

EXECUTIVE SUMMARY

This report presents the findings of the Initial Environmental Examination study conducted by firm Pro Green Environmental Services on behalf of Mubeen Oil Traders (Petroleum Products Storage Unit), Located At Mouza Gull Bahar Nikki , Sialkot.

Coordinates: 32.557736,74.600970

The proposed project is Mubeen Oil Traders (Petroleum Products Storage Unit) which will be involved in the Storage of Solvent Oil, MTT (Mineral Turpentine), K.Oil and LDO through the following process:

Arrival and checking of the products: Upon arrival at the storage area, the petroleum products will be unloaded and received into storage tanks. This may include checking for content, impurities, and compliance with regulatory standards.

Storage Tanks: Petroleum products will be stored in 4 tanks having capacity 22622 Liters (each tank) specifically designed for petroleum products. Tanks will be constructed to meet safety and environmental regulations, and they often have secondary containment systems to prevent spills.

Tank Monitoring and Control: Advanced monitoring systems will be employed to track the levels, temperature, and pressure inside storage tanks. Automated control systems help manage inventory and prevent issues such as overfilling or product contamination.

Safety Measures: Safety will be a top priority in petroleum storage. Tank farms will be equipped with fire suppression systems, emergency shutdown systems, and other safety measures. Regular inspections, maintenance, and testing of safety systems will be conducted to ensure compliance with industry standards and regulations.

Distribution from Storage Facilities: When there will be demand, petroleum products will be withdrawn from storage and will be used in industrial processes.

Regulatory Compliance: Storage facilities will be complying with local, national, and international regulations regarding safety, environmental protection, and product quality. Regular audits and inspections will be conducted to ensure compliance with these regulations.

Total Area of Plot is 13275 sqft. The total capacity of proposed project is 1,00,000 liters. The estimated cost will be 120 million.

An Environmental Impact Assessment (EIA) study report has been prepared to identify and assess the significant environmental impacts likely to occur due to proposed project

construction along with environmental impact statement followed by appropriate Environmental Management Plan. According to the Punjab Environmental Protection Act (PEPA) 2012, Section 12 - I "No proponent of a project shall commence construction or operation unless he has filed with the Government Agency or, where the project is likely to cause an adverse environmental effects an environmental impact assessment, and has obtained from the Government Agency approval in respect thereof." The proposed project fall in the **Schedule-II and category A (5)**. It is this legal requirement from the Government of Punjab that this Environment Impact Assessment (EIA) report has been prepared to get Environmental Approval (EA) from the Environmental Protection Agency (EPA), Government of Punjab, Lahore.

TITLE AND LOCATION OF PROJECT

"Mubeen Oil Traders (Petroleum Products Storage Unit) located at Mouza Gull Bahar Nikki , Sialkot

NAME AND ADDRESS OF PROPONENT

Mubeen Younas S/O M. Younas R/O P/O Khas, District Sialkot.

NAME OF ORGANIZATION PREPARING THE REPORT

This Initial Environmental Examination report has been prepared by Pro Green Environmental services. Address, 405, Garden Tower, Barkat Market Lahore

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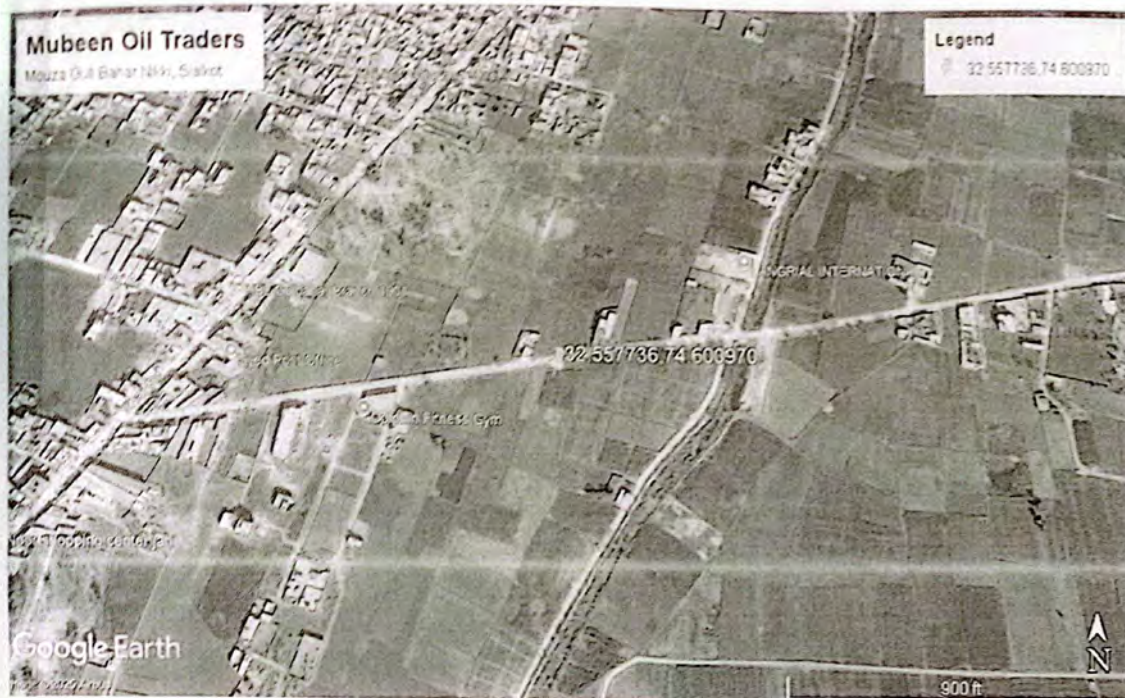
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OUTLINE OF PROPOSAL

Salient Features of Project:

	Project Title	Mubeen Oil Traders (Petroleum Products Storage Unit).
1.	Proponent	Mubeen Younas S/O M. Younas
2.	Project Location	Mouza Gull Bahar Nikki , Sialkot
3.	Co-ordinates	<u>32.557736,74.600970</u>
4.	Land Use in Surrounding of Proposed area	Surrounding area of the project is.
	North:	Access Road
	South:	Open Land
	East:	Open Land
	West:	Open Land
5.	Consultant	Pro Green Environmental Services.
6.	Total Area	13275 sqft.
7.	Total capacity	90,488 Liters
8.	Cost of Project	120 million
9.	Products	Solvent Oil, MTT (Mineral Turpentine), K.Oil and LDO
10	Water Source	Ground Water
11	Nature of Area	Open Area
12	Source of Power	WAPDA

WAPDA= Water and Power Development Authority



MAJOR IMPACTS

The proposed project was reviewed with the aim to determine the likely impacts of the project on the environmental and socio-economic conditions of the area. All the necessary elements of the project were reviewed and compared with the existing conditions in the vicinity of the Project Area. The EIA report identifies the adverse environmental impacts due to the construction and operational activities of the project and also suggests proper measures for their mitigation, as described in Environmental Management Plan (EMP).

There are no significant or well-shaped trees and shrubs on the project site. During the construction vehicles and machinery will be employed. These machines generate some dust and smoke temporarily which would be stopped on completion of the construction work. Safety issues could also arise for workers during construction phase of the project.

There will be no as such production of solid waste in this unit; however, sanitary solid waste produced by workers will be disposed off as per Municipal Corporation. Wastewater will be produced only by washrooms which would be passed through proper septic tanks to bring the wastewater parameters within PEQS and after passing through septic tanks it will be disposed off. There is no as such human population around the unit; hence, there is no direct indirect effect on the public.

There can be few negative impacts by this unit on the surrounding environment and these impacts will rise due to:

- Construction Solid Waste
- Dust

Impacts can also arise during construction due to large size vehicles movement. All these issues are focused in next chapters and these impacts will be minimized if all the work is done as per instructions given in next chapters of this report.

RECOMMENDATIONS FOR MITTIGATION MEASURES

The potential negative impacts during construction stage of the project have been mitigated, and operational stage of the project will be mitigated to an acceptable level. Necessary mitigation measures are recommended in the report to make the proposed project Environment Friendly. Environmental Management Plan identifies monitoring needs and implementation on Environmental Management Plan is also recommended.

The following measures are recommended for operational phase of the project:

- Housekeeping process modification should be adopted to control impacts
- The construction waste should be disposed in provided bins
- Traffic movement plan should be formulated to avoid any issue for locals

Watchmen would be appointed on all the corners of this unit. For community safety, irrelevant persons will not be allowed inside and fence will be put in on surrounding the construction site and the gates will be guarded 24 hours a day. Safety of the workers will be ensured by developing SOPs for all jobs, training the workers to follow SOPs, discouraging any careless attitude of workers and providing the workers with, and encouraging them to use PPEs. Contractor is willing to hire local labor for construction activities to avoid employment conflicts.

PROPOSED MONITORING

Environmental impact of a project is worked out using various factors and parameters, so that an Environmental Management Plan can be evolved to take mitigation measures, wherever these might be considered necessary in order of appropriateness of elimination, reduction and compensation as the goals. The development of the EMP is to make some person responsible for implementing the mitigation measures as identified so that smooth implementation of the mitigation measures can be assured. Monitoring plans have also been included to ensure the compliance of the EMP by contractors and other responsible authorities.

Regular monitoring will be required to check that the construction is not going to cause any adverse environmental impact; hence monitoring visit will be done once in a month during construction phase. During these visits samples will also be taken to check the quality of air, water and soil etc.

MAJOR IMPACTS

The proposed project of Bulk Oil Storage By Mubeen Oil Traders (Petroleum Products Storage Unit) was reviewed with the aim to determine the likely impacts of the project on the environmental and socio-economic conditions of the area. All the necessary elements of the project were reviewed and compared with the existing conditions in the vicinity of the Project Area. The EIA report identifies the adverse environmental impacts due to the construction and operational activities of the project and also suggests proper measures for their mitigation, as described in Environmental Management Plan (EMP).

The impacts by this unit on the surrounding environment are as follows:

Aspects	Potential Impacts/ Risks	Proposed Mitigation Measures
<u>CONSTRUCTION PHASE</u>		
Traffic Congestion due to construction phase of Oil& fuel Depot	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the construction machinery and tractor-trolleys bringing the material into the Project Area
Disposal of Construction Waste/Excavated Material produced in construction phase	Dumping of construction wastes / excavated material in the surrounding area may limit use of land	Management of Construction Activities in a way to ensure minimum degradation to the soil around the Project area and dumping of excavated waste will be done at a designated site approved by Municipal Corporation.
Air Quality degradation due to construction phase of oil& fuel depot	Dust produced due to construction activity can affect the health of employees and residents in the surrounding areas	Use of dust suppression techniques like water sprinkling etc. will be made to minimize the effect of dust. Construction workers will be provided with masks for protection against the inhalation of dust. Regular monitoring of all vehicles,

		equipment, and machinery used for construction. All vehicles, machinery, equipment and generators used during construction activities will be kept in good working condition and properly tuned and maintained in order to minimize the exhaust emissions.
Noise and Vibration due to machinery being used for Oil& fuel Depot construction	Noise pollution due to increased construction machinery operation	Selection of up-to-date equipment and machinery with reduced noise levels ensured by suitable in-built damping techniques; Regular checkups and maintenance of the construction equipment; and use of appropriate muffling devices
Sanitation and Waste disposal facilities at Project site	Health risks	All the solid waste will be properly collected in the waste and disposed off in accordance with the regulations of Municipal Corporation.
Workers' Safety and Hygienic conditions	Health risks in case of Unsafe and/or unfavorable work conditions	Enforcement of work safety measures such as wearing safety goggles, protective masks and boots and fixing of cautionary signs at designated sites. First aid box should be at the site in case of any injury or mishap.
Traffic Congestion due to construction phase	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the construction machinery and tractor-trolleys bringing the material into the Project Area.
<u>OPERATIONAL PHASE</u>		
Oil Leakage from Bottom of Tanks	The oil from tanks can be leaked which would not be visible and it may pollute the soil quality.	Low permeable membrane is recommended to be provided in the bottom of tanks for any kind of oil leakage. Protective walls will be built around the primary containers which will act as a barrier and help to protect the surrounding environment from the harmful

		impacts of spillage. Collection vents will be constructed for the collection of leaked oil in case of emergency. Furthermore Oil spillage tank would be available in the unit.
Impurities present in oil may accumulate in the tanks with the passage of time and it may be called as sludge	This sludge can pollute the environment if directly disposed of in environment	The sludge produced from tanks need to be recovered by using pneumatic pumps and then it will be sold out to contractor.
Oil spillage in case of any emergency	This can pollute the water quality	Oil spillage tank will be available in the unit. The workers will be trained in emergency leakage procedures and how they can overcome such conditions. The oil storage area will be protected by the secondary containment. The concrete walls will be built around the oil storage area to avoid the negative impact on the environment. The Collection vents will be constructed for the collection of leaked oil from accidental release.
Production of Sanitary Solid Waste in operational phase	There will be mostly domestic waste like paper, plastics, and food waste. Sludge will also be recovered.	Small waste storage bins will be installed and solid waste will be disposed off in accordance with the procedures of Municipal Corporation. The sludge produced will be sold out to contractor.
Workers' Safety and Hygienic conditions	Health risks in case of Unsafe and/or unfavorable work conditions	Enforcement of work safety measures such as wearing safety goggles, protective masks and boots and fixing of cautionary signs at designated sites,
	There is only domestic	To get rid from domestic

Waste water Generation	wastewater will be generated while during operation from washroom.	Wastewater septic tank will be present before drainage to nearby drain.
Emergency Response	There are always chances of earthquakes and manmade disasters, fire, road accidents etc.	An Emergency Response Plan for Earthquakes and manmade disasters will be developed by the Management. Emergency Response Plan will be implemented in close consultation with the Fire Fighting Department, Bomb Disposal Squad and Paramedics. Emergency response and plan along with safety charts showing symbols and other necessary information will be displayed at various places for the awareness of workers. Firefighting equipment's should be installed or present in the unit
Traffic Congestion	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the transportation vehicles

RECOMMENDATIONS FOR MITIGATION MEASURES

The potential negative impacts during construction and operational stage of the project will be mitigated to an acceptable level. Necessary mitigation measures are recommended in the report to make the proposed project Environment Friendly. Environmental Management Plan identifies monitoring needs and implementation on Environmental Management Plan is also recommended.

The following measures are recommended for the project:

Aspects	Proposed Mitigation Measures
<u>CONSTRUCTION PHASE</u>	
Traffic Congestion due to construction phase	Adequate parking facilities will be provided for the construction machinery and tractor-trolleys bringing the material into the Project Area
Air Quality degradation due to construction phase	Use of dust suppression techniques like water sprinkling etc. will be made to minimize the effect of dust. Construction workers will be provided with masks for protection against the inhalation of dust. Regular monitoring of all vehicles, equipment, and machinery used for construction. All vehicles, machinery, equipment and generators used during construction activities will be kept in good working condition and properly tuned and maintained in order to minimize the exhaust emissions.
Disposal of Construction Waste/Excavated Material produced in construction phase	Management of Construction activities in a way to ensure minimum degradation to the soil around the Project area and dumping of excavated waste will be done at a designated site approved by Municipal Corporation.
Noise and Vibration due to machinery being used for construction	Selection of up-to-date equipment and machinery with reduced noise levels ensured by suitable in-built damping techniques; Regular checkups and maintenance of the construction equipment; and use of appropriate muffling devices
Sanitation and Waste disposal facilities at Project site	All the solid waste will be properly collected and disposed of in accordance with the procedures of Municipal Corporation.
Workers' Safety and Hygienic conditions	Enforcement of work safety measures such as wearing safety goggles, helmets, protective masks and boots and fixing of cautionary signs at designated sites. First aid box should be at the site in case of any injury or mishap.
Damage to Flora due to construction	Plantation of different trees will make project area environment friendly

OPERATIONAL PHASE

Wastewater treatment	The wastewater from proposed project of Askar Oil Services Pvt Limited (Extension) will be treated through septic tank before disposal into the drain.
Solid waste	There will be no as such production of solid waste in this unit; however, sanitary solid waste produced by workers will be disposed off as per Municipal Corporation
Groundwater Depletion	Workers will be trained in water conservation measures such as use of water efficient/ economy appurtenances.
Air Quality	• PPE's such as masks should be given to workers. • Vehicles with excessive smoke should not be allowed to enter the premises of the unit. • Vehicles and generator should be properly tuned and maintained to control emissions. • Generator with modern technology to reduce emissions should be used. • Emissions inspection should be done on regular basis. • Regular checkups and maintenance of the machinery should be done. • Storage of raw materials should be done properly and should be properly covered after using it.
Noise & Vibration	• Workers should be provided with PPE's such as ear plugs. • There should be a sound proof roof room for generator. • There should be a selection of up-to-date generator (if any) with reduced noise levels ensured by suitable in-built damping techniques • Vehicles and generator should be properly tuned and maintained to control noise. • Only those vehicles should be used that are properly tuned and maintained and are equipped with silencers. • Also excessive use of horns should be avoided. Further tree plantation will be done as it acts as noise absorbers.

2. Ecological Environment

A detail of ecological account of the Project and Study Area is given below:

Flora

The area in which the project site is located was once covered with native vegetation, mostly consisting of trees like Kikar (*Acacia nilotica*) and Shisham (*Dalbergiasissoo*). With the onslaught of civilization and industrialization, this vegetation was cleared for agricultural, commercial or industrial land use purposes. The current ecological details of the area in general and study area in particular are given below:

Trees

A field study related to the identification of tree species in the study area was also conducted. A vast majority of trees were observed in the localities visited as well as open fields. These are Tali/Sheeshum (*Dalbergiasissoo*), Kikar (*Acacia nilotica*), Safeda (*Eucalyptus cinerea*), Neem (*Azadirachta indica*), Papaya (*Carica papaya*), Bottle Brush (*Callistemoncitrinus*) and Borh (*Ficus bengalensis*).

A tabular comparison is given hereunder to explicit frequency of each species in three zones of study area:

List of Trees Identified in the Project Area

Serial Number	Common Name	Scientific Name
1	Tali/Sheshum	Dalbergiasissoo
2	Kikar	Acacianilotica
3	Safeda	Eucalyptus cinerea
4	Neem	Azadirachta indica
5	Piple	Ficus religiosa
6	Papaya	Carica papaya
7	Shree	Acaciagreggii

A number of grass species were identified. These are Crow Foot Grass (*Dactyloctenium aegyptium*), Dabri Grass (*Dichanthium annulatum*) and Indian Dab (*Cynodon dactylon*).

Grasses in Study Area

Different types of grass species were also identified outside the project site during our visits to the nearer localities, these species include Dabri Grass (*Dichanthium annulatum*), Lesser Bulrush (*Typha angustifolia*) and Indian Dab (*Cynodon dactylon*).

Frequency (of occurrence) of these species in different zones of the study area is as under:

List of Grasses Identified in the Project Area

Common Name	Scientific Name
Indian Dab	<i>Cynodon dactylon</i>
Dabri Grass	<i>Dichanthium annulatum</i>
Lesser Bulrush	<i>Typha angustifolia</i>

Herbs and Shrubs

A large number of herbs and shrubs species were identified in the area. Among these species, the most dominant were Jangli Booti (*Parthenium hysterophorus*), Bathu (*Chenopodium album*) and Ak (*Calotropis procera*). Frequency of these species in different zones of the study area is as under

List of Herbs and Shrubs Identified in and Around the Project Area

Common Name	Scientific Name
JangliButi	Partheniumhysterophorus
Puthcanda	Achyranthesaspera
Bathu	Chenopodiumalbum
Ak	CalotropisProcera
Bhang	Canibus sativa

Medicinal Plants

Medicinal Plants within project site

A number of medicinal plants in the area were identified which are AK (Calotropisprocera), Amaltas (Cassia fistula), Pilak, Janglikashni and Itsit (Boerhaviadiffusa).

List of Medicinal Plants Identified in the Project Area

Sr #	Study Area	
	Common Name	Scientific Name
	AK	Calotropisprocera
	Amaltas	Cassia fistula
	Itesit	Boerhaviadiffusa
	Ajwain	Hyoscyamusniger

Ornamental Plants

Ornamental Plants Project Site

During our ecological survey to the nearby localities, a number of ornamental plants were identified at some houses and Deras, which are listed in table below.

List of Ornamental Plants Identified in and Around the Project Area

Study Area		
Sr	Common Name	Scientific Name
#		
1	Bottle Brush	Callistemoncitrinus
2	Araucaria	Araucariaheterophylla
3	Bougainvillea	Bougainvilleaspectabilis
4	Milkwood pine	Alstoniascholaris

Vegetables

Vegetables in around and Project Site

No vegetables are grown in or around proposed project site.

Vegetables in Study Area

Some important of these are PhoolGobhi/cauliflower (Brassica oleracea Ver. botrytis), Band Gobhi (Brassica oleracea Ver. capitata) Turnip, Raddish (Raphanussativus), Carrot (Daucuscarota), Bhindi, Tomato (Lycopersicumesculentum), Vegetable Marrow (Cucurbitapepo), Baingan, etc.

List of vegetables Identified in and Around the Project Area

Sr #	Study Area	
	Common Name	Scientific
1	Bangun	Solanum melongena
2	Bhendi	Abelmoschus esculentus
3	Karela	Momordica charantia
4	Phool Gobhi	Brassica oleracea Ver. Botrytis
5	Raddish	Raphanus sativus
6	Tomato	Lycopersicon esculentum
7	Marrow	Cucurbita pepo

Agriculture

The soil of the area is quite suitable for all kinds of vegetation including fodder, orchards, vegetables and other seasonal crops. The pattern mainly consists of wheat-rice system, while other agriculture practices include the cultivation of sugarcane, Maize, etc.

Farm Traction Power

Tractor is the sole source of farm traction power. No farmer was found using animal traction power. There was significant variation in tractor ownership across farm size groups. However, more than half of the farmers owned tractor while rest were hiring the services for land preparation.

Irrigation

The tube-wells and canal water are the main source of irrigation water for wheat, rice and other crops and fodder. Also, many farmers irrigate their fields with contaminated water of drain and also many studies have been conducted to assess the level of toxic heavy metals in the soil and vegetables irrigated by drain water and their ultimate impacts on human health. It has been highly recommended during these studies not to use the contaminated water of

...for agricultural practices. On the other hand plenty of ground water is easily accessible for agriculture use.

Flora

The area provides healthy environment for the growth and reproduction of a diverse nature of plants. A short description is given in the following paragraphs

Mammals

Mammals within project site

During our survey to the proposed project site, some mammals were identified evidently while some were reported by the workers like Cats (Feliscatus), Rats (Rattusrattus) and Squirrel (Sciuruscarolinensis).

Mammals in Study Area

The wild and common or domesticated mammals found in the study area are Dogs (Canisfamiliaris), Cats, House Rats (Rattusrattus), Bats, Horses (Equuscaballo), Donkeys (Equusafricanusasinus), Mules, Buffaloes, Cows (Heracleumlanatum), Goats (Copro hircus) and Sheep.

List of Mammals Present in and Around the Project Area

Project Site		Study Area	
Common Name	Scientific	Common Name	Scientific
Cat	Feliscatus	Cats	Feliscatus
Rat	Rattusrattus	Dogs	Canisfamiliaris
Squirrel	Sciuruscarolinensis	Cows	Heracleumlanatum
		Goats	Copro hircus
		Horses	Equuscaballo
		Donkeys	Equusafricanusasinus
		Sheep	

Reptiles within Project Site

Reptiles were identified within the project site
 Reptiles in Study Area
 Above reptiles were also seen in study area in localities and field. The most common reptiles
 include Snakes, Pakistani Cobra (Najanajakarachiensis), Lizards, Varanis (Goh/large lizard),
 Spiders and Scorpions, etc

List of Reptiles Present in and Around the Project Area

Common Name	Scientific Name
Lizards	
Spiders	
Scorpions	
Pakistani cobra	Najanajakarachiensis
Goh/large lizard	Varanis

Amphibians

A number of Amphibians found in the tract include Common Frog (Ranatigrina), Common
 Toad (Bufobufo) and Tortoise (Chitraindica).

List of Amphibians Present in and Around the Project Area

Project Site		Study Area	
Common Name	ScientificName	Common Name	Scientific Name
Common Frog	Ranatigrina	Common Frog	Ranatigrina
Common Toad	Bufobufo	Common Toad	Bufobufo
		Tortoise	Chitraindica

birds identified in these areas include House Sparrow (*Passer domesticus*), House Crow (*Corvus splendens*), Common Mynah (*Acredotherestrictis*), Tatiri (*Vanellus indicus*), Cheel (*Bulbul (Pycnonotus cafer)*), Parrots (*Psittacula krameri*), Pigeons (*Columbia livia*), Dove (*Stigmatopelia senegalensis*), Surkhhab, Ullu, etc. are also seen in the area.

List of Birds Present in and Around the Project Area

Sr #	Project Site		Study Area	
	Common Name	Scientific Name	Common Name	Scientific Name
1	House Sparrow	<i>Passer domesticus</i>	Parrots	<i>Psittacula krameri</i>
2	House Crow	<i>Corvus splendens</i>	House Sparrow	<i>Passer domesticus</i>
3	Common Mynah	<i>Acredotheres tristis</i>	House Crow	<i>Corvus splendens</i>
4	Tatiri	<i>Vanellus indicus</i>	Common Mynah	<i>Acredotherestrictis</i>
5	Pigeons	<i>Columbia livia</i>	Tatiri	<i>Vanellus indicus</i>
6			Pigeons	<i>Columbia livia</i>
7			Dove	<i>Stigmatopelia senegalensis</i>
8			Bulbul	<i>Pycnonotus cafer</i>
9			Cheel	

Wildlife Sanctuaries and Game Reservoirs

The Safari Zoo Park & Wildlife Park Lahore is present in the Lahore for the conservation of endangered species. However, no wild life sanctuary or game reservoir is located in the vicinity of the project area or in the project influenced area.

MUBEEN (PRODUCTS STORAGE)

Rare or Endangered Species

There are no rare or endangered species in the study area.

3. Socioeconomic Environment

Human settlements are symbol of typical haphazard rural growth based on ill planned developmental procedures showing common indicators of all the unorganized procedure of rural settlement of the province. These localities were developed on need oriented basis. No bye-laws, rules and obligations necessary for human settlement, construction or expansion and infrastructure development were considered. These localities are also the picture of stereotype rural residential areas which lack basic amenities, improper roads, and poor drainage system, deteriorating hygienic and sanitary conditions causing bad effects on human health.

Objectives of the Study

The main objectives of socio- economic study of the project area were:

- To furnish appropriate information about the baseline socio-economic conditions
- To identify and assess significant social impacts of the Project activities on the surrounding area and people
- To propose suitable means for probable mitigation of the significant adverse social impacts

An Overview of Socio-economic Conditions

This section describes the status of overall socio-economic baseline conditions prevailing in the study area. It deals with various socio-economic and cultural aspects of the community including income, employment, professions, basic facilities, education and health, social structure, culture, women's status, traditions, ethnics, sectarian status and residential needs of the local people.

Area represents lacking some basic amenities of an urban area. Improper social structure, deprived status of youth and aged are common social factors in the area.

Analysis of Socio-economic Conditions

This section presents a locality-wise analysis of existing status of various socioeconomic parameters such as income, employment, basic facilities, education, health, recreation, migration, conflicts, ethnic status, role of women, professions, residential conditions, etc.

A) Sources of Income

The economy of Lahore has a diversified base spanning from telecommunication, information technology, manufacturing industry, engineering, pharmaceuticals, steel,

chemicals and construction material. As a major urban center, the economy of Lahore has prospered. Lahore is hailed as the industrial belt of Pakistan and is home to the largest IT Park in Pakistan. It is the country's second largest economic hub and the commercial capital of Punjab. In 2008, the city was ranked with high efficiency to be classified as a gamma world city. Majority of the people are working as labors in industries, and many do their own common business (shopkeepers).

A) Basic Facilities

Basic facilities like electricity, roads, transport etc. are present in almost every area of the Lahore but are disorganized and mismanaged. Civic amenities like markets are not available in some of the slum areas.

C) Educational Facilities

Educational facilities up to master level are available in almost all the localities and are easily approachable. Lahore is Pakistan's largest producer of professionals in the fields of science, technology, IT, engineering, medicine, nuclear sciences, pharmacology, telecommunication, microelectronics. Most of the reputable universities are public, but in recent years there has also been an upsurge in the number of private universities. The current literacy rate of Lahore is 64%.

The system is divided into five levels: primary (grades one through five); middle (grades six through eight); high (grades nine and ten, leading to the Secondary School Certificate); intermediate (grades eleven and twelve, leading to a Higher Secondary School Certificate); and university programs leading to graduate and advanced degrees.

D) Medical Facilities

The proper health care facilities are present in the area for both male and female population.

E) Recreational Facilities

Lahore is the hub of cultural & religious recreational places. Many famous recreational places such as Badshahi Mosque, Shahi Qila, Tomb of Jahangir, Shalimar Garden, Minar-e-Pakistan, Lahore Zoo, Lahore Museum, Safari Park, Jallo Park, etc. are present for recreational activities. Urs and Melas are playing a vital role to provide some recreational opportunities to the locals. Religious, ethnic, political and tribal conflicts do not exist among the people of the study

G) Types of Community

The main religion in Lahore is Muslim – mostly Sunni or Shia- which makes up 94% of the population. The remaining 6% are nearly all Christians. There are also a small number of minority religions such as Sikh and Hindu. The Lahoris are a cultural bunch of people celebrating many festivals around in the year – some religious, some historical and some are combinations of ancient and modern- even western – celebrations.

H) Types of Family

The joint/extended family system is generally prevailing among people of the whole area; however, nuclear family system is also observable in the area.

I) Ethnic Status

The main castes and groups of the Lahore district are Arain, Jat, Rajput, Malik, Pathan, Mughal, Sheikh, Komboh and Gujjar. Besides, there are also village artisans, which include Lohars (blacksmiths), Tarkhan (carpenter), Kumhars (potters), Mochis (cobblers), Machhis (water-carriers), barbers and weavers etc.

J) Status of Women Literacy

A vast majority of the females of the Study Area are illiterate which shows very low educational trend among females; however, young females have high literacy rate showing positive trend in female education.

K) Decision Making Authority

Majority of the females have no authority in decision-making process regarding their life. This shows non-participation of the females in decision-making process regarding the females and other issues.

L) Role of Women

Role of female is conventional and traditional. Most of the females are engaged in housekeeping. However, females also perform outdoor activities and duties. Females are supposed to be responsible to perform all the family activities and are involved in all types of family functions.

4. Quality of Life Values

If we specifically talk about the project area then majority of the people has to adopt seasonal occupation to supplement their income due to low-income level and inconsistent income opportunities. People are educated and doing jobs as per their profession and many are industrialists as well. Majority of the people are working as labors and many do their own common business (shopkeepers). The locals of this are provided with basic facilities like

present in this proposed project. The following firefighting equipment will be present in the project for overcoming the hazard of fire having detail is given blow in the table.

EQUIPMENT	QTY: (No's);
Fire Hydrant 700 USGPM	21
Fire Cabinet	19
Foam Monitor	6
Portable fire Extinguishers	7
ABC DRY CHEMICAL	
6 Kg. Nippon PAN 20-SD	8
Portable fire Extinguishers	
CARBON DIOXIDE	
5 Kg. Nippon NC-7	3
Fire Extinguishers	
ABC DRY CHEMICAL	
50 Kg. (Trolley Mounted)	32
Sand Buckets	7
Fire Blankets	1
Foam Skid	4
Foam Chamber	

6- Potential Environmental Enhancement Measures

Tree plantation and cropping within and outside the premises has been planned by the proponent for environmental enhancement. Among plants native flora like Peepal and Amaltas will be involved which have maximum capacity to reduce noise pollution and tolerance index of these species are more than 10. Some floral species like rose will also be introduced in the lawn for aesthetic beauty and trees like Sufaida will be planted as boundary wall inside the lawn which will look like green wall

Excavation for planting shall include plant pits and planting beds. The minimum depths of plant pits or beds shall be measured from finished the grade. Plants beds and pits shall be tested for drainage before planting by filling with water twice in succession.

Conditions permitting the retention of water in planting the beds or pits for more than 24 hours shall be brought to the attention of the Architect. If rock, underground construction, obstructions, tree roots or other obstructions are encountered in the excavation of plant pits, alternate locations may be select by the architect. The contractor shall be responsible for all damages resulting from any neglect and failure to comply with this requirement.

Following excavation planting pits, the pits shall be back filled with the sweet soil mixture as specified. Three day prior to planting, the pits shall then be filled with water for consolidation of soil. The dimensions of the panting pits are as follows:

A. Trees: 3x3x3

B. Shrubs: 2x2x2

C. Hedges: trenching 2wide x'2 deep of required length.

D. Creepers and vines: 2wide x 2 deep of required length.

E. Edges and flowers beds: 'fill flower box with sweet soil as per the Architect's drawings. For seasonal flowers, the beds are to have the minimum of 12" sweet soil and 4" 'manure.

Planting areas and plants shall be protected all times against trespassing and damage of all kinds for the duration of maintenance period. If any plants become damage or injured, they shall be treated or replaced. Protection shall also include all temporary protections fences and barriers. all signs and all other work incidental to proper maintenance.

ENVIRONMENTAL MANAGEMENT & MONITORING PLAN

Environmental Management Team along with their Roles and

Responsibilities:

Proposing the mitigation measures for the negative environmental (physical, biological and socio-economic) impacts arising from the various project activities is not the only responsibility of the proponent; rather the proponent is liable to provide a complete plan revealing in-depth details of how the activities will be managed in a way to keep environment undisturbed or in a state receiving least burden from the project construction and operation. This plan, called as the "environmental management plan" not only states the mitigation measures of the negative environmental impacts but also makes some person or authority responsible for carrying out that mitigation measure. Having an EMP in an EIA binds the specified people for taking the indicated mitigation measure.

An environmental management plan is a project or site specific plan developed to ensure that all the necessary measures are identified and implemented in order to protect the environment and to meet the environmental legislations. The EMP aims to ensure that

- Site activities are well managed
- All environmental safeguards are carried out correctly
- Coordination is made with other trades
- Adverse impacts on environment are minimized
- The biodiversity of the site is conserved or enhanced
- All relevant legislation is complied with
- The project is monitored for environmental impacts

• Institutional Capacity

It is the responsibility of the management of the project to ensure that monitoring of air, water, soil and noise are being carried out efficiently and properly maintain the records of monitoring in order to access the environment quality. There should be precise recording and maintenance of all information generated during the monitoring. The management must hire a person to look over the monitoring. It is also the responsibility of management to ensure that all mitigation measures are being implemented to eradicate the possible adverse environmental impacts. For capacity building, all the employs should be given awareness

about the environment and what should be their roles to protect the environment. Hired workers should be aware of the safety procedures and what to be done in emergency situations. Lectures should be given on environment safety twice a year. Training should be conducted yearly or twice a year to cope with emergency situations. The management must ensure that environment management plan is properly carried out. The EMP aims to ensure that

- Site activities are well managed
- All environmental safeguards are carried out correctly
- Coordination is made with other trades
- Adverse impacts on environment are minimized
- The biodiversity of the site is conserved or enhanced
- All relevant legislation is complied with
- The project is monitored for environmental impacts

Local workers will be hired during operation phase and one person from management should be there in order to implement EMP for construction phase. There will be 7-15 workers during construction phase and 8-20 workers will be hired during operational phase of the project. There will be a contractor who will head the workers in construction phase and supervisor will head the workers during operational phase. It is the responsibility of management that contractor and supervisor should implement safety procedures of health and environmental safety.

The environment management and monitoring plan will be implemented by the following:-

- Management
- Project Manager
- Supervisor

The proponent will also manage EMP during operational phase and at least one person (supervisor) should be given the task to work on EMP and check and monitor that all the activities are going in compliance. Furthermore, monitoring of different parameters will also be done on regular intervals to check the quality parameters related to environment.

The duty of that person (supervisor) from management side would be to:

- Describe how it fits into the overall planning process for the project
- Detail the activities that are to be carried out
- Identify the impacts those activities may have on environment
- Propose environmental control methods to be used to prevent or minimize those environmental impacts
- Assign responsibility for each control measure to specific staff members
- Identify key monitoring parameters and schedule of monitoring of these parameters
- Identify training requirements at various stages of the development of the project
- Identify the resources required to implement the EMP and outline relevant expenses arrangements

• Training Schedules

The whole staff will be given training on different things like:

1- Health Safety & Environment Awareness Session

This training would be for whole unit staff and it would be done once in every 6 months.

2- Emergency Preparedness Training

This training would be arranged once in a quarter of every year by hiring consultant firm.

This training would be helpful to ready the employees to handle any kind of emergency situation.

3- Fire Safety

This training would be for whole staff and it would be done once in every 6 months.

Fire Safety

This training would be for whole staff and it would be done once in every 6 months.

• Summary of Impacts and their Mitigation Measures

The summary of overall impacts and their mitigation measure is given below EMP:

Aspects	Potential Impacts/ Risks	Proposed Mitigation Measures
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CONSTRUCTION PHASE

Traffic Congestion due to construction phase of Oil& fuel Depot	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the construction machinery and tractor-trolleys bringing the material into the Project Area
Disposal of Construction Waste/Excavated Material produced in construction phase	Dumping of construction wastes / excavated material in the surrounding area may limit use of land	Management of Construction activities in a way to ensure minimum degradation to the soil around the Project area and dumping of excavated waste will be done at a designated site approved by Municipal Corporation,
Air Quality degradation due to construction phase of oil& fuel depot	Dust produced due to construction activity can affect the health of employees and residents in the surrounding areas	Use of dust suppression techniques like water sprinkling etc. will be made to minimize the effect of dust. Construction workers will be provided with masks for protection against the inhalation of dust. Regular monitoring of all vehicles, equipment, and machinery used for construction. All vehicles, machinery, equipment and generators used during construction activities will be kept in good working condition and properly tuned and maintained in order to minimize the exhaust emissions.
Noise and Vibration due to machinery being used for Oil& fuel Depot construction	Noise pollution due to increased construction machinery operation	Selection of up-to-date equipment and machinery with reduced noise levels ensured by suitable in-built damping techniques; Regular checkups and maintenance of the construction equipment; and use of appropriate muffling devices
Sanitation		All the solid waste will be properly

Waste disposal facilities at Project site	Health risks	collected in the waste bins and disposed off in accordance with the regulations of Municipal Corporation.
Workers' Safety and Hygienic conditions	Health risks in case of Unsafe and/or unfavorable work conditions	Enforcement of work safety measures such as wearing safety goggles, protective masks and boots and fixing of cautionary signs at designated sites. First aid box should be at the site in case of any injury or mishap.
Traffic Congestion due to construction phase	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the construction machinery and tractor-trolleys bringing the material into the Project Area

OPERATIONAL PHASE

Oil Leakage from Bottom of Tanks	The oil from tanks can be leaked which would not be visible and it may pollute the soil quality.	Low permeable membrane is recommended to be provided in the bottom of tanks for any kind of oil leakage. Protective walls will be built around the primary containers which will act as a barrier and help to protect the surrounding environment from the harmful impacts of spillage. Collection vents will be constructed for the collection of leaked oil in case of emergency. Furthermore Oil spillage tank would be available in the unit.
Impurities present in oil may accumulate in the tanks with the passage of time and it may be called as sludge	This sludge can pollute the environment if directly disposed of in environment	The sludge produced from tanks need to be recovered by using pneumatic pumps and then it should be sold to contractor.
Oil spillage in case	This can pollute the water	Oil spillage tank will be available in the unit.

of any emergency	quality	The workers will be trained in emergency leakage procedures and how they can overcome such conditions. The oil storage area will be protected by the secondary containment. The concrete walls will be built around the oil storage area to avoid the negative impact on the environment. The Collection vents will be constructed for the collection of leaked oil from accidental release.
Production of Solid Sanitary Waste in operational phase	There will be mostly domestic waste like paper, plastics, and food waste. Sludge will also be recovered.	Small waste storage bins will be installed and solid waste will be disposed off in accordance with the procedures of Municipal Corporation. The sludge produced will be sold to contractor.
Workers' Safety and Hygienic conditions	Health risks in case of Unsafe and/or unfavorable work conditions	Enforcement of work safety measures such as wearing safety goggles, protective masks and boots and fixing of cautionary signs at designated sites,
Waste water Generation	There is only domestic wastewater will be generated while during operation from washroom.	To get rid from domestic Wastewater septic tank will be present to treat it before its final disposal.
Emergency Response	There are always chances of earthquakes and manmade disasters, fire, road accidents etc.	An Emergency Response Plan for Earthquakes and manmade disasters will be developed by the Management. Emergency Response Plan will be implemented in close consultation with the Fire Fighting Department, Bomb Disposal Squad and Paramedics. Emergency response and plan along with safety charts showing symbols

		and other necessary information will be displayed at various places for the awareness of workers. Firefighting equipment's should be installed or present in the unit
Traffic Congestion	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the transportation vehicles

• Equipment's Maintenance Plan

All machines & tanks require routine cleaning and maintenance after every three months and an annual service which costs around 1% to 5% of the total cost depending upon the use of the machine and operator's skill. The oil storage unit management shall maintain PPEs, medical facilities, firefighting Equipment's, SOPs, conduct trainings, design for proper fencing and records for their periodic fillings or replacement.

• Environmental Budget

A total of 8,00,000 rupees will be assigned for environmental budget. Tree plantation will be done from this budget. This budget can be increased in case of any requirement.

Sr.no	PROJECT ACTIVITIES	ALLOCATED BUDGET	Roles and Responsibilities
1	Fire extinguishers	40,000 PKR	Management
2	Water Sprinkling	10,000 PKR	Management/ Contractor
3	Personal Protective Equipment's (PPEs)	10,000 PKR	Management
4	Safety & awareness Board	10,000 PKR	Management
6	Sanitation and Waste disposal facilities, Solid Waste Bins	30,000 PKR	Management
7	Tree Plantation	700,000 PKR	Management

\$	Total Amount	800,000 PKR	

Organizational structure & Responsibilities

The organizational structure for the Environment Management Plan is outlined below:

Primary Responsibilities

The administration is primary responsible for implementing EMP within this project construction and operational phase

Operational Management and Control

Conducting the operational activities in the environmentally sound manner will be the responsibility of the administration.

Supervision and Monitoring

Senior Supervisor will be responsible for all environmental issues and for the implementation of EMP.

Schedule-IV
Application Form

Project Detail	i. Mubeen Younas S/o M. Younas Mubeen Younas ii. P/O Khas, Sialkot. iii. Mubeenyounas111@gmail.com iv. 03164105640
Project Detail	i. ProGreen Environmental services. ii. Letter of Authority from proponent in favor of consultant. iii. 405, 4th floor, Garden Tower, Barkat Market, Lahore iv. Progreen82@gmail.com, v. 03334041950
Project Detail	i. Location of the project Mouza Gull Bahar Nikki, Sialkot Alternative site ,If any (No) ii. Google or scale Map of the project(and alternatives) vicinity clearly showing the distance from nearest settlement, water bodies or other notable geographical features/ protected or reserved forests/ National Parks/ Environmentally sensitive Areas (Attached) ☒ Yes iii. Objectives of the project. • To develop facility to store Petroleum products for the use of different industrial processes. • To create job opportunities for locals • To elevate the socio-economic status of the area. iv. Description of project: The proposed project is Petroleum Products Storage unit by M/S Mubeen Oil Traders which will be involved in the storage of petroleum Products like Solvent Oil, MTT (Mineral Turpentine), K.Oil and LDO will be stored in the underground 4

	tanks having capacity 22,622 liters (each tank). Total capacity will be 90,488 Liters. Total Area of Plot is 13275 sqft. The cost of the project will be 120 million. Projects sub component that fall within the list of project enumerated in schedule II category A (5) of regulations 2022.
Project category	i. Mentioned Schedule of regulations ii. Attached : IEE ☐ EIA ☒ Yes i. Baseline data on meteorology, ambient air quality and ground water quality ii. Assessment of potential environmental impacts iii. Identification of environmental impacts of the project through its life cycle iv. Assessments of social impacts of the project v. Identification and description of preventive, Mitigatory and compensatory measures to be adopted vi. Environment Management plan vii. Monitoring Arrangements viii. Project construction labor details ix. Project operation details. The above detail has been mentioned in EIA report.
IEE/EIA Details	

VERIFICATION: I do solemnly affirm and declare that the information given above and contained in the attached IEE/ EIA is true and correct to the best of my knowledge and belief.

Name and Designation of Proponent: **Mubeen Younas (owner)**

Signature _____

Date _____

TERMS OF REFERENCE FOR IEE / EIA

Title of Project	Mubeen Oil Traders (Petroleum Products Storage Unit)
Title of Assignment	Preparation of Environmental Impact Assessment (EIA) Report
Proponent	Mubeen Younas S/O M. Younas
Location of Project	Mouza Gull Bahar Nikki , Sialkot
Procurement Method	Formal Quotations

Project Description:

The proposed project is Petroleum Products Storage unit by M/S Mubeen Oil Traders which will be involved in the storage of petroleum Products like Solvent Oil, MTT (Mineral Turpentine), K.Oil and LDO will be stored in the underground 4 tanks having capacity 22,622 liters (each tank). Total capacity will be 90,488 Liters.

Total Area of Plot is 13275 sqft.

The cost of the project will be 120 million.

Objectives of Study:

- To assess and establish the existing environmental and socio-economic conditions of the area.
- To assess and evaluate the potential environmental and socio-economic impacts of the project activities and identify the issues of high concern.
- To implement and execute environmental safeguards.
- To propose mitigation measures and monitoring arrangements that can be incorporated into the operation of the project to remove or reduce any damaging effects as far as possible.
- To categorize the significant impacts requiring further consideration.
- To devise the Environmental Management Plan for the project.
- To prepare an EIA Report as per the relevant guidelines for submittal to EPA Punjab.

Scope of Work for Consultants:

- Secondary Data Collection
- Field Survey and Primary Data Collection

- Scoping Meeting
- Baseline Monitoring
- Public Consultation
- Socio-economic surveys (Interviews + Questionnaires)
- Compilation of Data
- Preparation of EIA Report according to Regulation (5) of Review of IEE / EIA Regulations, 2022 and Guidelines for Preparation and Review of Environmental Reports, 1997.
- Responding to any queries by EPA Punjab

Key Deliverables:

- 5 Hard Copies of IEE/EIA Report shall be filed as per Regulation (7) of Review of IEE / EIA Regulations, 2022
- 2 Soft Copies of IEE/EIA Report shall be submitted along with report as per Regulation (7) of Review of IEE / EIA Regulations, 2022
- IEE/EIA Report shall be accompanied by;
 - An application, in the form set out in Schedule IV of Review of IEE / EIA Regulations, 2022
 - An undertaking as per Schedule VII of Review of IEE / EIA Regulations, 2022
 - Copy of receipt showing payment of the review fee
- Reply of Query Letter (will be submitted if EPA requires additional information)

Time Line:

- 11-08-2025 (Draft EIA Report)
- 14-08-2025 (Comments by proponent)
- 17-08-2025 (Final EIA Report)
- 20-08-2025 (Filing of EIA Report in EPA after incorporating changes Suggested by Proponent)
- According to clause (a) of sub-regulation(1) of regulation 8, within ten working days of filing of IEE, EPA shall be responsible to confirm IEE is complete for the purpose of initiation of review process
- According to clause (b) of sub-regulation(1) of regulation 8, EPA require such additional information as may be specified

- According to clause (c) of sub-regulation (1) of regulation 8, return IEE to the proponent for revision, clearly listing the points requiring further discussion and consideration for make-up.
- According to sub-regulation (1) of regulation 10 of Review of IEE/EIA Regulations, 2022, EPA shall review IEE within forty five (45) days and EIA within ninety (90) days, of issue of conformation of completeness under clause (a) of sub-regulation (1) of regulation 8.
- According to Section 12 (4) of Punjab Environment Protection (Amendment) Act 2012, "The Government Agency shall communicate its approval or otherwise within a period of four months from the date the Initial Environmental Examination or Environmental Impact Assessment is filed complete in all respects in accordance with the prescribed procedure, failing which the Initial Environmental Examination or, as the case may be, the Environmental Impact Assessment shall be deemed to have been approved to the extent to which it does not contravene the provisions of this Act and the rules and regulations."

Qualifications:

Personnel involved in the survey and preparation of EIA Report of the said project have the following qualifications;

- BS/MS/M Phil Environmental Sciences
- BS/MS Environmental Engineering

Responsibilities of the Proponent:

- Responsible to pay all the dues of the consultants as per the agreed terms and conditions.
- According to regulation 6 of Review of IEE and EIA Regulations, 2022, proponent shall pay, at the time of submission of IEE/EIA, a non-refundable review fee to EPA, in accordance with rates specified in schedule III.
- Arrange transportation for the survey teams and laboratory
- Fulfill all pre-requisites of EIA Report
- Provide all documents / details required for completion of EIA Report
- Proponent shall be responsible for paying any fines / penalties levied by the EPA Punjab or Environment Tribunal
- Proponent shall be responsible for the validity and correctness of the information provided to the consultants

Proponent shall be responsible to abide by all the conditions contained in the Environmental Approval accorded to him by EPA Punjab.

The area below will be used for signatures and stamp.

Proponent

Mubeen Younas S/O M. Younas
Address: P/O Khas Sialkot.

Consulting Firm

ProGreen Environmental Services

Address: 405, Garden Tower, Barkat
market, Lahore

Detail of Environmental Consulting Firm

This EIA study has been carried out by Pro Green Environmental Services. This Firm comprises environmental engineers, environmental lawyers etc.

Name	Roles
Muhammad Ahmad Chughtai Environmental	Team Leader and Author
Gulzaib Afzal Environmental Engineer	Monitoring Assistant and Author
Muhammad Hassan Chemist	Monitoring
Muhammad Masood Adil Environmental	Author

Address: 405, Garden Tower, Barkat Market Lahore
Contact No. 0333-4041950