the project proponent and his brother. The brother, who holds a 50% ownership share, has granted consent for the project's development. The primary objective behind the construction of the LPG Storage and Filling Plant by the owners is likely to meet the increasing market demand for storage and distribution facilities for LPG. This objective stems from the opportunity to capitalize on the growing industrial activities, urbanization, and infrastructure development in the region, thereby expanding the owners' business operations strategically while ensuring compliance with regulatory standards for safe storage and handling.

THE MAJOR IMPACTS

In order to identify all the activities associated with the project during operation phase with potential to cause adverse environmental impacts and harm a thorough review has been conducted. Project does not have any significant adverse impacts on the nearby community and on environment. Overall, the project has positive impacts on the local population and country as a whole. Moreover, area for plantation is also reserved for air purification within the project vicinity.

Table: Summary of Environmental impacts of the project during the project activities and their mitigation measures

Potential Impact	Criteria for determining Significance	Key Mitigation Measures
Solid waste Management— If solid waste will not be managed properly, it may cause negative impacts	Solid waste may produce in result of machinery installation e.g. wasted parts of machinery, wasted screws, nails and bolts. But most of the solid waste will be of domestic type.	Machinery installation waste should be sold in scrap as it can be used by steel and iron industry. 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 for washing purposes	PEQS parameters	Waste water should be treated in the Effluent treatment plant and then disposed of in the nearest drain.
Noise- Noise may be generated during fitting and installation activities (drilling etc.) and from generators at the project site; which may be a nuisance for the workers as well as neighbors	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 Punjab Environmental Quality Standards and OSHA standards, following recommendations are suggested to take action against the high noise levels: • 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.
Socioeconomic impacts—Inter-cultural differences between the project staff from other areas and the local community may arise due to the subject project. Positive socioeconomic impacts due to increased infrastructure, employment opportunities and economic growth.	No community complaints are expected. Increased employment facilities Increased infrastructure	Training of the non-local project staff on local culture and norms; Avoidance of unnecessary interaction of local population with the non-local project staff. Employment opportunities should be provided to the local people.

Table: Summary of Environmental impacts of the project during the construction phase of project and their mitigation measures

Potential Impact	Key Mitigation Measures
Dust Emissions- Particulate matter emissions during production activities can affect the air quality in the working area and be a nuisance for the workers' health. Gaseous emissions from site generators can result in deterioration of ambient air quality of the outdoor environment.	PPEs i.e. masks should be provided to workers during the working hours. Proper ventilation will be provided in the working area. Vehicles to use for the transportation of materials should be properly tuned. Monitoring should be conducted as per EPA PEQS Rules on regular intervals.
Machinery Noise- Working of machinery can be a nuisance for the workers in the working area.	PPEs i.e. ear muffs will be provided to workers in case of high noise.
Health & Safety Issues- Health and Safety issues e.g. Cuts and Injuries may be caused during the machinery handling.	Proper training of the staff should be conducted on regular basis to avoid the accidents and training record will be maintained by the management. First aid measures should be provided at the workplace. HSE policy will be formulated and implemented by management. Use of PPEs will be ensured during project activities.
Discharge of wastewater- The discharge of untreated wastewater can be a negative impact.	No wastewater will be disposed of into drain without having treatment in wastewater treatment plant. After treatment wastewater will be disposed of into nearest drainage system. Compliance of PEQS for Municipal and Liquid

	Industrial Effluents will be ensured. Monitoring will be conducted as per PEQS and reports will be submitted to EPA as per Rule (if required)
Solid waste management- Improper solid waste management may cause health problems and aesthetic issues	Waste bins will be placed at suitable areas at unit and contract will be made with EPA approved contractor for hazardous waste disposal. Domestic waste should be handed over to local contractors for safe disposal of the waste.
Groundwater—The increased withdrawal of groundwater for the project will affect the groundwater resources of the project area	No impact on the community groundwater needs is envisaged as a result of the project (ensured by management)

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:

- **AMBIENT AIR**

  Monitoring for ambient air should be conducted during operational activities of the project and report should be submitted to EPA Punjab.

- **NOISE**

  Regular monitoring for noise level should be maintained periodically during operation phases of the project and report should be submitted to EPA Punjab as per rule.

- **WATER QUALITY**

  Regular monitoring of water quality should be conducted during operational phases of the project and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

Recommendation: Environmental Monitoring data log book should be maintained by the project proponent.

CHAPTER 1:

INTRODUCTION

CHAPTER # 1.

INTRODUCTION

This Section of the report provides an overview of the rational of the Project, objective of project, requirement of the project, purpose of the report and approach adopted to conduct the Environmental Impact Assessment Study.

PURPOSE OF THE REPORT

Environmental Impact Assessment (EIA) report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab, Lahore for the compliance of Section 12 of Punjab Environment Protection Act-1997 (Amended 2017) for obtaining No Objection Certificate (NOC). The other relevant regulations and guidelines considered while preparing this EIA report include:

- Policy and procedures for filing, review and approval of environmental assessments.
- Guidelines for the preparation and review of environmental reports.
- Guidelines for public participation.
- Guidelines for sensitive and critical areas.
- Detailed sectoral guidelines

Various aspects like environmental, social, physical and other aspects of the project both during construction and its regular occupancy are highlighted in this EIA report. Measures necessary to be adopted to mitigate any environmental impacts on any part of the environment around are also described. All the important information is also provided as described under the format used to help decision makers, EPA Punjab in the present case, before issuing the desired Environmental Approval.

IDENTIFICATION OF THE PROJECT AND PROPONENT

The proponent has been submitting this EIA report, the said project is proposed and the proponent wants to get Environmental approval for LPG Storage and Filling Plant under the name of M/S Sufi Gas Private Limited.

PROPONENT:

Name: Mr. Saad Ashfaq

CNIC# 33100-7272949-5

Mailing Address: House # 507-P, St 31, Mohallah Chibban, District Faisalabad

For further details, CNIC of the proponent and other relevant documents are attached as **Annexure-B.**

DETAILS OF CONSULTANT

Environmental Services of Pakistan (ESPAK) 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.

Contact: Environmental Services of Pakistan (ESPAK).

Office No. Office No. 731, Shah Jilani Road, Block 2 Sector D1 Lahore

Tel: (042) 35154015; 0312-0839999

Email ID: info@espak.com.pk

The current study was carried out by the following professionals:

#	Name of Team Members	Designation	Qualification
1	Asma Akram	Environmentalist	M.S Environmental Science
2	Ali Ramzan	Environmentalist	B.S Environmental Sciences
3	Shagufta Tahir	Environmentalist	M.Phil. Environmental Science
4	Shahzad Ahmad Khan	Project Manager	MBA Marketing

BRIEF DESCRIPTION OF NATURE, SIZE AND LOCATION OF PROJECT

The core component of the project comprises the installation of two storage tanks, each with a capacity of 50 MT. These tanks will be constructed in compliance with OGRA standards and equipped with advanced safety features, including double-walled construction, leak detection systems, and spill containment measures.

In addition to the storage tanks, the project will include the construction of executive and managerial offices to oversee the operations of the facility. These office spaces will provide administrative support and serve as hubs for managing day-to-day activities.

To ensure the safety of personnel and the surrounding environment, the project will be equipped with fire hydrant points strategically located near the underground water tanks. Additionally, comprehensive emergency response protocols will be established to address any potential incidents, including spills, leaks, or other environmental emergencies.

The project will adhere to stringent precautionary measures to mitigate the risk of environmental harm. This includes regular inspection and maintenance of storage tanks, implementation of best practices for handling and transportation of LPG, and training of personnel on emergency response procedures.

The project will adhere to all relevant environmental regulations and standards set forth by regulatory authorities. This includes obtaining necessary permits and approvals for the construction and operation of the facility, as well as ongoing compliance monitoring to ensure adherence to environmental requirements.

STORAGE TANKS SPECIFICATIONS

The core component of the project comprises the installation of two storage tanks, each with a capacity of 50 MT. These tanks will be constructed using corrosion-resistant materials such as steel or fiberglass-reinforced plastic (FRP). They will feature double-walled construction, providing an extra layer of protection against leaks and spills. A leak detection system will be installed between the inner and outer walls to monitor for leaks.

The tanks will be equipped with ventilation systems to prevent pressure buildup and ensure proper vapor ventilation. Automated monitoring and control systems will be in place to track tank levels, temperatures, and other parameters, with remote monitoring capabilities for real-time oversight. Safety features include overfill protection devices, grounding and bonding systems to prevent static electricity buildup, and emergency shutoff valves for rapid isolation during emergencies.

Tanks will be labeled with appropriate signage indicating contents, capacity, and safety precautions, with emergency contact information displayed prominently. Regular inspection, maintenance, and testing programs will ensure the integrity and safety of the tanks, including routine testing and calibration of monitoring systems.

LOCATION

Subject unit is located at Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad.

The Location Coordinates are:

- 31.5938281°N
- 73.1214386°E

North..... Open Plot

South..... Bilal Petroleum Millat Road, Faisalabad

East..... Millat Road

West..... Open Plot

SCOPING

SPATIAL AND TEMPORAL BOUNDARIES OF ENVIRONMENTAL ASSESSMENT

The project falls in non-Industrial area of district Faisalabad. This project spans at the area of 11 Kanal 03 Marla. The main road along with the project site is Lahore Faisalabad M-3 Motorway. The Above map shows the spatial and temporal boundaries of the project.

IMPORTANT ISSUES AND CONCERNS RAISED DURING CONSULTATION

Important issue and concerns raised by the community during consultation include the impact of gas leakage. However, the proponent has assured that a proper detection system will be installed, and comprehensive safety measures will be implemented to mitigate any risks. Hence will not cause any issues to the community. The community was also concerned about employment for local people. The proponent made sure that maximum job opportunities for plant management will be provided to the residents.

SIGNIFICANT IMPACTS TO BE DETERMINED

A key concern regarding the construction of the LPG storage and filling plant is the risk of gas leakage, which could pose significant safety hazards. However, the proponent has provided assurances that the facility will be equipped with a reliable gas detection system to promptly identify any leaks. Additionally, comprehensive safety measures, including proper ventilation, emergency response protocols, and fire safety systems, will be implemented to ensure the safety and security of the plant and surrounding areas. These precautions aim to minimize the risks associated with gas leakage and ensure the plant operates within safety standards.

SCREENING

The Proposed Project; i.e., Construction of LPG Storage and Filling Plant falls under Schedule-II, Category A (Energy), Clause 5 "Oil and gas extraction projects including exploration, production, gathering systems, separation and storage, under Punjab Environmental Protection (Review of EIA/IEE) Regulations,2022.

CHAPTER 2:

ANALYSIS OF ALTERNATIVES

CHAPTER 2. ANALYSIS OF ALTERNATIVES

The consideration of alternatives is a crucial step in evaluating the potential environmental effects of a proposed project. The purpose of assessing alternatives is to identify and compare different options to achieve the project's objectives, taking into account environmental, social, and economic considerations.

SITE ALTERNATIVES

No site alternatives were considered as the Unit will be established on land leased by proponent. The land is owned by the father of the proponent who has granted permission for the lease. This site is chosen because site is well located in regard to the following:

- Easy road access
- No settlements in close vicinity
- No ecologically sensitive or declared protected area
- No historical, educational or religious site nearby
- No vegetation at the selected site

As no important religious, archaeological, historical or recreational site, or any other ecologically sensitive, declared protected area exists within close vicinity of the selected site. In view of these facts, it can be concluded that the Selected Site is best suited for the project and will not pose any adverse impact or threat on any component of the environment and will not disturb ecology.

TECHNOLOGY ALTERNATIVES

Since no technology will be used in this project and this project is an LPG storage unit which will only be used to store LPG, technology alternatives have not been considered in this project. However, automatic storage and handling can be promoted to avoid storage risk.

ENVIRONMENTAL ALTERNATIVES

When considering environmental alternatives for the LPG storage unit, several approaches can be explored to minimize the project's impact on the environment and promote sustainability. Here are some environmental alternatives to consider:

GREEN BUILDING DESIGN:

Implementing green building principles in the design and construction of the storage facility can enhance energy efficiency, reduce resource consumption, and minimize waste generation.

This can include using sustainable materials, incorporating renewable energy sources like optimizing the building's orientation for natural lighting and ventilation.

CONTAINMENT AND SPILL PREVENTION:

Implementing robust containment measures and spill prevention systems can significantly reduce the risk of environmental contamination in the event of leaks or spills. This may involve installing secondary containment systems, leak detection technologies, and automated shut-off systems to minimize the spread of hazardous materials.

ADVANCED MONITORING AND REPORTING:

Utilizing advanced monitoring technologies and real-time reporting systems can enhance environmental compliance and response capabilities. Implementing air quality monitoring stations, groundwater monitoring wells, and remote sensing technologies can provide early detection of environmental risks and facilitate timely mitigation efforts.

STORMWATER MANAGEMENT:

Effective storm water management practices will be implemented to prevent pollution of nearby water bodies and reduce the risk of runoff contamination. This can include installing retention ponds, vegetative buffers, and permeable pavement to capture and treat storm water runoff before it enters natural waterways.

ECONOMIC ALTERNATIVES

Economic alternatives were considered taking into consideration the capital and operation costs for the proposed unit. Land cost, infrastructure cost and machinery cost were taken into account as the deciding economic factor. Accordingly, land is selected is near to enough wide road that is M-3. So that the infrastructure and management costs get minimized due to already developed roads.

Also state of the art machinery will be employed considering it as one-time investment and thus minimizing the maintenance cost during the operational phase. Additionally, it will contribute towards uninterrupted production during operational phase.

CHAPTER 3:

DESCRIPTION OF THE PROJECT

CHAPTER # 3

DESCRIPTION OF THE PROJECT

TYPE AND CATEGORY OF THE PROJECT:

The subject project is the proposed Construction of LPG Storage and Filling Plant under the name of M/S Sufi Gas Private Limited. The Project site is located at Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad. The current Environmental Impact Assessment study has been conducted for the development of the LPG Storage and Filling.

The Proposed Project; i.e., Construction of LPG Storage and Filling Plant falls under Schedule-II, Category A (Energy), Clause 5 "Oil and gas extraction projects including exploration, production, gathering systems, separation and storage, under Punjab Environmental Protection (Review of EIA/IEE) Regulations,2022. TORs of the study under clause 5 (f) of policy and procedure for the filing, review, and approval of environmental assessment are attached as **Annexure-A** with this EIA report.

OBJECTIVES OF THE PROJECT

Objectives of the operation of the subject project is:

- To support expanding market reach by supplying LPG to a wider customer base, including residential and commercial users.
- To establish the business for the proponent.
- To contribute to the national economy of the country.
- Compensate to help poverty by providing employment

LOCATION AND SITE LAYOUT OF THE PROJECT:

Project site is located at Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad.

Land coordinates of the project site are given below:

The Location Coordinates are:

- 31.5938281°N
- 73.1214386°E

North..... Open Plot

South..... . Bilal Petroleum Millat Road, Faisalabad

East..... Millat Road

West..... Controlled Shed Poultry Farm

Google Map of the Project Site

LAND USE ON SITE

Nature of the area is agricultural, Site selected for the subject project is an open plot and it is owned by the proponent and his brother who has granted permission for the construction of LPG Storage and Filling Plant.

ROAD ACCESS

- Main access road present at the front side of the project site connect it directly to M-3 Motorway.

VEGETATION FEATURES OF THE SITE

Land proposed for the subject project is clear and free of dense vegetation, only shrubs like *Parthenium* and grasses are present over there in scattered quantity. Few and scattered amount of vegetation will help to avoid land clearing at the project site.

COST AND MAGNITUDE OF THE OPERATION

Subject project is the Construction of LPG Storage and Filling Plant in district Faisalabad. Total cost of the project will be Approx. 9 crore rupees., which will include the cost of machineries, its processing in unit and provision of electricity. There are no other associated activities with regard to the subject project.

SCHEDULE OF IMPLEMENTATION

Detailed feasibility studies and designing of the project have been completed. Necessary legal, administrative and financial formalities are being finalized. The project is expected to be completed within 10-12 months from the date of environmental approval. Subsequently the operational and maintenance aspects of the project will be undertaken by the proponent.

DESCRIPTION OF THE PROJECT:

The said project is proposed construction of LPG Storage and Filling Plant under the name of M/S Sufi Gas Private Limited. It is located at Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad. M/S Sufi Gas Private Limited has successfully secured permission from the Oil and Gas Regulatory Authority (OGRA), under License **No. OGRA-LPG-17(1300)/24.**

The capacity of the proposed LPG Storage and Filling Plant is 2*50 MT. Total area of the project is 11 Kanal 03 Marla. The estimated cost of the project is Approx. 9 crore rupees. There are no other associated activities with regard to the subject project. As the water will not be used in the project process and also there will not be any kind of gaseous emissions from the project related activity.

PROJECT PROCESS FLOW CHART:

ACTIVITIES OF THE PROJECT:

MACHINERY

- LPG Storage Vassel
- LPG Compressor
- Pressure Guage 1/2" 0-300
- Pressure Guage 1/4" 0-200
- Safety Valve for Air Compressor
- Safet Valves
- Multi port
- Roto Gauges
- Internal Valves with Thermal Fuse
- Back Check Valves
- LPG Scales Cylinder's Filling

PROCESS OF THE PROJECT

A Liquefied Petroleum Gas (LPG) storage and filling plant involves several critical steps to ensure safe and efficient handling, storage, and distribution of LPG. Here's a complete process description for an LPG storage and filling plant:

1. LPG PROCUREMENT AND DELIVERY

PROCUREMENT: LPG is typically procured from refineries or gas processing plants. It is either delivered via transported by road in LPG tankers.

RECEIVING LPG: The LPG is offloaded from the transport tankers and transferred to storage facilities. This is done using pumping systems that ensure a controlled transfer, often under high pressure.

2. LPG STORAGE

STORAGE TANKS: LPG is stored in specialized pressurized storage tanks, usually either cylindrical or spherical in shape, designed to handle the high-pressure requirements of LPG.

PRESSURIZATION & TEMPERATURE CONTROL: Since LPG is stored in liquid form under pressure, these storage tanks are equipped with pressure and temperature control mechanisms to prevent gas vaporization.

SAFETY FEATURES: The tanks are equipped with safety features like pressure relief valves, level indicators, and emergency shutdown systems to handle any anomalies or emergencies.

3. VAPOR RECOVERY SYSTEM

GAS FUMES RECOVERY: LPG tends to vaporize due to temperature changes, and these vapors are collected by a vapor recovery system. This helps reduce product loss and minimizes the risk of gas leakage into the atmosphere.

4. LPG FILLING

CYLINDER FILLING: The LPG is then transferred from the storage tanks to filling stations where it is dispensed into cylinders.

FILLING STATION: Cylinders are filled on a specially designed filling platform or carousel. Automatic filling machines weigh and control the filling process to ensure precise amounts of LPG are dispensed into each cylinder.

SAFETY CHECKS: Cylinders are checked for any possible leaks using soap water or an ultrasonic leak detector.

BULK FILLING: LPG can also be transferred in bulk for industrial clients via bulk road tankers or large storage tanks at customer locations. Special high-capacity pumps are used for bulk filling.

5. CYLINDER QUALITY CHECK AND MAINTENANCE

INSPECTION: Before filling, cylinders are visually inspected for dents, rust, or damage. Damaged cylinders are set aside for repair or decommissioning.

PRESSURE TESTING: Cylinders are pressure tested periodically to ensure they can safely hold LPG under pressure.

VALVES & SEALING: Cylinder valves are checked and replaced if needed. Once the cylinder is filled, it is sealed to prevent gas leakage.

6. WEIGHING & SEALING

WEIGHING THE CYLINDER: After filling, each cylinder is weighed to ensure it contains the correct amount of LPG. Any discrepancies are adjusted.

SEALING THE CYLINDER: Once the correct weight is confirmed, the valve is sealed with a tamper-proof safety cap to ensure that there is no leakage and that the cylinder has not been tampered with.

7. STORAGE OF FILLED CYLINDERS

STORAGE AREA: Filled cylinders are stored in a well-ventilated storage area, segregated from the empty cylinders. The storage area is designed with fire safety systems such as sprinklers, fire extinguishers, and proper ventilation.

SAFETY PRECAUTIONS: The storage area is equipped with explosion-proof lighting, fire hydrants, and emergency shutdown systems.

8. QUALITY CONTROL & MONITORING

LEAK DETECTION: Throughout the plant, LPG leakage detectors monitor for potential leaks.

SAFETY DRILLS: Routine safety drills are conducted, and plant personnel are trained in fire safety and emergency procedures.

MONITORING SYSTEMS: There will be proper systems that are often used to monitor tank levels, pressure, and temperature continuously.

9. LOADING & DISTRIBUTION

TRANSPORT PREPARATION: Filled cylinders are loaded onto distribution vehicles, typically trucks, which transport them to distribution centers, retailers, or customers.

BULK TANKERS: For bulk customers, LPG is pumped into road tankers for delivery, which are equipped with safety mechanisms like emergency shutoff valves.

10. SAFETY MEASURES

FIRE SAFETY: The plant is equipped with fire detection systems, gas detectors, fire extinguishers, and sprinklers.

EMERGENCY RESPONSE PLANS: Regular safety training is provided to staff, and emergency response plans are rehearsed.

SIGNAGE & ACCESS CONTROL: Safety signage is displayed prominently, and access to hazardous areas is controlled.

11. PLANT MAINTENANCE AND SHUTDOWN

REGULAR INSPECTIONS: Equipment like storage tanks, pipelines, pumps, and valves undergo regular inspections and maintenance.

SHUTDOWN PROCEDURE: For maintenance or emergency situations, a systematic shutdown procedure is in place, which includes depressurization of storage tanks, isolation of valves, and securing the gas supply.

POWER REQUIREMENTS:

The process will be done with automatic running machines. And machines will be run with the electricity. Power requirements will be fulfilled by WAPDA.

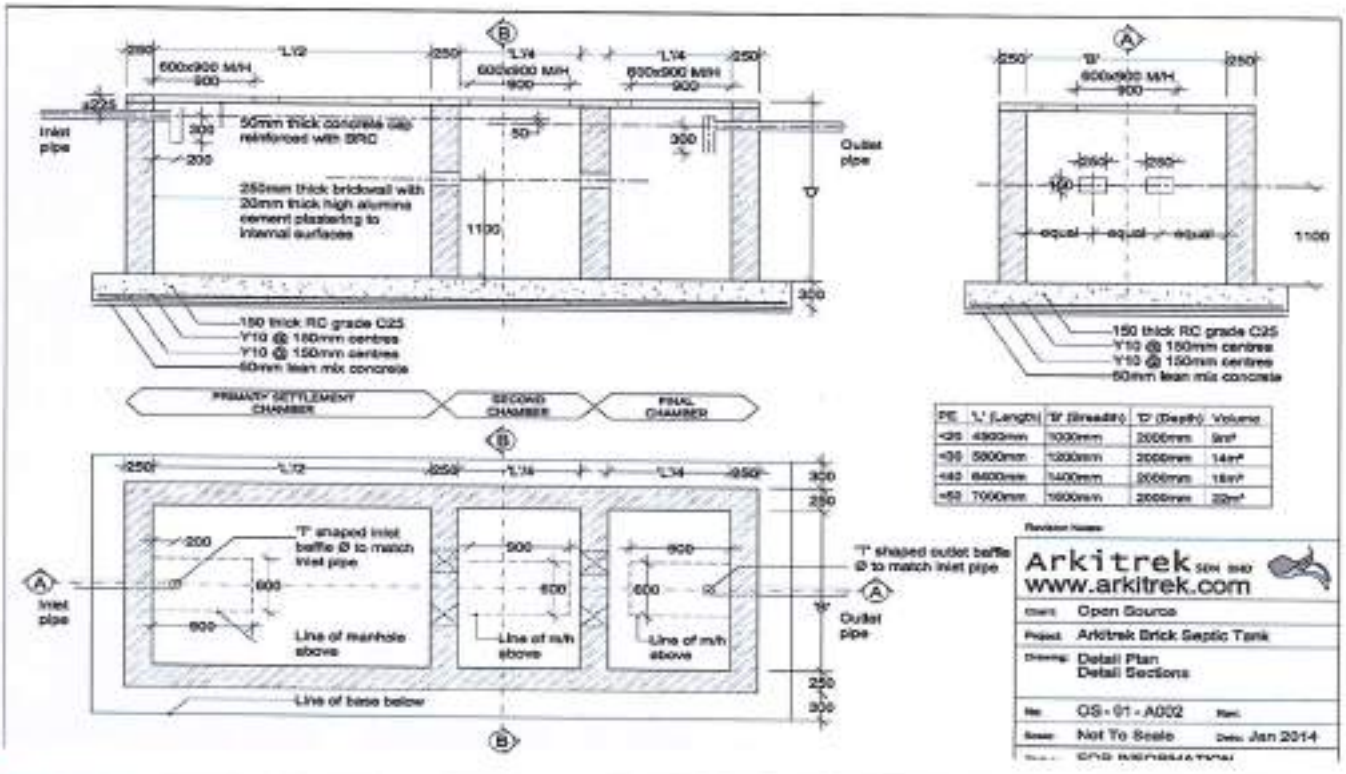
WATER REQUIREMENTS:

During Construction: approximately 5,000 gallon per day for constructional and domestic uses.

During Operation: maximum 10,000 gallons/d for domestic. Ground water will be used as a source of water to fulfill the water requirements during the construction and operation phases of the project.

WASTE WATER TREATMENT:

60-70% of the used water for domestic purposes will be the waste water which will be



produced during the operation phase of the project. The generated wastewater will be treated in treatment facility (Septic Tank) of unit. Water after treatment will be disposed of in the nearby drain.

SOLID WASTE:

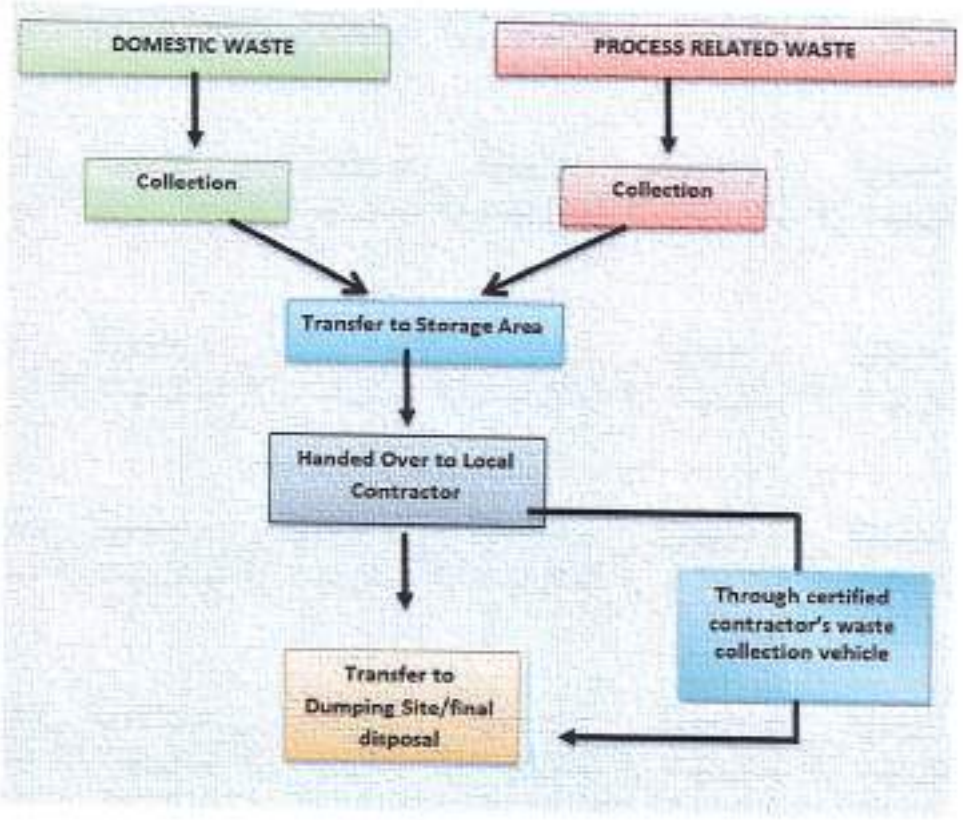
During the construction phase of the project, 75 kg/day construction and domestic waste will be produced. Constructional waste will be recycled during the constructional activities for road filling and maintenance purposes. According to an estimate, 11.000 kg/day domestic and project related solid waste will be produced during the operation phase of the project (based on solid waste generation rates of 0.45 kg/capita/day urban waste generation). In an LPG (Liquefied Petroleum Gas) storage and filling plant, solid waste generation is relatively low compared to other industrial facilities, but there are still some specific sources of solid waste. These wastes typically arise from maintenance activities, packaging materials, and used components. Project related waste will include LPG cylinders become damaged, corroded, or fail safety inspections. These cylinders are either repaired, recycled. Scrap metal (valves), rubber, and plastic (seals and gaskets) which will be handed over to the certified contractors.

SOLID WASTE MANAGEMENT SYSTEM/PRACTICES

The Solid waste will be managed in proper way by following operations:

1. Placement of separate waste bins for domestic and project related waste in all working halls and designated points.
2. Collection of waste from all the working halls at one designated point by the sanitary workers on daily basis.
3. Collected waste will be handed over to the solid waste contractors for its final disposal, from this point.

FLOW CHART OF SOLID WASTE MANAGEMENT PLAN:



PLANTATION

Area for plantation will be reserved within the premises of the project and plantation will be done within, outside and at the boundary wall of the unit.

PARKING AREA

Parking area will be provided in the subject proposed project. Unit will allocate ample area for parking purpose.

OCCUPATIONAL HEALTH AND SAFETY:

All the methods and procedures of health and safety will be adopted at the project site to ensure the health and safety of the workers.

FIRST AID FACILITY:

Proper medical facilities and proper training about first aid will be provided to workers of the subject project to cope with any accidents.

POWER SOURCES AND TRANSMISSION:

The power requirements will be fulfilled by WAPDA. However, a diesel fired stand by generator (if needed) will also be used for emergency situations only.

Following measures will be ensured for the operational equipment maintenance:

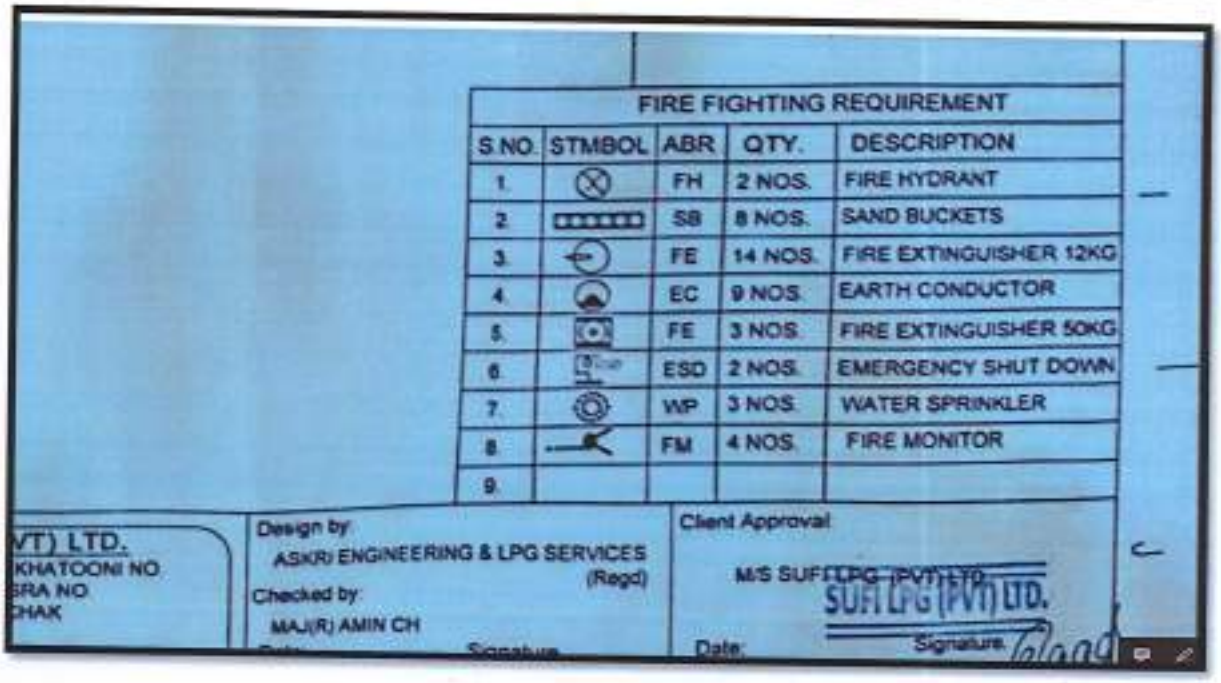
- Operator training
- Technician training
- Scheduled maintenance
- Regular oil analysis
- Repairs

PERSONAL PROTECTIVE EQUIPMENT:

PPEs will be provided to the workers during the working hours to ensure personnel health and safety and their implementation will also be ensured. Details of PPEs required for different occupational hazards are given below:

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 will be provided at the proposed project 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.



FIRE FIGHTING REQUIREMENT

S.NO.	STMBOL	ABR	QTY.	DESCRIPTION
1.		FH	2 NOS.	FIRE HYDRANT
2.		SB	8 NOS.	SAND BUCKETS
3.		FE	14 NOS.	FIRE EXTINGUISHER 12KG
4.		EC	9 NOS.	EARTH CONDUCTOR
5.		FE	3 NOS.	FIRE EXTINGUISHER 50KG
6.		ESD	2 NOS.	EMERGENCY SHUT DOWN
7.		WP	3 NOS.	WATER SPRINKLER
8.		FM	4 NOS.	FIRE MONITOR
9.				

VT) LTD.
KHATOONI NO
SRA NO
CHAK

Design by:
ASK(R) ENGINEERING & LPG SERVICES (Regd)
Checked by:
MAJ(R) AMIN CH
Signature

Client Approval:
M/S SUFI LPG (PVT) LTD.
SUFI LPG (PVT) LTD.
Date:
Signature

SECURITY:

Security guards will present round the clock to maintain its security. Beside this security cameras at various places will be installed.

EMERGENCY EVACUATION PLAN:

Emergency preparedness and evacuation plan will be formulated and adopted for the individual industries.

POWER SOURCES AND TRANSMISSION:

Electricity requirements at the project site will be fulfilled by WAPDA.

RESTORATION / REHABILITATION PLAN

All possible precautions will be taken to prevent an untoward incident in terms of life and property losses. The demolition materials will possibly be reused and recycled. All excavated surfaces will be termite proofed.

On completion of the project, the debris will be removed from the site in order to maintain aesthetics of the project. All measures will be undertaken for ensuring occupational safety, security and clean environment in the project area. Ornamental trees and flower plants will be planted on inside peripheral of the unit premises to restore the land.

CHAPTER 4:

DESCRIPTION OF THE ENVIRONMENT

GOVERNMENT APPROVALS REQUIRED BY THE PROJECT:

All the approvals had been obtained by the project proponent and their copies are attached with this EIA report.

CHAPTER # 4: DESCRIPTION OF ENVIRONMENT

GENERAL

This chapter describes the baseline conditions, which cover the existing physical, ecological, and socio-economic environment of the Project Area as well as the Study Area. Information on these aspects has been derived from the desk study of available data, field visits to the Project/Study Area and information obtained through detailed consultation with the Government departments and other agencies.

PHYSICAL RESOURCES

The area under consideration in Faisalabad covers approximately 1,616 acres, with a present population of around 77,000 persons. Faisalabad is one of the most prominent districts in Punjab, Pakistan, known nationally and internationally for its textile industry and agricultural productivity. It is often referred to as the "Manchester of Pakistan" due to its strong industrial base, especially in the textile sector. In addition to textiles, the city supports a wide range of agro-based and light industries. Faisalabad is also a significant contributor to the country's agricultural output, producing major crops such as wheat, sugarcane, cotton, maize, and rice.

Modern development in Faisalabad began during the British colonial era when the city, originally named Lyallpur, was established in the late 19th century as part of the Lower Chenab Canal Colony. It was laid out on a radial grid plan centered around the iconic Ghanta Ghar (Clock Tower), from which eight major bazaars radiate outward. Faisalabad was declared a district in 1904 and experienced significant growth following the independence of Pakistan in 1947, both in terms of population and economic activity, driven largely by industrialization and agricultural expansion.

The population growth of the city has followed a steady upward trend over the decades. According to historical census data, the population rose rapidly during the 20th century due

to industrial employment opportunities and rural-to-urban migration. The census of 1998 recorded a population of 61,523 persons in the specified urban area, with an annual growth rate of 3.3%. By 2005, the estimated population had reached approximately 77,222. Based on projected trends, the population is expected to grow to around 106,842 by 2015 and may reach 147,825 by 2025.

Faisalabad is characterized as a predominantly low- to medium-density urban area. The population is fairly evenly distributed, with only moderate variations between the central city and peripheral areas. Satellite imagery and urban analysis show that the oldest parts of the city, including the central bazaars and surrounding residential zones, are densely built with minimal incidental open space. These areas accommodate the highest population concentrations due to their proximity to commercial and employment centers.

In contrast, areas developed over the past three to four decades, particularly around the city's administrative and commercial expansion corridors, represent medium-density residential zones. Although the plot sizes in these areas are similar to those in the old city, there is a greater presence of open spaces such as internal roads, community parks, and buffer areas between residential clusters.

Newly developed or developing areas are typically located along major roads such as Jaranwala Road, Canal Road, and Sargodha Road, and along the city's bypass routes. These zones often follow formal planning layouts and include open spaces and community facilities. Large tracts of vacant or underutilized land can still be found in these peripheral zones. These newer areas are generally low in density but are gradually attracting population growth due to better infrastructure, affordable housing schemes, and improved accessibility to the city center and industrial zones.

LAND USE CHARACTERISTICS

The majority of Faisalabad's land is dedicated to agriculture, reflecting its role as one of Pakistan's most productive agricultural regions. In addition to staple crops like wheat and sugarcane, which are cultivated extensively for both local consumption and commercial distribution, the district also grows cotton, maize, rice, and various fodder crops. Cotton, in particular, plays a critical role in supporting Faisalabad's prominent textile industry. Alongside agriculture, Faisalabad hosts a robust industrial sector, with land around the city

occupied by textile mills, food processing units, pharmaceuticals, and small to medium-sized mechanical industries. These industries are central to the local economy, providing significant employment and contributing to national exports.

Forest cover in Faisalabad is minimal; however, designated plantation zones and greenbelt initiatives exist along roadsides and in planned housing schemes. These efforts contribute to improving urban environmental conditions and provide limited resources such as fuel wood and minor forest products. The district's agricultural activities rely heavily on a well-established irrigation system that forms part of the larger Indus Basin network. Canals, especially those fed by the Lower Chenab Canal, play a vital role in delivering water to fields throughout the region, sustaining crop production and supporting the livelihoods of farming communities.

GEOLOGY

Faisalabad lies within the West Indus Basin, where the land has been gradually filled by alluvial deposits carried by the Indus River and its tributaries, primarily the Chenab and Ravi rivers. The alluvial deposits in this region are extensive, often exceeding depths of 300 meters, providing fertile grounds for agriculture. However, certain areas are affected by salinity and waterlogging due to poor drainage and over-irrigation. The soil in the project area is moderately fertile but may show signs of salinity in patches, especially in low-lying or poorly drained fields.

Faisalabad, originally known as Lyallpur, was developed as a planned city during the British colonial period and has grown into a large industrial and commercial hub. The project site is located on barren land, which has not yet been brought under cultivation or development. The region's water needs are largely met through the Lower Chenab Canal, sourced from the Khanki Barrage. Historically, the Chenab River played a significant role in depositing sediments across this region. However, due to the diversion of its flow into the canal system, the natural floodplain dynamics have changed. The sediments deposited by the Chenab are sandy and less fertile compared to the silt from the Jhelum, making canal irrigation essential for productive agriculture.

The project area is close to the Lower Chenab Canal, and the groundwater table is generally high, with water available at depths ranging from 20 to 100 feet, depending on the location.

This makes groundwater accessible for both agricultural and domestic use, although in some areas, water quality may be affected by salinity or pollution. Faisalabad has a hot semi-arid climate with extreme temperatures. The hottest months are May through July, while December to February are the coldest. Most rainfall occurs during the monsoon months of July, August, and September, which supports seasonal cropping but also requires supplementary irrigation during dry periods.

Air quality in and around the project area is generally acceptable. There are no major anthropogenic sources of pollution in the immediate vicinity, although the broader Faisalabad region experiences pollution from industrial emissions and vehicular traffic. In the project location, no significant air quality concerns were noted. Noise pollution is also low, with no continuous sources of disturbance. Occasional noise from tractors, farm equipment, and passing vehicles is observed, but it is intermittent and not considered a serious environmental issue.

Traffic conditions in Faisalabad vary between urban and rural areas. Major city roads such as Sargodha Road, Jaranwala Road, and Millat Road experience high vehicle density, especially during peak hours. These areas are frequently used by a mix of cars, motorbikes, buses, rickshaws, and trucks. In rural and peri-urban zones like the project area, traffic is lighter and mainly includes motorcycles, tractors, and small transport vehicles. However, with rapid urban expansion, traffic congestion is becoming a growing concern in the city center and along major road corridors.

The vegetation in the project area is sparse, consisting mainly of Sarkanda grass (Saccharum spp.), Bermuda grass (Cynodon dactylon), Dhab grass (Desmostachya bipinnata), and sedges in depressions or uncultivated patches. Urban expansion and intensive cultivation have limited the presence of natural flora. Wildlife in the broader region includes jackals, wild boars, foxes, and wild cats, particularly in areas near the river or canal. Bird species such as Chikor, Sissi, grey partridges, and various migratory ducks are common near water bodies. Seasonal birds like quails and cranes also arrive in large numbers during migration periods, particularly from late summer to winter.

A socio-economic survey was carried out in four nearby villages of the project area. A total of 33 individuals were interviewed, including 19 men and 13 women, aged between 20 and 60 years. The majority of the population is involved in agriculture, either as tenants or

laborers working on fruit orchards and crop fields. Some residents are employed in small businesses, mechanical workshops, or brick kilns. Literacy levels are generally low, and manual labor remains the primary source of livelihood. A culturally significant shrine named Baba Shah Jamal is located near the project site. It is approximately 150 years old and is the focal point of a local festival held annually on the 2nd of July, drawing people from surrounding villages.

Punjabi is the dominant spoken language in the region, followed by Urdu and a small number of Saraiki speakers. Pashto is spoken by a few families. Traditional dress for men includes shalwar kameez and dhoti, while women wear colorful shalwar kameez with dupattas. The area is agriculturally rich, supporting both Rabi and Kharif crops. Rabi crops include wheat, barley, gram, lentils, and oil-seeds, while Kharif crops consist of cotton, sugarcane, rice, maize, mash, mung, and bazra. In addition to these, supplementary crops under the Zaid Rabi and Zaid Kharif seasons include vegetables, tobacco, toria, and fodder, which further contribute to local food security and income generation. Basic amenities such as electricity, water supply, and schools are available in most areas, but challenges remain in terms of healthcare, sanitation, and access to advanced infrastructure. The socio-economic condition of the area is reflective of a modest rural community with a strong agricultural base and a developing support infrastructure.

TOPOGRAPHY

The entire Faisalabad district is part of the flat alluvial plains of central Punjab and lies at an elevation ranging between 180 to 210 meters above sea level. The district is situated between the Chenab River to the northwest and the Ravi River to the southeast, though neither river flows directly through the central urban area. The terrain gradually slopes from northeast to southwest, with higher elevations found further away from the canal systems. The area between the Chenab and Ravi rivers is known as the Rachna Doab.

The topography of the project site is generally flat, with an average elevation of approximately 195.2 meters above sea level and a gentle slope of about 1%, which supports effective surface drainage. The Lower Chenab Canal flows to the southwest of the project site, forming a vital part of the district's irrigation infrastructure. Additionally, a minor distributary or water channel flows from the southeast of the project site, contributing to the overall agricultural and hydrological network of the area.

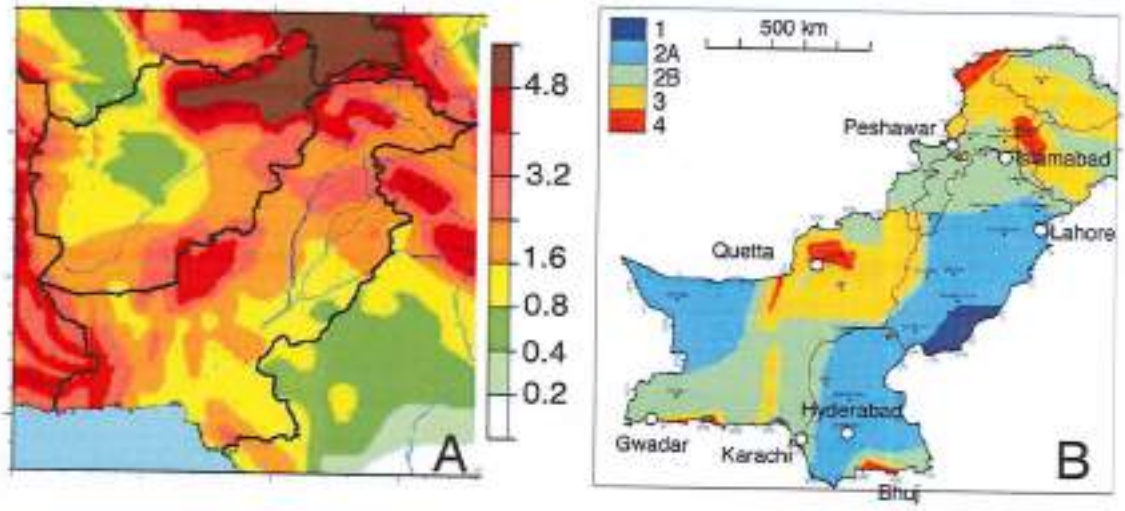


Figure 0-1: Seismic Zones of Pakistan (Geological Survey of Pakistan)

SOIL

Faisalabad district is part of the West Indus Basin and is underlain by thick alluvial deposits that have been gradually laid down by the Indus River and its tributaries, primarily from the north. These alluvial sediments are generally over 300 meters thick and, in many areas, extend several hundred meters deep. The geology of Faisalabad reflects a depositional environment shaped largely by fluvial processes over thousands of years.

The land in this region is believed to have formed between the late Pleistocene and recent times. As a result, three major geomorphological surfaces can be identified across the area. The youngest and lowest surface consists of recent flood plains, where sediment deposition is still occurring or ceased only recently. These areas are relatively flat and fertile, often supporting active agriculture. The intermediate surface corresponds to the early and middle Holocene period and shows evidence of slightly older depositional layers. Together, the recent and sub-recent flood plains are referred to as the Chenab flood plains in the Faisalabad context.

The oldest and highest geomorphological surface in the region is associated with Pleistocene-age formations. This elevated landform is locally known as the "Sandal Bar," a relic of ancient river terraces that once bordered the river systems. The Sandal Bar is a prominent physiographic feature of Faisalabad and is characterized by older, more compacted soils with reduced fertility compared to the newer floodplains. These variations in landforms and soil

profiles have played a critical role in shaping the agricultural and settlement patterns in the district.

SURFACE WATER RIVERS

The Chenab River, which forms the northwestern boundary of Faisalabad district, has played a significant role in shaping the region's geomorphology and agricultural potential. Historical evidence suggests that the river once flowed considerably eastward from its current course. The alluvial deposits left behind by the Chenab's annual floods are typically sandy in texture and generally less fertile compared to the rich silt carried by other rivers in Punjab, such as the Ravi and Jhelum. While the newer alluvium is sometimes suitable for cultivation, these lands can also become unproductive over time without proper management.

With the construction and operation of the Lower Chenab Canal, fed from the Khanki Barrage, much of the river's natural discharge is now diverted into a managed irrigation network. This diversion has significantly reduced the extent of seasonal flooding and natural sediment deposition in the region. The canal system, however, ensures a steady and controlled water supply, enhancing the district's agricultural output.

To the south and east of Faisalabad, the influence of older river terraces can still be observed in the form of slightly elevated tracts, including parts of the Sandal Bar. These elevated areas were once bounded by active river channels and retain remnants of the ancient floodplains. Compared to the Chenab's floodplain, areas influenced by the Ravi River-although more distant-tend to have finer silt and better moisture retention, contributing to higher fertility in those zones. The Ravi, which originates in the Indian Himalayas, plays an indirect role in the hydrological and agricultural system of the Faisalabad region through canal networks, even though it does not directly traverse the district.

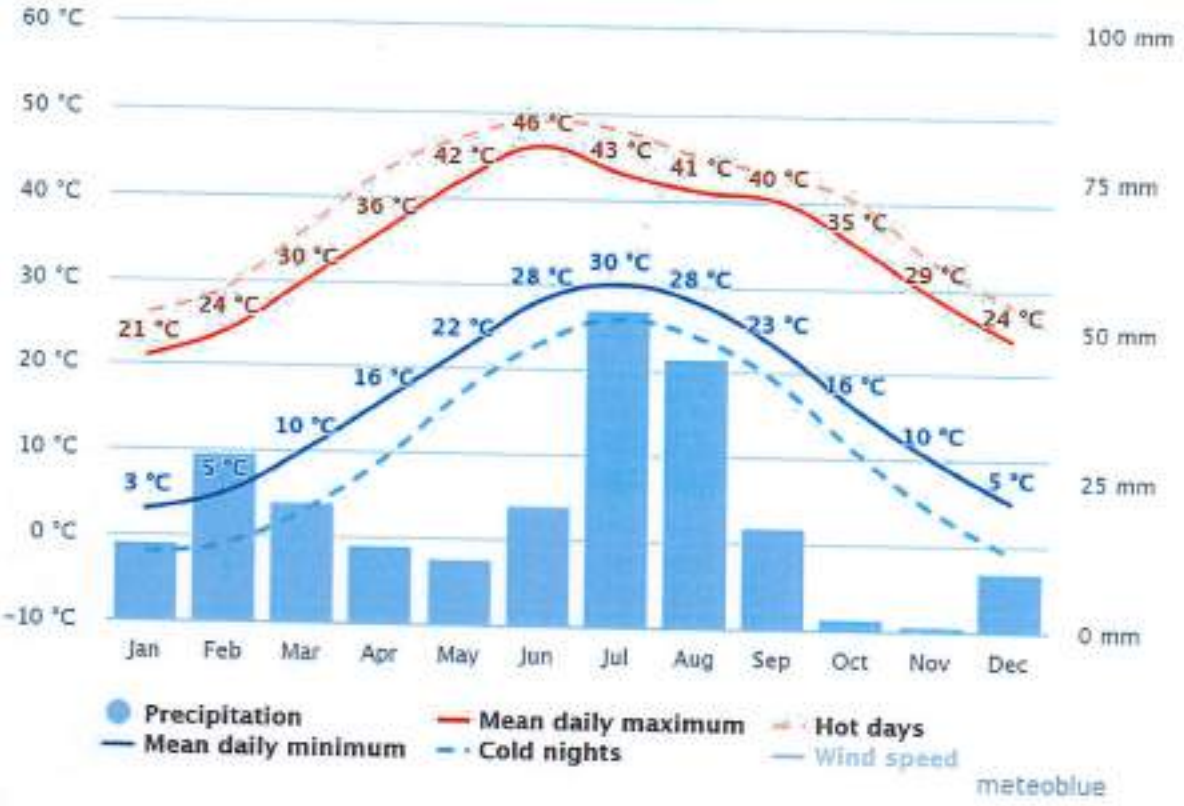
Overall, the river systems and canal infrastructure have historically defined the settlement patterns, land productivity, and agricultural development in Faisalabad, transforming it from a dry bar region into a thriving agrarian and industrial hub.

CLIMATE

Faisalabad district experiences a climate characterized by extreme seasonal variations. The hottest months are May, June, and July, during which the mean maximum temperature

reaches approximately 41°C, while the mean minimum temperature remains around 26°C. These months are marked by intense heat, low humidity, and high evaporation rates. In contrast, the coldest months are December, January, and February, with mean maximum temperatures around 20°C and mean minimum temperatures dropping to nearly 5°C.

Rainfall in Faisalabad is mostly concentrated during the monsoon season, occurring primarily in the months of July, August, and September. The rainfall pattern is generally influenced by monsoon winds moving from the east to the southwest. Due to the district's flat topography, rainfall distribution is relatively uniform across the region, though slight variations can occur based on local conditions. Unlike the hilly areas of Punjab, Faisalabad receives comparatively less rainfall, and supplemental irrigation from canal systems is essential for sustaining agriculture. The following tables provide detailed data on the district's mean monthly temperatures and precipitation levels, along with comprehensive meteorological statistics for Faisalabad.



Climate Date (Source meteoblue)

RAINFALL:

Most of the rainfall in Faisalabad occurs during the monsoon months of July, August, and September, although a smaller amount of winter rain is also observed. The average annual rainfall in the district is approximately 32 centimeters, though it can vary significantly from year to year. Rainfall distribution tends to decrease as one moves westward across the district, with the eastern and northeastern parts typically receiving slightly higher amounts due to their proximity to the monsoon front. Winter rains, primarily falling in January and February, are usually light but beneficial for Rabi crops. There is also a noted tendency for rainfall to gradually increase in areas where cultivation and vegetation cover have expanded, which can contribute to improved local moisture retention and microclimate regulation.

Figure 0-3: Rainfall Data (Source metoblue)

WIND:

Given below are the graphs illustrating the wind speed patterns and distribution trends recorded over the years for Faisalabad. These graphs represent monthly and annual variations in average wind speeds, highlighting seasonal fluctuations influenced by changing weather systems. Typically, wind speeds in Faisalabad are moderate throughout the year, with slightly higher velocities observed during the summer months, particularly from May to July, due to increased thermal activity and pressure differences. The lowest wind speeds are generally recorded in the winter months, especially in December and

January, when atmospheric conditions are more stable. The data provides useful insights into local wind behavior, which is essential for planning in sectors such as agriculture, construction, environmental monitoring, and energy generation.

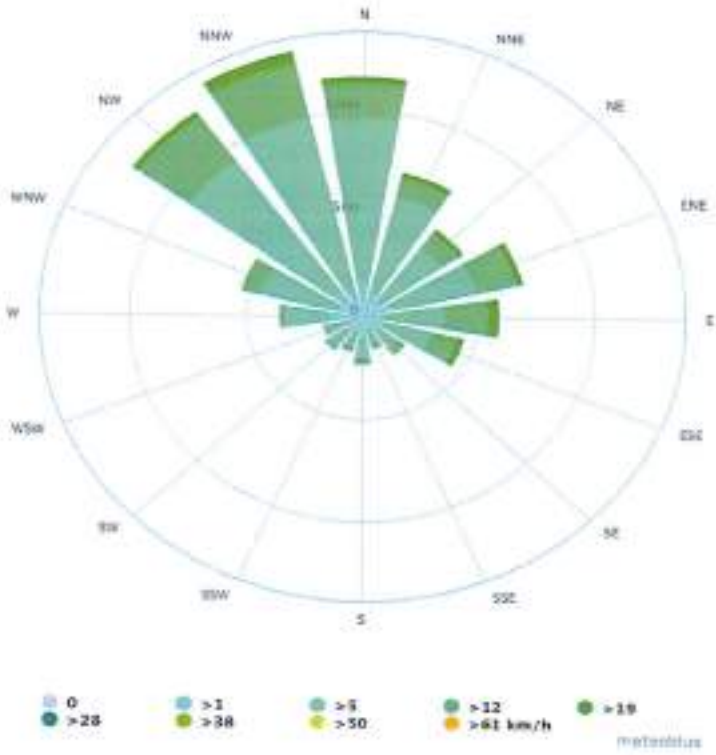


Figure 0-3: Wind Speed (Source: www.meteoblue.com)

WATER RESOURCES

SURFACE WATER

Faisalabad does not have any major natural streams or rivers flowing directly through the city; however, its surface water system is supported primarily by a network of man-made canals and drains developed as part of the Lower Chenab Canal irrigation scheme. This canal system, originating from the Khanki Barrage on the Chenab River, provides essential irrigation and supports various agricultural and urban water needs across the district.

Several drainage channels, known locally as nullahs, flow through different parts of the city to manage stormwater and wastewater. The main surface water bodies in the region are limited to irrigation canals, small seasonal ponds, and constructed reservoirs associated with industrial estates or agricultural lands. While there are no large reservoirs like those near northern cities, the canal system in Faisalabad remains the primary source of surface water,

serving a substantial portion of the agricultural sector and meeting part of the municipal water demand, especially in peri-urban areas. Surface water availability is supplemented by groundwater extraction to meet the overall water requirements of the city.

VEGETATION COVER AND TREES

The project site does not have any significant vegetation. Some patches of grasses were noted in the area.

SOCIO-ECONOMIC AND CULTURAL FEATURES

Faisalabad is a culturally rich and economically vibrant district, with its population primarily engaged in textile manufacturing, agriculture, and small-scale industries. Known as the industrial hub of Punjab, it provides significant employment opportunities in spinning, weaving, dyeing, and garment sectors. The rural population is mainly involved in farming activities, cultivating crops such as wheat, sugarcane, cotton, and maize. Social structures are typically family-oriented, with extended families common in both rural and urban settings. Punjabi is the most widely spoken language, followed by Urdu, with English used in formal and educational contexts. The traditional attire includes shalwar kameez for both men and women, often in simple or work-appropriate styles in rural areas and more fashionable versions in the urban population. Faisalabad also hosts a mix of religious and cultural traditions, with shrines, mosques, and festivals reflecting the region's deep-rooted heritage. Basic amenities like electricity, schools, and healthcare facilities are widely available in urban areas, though rural regions still face challenges in terms of infrastructure and service delivery.

POPULATION COMMUNITIES AND EMPLOYMENT

Faisalabad has witnessed significant population growth over the years, largely driven by rural-to-urban migration and the expansion of industrial activities. This rapid urbanization has often been unplanned, particularly in peri-urban and industrial zones where basic infrastructure such as roads, water supply, and electricity is available. However, the swift pace of development has outstripped the capacity of urban services, leading to challenges such as inadequate sewerage, poor drainage systems, and inefficient solid waste management, all of which have contributed to deteriorating environmental and living conditions. The city's central areas are a mix of commercial and residential land use, with commercial activity expanding in a linear pattern along major roads. This has resulted in issues like traffic congestion, insufficient parking spaces, reduced pedestrian mobility due to encroachments, and a high density of street vendors and hawkers. While agriculture remains an important livelihood in rural parts of Faisalabad, the scale has diminished with urban sprawl. Farmers rely primarily on tube-wells and canal irrigation, and to a lesser extent, on rainfall. Key crops include wheat, sugarcane, maize, cotton, and fodder, while vegetables and orchards are cultivated near cities where water and market access are more readily available.

EDUCATION

In Faisalabad district, Punjabi is the most widely spoken language, followed by Urdu, which is commonly used in urban and formal settings. English is also understood and spoken to some extent, particularly among the educated population. Other regional languages like Saraiki and Pashto are spoken by smaller communities, primarily due to migration from other parts of the country. Near the proposed project site, there is a school providing basic education to the local population, indicating the presence of educational infrastructure in the vicinity.

QUALITY OF LIFE VALUES

PUBLIC HEALTH

Public health facilities in Faisalabad exhibit a mixed landscape of public and private sector services, with major reliance on government hospitals, dispensaries, and rural health centers in the public sector. However, the availability and quality of services in many rural and peri-urban areas remain limited, leading residents to seek medical attention from private clinics and hospitals in the city. Common public health challenges in the district include waterborne diseases, inadequate sanitation, and poor waste management, especially in densely populated

or low-income areas. Immunization campaigns, maternal and child healthcare programs, and awareness initiatives are carried out periodically by the health department, but resource constraints and understaffing continue to hinder consistent service delivery. Access to clean drinking water, proper drainage, and public health awareness remain critical areas requiring improvement for ensuring community well-being.

ENVIRONMENTAL PARAMETERS FOR MONITORING

The environmental monitoring of parameters like ambient air quality, noise level and groundwater help us to analyze the prevailing environment conditions in and around the study area, and to protect it from any adverse activities due to the proposed Project implementation.

AIR QUALITY

The environmental monitoring is conducted by EPA certified laboratory ESPAK and detailed results of ambient air quality monitoring have been also attached as **Annexure-D**.

NOISE LEVEL

The environmental monitoring is conducted by EPA certified laboratory ESPAK and detailed results of ambient air quality monitoring have been also attached as **Annexure-D**.

DRINKING / GROUND WATER QUALITY

The environmental monitoring is conducted by EPA certified laboratory ESPAK and detailed results of ambient air quality monitoring have been also attached as **Annexure-D.**

CHAPTER 5:

SCREENING OF ENVIRONMENTAL POTENTIAL IMPACTS & MITIGATION MEASURES

CHAPTER # 5

SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES

The following chapter describes the overall possible impacts of project on the physical, biological and socioeconomic environment because of operation phases and mitigation measures to minimize the significance of the possible impacts up to an acceptable level. The anticipated impacts related to project location, design, operational phases have been assessed and mitigation measures are provided accordingly.

IDENTIFICATION OF ALL IMPACTS:

All the impacts related to the subject project due to the project location, during the operational phase have been identified and their mitigation measures have been suggested in Chapter # 4, Screening of potential environmental impacts and mitigation measures.

METHODOLOGIES FOR IMPACT IDENTIFICATION:

The methodology adopted for impact evaluation includes the Project Impact Evaluation Matrix.

PROJECT IMPACT EVALUATION MATRIX

The impact Evaluation matrix was developed by placing project activities on x-axis and different environmental parameters likely to be affected by the project actions grouped into categories i.e. Physical, Biological and Socio-Economic Environment. For the impact assessment, project impact assessment matrix is used by dividing the project action into different phases operation phase. A project impact evaluation matrix is attached in next section of this chapter.

The evaluation of impacts has been carried out on the basis of developing matrix, in which impacts have been rated on the basis of their significance. For rating impacts significance following criterion has been developed;

NA – Not Available

O – Insignificant (No or minimal impact)

LA – Low Adverse (Short term, reversible or less damage to environment)

MA- Medium Adverse (Long term reversible damage to environment)

HA – High Adverse (severe irreversible adverse damage to the environment)

LB – Low Beneficial (Short term benefits or less beneficial to the environment)

MB – Medium Beneficial (Long term benefits to environment)

HB – High Beneficial (Continuous benefits to environment)

	Physical Environment							Biological Environment		Socio-Economic Environment							
Environmental Component / Project Activities	Topography & Drainage	Soil Quality	Landscape	Surface water quality	Ground water quality	Air quality	Noise	Flora	Fauna	Agricultural Land	Health & Safety	Disruption of Public Utilities	Employment	Population Disturbance	Social Disorder	Cultural Values	Traffic Management
Transportation of raw material/ products	MA	MA	MA	MA	O	MA	HA	LA	MA	O	HA	LA	B	MA	LA	O	HA
Production process	O	O	O	HA	MA	MA	MA	O	O	O	HA	HA	HB	O	O	LA	O
Washing process	O	O	O	LA	HA	O	O	LA	LA	LA	LA	HA	B	O	O	O	O
Operation of boilers	O	O	O	LA	HA	MA	MA	O	O	O	HA	HA	HB	O	O	O	O
Operation of generators	O	O	O	O	LA	HA	MA	O	O	O	HA	LA	HB	O	O	O	O
Water consumption	LA	O	LA	HA	HA	O	O	LA	LA	LA	LA	HA	B	LA	O	O	O
Wastewater generation	HA	MA	MA	MA	MA	LA	O	MA	MA	MA	HA	LA	B	LA	LA	O	O

Storage of raw materials/ dyes	O	O	O	O	O	O	O	O	O	O	LA	O	B	O	O	O	O
Social activities	O	O	LB	B	B	B	B	B	B	HB	HB	B	HB	HB	HB	HB	O
Public welfare	O	O	B	B	B	B	B	B	B	HB	HB	HB	HB	HB	HB	HB	LB
Economic activities	LB	O	B	B	B	B	B	B	B	B	HB	B	B	B	B	B	LB
Employment	O	O	O	O	O	O	O	O	O	O	B	B	HB	B	B	B	LB
Infrastructure improvement	LB	MB	HB	B	B	B	B	HB	LB	HB	HB	B	HB	B	B	B	B

Legend:

O=Negligible/No impacts B=Beneficial LA=Low Adverse
MA=Medium Adverse HA=High Adverse

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:

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.

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 identity the different types of stakeholders and ascertain their perceptions about the project, an Environmental Impact Assessment 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 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.

CHARACTERISTICS OF IMPACTS

Following impacts related to the location of the industrial unit should be identified to avoid the sitting of the industrial estate in sensitive, difficult or unsafe area:

IMPACT:

DISPLACEMENT OF EXISTING LAND USE AND OTHER RESOURCES:

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.

POTENTIAL POSITIVE IMPACTS

The project is envisaged to have followed major positive impacts;

EMPLOYMENT OPPORTUNITIES:

Construction of proposed unit by M/S Sufi Gas Private Limited will help in generating new jobs for the local population. The requirement of Managers, Engineers, Workers, technicians, skilled and unskilled labor etc. will generate employment opportunities. It is estimated about 25-30 persons will be employed during operational phase and about 18-20 persons will work during construction phase. Hence, there is large number of employment opportunities especially for the locals of the district.

INCREASE IN BUSINESS:

With the influx of laborers for the proposed project, there will be more opportunities for small scale business such as small food cafes etc.

IMPROVED INFRASTRUCTURE:

Construction of M/S Sufi Gas Private Limited will improve the infrastructure of the area as proponent has incorporated aesthetic values and regeneration of site in its planning stage.

ECONOMIC BENEFITS:

Construction of M/S Sufi Gas Private Limited is a major working entity in the country; it is a great investment for the economy of our country. In the long run it will positively impact not only the local population but also the economy of Pakistan.

POTENTIAL NEGATIVE IMPACTS:

TYPES OF NEGATIVE IMPACTS MINOR IMPACTS

These are of minor intensity. For mitigation of the minor impacts routine and limited actions are required.

MODERATE IMPACTS

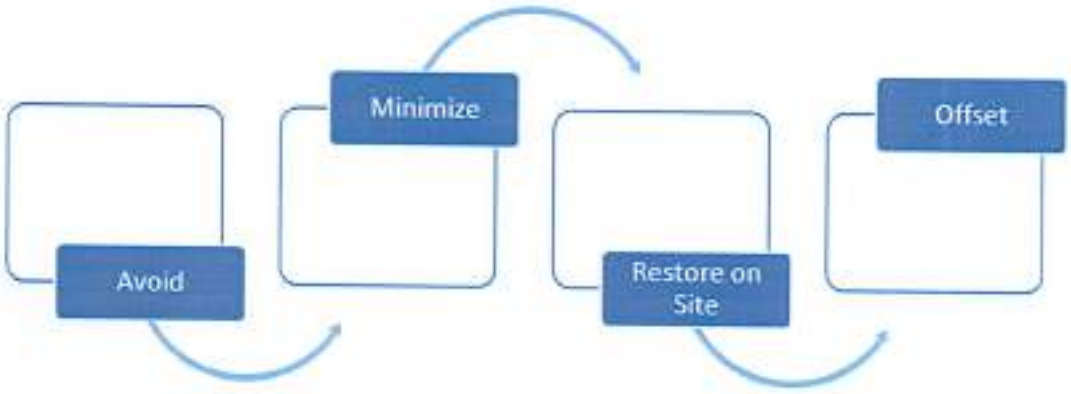
These impacts need specific and additional mitigation measures.

MAJOR IMPACTS

These impacts have severe adverse impact. These are intolerable. All possible preventive and multiple control measures are adopted to minimize their intensity and duration.

MITIGATION ASSESSMENT CRITERIA:

The Mitigation Hierarchy establishes a structure to guide development and application of measures to mitigate impacts on environmental values and associated components. The term "mitigation" applies to four steps, or levels, in the mitigation hierarchy:



GENERAL PRINCIPLES

- Maintaining the integrity and natural functions and processes of ecosystems, and the resilience of ecosystems, is prerequisite to sustainable use of natural resources, and essential to maintaining ecosystem goods and services over time.
- The mitigation hierarchy is applied in order of priority as follows: a. Avoid b. Minimize c. Restore On-Site d. Offset (Off-Site or On-Site)
- Generally, the "higher" the priority of the environmental value and associated component, the more protective the mitigation measures.
- For an action or measure to be considered "mitigation", a party must accept responsibility for implementation of appropriate mitigation measures, and there must be certainty that the mitigation measures will be carried out.
- Implementing mitigation measures can help resolve issues that may delay or prevent a proposed project or activity.

GENERAL CONSIDERATIONS

- Which environmental values and associated components will be impacted by the proposed project or activity? (This will be determined from the output of the environmental impact assessment, i.e., the Environmental Impact Assessment and Mitigation Plan)
- Have the criteria been used to determine relative priorities among environmental values and associated components?

- Have mitigation measures for impacts on environmental values and associated components, at all scales, been considered?
- What is the current condition of each environmental value and associated component actually present within the footprint and area of influence of the proposed project or activity?
- Can impacts on one or more environmental values or associated components be more fully mitigated than impacts on other environmental values and associated components?
- Are there multiple environmental values and associated components with conflicting management needs and potential conflicts that need to be considered?
- Is sound guidance available and being used, e.g., are best management practices (BMPs) and guidelines available for affected environmental values and associated components?
- Is there opportunity to collaborate with other proponents that may have interest in overlapping mitigation measures?

IMPACT SIGNIFICANCE

ECOLOGICAL IMPORTANCE NATURAL VEGETATION

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

ASSESSMENT OF IMPACT: A significant impact will be interpreted if unnecessary or excessive removal and burning of plants for fuel wood is observed. In case of subject project, no tree cutting will be required for the construction of the subject project.

Nature of impact: Direct

Duration: long term

Timing: construction phase

Reversibility: irreversible

Likelihood: moderate

Consequences: Mild, as no rare plant species are not present in the project area.

Impact significance: significant

MITIGATION MEASURES:

The following mitigation measures will reduce any impact on vegetation:

- Do not park vehicles on green belts/ grass
- Unnecessary damage to vegetation will strictly be avoided.
- Proponent will plant trees and other species after construction phase

RESIDUAL IMPACT: Given the current state of the vegetation, and proper implementation of the proposed mitigation measures, slightly significant residual impact on the natural vegetation of the area is anticipated.

FAUNA

The fauna including wildlife 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 plant species are not present in the areas.

Impact significance: not significant

Residual Impact: Given the current state of the fauna there is no significant residual impact on the wild life of the area.

SOCIAL IMPORTANCE

Following parameters were adapted for the assessment of the well-being of the poor people near the project site that are used to assess the social, economic, and cultural impacts of the project.

INCONVENIENCE DUE TO CONSTRUCTION VEHICLES:

During the construction period a minor impact may be the movement of vehicles from the main road to the proposed plant boundary; it may affect the traffic on other roads and may cause minor annoyances to the residents and other industrialists of the area. The transportation of heavy materials and equipment is likely to damage the existing roads if they were used for the transportation of heavy machinery.

MITIGATION MEASURES:

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.

Nature of impact: Direct

Duration: Short term

Timing: construction phase

Reversibility: reversible

Likelihood: low

Consequences: low, as it links the M-3 Lahore-Faisalabad Motorway and vehicles will rarely use the sub roads.

Impact significance: slightly significant

CULTURAL ISSUES

Induction of outside workers in the Contractor's labor may cause cultural issues with the local community as the local community is very sensitive about their cultural values. Also, theft problems to the local community may arise by the labor force and vice versa.

MITIGATION MEASURES:

Good relations with the local communities will be promoted by encouraging contractor to provide opportunities for skilled and unskilled employment to the locals, as well as on-the-job training in construction for young people. Project manager will restrict his staff to mix with the locals to avoid any social problem. Contractor will keep the copies of Computerized National Identity Cards (CNIC) of his workers and will warn them not to involve in any theft activities. And if anyone would involve, he will have to pay heavy penalty. Similarly, at the time of employment contractor has to take care that the workers should be of good repute. The contractor camp will be properly fenced and main gate will be locked at night with a security guard to check the theft issues. Contractor will also be the responsible for the sensitivity towards the local customs and traditions.

Nature of impact: Direct

Duration: Short term

Timing: construction phase

Reversibility: reversible

Likelihood: low

Consequences: low, if project proponent implements mitigation measure, its impact will be low

Impact significance: slightly significant

ACCIDENT RISKS

Unmonitored construction activities may create an accident risk for the local residents particularly children and labor force.

MITIGATION MEASURES:

Contractor must have first aid kits along with the medical officer in the field if a minor injury takes place, but for an unfortunate accident service of nearby hospitals will be availed. Routine medical check-ups of all the field staff including unskilled labor need to be conducted by a qualified doctor. Training of the workers should be arranged regarding safety procedures, environmental awareness, equipping all construction workers with PPEs, safety boots, safety helmets, ear plugs, gloves and protective masks. Monitoring must be carried out to check for the sustainable use of PPEs.

Nature of impact: Direct

Duration: Short term

Timing: construction phase

Reversibility: not applicable

Likelihood: moderate

Consequences: moderate, as complete trainings and mitigation measure have been planned.

Impact significance: significant

PRIVACY ISSUES

Disturbance may happen to the privacy of women residing in the work area when workers will work at height.

MITIGATION MEASURES: Contractor must take care for the privacy of residents, especially women near the working area.

Nature of impact: Direct

Duration: Short term

Timing: construction phase

Reversibility: reversible

Likelihood: low **Consequences:** low, as contractor will take care of the matte

Impact significance: slightly significant

SHARING OF RESOURCES:

During the construction and operational phase of the project, workers will share the common resources like potable water, fuel, wood. It may create conflicts between work force and local population.

MITIGATION MEASURES:

The contractor will be required to maintain a close friendly relationship with the local communities to ensure that there may not be any conflict related to common resources utilization. He must get permission of the local population before using their common sources of water and other resources.

Nature of impact: Direct

Duration: Short term

Timing: construction phase

Reversibility: reversible

Likelihood: low

Consequences: low, it the terms & conditions will be followed and mitigation measures have been employed

Impact significance: significant

NOISE PROBLEMS

Residents of the area and neighbors may face the problems of noise during the construction and operations phase

MITIGATION MEASURES: Large noise generating activities should be carried out in fixed hours. The timing will be known to all the people in 500 m radius of the site.

Nature of impact: Direct

Duration: Short term

Timing: construction phase

Reversibility: reversible

Likelihood: Moderate

Consequences: Moderate, project contractor will follow the safety guidelines & NEQS

Impact significance: significant

MOBILIZATION ISSUES

During the construction phase, the general mobility of the local residents and their livestock in and around the study area is likely to be hindered.

MITIGATION MEASURES: It will be the responsibility of project contractor and drivers to follow the speed limits in the area.

Nature of impact: Direct

Duration: Short term

Timing: construction phase

Reversibility: reversible

Likelihood: low

Consequences: low, as it links the main Lahore-Sargodha Motorway and vehicles will rarely use the sub roads

Impact significance: slightly significant

HEALTH

People from the project area regularly travel to other cities, and thus cannot be considered isolated from the rest of the country. They are regularly exposed to illnesses common to urban populations, and have similar levels of immunity. The project is therefore very unlikely to lead to an epidemic of any sort among local communities.

MITIGATION MEASURES: Regular medical check-ups of all the workers need to be conducted to ensure the health of workers and local population.

Nature of impact: Indirect

Duration: Long term

Timing: construction / operation phase

Reversibility: reversible

Likelihood: moderate

Consequences: low to moderate, it may cause disturbance or spread of disease in the area if mitigation measure will not follow

Impact significance: significant

SAFETY:

Project activities could become a hazard as it is located in populated area local people, especially children, are likely to gather around to watch the activity. The other safety issue is that of traffic, especially along access roads close to settlements.

To reduce the hazards, the following mitigation measures will be implemented:

- Local people will be informed in advance when work is about to start in an area.
- This may result in people keeping young children away from work areas.
- Machinery will never be left unattended.
- Safe driving practices will be adopted, particularly while passing through settlements.

Nature of impact: Direct

Duration: long term

Timing: construction / operation phase

Reversibility: irreversible

Likelihood: moderate to high

Consequences: moderate if all safety measure will be taken care

Impact significance: Significant

ENVIRONMENTAL STANDARDS TOPOGRAPHY:

The project will not change the topography of the area as proponent committed to sustainable development of the proposed project. The infrastructure of the area will be maintained after the construction activities.

Residual Impact: The residual impact of project activities on the topography of the area is expected to be insignificant. The residual effects are summarized below:

Nature of impact: direct

Timing: construction Phase

Duration: during construction activities

Likelihood: Nil

Consequences: no change

Impact significance: Not significant

MITIGATION MEASURES: The project design should include measures to maintain the project landscape that matched the pre project natural green features achievable through extensive plantation. Project activities must be executed in a way it will not harm naturally available resources.

LAND ACQUISITION RESETTLEMENT

One of the major impacts includes acquisition of land from the land owners and the resulting displacement of their families and disturbances in the livelihood of the affected persons (AP) in the project area. But present project land is owned by the father of the proponent who has granted permission for the lease ownership of M/S Sufi Gas Private Limited and do not involve any type of land acquisition and resettlement activity.

Residual Impact: The residual impact of project activities for the land acquisition & resettlement of the area is expected to be insignificant. The residual effects are summarized below:

Nature of impact: direct

Timing: Planning stage

Duration: not applicable

Likelihood: Nil

Consequences: no change

Impact significance: Not significant

Mitigation measures: If any resettlement involve, proponent must consult the affected persons and incorporate their interests and demands.

CHANGES IN LAND USE

The current land use of the area is mainly Agricultural. Project is expected to increase land use value particularly near the main road creating easy economic and employment opportunities for locals.

Residual Impact: The residual impact of project activities on land use of the area is expected to be insignificant. The residual effects are summarized below:

Nature of impact: direct

Timing: construction phase

Duration: not applicable

Likelihood: Nil

Consequences: no change

Impact significance: Not significant

MITIGATION MEASURES: The impact of change in land use must incorporate in planning stage so that it may not cause any hindrance during the constructional phase.

SOLID WASTE/ SLUDGE MANAGEMENT:

Proper solid waste management system is necessary for the prompt, timely and efficient disposal of solid waste & sludge for the reduction of its impacts. Impacts due to solid waste & sludge are expected to be temporary and minor in nature.

Nature of impact: Direct

Duration: Short term

Timing: operation/ construction

Reversibility: Not applicable

Likelihood: Low (unlikely) as mitigation measures will ensure that Solid waste management will be efficient

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

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

MITIGATION MEASURES:

- Planning of solid waste disposal sites with reasonable distance from the human settlements
- A minimum distance of 1 km should be maintained between the solid waste disposal site and nearest human settlement
- Devise plan & develop guidelines for the safe handling, storage & disposal of Sludge must not be placed at the site after cleaning of wastewater treatment tank
- PPEs are strongly recommended for workers for the handling of sludge

Residual Impact: After implementing the mitigation measures listed above, the residual impact of the solid waste/ sludge is expected to be insignificant.

AIR QUALITY POTENTIAL IMPACT:

Air emissions from project-related activities are likely to include:

- Dust raised on dirt tracks by project-related vehicles.
- Combustion products (nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide, and volatile organic compounds) from vehicles used for project-related activities

ASSESSMENT OF IMPACT

DUST EMISSIONS:

Dust emissions caused by vehicular traffic on dirt track are an important concern, primarily when such traffic passes near community settlements. Dust emissions cause the amount of particulate matter in the air to increase, and thus become a health concern. Dust clouds also reduce road visibility, creating a traffic hazard.

GASEOUS EMISSIONS

Emissions produced by vehicles and equipment will be similar to those produced by generators in terms of the resulting pollutants (SO_2, NO_X, PM, etc.). However, the extent to which they are produced will be kept considerably lower, since much smaller engines are used in vehicles and construction machinery.

Nature of impact: Direct

Duration: long term

Timing: operation/ construction

Reversibility: irreversible

Likelihood: moderate as mitigation measures will ensure that air pollution remains within acceptable limits.

Consequences: moderate, as pollutant levels in the ambient air will be well within acceptable limits.

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

MITIGATION MEASURES

- None of the potential effects discussed above are expected to exceed acceptable limits.
- The mitigation measures given below will further reduce their impact, and ensure that they remain within acceptable limits.
- All equipment and vehicles used during the 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
- Imposing speed limits and encouraging more efficient journey management will reduce the dust emissions produced by vehicular traffic.
- Water will be sprinkled where necessary to contain dust emissions.
- Management will make sure process is environmentally friendly

Residual Impact: After implementing the mitigation measures listed above, the residual impact of the proposed activities on ambient air quality is expected to be low.

NOISE LEVEL

Noise may be a major concern during the construction/ operation phase. It can be generated from the machinery used for construction and operations. Generators are another source of noise pollution.

Nature of impact: Direct

Duration: long term

Timing: operation/ construction

Reversibility: Not applicable

Likelihood: moderate

Consequences: slightly significant, if above mentioned mitigation measure will be strictly followed

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

MITIGATION MEASURES:

- Keep the traffic load aligned and minimum during working hours of project
- Machinery and vehicles must be well tuned and maintained o Impose the limits on unnecessary use of horns
- Safety signs must be displayed and public & drivers must be well aware of them o Do not work in night time

Residual Impact: After implementing the mitigation measures listed above, the residual impact of the noise level will be slightly significant.

CONCLUSION

Management of M/S Sufi Gas Private Limited has to achieve the following goals.

- Identification of regulatory requirements that apply to the project activities in the context of environmental protection.
- Identification of the environmental features of the project area and the likely impact of the project on the environment,
- Recommendation of appropriate mitigation measures that management will incorporate into the project implementation to minimize all adverse environmental impacts.

Baseline environmental and socioeconomic information collection from a variety of sources, including field surveys.

The impacts of project in area will be insignificant, provided the generic mitigation measures proposed in this report are implemented. After assessing the project activities and investigating the project area, it is concluded that, if the activities are undertaken in this report, and the recommended mitigation and environmental management measures are adopted, the project will not result in any long-term or significant impacts on the local community or the environment.

PURPOSE OF MITIGATION MEASURES

WHAT IS THE PROBLEM I.E. IN TERMS OF "MAJOR ENVIRONMENTAL IMPACTS" WHICH MAY ARISE BY THE SUBJECT PROJECT ACTIVITY?

The major impacts may arise by the subject project could be particulate matter & dust, noise, solid waste and wastewater. Other impacts are of minor importance. These impacts will arise during operation but precautionary measures will be adopted prior to start the activity, during the activity and post activity.

WHEN THE PROBLEM WILL OCCUR AND WHEN IT SHOULD BE ADDRESSED?

Any impact that would arise due to the subject project activity 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 environmentally friendly.

WHERE AND HOW THE PROBLEM SHOULD BE ADDRESSED?

HSE manager/environmental manager along with site manager will be appointed to assess any impact that could be arisen during both phases. He would be responsible to address the problem and to mitigate it.

WHYS OF ACHIEVING MITIGATION MEASURES

IMPROVED MONITORING AND MANAGEMENT PRACTICES:

Management of M/S Sufi Gas Private Limited shall take appropriate measures to provide pollution free and safe environment during the project activity by implementing improved management practices and monitoring techniques suggested in EMP.

COMPENSATION IN MONEY TERMS:

M/S Sufi Gas Private Limited will adopt such plan that will assure the minimum impact on the environment and health by implementing proper mitigation measures.

REPLACEMENT, RELOCATION AND REHABILITATION:

M/S Sufi Gas Private Limited will develop Restoration/ reclamation or tree planation plan to restore the project area. Maximum Plantation will be done with native species within the building, along the boundary wall and along the road side if directed by EPA. Also, in-front of main area, horticulture plan will be formulated and area for this will be kept reserved.

CHAPTER 6:

ENVIRONMENT MANAGEMENT AND MONITORING PROGRAM

CHAPTER # 6

ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

PURPOSE AND OBJECTIVES OF THE EMP:

The primary objectives of the EMP are to:

- Facilitate the implementation of the mitigation measures identified in the EIA.
- Define the responsibilities of the project proponent.
- Define a monitoring mechanism and identify monitoring parameters in order to:

1. Ensure the complete implementation of all mitigation measures.
2. Ensure the effectiveness of the mitigation measures.
3. Provide a mechanism for taking timely action in the face of unanticipated environmental situations.
4. Identify training requirements at various levels.

MANAGEMENT APPROACH:

The overall responsibility for compliance with the environmental management plan rests with the project proponent.

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.

INSTITUTIONAL CAPACITY

Following functionaries will be involved in the implementation of EMP:

- Project Proponent
- HSE/Project Manager
- In-Charge Administration
- Supervisor of project

SCHEDULE OF IMPLEMENTATION

Training for the management and workers on environmental aspects of the project will be arranged on biannually basis during the operational phase of the project. It will be imparted by a team of experienced trainers.

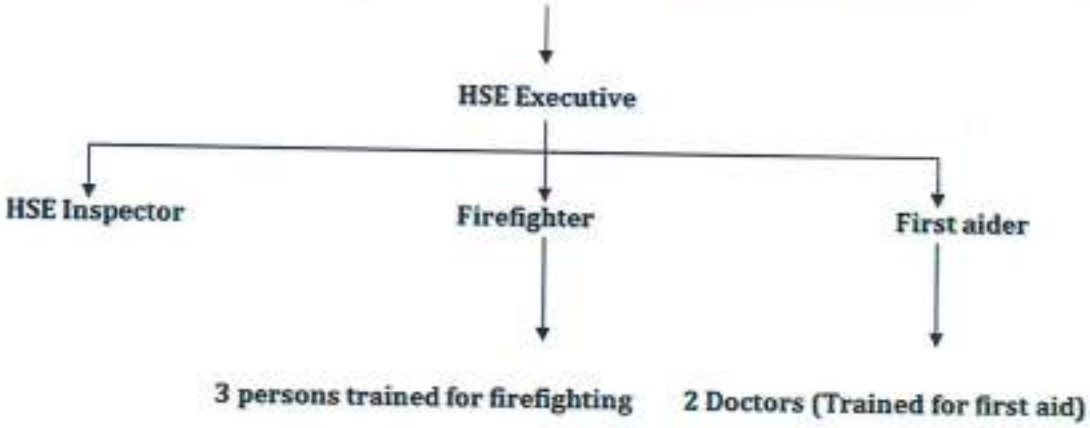


Figure: Institutional Capacity for the implementation of EMP

Management will hire or appoint HSE officer before the initiation of work at the project site. 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: Training Program

Sr. No.	Description of program	Personnel involved	Time/ duration
1)	General HSE Training	Trainers and whole production facility staff	Regularly as planned by HSE Manager
2)	Instrument use/ workplace specific items	Trainers and whole production facility staff	Regularly as planned by HSE Manager
3)	PPEs use and safe work practices at work site.	Trainers and whole production facility staff	Regularly as planned by HSE Manager
4)	Reporting and investigating accidents/ incidents	Trainers and whole production facility	Regularly as planned by HSE Manager

		staff	
5)	Emergency procedures	Trainers and whole production facility staff	Regularly as planned by HSE Manager
6)	Medical and first aid	Trainers and whole production facility staff	Regularly as planned by HSE Manager
7)	Health and safety promotion	Trainers and whole production facility staff	Regularly as planned by HSE Manager

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

The HSE Manager will train all workers & staff in basic sanitation and health care issues (e.g., how to avoid malaria, dengue 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.

HSE Manager will be responsible to conduct Training on regularly basis regarding health & safety, hygiene, firefighting and first aid.

TRAINING OF BUILDING CONTRACTOR

Training of building contractor & workers will be the part of the TORs regarding the construction of the scheme. The provisions given in EIA Report Chapter 4 Screening of Potential Environmental Impacts & Their Mitigation Measures will be followed.

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.

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:

- **AMBIENT AIR**

  Monitoring for ambient air should be conducted during operational activities of the project and report should be submitted to EPA Punjab.

- **NOISE**

  Regular monitoring for noise level should be maintained periodically during operation phases of the project and report should be submitted to EPA Punjab as per rule.

- **WATER QUALITY**

  Regular monitoring of water quality should be conducted during operational phases of the project and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

Recommendation: Environmental Monitoring data log book should be maintained by the project proponent.

RESPONSIBILITY OF EMP

Overall responsibility for implementation of EMP is of project proponent. He has appointed an HSE/Project Manager of relevant qualification. HSE/Project Manager acts as Environmental Manager and will manage all HSE condition at the PEQS.

EQUIPMENT MAINTENANCE DETAIL

The subject project is the proposed construction of LPG Storage and Filling Plant by M/S Sufi Gas Private Limited. The company will maintain the records for Health Safety & Environment and will hire HSE manager to check and deal with the HSE issues. The company shall maintain PPEs, medical facilities, firefighting Equipment's as fire buckets, fire hydrants and fire extinguishers and records for their periodic filings or replacement.

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.

Company has allocated the Environmental Budget annually for the Training, maintenance and management of Environment that will include filling and maintenance of equipment's, restoration, plantation, and availability of PPEs, strategic planning to cope with any emergency situation and formulate the disaster management plan to cope with natural disaster. Any equipment or devices failure or replacement will not be included in this budget.

HSE training	On regular basis
Maintenance and management of environment	On regular basis
Maintenance of equipment	On regular basis
Availability of PPEs	During production hours
Strategic planning to cope with any emergency	As per policy
Formulate the disaster management plan to cope with natural disaster	As per policy

ENVIRONMENTAL MANAGEMENT PLAN OF M/S SUFI GAS PRIVATE LIMITED

Sr. #	Aspects	Impact & Mitigations to be taken			
		Impacts	**Mitigation measures** **Construction/Operation**	**Responsibility**	**Monitoring**
		AMBIENT AIR QUALITY			
1.	Air Quality	Production machinery Flue gas emissions from machinery and generators	Air quality monitoring is recommended on regular base Open disposal and burning of solid waste in the premises of building should be strictly banned. Pollution abatement technologies regarding air pollution will be adopted. Emissions inspection and monitoring should be done on regular basis	HSE Department	Environmental Consultant/EPA PUNJAB
		NOISE & VIBRATION			
2.	Noise	The major sources of the noise are	Personal Protective Equipment PPEs including Ear	HSE department	Environmental

		production related machinery. Noise from generators (if any)	muffs, Ear plugs and other noise abating equipment will be provided to the workers and other staff. Sound proof room should be built for generator (if any) to control the noise.		Consultant/ EPA PUNJAB
HEALTH AND SAFETY					
3.	Health and safety	Health & safety issues of workers and nearby community	Trainings of the workers is recommended for health & safety, first aid and firefighting. Proponent must provide First aid facilities to workers in case of any injury or accident. Emergency Response Plan is attached as **Annexure-F**. Safe drinking water must be provided to workers, staff, and poor people of the area. Water consumption records should be maintained. Provision of Proper PPEs must be ensured at workplace. Assembly point and exit points must be available at workplace. Electric wires, D. Bs must be kept covered & closed to avoid any electric hazards.	HSE Department	Environmental Consultant/ EPA

			Smoking or any drugs should be prohibited during working hours or performing work. Safety signs & boards will be placed at the time of construction activity. Security guards will be appointed at the construction site.		
WASTE WATER					
4.	Waste water	Domestic waste water. Minor wastewater from production activities. Spread of diseases, underground water contamination.	Domestic waste water is being drained out in nearby drain after treated in septic tank. Ensure the tank is situated at a distance that prevents any accidental runoff or overflow from contaminating the LPG storage area.	HSE department	Environmental Consultant
SOLID WASTE GENERATION					
5.	Solid Waste Generation	Aesthetic degradation, foul smell etc. Solid waste generation from the machinery installation and	A solid waste management plan should be formulated to deal with the proper disposal of solid waste, supervised by HSE Manager. Waste segregation is recommended at the source.	HSE Department	Environmental Consultant/ EPA PUNJAB

		production activities, domestic and process sources	Industrial ecology practices will be adopted wherever possible. 7 R's of sustainability is recommended Hazardous waste should be disposed in separate bins and handed over to EPA approved contractors. Waste produced from building alteration/renovation should be sold to local market.		
ODOR					
6.	Odor	Odor may produce from raw material and during product manufacturing	Raw material should be covered to reduce odor Face masks must be provided to the workers and employees on production floor	HSE Department	Environmental Consultant/ EPA PUNJAB
ENERGY REQUIREMENT					
7.	Energy requirement	Resource depletion	Do not waste the energy/electricity when there is no need of it. Use energy efficient and ecofriendly equipment Use energy saving appliances Conduct and maintain records for energy audits	HSE Department	Environmental Consultant/ EPA PUNJAB

			Do not leave the appliances in running when there is no need It is recommended to save and conserve the energy and adopt energy efficient technologies in the factory.		
SOCIO ECONOMIC IMPACTS					
8.	Language	Change in cultural language	Maximum employment of Local people is recommended to preserve the local cultural language. It will help in communication with the local people to resolve any emerging issue near the project area	Proponent	NA
9.	Education	Change in social behavior and economic gains	School and colleges exist in the area. The project proponent will initiate an educational awareness program with the coordination of the local people.	Proponent	NGO survey
10	Health	Social performance of the individuals in the area	The project proponent will assist the local impacted community for the improvement of health services Health clinic must be established for the project workers.	Proponent	Proponent

11	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
12	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

CHAPTER 7:

STAKEHOLDER PARTICIPATION

CHAPTER # 7

STAKEHOLDERS PARTICIPATION

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.

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. To identity 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 pages.

OBJECTIVES OF CONSULTATION

Public consultation plays a vital role in studying the effects of the project on the stakeholders and in the successful implementation and execution of the proposed project. Public involvement is a compulsory feature of environmental assessment, which leads to better and more acceptable decision making. The objective of the consultation with stakeholders is to help verify the environmental and social issues that have been presumed to arise and to identify those which are not known or are unique to the construction of the proposed unit.

The important general objectives of the consultation process are:

- Information dissemination, education and liaison;
- Identification of problems and needs;
- Collaborative problem solving;
- Reaction, comment and feedback on proposed project;
- Documenting mitigation measures proposed by the stakeholders;

METHODOLOGY OF CONSULTATION:

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 project site and initial discussions with the neighboring industry workers, villagers, shopkeepers, drivers etc.
- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

PROPONENT

Possible impacts and mitigation measures related to the subject project were discussed with the project proponent and management. They assured to take all suggested mitigation measures to control any discrepancy arose by the project and to make the project environment friendly.

RESPONSIBLE AUTHORITY

Management of M/S Sufi Gas Private Limited is the responsible authority to take all measures prior to start the activity.

ENVIRONMENTAL PRACTITIONERS AND EXPERTS

Team of M/s Environmental Services of Pakistan (ESPAK) visited the project site, had discussions with stakeholders and consulted with the local people of nearby and other villages to evaluate the project socio-economic impacts. People provide the massive information about the project and have positive remarks regarding the project development.

OTHER DEPARTMENTS AND AGENCIES

For the impact analysis detailed meetings were held with the management of M/S Sufi Gas Private Limited, local community, education institutes, health institutes and hospitals. Issues were discussed that may affect the environment and also the implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

Scoping sessions, focused group discussion and way side consultations were held with the relevant stakeholders in the area. The purpose of such consultations is to obtain the feedback from the relevant persons.

AFFECTED & WIDER COMMUNITY

There is no affected community present in the radius of our study area. ESPAK team has consulted with the inhabitants of the different villages. They provided positive remarks regarding the subject project and in the favor of the subject activity for the proposed plant. Stakeholder's participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts.

Categories of stakeholders interviewed in the project area:

Sr. No.	Stakeholder Category
1.	Neighboring factory workers.
2.	Nearby residents
3.	Shopkeepers.
4.	Drivers.

In addition to the above categories, authorities of administrative and educational institutions, commerce and Investment Department (C&I), Environmental Protection Department (EPD) etc. were also consulted for more effective participation and appraisal of the proposed project.

ISSUES DISCUSSED:

Following issues were discussed during the stakeholder consultation:

- Overall activities of the project;
- Possible impacts on natural vegetation, air, land and properties;
- Possible mitigation measures;

- Benefits of the project specifically for the local people.

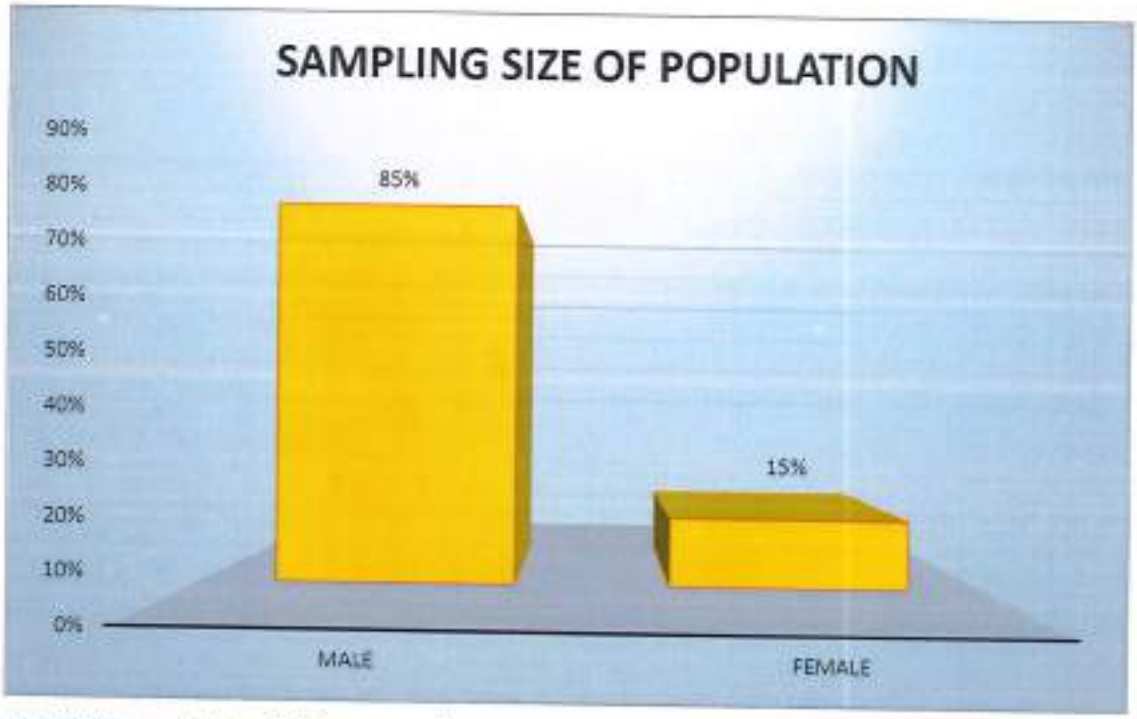
SAMPLE SIZE

Sample size of 30 respondents was 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.

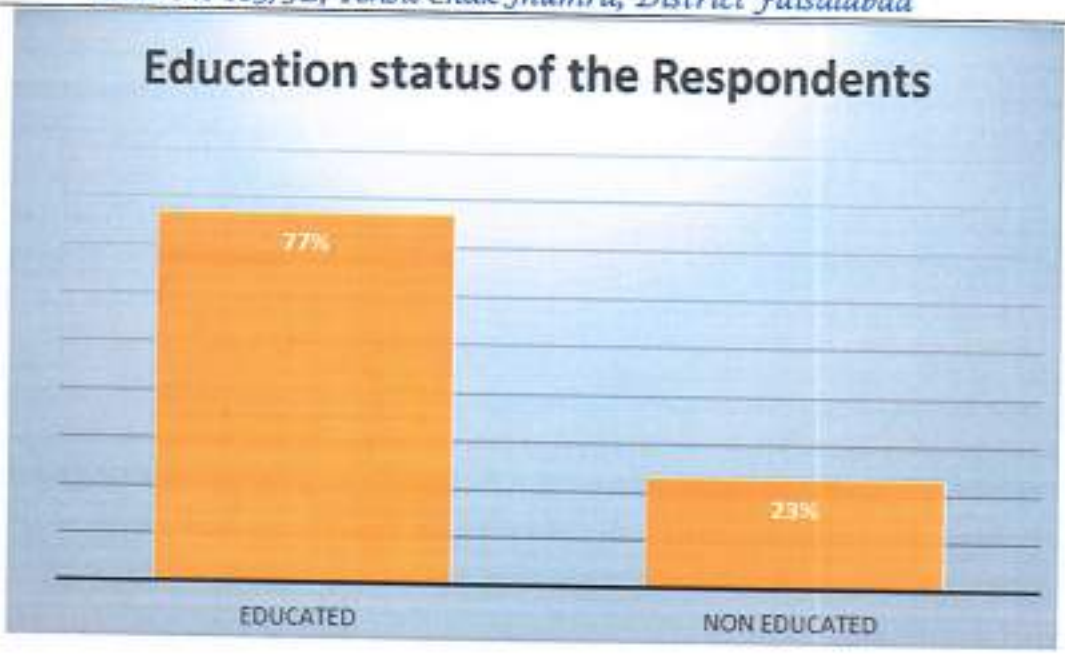
STATISTICAL ANALYSIS

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

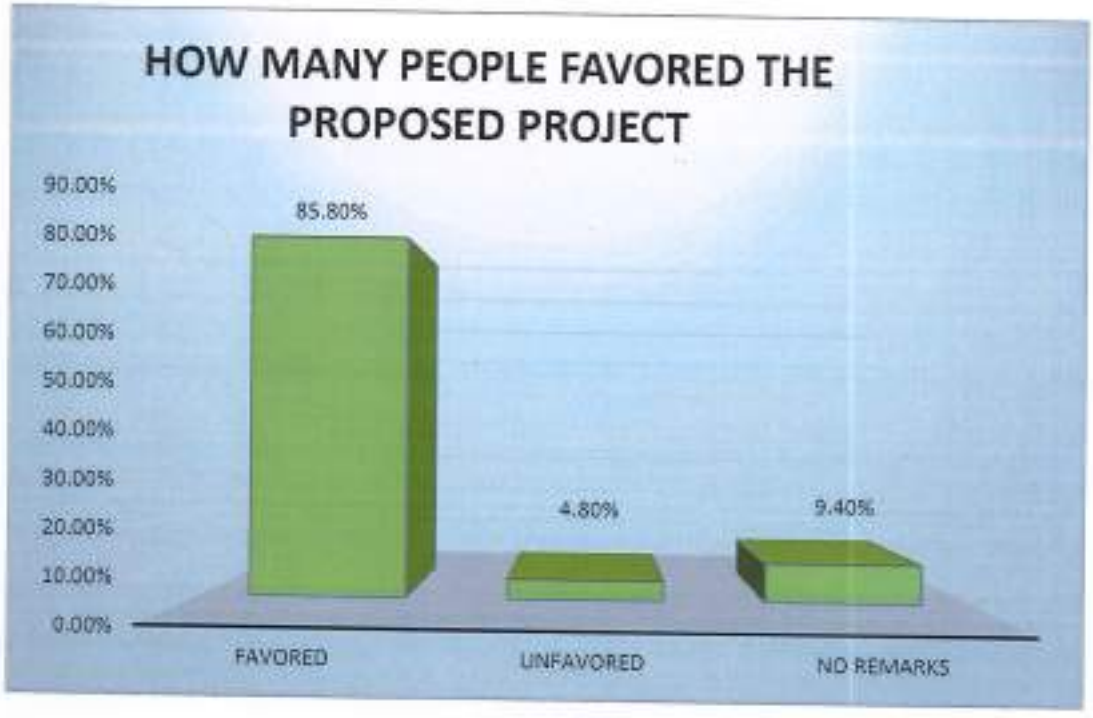
Graphical representation of analysis is given below:



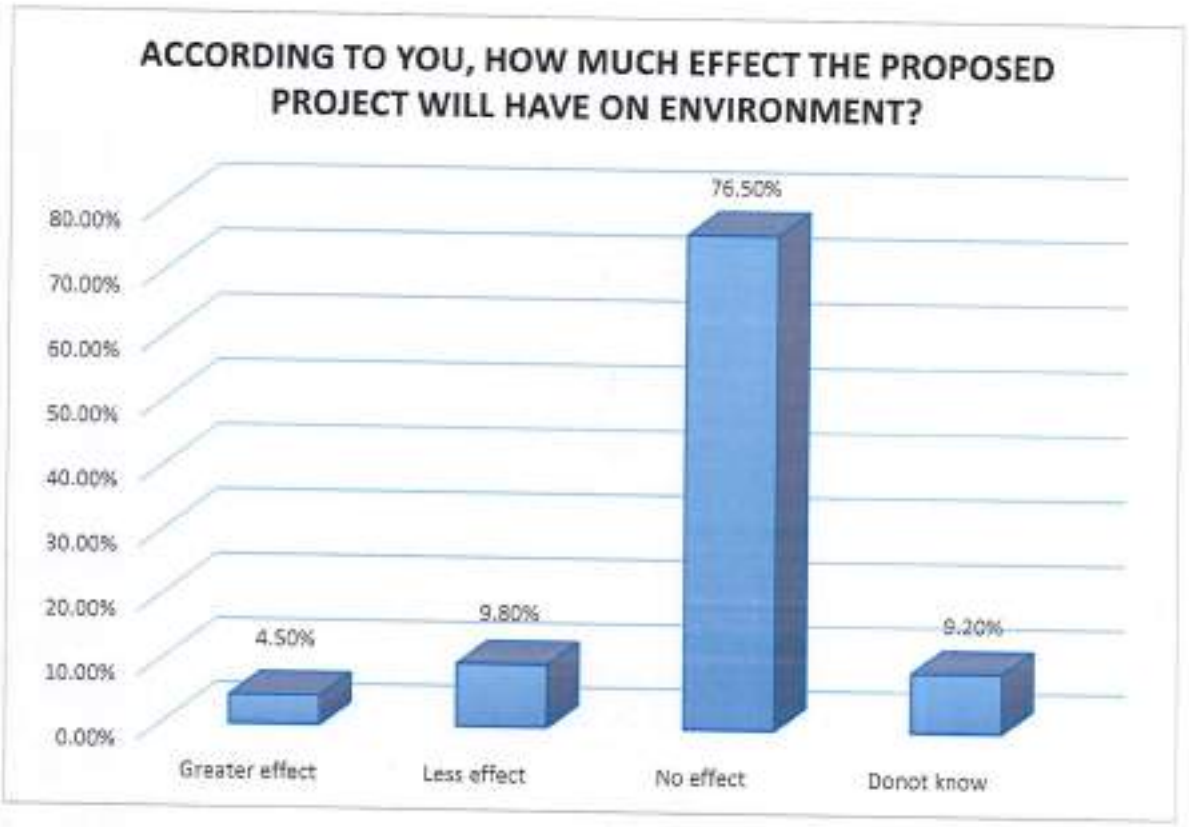
In the sampled population, 85% respondents were male while 15% respondents were female. The number of female respondents is less as compared to male respondents because according to the social binding female hesitates to respond or communicate comfortably.



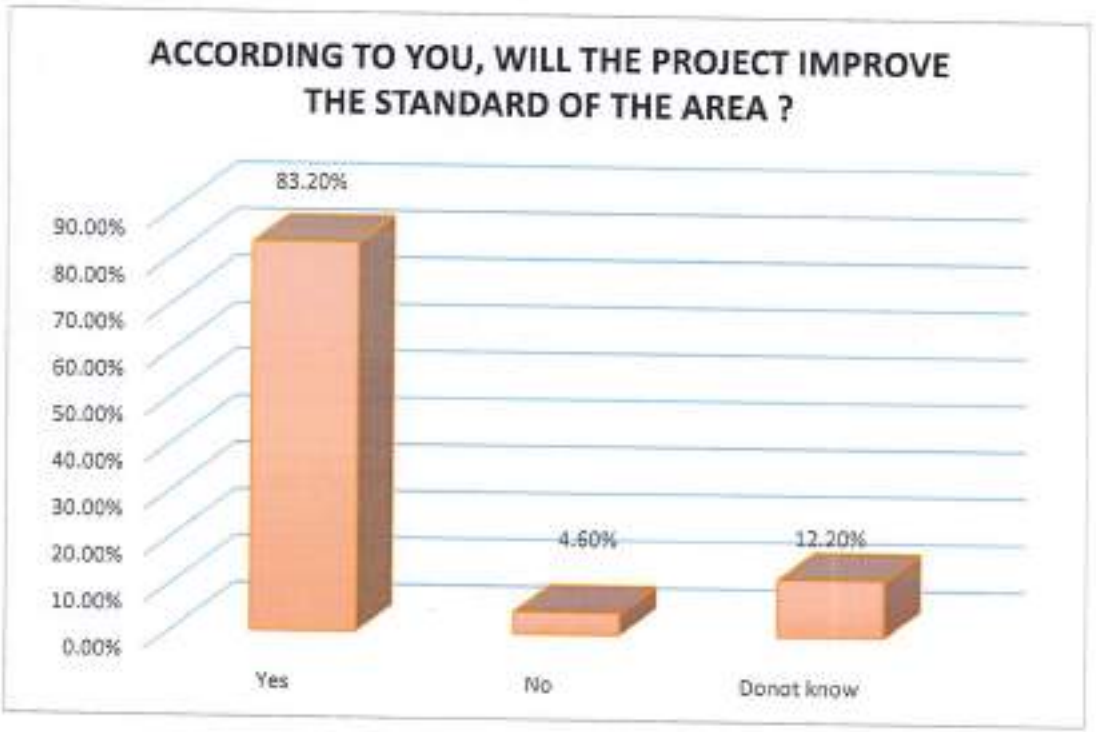
In the sampled population, 77% respondents were educated while 23% were uneducated. Overall education status of the area is good.



As per survey, 85.80 % people favored the project and they gave positive remarks regarding the subject project. While 9.40% respondents had no opinion regarding the project and 4.80% respondents were not satisfied with the project because they think that development will affect the natural aesthetics of the area.



As per survey, 4.50% respondents said that subject project will affect the environment of the area, 9.8% said that there will be less effect on the environment, 76.50% respondents said that the project will not affect the environment and 9.20% said that they have no idea regarding the subject project. Most of the population was not aware about the environmental importance; they were giving their remarks according to their own knowledge



As Per survey, 83.2 % people said that the project will improve the standard of the area, 4.60% said that it will have no impact on the area while 12.20 % respondents gave no remarks.

FINDINGS OF THE OVERALL DISCUSSION:

- It will enhance the socio-economic conditions/values of the area.
- Project will increase revenue generation for the Government.
- It will create employment opportunities.
- Local people will be given preference for employment in the proposed project.
- Construction of the project will be completed in the designated timeframe to limit adverse impacts of construction.
- There will be no significant additional load on the existing infrastructure i.e. utilities of water, telephone, electricity etc. due to the development of the proposed project.

CHAPTER 8:

CONCLUSION & RECOMMENDATION

CHAPTER # 8

CONCLUSION AND RECOMMENDATIONS

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

CONCLUSIONS

- The EIA study reveals that the project is economically viable, socially acceptable and environment friendly.
- It will generate additional jobs during construction and operation phases.
- The proponent has committed to implement the project in the environment friendly manner.
- M/S Sufi Gas Private Limited intends to register the project with local Government.
- M/S Sufi Gas Private Limited has prepared and implemented very comprehensive Emergency Preparedness and Response Standard Operating Procedures.
- M/S Sufi Gas Private Limited has prepared and implemented very comprehensive Security and Fire Fighting Standards Operating Procedures.

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 the unit and near the unit is recommended.
- The untreated wastewater will not be reused for irrigating the vegetation and lawns.
- High standards of bio-security and safety will be enforced during operation stage. Safety of the workers will be top priority for the management.
- The management of M/S Sufi Gas Private Limited will continue to assist the local communities as a corporate/social responsibility.

ANNEXURE-A

TERM OF REFERENCES (TORS)

TERMS OF REFERENCES (TORS)

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

OF M/S SUFI GAS PRIVATE LIMITED LOCATED AT KHEWAT NO15/215, 15/3/15 KHATOONI NO, 104/2 TO 106, 104/3 TO 106/2, KHASRA NO 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 CHAK NO 109/JB, TEHSIL CHAK JHUMRA, DISTRICT FAISALABAD

TERM OF REFERNCES

These terms of references are being submitted for the subject EIA study under 5 (f) of policy and procedure for the filing, review and approval of environmental assessment. These TORs of EIA have been prepared by the environmental consultants, in consultation with the project proponent.

Introduction of project:

Subject project for which this Environmental Impact Assessment study has been conducted is proposed Construction of LPG Storage and Filling Plant by M/S Sufi Gas Private Limited located at Khewat No15/215, 15/3/15 Khatooni No, 104/2 to 106, 104/3 to 106/2, Khasra No 1/1, 1/2, 10/1, 10/2, 11/2 SQ-14 Chak No 109/JB, Tehsil Chak Jhumra, District Faisalabad.

Total area of the project is 11 Kanal 3 Marla. The capacity of the proposed LPG Storage and Filling Plant is 2*50 MT. The total cost of the proposed project is 9 crore rupees.

Cost of Project:

The estimated initial cost of the project will be Approx. 9 crore rupees.

Area of the Project:

Total area of the project is 11 Kanal 3 Marla.

Name & Address of proponent

Name: Mr. Saad Ashfaq

Environmental Consultant & Client

Proponent has appointed the Environmental Services Pakistan Pvt Ltd (ESPAK), as the Consultant for the subject project to conduct the EIA. M/S Environmental Services Pakistan Pvt Ltd (ESPAK), will be called as "Consultant" and M/S Sufi Gas Private Limited as the "Client".

Objective of the EIA study

The Objective of study includes Compliance of section 12 of PEPA 1997 (Amended 2012) & PEQS.

Purpose of the EIA

The key objectives of the EIA are to:

- Document the ecological and socioeconomic baseline conditions of the study area and the affected communities
- Inform and obtain input from stakeholders, (e.g., governmental authorities, the public, and indigenous communities) and capture their relevant issues and concerns
- Assess in detail the environmental, social, and health impacts that would result from the Project

- Identify environmental and social mitigation measures to address the impacts identified
- Develop the EMPs as discussed above, based on the mitigation measures developed in the EIA.
- Meet the requirements or recommendations of the applicable national Environmental Laws and Guidelines

Scope of Services

1. Review of existing regulatory framework

    1.1 Laws and Regulations

    1.2 National and International Guidelines and Policy

    1.3 Guidelines of Labor & Human Resource Department

    1.4 Punjab Local Government Ordinance

2. Methodology for carrying out this study

    2.1 Project Description

    2.2 Site Selection

    2.3 Project Alternatives

3. Process Description

    3.1. Detailed review of the processes

    3.2 Design Parameters

    3.3 Details related to Plant and Equipment's

4. Environmental profile of the environmental study area

    4.1 Climatology

    4.2 Geographical features

    4.3 Geological and Hydrological features

    3.5.4 Historical review

    3.5.5 Land Use

    3.5.6 Ecology, i.e. Flora and Fauna etc.

    3.6 Analysis of EPA required environmental parameters

    3.6.1 Sampling for Air, Water, and Noise Level

    3.7 Investigate Socio-Economic and Socio-Environmental aspects and cultural values within and around the operating facility

3.7.2 Cultural and Social Values

3.7.4 Interviews from different groups

3.8 Development activities and Waste Management

3.9 Identify and evaluate major environmental impacts

3.10 Identify mitigation measures and develop Environmental Management and Monitoring plan

3.11 Conclusions based on the study conducted for this EIA

3.12 1-2 Site Visits for data acquisition

3.13 Environmental Monitoring plan

3.14 Preparation of Lab Analysis Report

3.15 Preparation of Environmental Management Plan EMP

3.16 Briefing & Presentation to the Expert Committee in the EPA Punjab.

3.17 Reply to technical Environmental Objections/Review

3.18 Presentation in the office of DG EPA, Punjab (if required)

ANNEXURE-B

LAND DOCUMENTS

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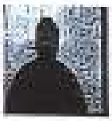

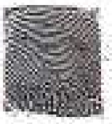

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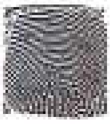

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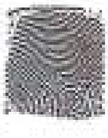

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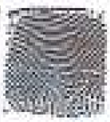

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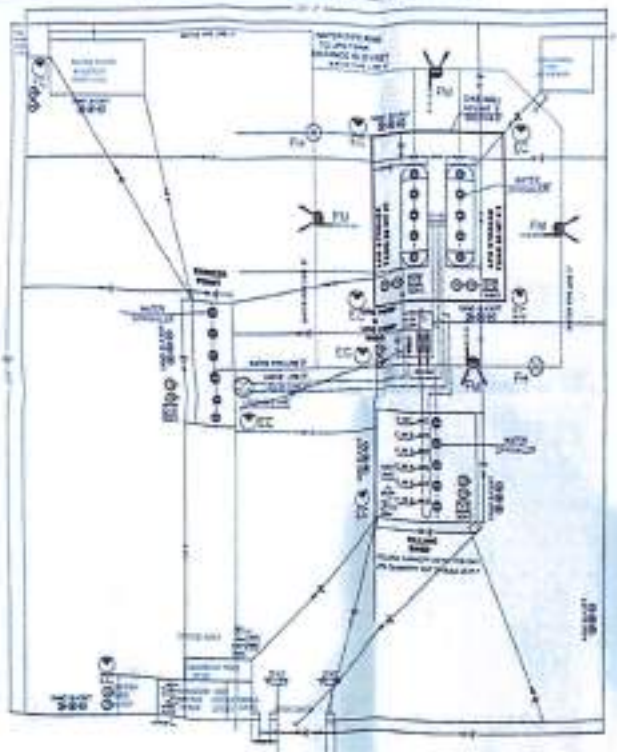
ANNEXURE-C

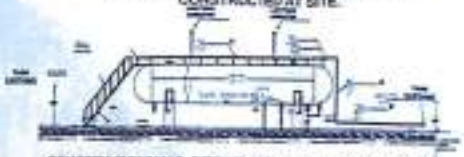
LAYOUT MAP OF PROPOSED SITE

LPG STORAGE & BOTTLING PLANT
M/S SUFI LPG (PVT) LTD.



LPG STORAGE & BOTTLING PLANT
GENERAL LAY-OUT NOTES

> LPG STORAGE AND BOTTLING PLANT DESIGN AS PER NFPA-58,OIL AND GAS REGULARITY AUTHORITY UNDER RULE # 31.3 OF LPG PRODUCTION AND DISTRIBUTION RULES 2001.
> TOTAL AREA OF THE PLANT 59925 Sq.Feet.
> BOUNDARY WALL HEIGHT 7 Feet+2 Feet Fence.
> STORAGE CAPACITY 50x2=100 M-TON
> LPG TANKS DESIGN PRESSURE IS 1724 KPA.
> LPG TANKS HYDRO TEST PRESSURE IS 2240 KPA.
> LPG TANKS DESIGN AS PER ASME SEC VIII-DIV-1.
> STORAGE TANKS ON RCC FOUNDATION.
> LPG PIPING DESIGN AS PER ASME B31.3.
> ALL LPG LINES ARE SCH-40 S.A 106-GR.B.
> ALL LPG FLANGES ARE CLASS 300 ANSI B16.5
> LPG PIPING TEST PRESSURE IS 525 PSI.
> 20% RADIOGRAPHY TEST FOR LPG LINES.
> THE TANKS ARE FITTED WITH ONE PRESSURE RELIEF VALVE (PRV) OF 4" SIZE MULTYPORT , SET AT 250 PSI.
> VALVE WIDE SIZE 2".
> ROTO GAUGE FOR GAUGING OF TANK LEVEL IS PROVIDED WITH 10" DIAL PLATE, FITTING SIZE 1".
> TEMPERATURE GAUGE AND PRESSURE GAUGE FITTED FOR RECORDING TEMPERATURE AND PRESSURE.
> FIXED SPRINKLER SYSTEM PROVIDED ON LPG STORAGE TANK, FILLING SHED AND BOWSER POINT.
> DOUBLE EARTHING SYSTEM PROVIDED FOR LPG STORAGE TANKS AND PIPE LINES.
> LPG PUMPS, COMPRESSOR CONVEYER MOTERS AND ELECTRICAL FITTING ARE EXPLOSIVE PROOF.
> FIRE PUMP CAPACITY IS 500 G.P.M.
> WATER STORAGE CAPACITY IS 60587 U.S.G.
> STAND BY PUMP OF 500 GPM IS ALSO PROVIDED.
> JOCKY PUMP IS PROVIDED TO MAINTAIN THE WATER PRESSURE.
> NO DOUBLE STORY OR BASEMENT WILL BE CONSTRUCTED AT SITE.



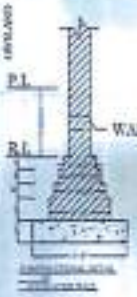
CONSTRUCTIONAL DETAIL OF UGF STORAGE TANK

SITE LOCATION PLAN

SCHEDULE OF LPG TANKS

T-1	12'-0"	54'-0"	50 M.TON	4214 WATER	60587	1724 KPA	
T-2	12'-0"	54'-0"	50 M.TON	4214 WATER	60587	1724 KPA	
TOTAL			100 M.TON	8428 WATER	121174		

LPG TANK MANUFACTURED & DESIGN BY M/S HI TEK MANUFACTURING (PVT) LTD.



SCHEDULE OF AREA

(a) OFFICE BLOCK	516 Sq.Ft
(b) OPEN SHED	2142 Sq.Ft
(c) FILLING SHED	1600 Sq.Ft
(d) FIRE PUMP SHED	128 Sq.Ft
(e) LPG PUMP SHED	128 Sq.Ft
TOTAL COVERED AREA	2670 Sq.Ft

FIRE FIGHTING REQUIREMENT

S.NO.	SYMBOL	ABBR.	QTY.	DESCRIPTION
1		FH	2 NOS.	FIRE HYDRANT
2		SB	6 NOS.	SAND BUCKETS
3		FE	14 NOS.	FIRE EXTINGUISHER 10KG
4		EC	6 NOS.	EARTH CONNECTOR
5		FE	3 NOS.	FIRE EXTINGUISHER 5KG
6		EED	2 NOS.	EMERGENCY SHUT DOWN
7		WP	2 NOS.	WATER SPRINKLER
8		Fm	4 NOS.	FIRE MONITOR
9				

M/S SUFI LPG (PVT) LTD.
LPG STORAGE & FILLING PLANT
LPG STORAGE & FILLING PLANT DRAWING PLAN

M/S SUFI LPG (PVT) LTD.

Design by: ADAM ENGINEERING & LPG SERVICES (Regd)
Checked by:
Signature:

Client Approval:
M/S SUFI LPG (PVT) LTD.
Date: 19/04/2021
Signature:

A2 FORMAT

ANNEXURE-D

LAB REPORTS (AIR, NOISE, WATER)

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

Validation # 4920-A **Issue Date; 08-07-2025**

Validation for Monitoring / Sampling of Stack Emission, Noise, Ambient air, Vehicular emissions

(Read conditions of certificate along with Regulation 9(1)(d) of CELR, 2000)

Cautions Related to scope, use & legal foundation of Validation

1. The Validation is quality control check under Regulation 91(d) for sampling & monitoring.
2. The Sampling / monitoring performed under Regulation 3(a) by Technical & Scientific Staff of private Laboratory as allowed through Conditions of Certificate.
3. The Scope of quality check of validation does not cover quality check of results declared with Report.
4. "The validated sampling / monitoring of the tests report is for non-punitive actions such as baseline study EIA/IEE, Self-monitoring, reporting under conditions of EIA/IEE, etc. while the report is not valid for Court cases, EPO, compliance reporting for operational Phase approvals, punitive actions such as Smog prevention & control Rules, 2023, complaint cases, etc.". The same shall be exhibit at top of Report during its issuance under Regulation 12.
5. The tests Report cannot be used as evidence against any non-compliance SMR /report issued by EPA official Laboratory.
6. The EPA officer as well as certified Laboratory should also comply directions issued by authority vide letter No. 01-DD(Labs)/EPA dated 25.07.2022 while considering test report.

Nature Of Sample	~~Stack Emissions~~	Ambient Air✓	~~Vehicular Emission~~	Ambient Noise✓
Description of monitored source / Site	**(Baseline)**			
Name and category of Unit	**M/S Sufi Gas Private Limited. (Tehsil Chak Jhumra District Faisalabad)**			
Standard Method	**ISO-1996 ThermoScientific**			
Equipment, Model,	**AQMS**			
Field Tested Parameters ,	**(CO), (SO2), (NOx), (O3), (PM2.5&10) (SPM)**	Lab Tested Parameters **(Not Validated)**		
~~Industrial Gaseous Emissions~~				
~~Values of tested Field Parameters: CO .....mg/nM3, NOx ...mg/nM3 , excess air (%age):~~				
~~(i) 5 min Ramp Up phase (ii) flow rate & EC Temp. measured during calibration & testing (iii) Data recorded with 15 min interval (iv) complied all QA/QC checks~~			~~Yes~~	~~NO~~ ~~NA~~
~~Stack Particulate Matter (PM) Monitoring / Sampling under USEPA Method 5 / 17~~				
~~(i) Sample train is complete (ii) Leak Test Performed (iii) data sheet filled (iv) "K" & "Y" calculated (v) QA/QC complied (vi) suitability of filter ensured~~			~~Yes~~	~~No~~ ~~NA~~
~~Stack Sox sampling as per Method 8 (Thorin Indicator Method)~~				
~~(i)Absorbent solution available (ii) Flow rate as per method (iii) sampling as per Method~~			~~Yes~~	~~No~~ ~~NA~~
Ambient Air Quality Monitoring by Automatic Monitors for CO, O3, SO2, NOx, PM2.5 & PM10				
Zero/span check is performed (ii) CE of NOx 96% - 104.1% , Compliance of Critical Criteria (iii) Compliance of operational Criteria (iv) Comply PEQS measuring technique			Yes✓	No NA
Ambient Air Sampling of SPM, PM10, Pb by High Volume Sampler				
(i) The flow rate of sampler 1.1m3/min, (ii) Calibration performed			Yes✓	No NA
~~Vehicular Emissions &~~ Noise Measurement				
~~Vehicle emissions and~~ noise measurement performed as per method.			Yes✓	No NA

Remarks;
Signature

Research Officer
Environment Protection Agency,
Punjab Lahore.

Monitoring Date
27-06-2025

Signature
Assistant Analyst
Mehmood Aslam

ESPAK

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

EPA

/alidation # 4920-B

Issue Date; 08-07-2025

Validation for Sampling of Wastewater & Drinking Water / Ground water

(Read conditions of certificate along with Regulation 9(1)(d) of CELR, 2000)

Nature Of Sample	**Ground Water (01)**		~~Drinking Water~~	
Description of Sample source /Site	From Motor Pump			
Name and category of Project /Unit	**M/S Sufi Gas Private Limited. (Tehsil Chak Jhumra District Faisalabad)**			
Standard Method used for Sampling	**APHA-1060**			
Field Tested Parameters ,	Field Tested parameter	Temperature PH	**Lab Tested Parameters (Not validated)**	

Waste Water Treatment facility	Primary	Secondary	Tertiary
Total WW collected Sample		Total Collected Drinking water samples.....	

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

No. of Waste Water outlets	Waste Water Flow m^3/hr from each outlet (**Optional**)	Water intake m^3/hr(**Optional**)	Water Mass balance (**Optional**)	Sample Type Ground Water
			Yes No	Grab Composite

Parameter	Matrix W	Matrix WW	Container	Sample Size	Preservation	YES	NO	NA
Coliform,TotalorFecal	✓	---	Sterile Container	100mL	Refrigerate6C	✓	---	---
Coliform,TotalorFecal,ChlorinatedWater	✓	---	Sterile Container	100mL	0.008% Thiosulphate& cooled6C	✓	---	---
Color, Turbidity	✓	---	P,G	500mL	Cool6C	✓	---	---
Hardness,Total	✓	---	P,G	500ml	HNO3 to pH<2	✓	---	---
Nitrogen,Nitrate+Nitrite , Phenolic Compounds, Oil & Grease, COD, NH3	✓	---	P,G	2000 mL	H2SO4 topH <2,Cool6C	✓	---	---
Metals,General	✓	---	P,G Rinsed1.1 HNO3	500mL	HNO3 topH < 2	✓	---	---
Cyanide,Total	✓	---	P,G	500mL	NaOHtopH> 12,Cool 6C	✓	---	---
Pesticides, General	---	---	Glass	1Liter	Cool6C	---	---	---

Field Parameters

Field parameter		pH meter, Model Make	Measurement Method	Calibrated in Field	Measured value
pH				Yes NO	
Temp					
Cl					

Remarks / Caution: (1) The Validation is quality control check under Regulation 91(d) for sampling & monitoring. (2)The Sampling / monitoring performed under Regulation 3(a) by Technical & Scientific Staff of private Laboratory as allowed through Conditions of Certificate (3)The Scope of quality check of validation does not cover quality check of results declared with Report (4) The validated sampling / monitoring of the tests report is for non- punitive actions such as baseline study EIA/IEE, Self-monitoring, reporting under conditions of EIA/IEE, etc. (5) The tests Report cannot be used as evidence against any non-compliance SMR /report issued by EPA official Laboratory (6) The EPA officer as well as certified Laboratory should also comply directions issued vide letter No. 01-DD(Labs)/EPA dated 25.07.2022 while considering test report.

Remarks;
Signature

Research Officer
Environment Protection Agency,
Punjab Lahore.

Monitoring Date
27-06-2025

Signature
Assistant Analyst
Mehmood Aslam

ENVIRONMENTAL SERVICES PAKISTAN ESPAK

CHEMICAL ANALYSIS TEST REPORT (AMBIENT AIR)

Reference Number: ESPAK/00603P/25/AA/06080/00814 **Date:** 04/07/2025

Name of Industry/Client: Sufi LPG Private Limited

Address: Tehsil Chak Jhumra District Faisalabad

Validation Officer: Muhammad Nadeem, Research Officer

Nature of Sample: Ambient Air **Monitoring Location:** Near Mid-Point of Site

Date of Sample Collection: 27/06/2025 **Grab / Composite:** Continuous 24-Hours

Sample Collected/Sent By: Mehmood Aslam, Analyst (Field), ESPAK

Date of Completion of Analysis: 28/06/2025

S. No	Parameters	Limit Values (PEQS-24 Hours)	Concentration	Method / Equipment Used	Remarks
1	Carbon Monoxide (CO)	5 mg/m³ (8 Hours)	1.0 mg/m³	Non Dispersive Infrared Absorption (NDIR)	Within Prescribed Limits
2	Sulfur Dioxide (SO_2)	120 µg/m³	8.7 µg/m³	UV Fluorescence (UVF)	Within Prescribed Limits
3	Ozone (O_3)	130 µg/m³ (1 Hour)	35.5 µg/m³	Non Dispersive UV Absorption	Within Prescribed Limits
4	Oxides of Nitrogen as NO	40 µg/m³	15.3 µg/m³	Chemiluminescence Detection	Within Prescribed Limits
5	Oxides of Nitrogen as NO_2	80 µg/m³	27.1 µg/m³	Chemiluminescence Detection	Within Prescribed Limits
6	Particulate Matter $PM_{2.5}$	35 µg/m³	33.2 µg/m³	Particulate Sensor	Within Prescribed Limits
7	Particulate Matter PM_{10}	150 µg/m³	144 µg/m³	Particulate Sensor	Within Prescribed Limits
8	Suspended Particulate Matter (SPM)	500 µg/m³	331 µg/m³	Particulate Sensor	Within Prescribed Limits

PEQS: Punjab Environmental Quality Standards for Ambient Air, 2016

Note:

- **The report should be reproduced as a whole and not in parts.**
- **Report Limitation: This report is not valid for court cases, Environmental Protection Orders, Compliance Report for Operational Phase Approvals, or any regulatory action under Punjab Environmental Protection (Smog Prevention and Control) Rules 2023 etc.**

1. **Sample Analyzed By:** Mehmood Aslam, Analyst (Field)
2. **Name of Chief Analyst with Seal:** Muhammad Arfan
3. **Signature of Incharge of the Environmental Laboratory:**

Name: Imran Malik
General Manager
Date: 04/07/2025

Environmental Services Pakistan ESPAK

---------- End of Report ----------

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Block - 2, Sector D1,
Shah Jilani Road, Township
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Tel: +92 (42) 3515 4015-16

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Peshawar Office
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Dean's Trade Center
Sadar Cantt,
Peshawar, Pakistan.
Tel: +92 312 0849999

www.espak.com.pk info@espak.com.pk

NOISE MONITORING REPORT

Reference Number:	**ESPAK/00603P/25/N/06081/00741**	**Date:**	04/07/2025
Name of Industry/Client:	Sufi LPG Private Limited		
Address:	Tehsil Chak Jhumra District Faisalabad		
Validation Officer:	Muhammad Nadeem, Research Officer		
Nature of Sample:	Noise		
Date of Sample Collection:	27/06/2025	**Grab / Composite:**	Continuous 24-Hours
Sample Collected/Sent By:	Mehmood Aslam, Analyst (Field), ESPAK		
Date of Completion of Analysis:	28/06/2025		
Method/Equipment Used:	Sound Level Meter		

S. No	Measurement Point	Limit Values (PEQS)	Noise Level in dB(A) Leq	Remarks
1	Near Mid-Point of Site- Day time	75 dB(A)	67 dB(A)	Within Prescribed Limits
2	Near Mid-Point of Site- Night time	65 dB(A)	55 dB(A)	Within Prescribed Limits

PEQS: Punjab Environmental Quality Standards for Noise in Industrial Area, 2016 Day Time Hours (6:00 am to 10:00 pm) Night Time Hours (10:00 pm to 6:00 am)

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1. **Sample Analyzed By:** Mehmood Aslam
   Analyst (Field)
2. **Name of Chief Analyst with Seal:** Muhammad Arfan
3. **Signature of Incharge of the Environmental Laboratory:**

Name: Imran Malik
General Manager
Date: 04/07/2025

Environmental Services Pakistan ESPAK Tel:+924235154012-17

---------- End of Report ----------

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CHEMICAL ANALYSIS TEST REPORT (GROUND WATER)

Reference Number: ESPAK/00603P/25/GW/06082/01000 **Date:** 04/07/2025
Name of Industry / Client: Sufi LPG Private Limited
Address: Tehsil Chak Jhumra District Faisalabad
Validation Officer: Muhammad Nadeem, Research Officer
Nature of Sample: Ground Water from Motor Pump
Date Sample Received: 28/06/2025 **Grab / Composite:** Grab
Date of Sample Collection: 27/06/2025
Sample Collected / Sent By: Mehmood Aslam, Analyst (Field), ESPAK
Date of Completion of Analysis: 04/07/2025

S. No	Parameters	Limit Values (DW-PEQS)	Concentration	Method / Equipment Used	Remarks
1	Total Coliforms	----	ND	SMWW 9222 B	-----
2	Fecal Coliform Bacteria	Must not be detectable in any 100mL sample	ND	SMWW 9222 H	Within Limits
3	E. Coli	Must not be detectable in any 100mL Sample	ND	SMWW 9222 H	Within Limits
4	Taste	Non Objectionable / Acceptable	Acceptable	Organoleptic	Within Limits
5	Odor	Non Objectionable / Acceptable	Acceptable	Organoleptic	Within Limits
6	pH*	6.5-8.5	7.2	SMWW 4500H+B	Within Limits
7	Turbidity	<5 NTU	ND	SMWW 2130B	Within Limits
8	Color	≤15 TCU	ND	SMWW 2120 C	Within Limits
9	Total Dissolved Solids (TDS)*	<1000 mg/L	562 mg/L	SMWW 2540C	Within Limits
10	Total Hardness as $CaCO_3$*	<500 mg/L	345 mg/L	SMWW 2340C	Within Limits
11	Residual Chlorine	0.2-0.5 mg/L	ND	SMWW 4500-Cl B	----
12	Chloride (as Cl^-)*	<250 mg/L	55 mg/L	SMWW 4500Cl-B	Within Limits
13	Fluoride (F^-)*	≤1.5 mg/L	0.3 mg/L	U.S. EPA 9214	Within Limits
14	Cyanide (CN^-)	≤0.05 mg/L	ND	SMWW 4500 CN^- F	Within Limits
15	Nitrate (NO_3^-)	≤50 mg/L	ND	SMWW 4500NO_3^-B	Within Limits
16	Nitrite (NO_2^-)	≤3 mg/L	ND	SMWW 4500NO_2^-B	Within Limits
17	Phenolic Compounds (as Phenols)	NGVS	ND	SMWW 5530 C	----
18	Aluminum (Al)	≤0.2 mg/L	ND	SMWW 3111	Within Limits
19	Antimony (Sb)	≤0.005 mg/L	ND	SMWW 3111	Within Limits
20	Arsenic (As)	≤0.05 mg/L	ND	SMWW 3114 B	Within Limits
21	Barium (Ba)	0.7 mg/L	ND	SMWW 3111	Within Limits
22	Boron (B)	0.3 mg/L	ND	SMWW 4500-B B	Within Limits

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www.espak.com.pk info@espak.com.pk

CHEMICAL ANALYSIS TEST REPORT (GROUND WATER)

Reference Number: ESPAK/00603P/25/GW/06082/01000 **Date:** 04/07/2025

Name of Industry / Client: Sufi LPG Private Limited

S. No	Parameters	Limit Values (DW-PEQS)	Concentration	Method / Equipment Used	Remarks
23	Cadmium (Cd)	0.01 mg/L	ND	SMWW 3111	Within Limits
24	Chromium (Cr)	≤0.05 mg/L	ND	SMWW 3111	Within Limits
25	Copper (Cu)	2.0 mg/L	ND	SMWW 3111	Within Limits
26	Lead (Pb)	≤0.05 mg/L	ND	SMWW 3111	Within Limits
27	Manganese (Mn)	≤0.5 mg/L	ND	SMWW 3111	Within Limits
28	Mercury (Hg)	≤0.001 mg/L	ND	SMWW 3112	Within Limits
29	Nickel (Ni)	≤0.02 mg/L	ND	SMWW 3111	Within Limits
30	Selenium (Se)	0.01 mg/L	ND	SMWW 3114 B	Within Limits
31	Zinc (Zn)	5.0 mg/L	0.3 mg/L	SMWW 3111	Within Limits

DW-PEQS: Punjab Environmental Quality Standards for Drinking Water Quality, 2016
SMWW: Standard Methods for the Examination of Water and Waste Water, American Public Health Association, American Water Works Association, Water Environment Federation
USEPA: United States Environmental Protection Agency
NGVS: No Guideline Value Set
ND: Not Detected

- Laboratory tests and measurements were carried out at 25 ± 5 °C and ≤75 % Relative Humidity conditions unless required otherwise.
- Uncertainty of Measurement (UoM) data will be provided on request, where available. The statement of conformity, if provided in the report, is based on the decision rule of simple acceptance or rejection with equal shared risk due to measurement uncertainty.

Note:

- **The report should be reproduced as a whole and not in parts.**
- **Only parameters marked with asterisk (*) are ISO 17025:2017 accredited.**
- **Report Limitation: This report is not valid for court cases, Environmental Protection Orders, Compliance Report for Operational Phase Approvals, or any regulatory action under Punjab Environmental Protection (Smog Prevention and Control) Rules 2023 etc.**

1. **Sample Analyzed By:** Samahir Khalid (Analyst (Chemical)), Nageen Arshad (Analyst (Chemical)), Sumra Manzoor (Analyst (Chemical)), Zirwa-tuz-Zahra (Analyst (Chemical)), Khizra Bano (Analyst (Microbiology))
2. **Name of Chief Analyst with Seal:** Muhammad Arfan
3. **Signature of Incharge of the Environmental Laboratory:**

Name: Imran Malik
General Manager
Date: 04/07/2025

Environmental Services Pakistan ESPAK Tel:+924235150012-17

---------- End of Report ----------

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ANNEXURE-E

GOOGLE EARTH MAP


Construction of LPG Storage and Filling Plant by Sufi Gas Pvt Ltd
GPS Co-ordinates: 31.5936091°N, 73.1214306°E
Legend
Feature 1
Sufi Gas Pvt Ltd
Hassan Medical complex
Sufi Gas Pvt Ltd
Controlled Shed Poultry Farm
Bilal Petroleum Villal Road Faisalabad
Millat Rd
Google Earth
400 ft

ANNEXURE-F

OGRA LICENSE

آئل اینڈ گیس ریگولیٹری اتھارٹی

Oil & Gas Regulatory Authority

OGRA-LPG-1(1508)/24
April 16, 2025

The Chief Executive,
M/s Sufi LPG (Pvt.) Limited,
1.5 KM, Deputy Wala Interchange, Millat Road,
Faisalabad.
Ph: 0304-9574665,0321-8652929

Subject: **LICENCE FOR CONSTRUCTION OF LPG STORAGE AND FILLING PLANT**

I am directed to refer to your application alongwith other documents and to enclose herewith the licence for construction of LPG Storage and Filling Plant granted initially by the Authority for a period of two years under Rules 7 & 8(1) of LPG Rules, 2001, based on the application/documents as provided by the company, along-with the proforma of quarterly progress report, as per the condition of your licence and checklist of technical parameters / criteria (of NFPA-58) for LPG storage and filling installation, derived from NFPA-58, as prescribed in the LPG (Production & Distribution) Rules, 2001. The checklist apart from being a general guideline for the convenience of all the LPG licensees who were granted licence for construction of LPG storage and filling plant will also form the basis of inspections. However, complete details about each requirement, technical / safety parameters are given in NFPA-58 Standard (latest edition) as specified in LPG (Production & Distribution) Rules 2001, which must be complied with.

2. In case of any demonstrable reason beyond your control, you foresee inability to complete construction of works within the validity period of the licence, you will be required to apply to the Authority for extension well in time prior to the expiry of licence.

3. This issues with the approval of the Authority.

(Arsalan Ahmad Khan)
Joint Executive Director (LPG)
For and on behalf of the
Oil & Gas Regulatory Authority, Islamabad.

"SAY NO TO CORRUPTION" "PLANT TREES AND PROTECT ENVIRONMENT"

OFFICE OF THE
DEPUTY COMMISSIONER, FAISALABAD.

Phone: 041-9201069

To

The Chief Executive Officer,
M/s Sufi LPG Pvt. Limited,
1.5 KM Deputywala Interchange,
Millat Road, Faisalabad.

No.314-LPG(412)/ADC(G)/SC/2025/1016 Dated: 27-05-25

Subject:- **ISSUANCE OF NO OBJECTION CERTIFICATE FOR ESTABLISHMENT OF LPG STORAGE & FILLING PLANT AT KHEWAT NO.15/215, 15/3/15, KHATOONI NO.104/2 TO 106, 104/370, 106/2, KHASRA NO.1/1, 1/2, 10/1, 10/2, 11/2, SQ. NO.14, CHAK NO.109/JB, TEHSIL CHAK JHUMRA, DISTRICT FAISALABAD.**

Reference your application dated 28.04.2025 on the subject noted above.

2. The case under reference has been examined and observed that following documents are required for further processing:-

1. Copy of OGRA License according to Khasra No.1/1, 1/2, 10/1, 10/2, 11/2, Sq. No.14.
2. Partnership deed duly executed between landowners.

3. In view of foregoing, you are hereby advised to provide the same at the earliest to proceed further.

27/05/25

Capt.(R) Tayyab Sami Khan (PAS)
Addl. Deputy Commissioner (Gen.),
For Deputy Commissioner,
Faisalabad.
27/5

CC

PA to Deputy Commissioner, Faisalabad.

"SAY NO TO CORRUPTION" "PLANT TREES AND PROTECT ENVIRONMENT"

OFFICE OF THE
DEPUTY COMMISSIONER, FAISALABAD.

Phone: 041-9201049

To

1. The Chief Traffic Officer, Faisalabad.
2. The Assistant Commissioner, Chak Jhumra.
3. The Chief Officer, District Council, Faisalabad.
4. The District Officer (Planning), District Council, Faisalabad.
5. The Executive Engineer, Road Construction Division, Faisalabad.
6. The Civil Defence Officer, Faisalabad.
7. The Chief Engineer Irrigation, Faisalabad.
8. The Deputy Director, Environment Protection Agency, Faisalabad.

No.314-LPG(412)/ADC(G)/SC/2025/1015 Dated: 27-05-25

Subject:- **ISSUANCE OF NO OBJECTION CERTIFICATE FOR ESTABLISHMENT OF LPG STORAGE & FILLING PLANT AT KHEWAT NO.15/215, 15/3/15, KHATOONI NO.104/2 TO 106, 104/370, 106/2, KHASRA NO.1/1, 1/2, 10/1, 10/2, 11/2, SQ. NO.14, CHAK NO.109/JB, TEHSIL CHAK JHUMRA, DISTRICT FAISALABAD.**

Enclosed please find a copy of letter application dated 28.04.2025 received from the Chief Executive Officer, M/s Sufi LPG Pvt. Limited, 1.5 KM Deputywala Interchange, Millat Road, Faisalabad on the subject noted above.

2. In pursuance of this office order issued bearing Endst. No.314-P/DC/SC /2021/302, dated 30.01.2021 and instructions issued vide letter No.314/ADC(G)/SC/3501-33, dated 02.12.2021, it is requested to visit the proposed site personally and furnish detailed report alongwith NOC or otherwise about suitability of the site for the purpose.

3. The following officers are hereby requested to submit report as requested vide para 2 above alongwith clarification mentioned against each and also countersign each clarification while furnishing the requisite NOC/report:-

Sr. No.	Name of Officer/Authority	Clarification about
1	Assistant Commissioner concerned	As per attached proforma.
2	Executive Engineer, Highway Division / Road Construction Division, Faisalabad.	NOC/report, registered lease agreement, site map about right of way, car wash facility as per law.
3	Chief Traffic Officer, Faisalabad	NOC/report about traffic issues
4	Civil Defense Officer, Faisalabad.	NOC/report about feasibility of the proposed site.
5	Chief Officer of concerned MC/District Council.	➢ NOC/report about sanction of building plan. ➢ NOC/report about conversion of land, recovery of fee through DPDC ➢ Car wash facility as per law
6.	Chief Engineer, Irrigation, Faisalabad	➢ NOC regarding Khal.

4. This letter is being issued only for seeking report/NOCs for the purpose of completion of case. The case shall be decided subject to decision announced by the District Petrol Pump Committee, Faisalabad after completing the legal/codal formalities as well as verification/authentication of quota limit of OMC from Explosives Department, Islamabad.

Capt.(R) Tayyab Safdar Khan (PAS)
Addl. Deputy Commissioner (Gen.),
For Deputy Commissioner,
Faisalabad.
27/5

CC

PA to Deputy Commissioner, Faisalabad.

ANNEXURE-G

WASTEWATER CERTIFICATE

WATER REQUIREMENTS:

During Construction: approximately 5,000 gallon per day for constructional and domestic uses. During Operation: maximum 10,000 gallons/d for domestic. Ground water will be used as a source of water to fulfill the water requirements during the construction and operation phases of the project.

WASTE WATER TREATMENT:

60-70% of the used water for domestic purposes will be the waste water which will be produced during the operation phase of the project. The generated wastewater will be treated in treatment facility (Septic Tank) of unit. Water after treatment will be disposed of in the nearby drain.