SECTION-I
EXECUTIVE SUMMARY

Title of the Project:

The project under review of this Environmental Impact Assessment Report (EIA) is the Extension & Revised Plan of Housing Scheme, Named as M/S "Al-Rehman Garden Housing Scheme Phase-VII".

The Name of Proponent and Total Cost of the Project:

The Name of the Proponent is Mr. Muhammad Mushtaq S/O Mr. Muhammad Din.
The approximate cost of the project is 500 Million PKR. NOC was earlier obtained for the area of 364.299 Kanals vide Ref: DD (EIA)/F.30/IEE/EPA/1203/2021/167 Dated:17/03/2021.
Now, in the extension and revised plan, the proponent intends to add **2364 Kanal**. Therefore, the total area of this Housing Scheme will be 2728 Kanal as shown in the layout plan (i.e. 364 Kanal already approved plus the proposed extension of 2364 Kanal).

Location of the Project:

The site of the project is located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura.

Name of the organization preparing the report:

The proposed site of the project was surveyed, keenly studied & EIA Report Prepared by **M/S "Green Globe Associates".**

Purpose of Report:

The Purpose of Report is to conduct Environmental Impact Assessment for the Extension & Revised Plan of the Housing Scheme Named as M/S "Al-Rehman Garden Housing Scheme Phase-VII". The EIA is conducted under the Legal framework of Pakistan Environmental Protection Act, 1997 Amended 2012 & Review of IEE/EIA Regulations, 2022, to seek the Environmental Approval. In compliance with the applicable Environmental Regulations, it was decided to get the Environmental Examination of the project, conducted through consultants.
In order to fulfil the legal requirement of Punjab Environmental Protection (Amendment) Act 2012, Section 12; for obtaining No Objection Certificate from Environmental Protection Agency (EPA), Government of Punjab, Lahore, this Environmental Impact Assessment Report is being submitted to the said agency. The EIA Report, as desired by EPA, has been prepared according to the prescribed "Guidelines for the preparation of Environmental Reports, 1997" Amended 2012 and "Review of IEE/EIA Regulations, 2022."

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Regional Office: Office#69, Ground Floor, Mall of Lyallpur D-Ground Harrianwala Chowk Faisalabad.
Email: Greenglobeassociate@gmail.com Cell: 0310-0070830, PTCL#042-37422224

Brief Outline of Project:

Proponent Name	Mr. Muhammad Mushtaq S/O Mr. Muhammad Din **Present Adress:** Army Officers Housing Scheme, Askari-10, House#152, Sector-A, Lahore Cantt, District Lahore, Pakistan. **Permanent Adress:** PO Pindi Amlok, Dotail, Zafarwal, District Narowal Pakistan. CNIC. No. 35202-8151936-9
Project Title	M/S "Al-Rehman Garden Housing Scheme Phase-VII" Extension & Revised Plan
Category Falls in	The Establishment of Housing Scheme Falls in the category of **H (Urban Development & Tourism)** (1) (Housing Schemes more than 300 Kanals of Schedule-II (List of Projects requiring an EIA).
Description	The project's primary goal is to build a contemporary plan that would give inhabitants a safe, secure, and pleasant environment while also offering improved employment possibilities to the local population, including skilled and unskilled people, throughout the construction period.
Project Location	Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura.
Google Coordinates	**Lat 31.568276° Long 74.181134°**
Consulting Firm	M/S "Green Globe Associates"
Head Office *Regional Office*	1st Floor, Office# 23 Jamshaid Plaza, 100 Ferozepur Road Ichhra District Lahore. Ground Floor, Office#69, Mall of Lyallpur, D-Ground Harrianwala Chowk District Faisalabad.
Email id.	Greenglobeassociate@gmail.com
Total Area	2364 Kanal as Extension.
Total cost	Approx. 500 Million
Project Process	✓ Land Acquiring ✓ Levelling

	✓ Construction of Road ✓ Plotting ✓ Sale out
Source of water	Ground Water
Nature of Area *State of Project*	Barren/ Open Land
Solid Waste	Waste effluents will primarily consist of the domestic sewage from the houses and public buildings which will be passed through concreted nullah passing nearby. (NOC attached from the Irrigation Department) For domestic solid waste, a system of door-to-door garbage collection will be employed. The garbage will be collected at a designated area within the housing scheme as an intermediate garbage disposal. From this place, garbage will be collected by local vehicles/contractors & transported to a suitable location for final disposal/dumping. The location for this final disposal will be decided in consultation with the district government. Storage area will have boundary walls on four sides having top cover with mesh sheet.

The Major Impacts & Recommended Mitigation Measures:

During construction, vehicles and machinery will be employed. These will generate some dust and smoke temporarily which will stop on completion of the construction work. This impact is classified to be short term, reversible and limited, as it will only occur during the construction activities. Also, these impacts are expected to be contained within the site boundaries. During construction phase the soil quality may be affected due to very small number of discharges during vehicle & equipment maintenance & leakage from equipment & vehicles.

Impacts during operational phase will be mitigated in environment friendly manner. The botanical garden will keep the air clean and also enhance the aesthetic value. There is no problem of water supply in this area. Solid waste generation due to different activities will be minimized by proper management if any waste is found would be recycled and any other waste would be sold to the contractor other construction waste that cannot be reused /sold dispose-off to officially designated dumping site. The construction of the project will create skilled and unskilled labour opportunities during its construction and operational stages. Most of the unskilled labour will be employed from the local communities, which will reduce

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the unemployment in that area and improve living standards of the local population. The waste water would be treated by constructing septic tank at proper place of each house.
It is recommended that the project will run in compliance with legal requirements of environmental controls of Pakistan including Punjab Environmental Protection (Amendment) Act 2012 other rules, regulations and laws of the land. At last of this Environmental Impact Assessment Report, a comprehensive account of both the Environmental Management Plan (EMP) is given. Assigning responsibilities to various officials for effective Environmental control has been described therein.

Based on the potential impacts, the project falls in the category of high beneficial and low adverse. The project potential impacts will be mitigated by adopting all suggested technical/ engineering best practices and measures.

- ✓ **Particulate Matter/Dust:**

Monitoring for particulate matter should be conducted during construction and during operation & report should be submitted to EPA Punjab.

- ✓ **Flue Gases:**

Monitoring for vehicular emissions & generator should be conducted during construction and during operation phase as per PEQ's and report should be submitted to EPA Punjab.

- ✓ **Noise:**

Regular monitoring for noise level should be maintained periodically During construction & during operation it should be conducted as per need and report should be submitted to EPA Punjab.

- ✓ **Water quality:**

Regular monitoring for waste water should be conducted during construction and during operation and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

SR. No.	Parameters	Monitoring Schedule During Construction	Monitoring Schedule During Operation
01.	Ambient Air Monitoring (Nox, Co2, So2, PM10)	Annually	As per need
02.	Noise Level	Annually	As per need
03.	Drinking water Quality	Annually	As per need
04.	Waste waster	Annually	As per need

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Proposed Monitoring:

The EMMP is prepared to ensure that the activities are undertaken in a responsible non-detrimental manner with the objectives of:

i) Providing a pro-active, feasible and practical working tool to enable the measurement and monitoring of environmental performance on site;
ii) Guiding and controlling the implementation of findings and recommendations of the environmental assessment.
iii) Detailing specifications deemed necessary to assist in mitigating the environmental impact.
iv) Ensuring that safety recommendations are complied with detailed Environmental Management Plan (EMP)

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CHAPTER#01
INTRODUCTION

1. Proposed Project Introduction:

Mr. Muhammad Mushtaq S/O Muhammad Din has planned to Extend & Revised Housing Scheme Plan with the addition of 2364 Kanals, with Named as M/S "Al-Rehman Garden Housing Scheme Phase-VII". The site of the project is located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura. The project will be involved for the construction of houses of 03, 05, 07, 10 Marla & 01, 02 Kanal.

1.1 Purpose of the Report

The Proponent M/S "Al-Rehman Garden Housing Scheme Phase-VII", intends to Revised & Extend this housing scheme at their own property located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura with an area of 2364 kanals.

The proponent needs the No Objection Certificate (NOC) for their said project for which an Environmental Impact Assessment (EIA) Report is required under Section 12 of the Punjab Environmental Protection Act 2012 which has to be submitted to the Environment Protection Agency (EPA) before the commencement of the construction of the project.

This Environmental Impact Assessment Report Identifies, describes & evaluates the potential environmental impacts that could result from the implementation of the project, and include possible cumulative impacts from all the activities. It also identifies required environmental permits relevant to the project. As appropriate, the affected environment and environmental consequences of the project may be described in terms of regional overview or site-specific descriptions. The Report also identifies measures to prevent or minimize environmental impacts. The report highlights existing environmental, social, physical and other aspects of the area. It also provides necessary measures to be taken to mitigate any environmental impact. The monitoring plan is also described in the report.

The regulations and guidelines considered while preparing this EIA Report include:

- ✓ Policy and Procedures for filing, review and approval of the environmental assessments.
- ✓ Guidelines for the preparation and review of Environmental Reports.
- ✓ Guidelines for public participation.
- ✓ Guidelines for sensitive and critical areas.
- ✓ Detailed sectoral Guidelines.

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The EIA Report also provides information as desired under the format used to help decision makers, EPA Punjab in the present case, before issuing the desired NOC.

1.2 Identification of the Project

The Proposed Project to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura. NOC was earlier obtained for the area of 364.299 Kanals vide Ref: DD (EIA)/F.30/IEE/EPA/1203/2021/167 Dated: 17/03/2021. Now, in the extension and revised plan, the proponent intends to add 2364 Kanal. Therefore, the total area of the Housing Scheme Phase VII will be 2728 Kanal as shown in the layout plan (i.e. 364 Kanal already approved plus the proposed extension of 2364 Kanal).

1.3 The Proponent

The Project Proponent is Mr. Muhammad Mushtaq S/O Muhammad Din.

1.4 Details of Consultant:

The services of "Green Globe Associates" having its

Head Office: Office#23, 1st Floor, Jamshaid Plaza, 100 Ferozpur Road Ichhra Lahore,

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1.4.1 Environmental Impact Assessment (EIA) Team

A core team of qualified professionals having relevant experience of conducting environmental and social assessments contributes to preparation of an EIA Report. The team shown in Table 1.1 overleaf collaborated during survey of the project site, discussions with the proponent and the stake-holders, collection and analysis of data, and preparation of this report in consultation with the specialists.

Table: EIA Study Team

Consultants Team		
Name	**Designation**	**Qualification**
Dr. Muhammad Ahmad Samdani	Chief Environmentalist	PhD (Env.) PGD (Env. Laws) LLB,
Mr. Basit Farooq	Senior Environmentalist	PhD (Env. Sciences) In Process
Mr. Umer Farooq	Environmentalist	M. Phil (Environmental Sciences)
Mr. Anees	Marketing Manager	M. B. A
Mr. Shakeel Ahmad Wahla (Advocate High Court)	Legal Advisor	M.A, L.L.B.

1.5 Brief Description of Nature, Size and Location of Project

Keep in view the design, construction and operation phases of the project along with potential impacts generated during the course of the project, the proposed plan is subjected to fall under the such categories of the projects that requiring EIA as per Pakistan Environmental Protection Agency (PAK-EPA) (2022) Regulations.

The project under consideration involves the Construction of a Housing Scheme to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura.

NOC was earlier obtained for the area of 364.299 Kanals vide Ref: DD (EIA)/F.30/IEE/EPA/1203/2021/167 dated: 17/03/2021. Now, in the extension and revised plan, the proponent intends to add 2364 Kanal. Therefore, the total area of the Housing Scheme Phase VII will be 2728 Kanal as shown in the layout plan (i.e. 364 Kanal already approved plus the proposed extension of 2364 Kanal).

SECTION-II
SCREENING OF THE PROJECT

The proposed project is the Extension & Revision of Housing Scheme Named as M/S "Al-Rehman Garden Housing Scheme Phase-VII". NOC was earlier obtained for a total area of 364.299 Kanals. Now, in the extension and revised plan, the proponent intends to add 2364 Kanal. Therefore, the total area of the Housing Scheme Phase VII will be 2728 Kanal as shown in the layout plan (i.e. 364 Kanal already approved plus the proposed extension of 2364 Kanal).

The total cost of the proposed project is Approximately 500 Million PKR.

Screening was performed at the first stage of the EIA process which resulted in a key decision, namely to either conduct the assessment (based on the likely significant impacts) or not conduct it (in the anticipated absence of such impacts). Screening was done as early as possible in the development of the proposal in order for the proponent and other stakeholders to be aware of possible EIA obligations.

The standardized approach i.e., defined in applicable regulations was applied. The proposed project was assessed based upon a set of criteria determined by Environmental Protection & Climate Change Department (EP&CCD) i.e., Review of IEE/EIA Regulations, 2022 provided by Government of Pakistan, Ministry of Environment (Ministry of Climate Change), Local Government and Rural Development were considered for the purpose of screening mainly.

In accordance with the Environmental Protection Agency, Government of the Punjab, Lahore, List of Projects Requiring an EIA, the project under consideration falls in the Establishment of Housing Scheme Falls in the category of **H (Urban Development & Tourism)** (1) (Housing Schemes more than 300 Kanals of Schedule-II (List of Projects requiring an EIA), of PEPA Regulation's 2022 for which EIA Report is required for Environmental Approval to submit in the Environmental Protection Agency.

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CHAPTER#02

DESCRIPTION OF THE PROJECT

2. Type & Category of Project

According to environmental laws of the country development projects have to undergo the process of Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) in order to predict and mitigate the impacts of the development at an early stage. Based on nature, size, cost and associated impacts, the project under consideration has been categorized for EIA Study according to the IEE/EIA Regulations 2022.

The establishment of Housing Scheme Falls in the category of **H (Urban Development & Tourism)** (1) (Housing Schemes more than 300 Kanals of Schedule-II (List of Projects requiring an EIA) of the IEE / EIA Regulations 2022 made under section 12 of Pakistan Environment Protection Act 1997 (Amended 2012) under which the Environmental Impact Assessment is mandatory for getting Environmental Approval.

The Director General, EPA Punjab is the authority to issue the requisite Environmental Approval after proper review of the project.

2.1 OBJECTIVE OF THE PROJECT

The main Objective to Revised & Extend M/S "Al-Rehman Garden Housing Scheme Phase-VII" to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura, is to response a number of driving forces, the main of all is:

- ✓ To provide better job opportunities to the local community including skilled and un- skilled workers during construction phase.
- ✓ to bolster the regional economy through large capital expenditures and infrastructural improvements.
- ✓ To provide Housing so as to make its role in reducing ever increasing housing Backlog of country.
- ✓ To provide the congested and unplanned citizens of Sheikhupura, a well-planned housing scheme along with amenities.
- ✓ To contribute towards improvement of economy in the country.
- ✓ To change the social life style of the area.
- ✓ Revenue generation for the Govt.
- ✓ To upgrade the socio-economic conditions of the area.

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2.2 Alternatives Considered

Alternatives Considered & Reasons for their Rejection:

No alternatives considered or feasible because the land was in possession of the proponent.

2.3 Location and Site Layout of the Project

2.3.1 Site Layout

Site Layout is attached as Annexure to this Report.

2.3.2 Project Location

Project to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura.

The site map/location plan of the Project is annexed.

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Email: Greenglobeassociate@gmail.com Cell: 0310-0070830, PTCL#042-37422224

Google Coordinates: Lat 31.568276° Long 74.181134°

Address: Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura.

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Address: Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura.

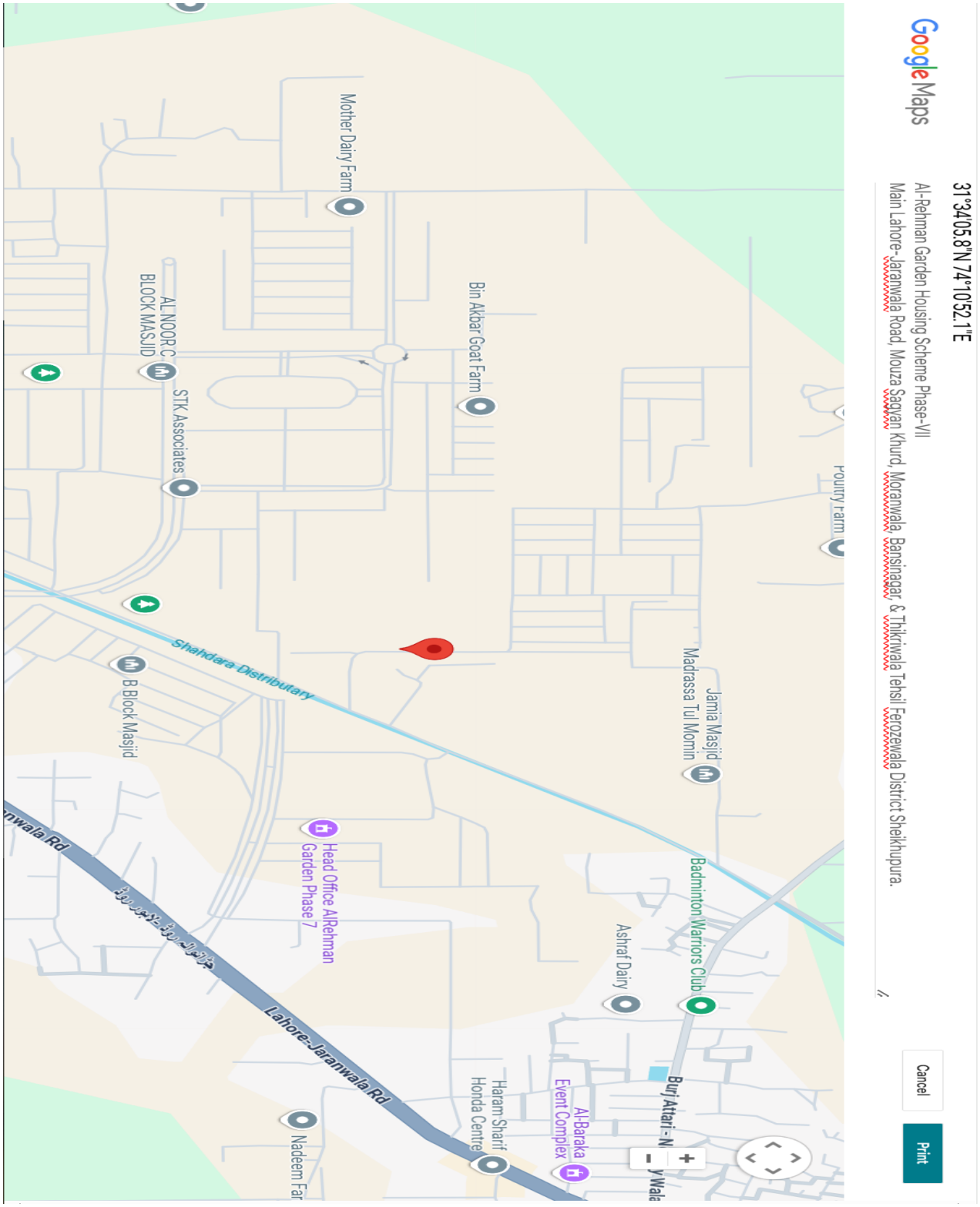

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Table 0-1 Project Coordinates

Project Coordinates	Settings
Front	Main Jaranwala Road
Back	Open Land
South	Lahore-Islamabad Motorway
North	Sagyan

2.3.3 Area of the Project

The proponent intends to add 2364 Kanal in already approved area of 364 Kanals. Therefore, the total area of the Housing Scheme Phase VII will be 2728 Kanal as shown in the layout plan (i.e. 364 Kanal already approved plus the proposed extension of 2364 Kanal).

2.4 Present Land Use & Location

The project site is currently a vacant plot, having only boundary walls. Pictures attached.


GPS Map Camera
Sharqpur, Punjab, Pakistan
, Pakistan, Sharqpur, Punjab , Pakistan
Lat 31.567819° Long 74.185914°
24/06/2025 05:30 PM GMT +05:00
Google


GPS Map Camera
Sharqpur, Punjab, Pakistan
, Pakistan, Sharqpur, Punjab , Pakistan
Lat 31.568273° Long 74.181164°
24/06/2025 05:19 PM GMT +05:00
Google


GPS Map Camera
Sharqpur, Punjab, Pakistan
, Pakistan, Sharqpur, Punjab , Pakistan
Lat 31.568257° Long 74.181193°
24/06/2025 05:19 PM GMT +05:00
Google

2.5 Road Access

The Project is to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura, is easily approachable.

2.5.1 Vegetation Features of the Site

The land is barren in nature where the housing scheme is going to be established. Some trees are hither & thither, wild grasses grown with few low bushes and thorny shrubs which have no medicinal value or considered endangered.

2.5.2 Cost & Magnitude of operation:

This project is M/S "Al-Rehman Garden Housing Scheme Phase-VII" to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura, with all above-mentioned facilities. Total area of the project extension is 2364 Kanals & the total cost of the subject proposed project will be 500 Million.

2.5.3 Schedule of Implementation

Project construction will start as soon as the no objection certificate from the environmental protection agency, Punjab will be issued, as the proponent has applied for other mandatory approvals like TMA, LESCO, AC & ADCR from concerned departments. The Project will be implemented in 4-5 months after the issuance of the NOC from EPA.

2.6 Description of the Project

The Subject Project Name is M/S "Al-Rehman Garden Housing Scheme Phase-VII" to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura. The land is owned by the proponent and has a total area of 2364 Kanals. No construction has been done yet. The proponent intends to extend/revised existing Housing scheme. The facility would include Parks, sewerage system, electricity, Hospitals, Schools, drinking water as per NEQS.

The waste water would be treated by septic tanks to dispose-off in drain. Detailed sketch and specifications of the septic tank are annexed at the end.

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AREA STATEMENT				
SR#	Land Use	Area in SQFT	Area in Kanals @272.25sqft per Marla	%age
01	Commercial	614330	112.82	4.13
02	Residential	6373534	1170.53	42.90
03	Public Building for DC Sheikhupura	224293	41.19	1.51
04	Public Building for Sponser+Masjid	227216	41.73	1.53
05	Parks + Open Space	1051298	193.08	7.08
06	Society Office	25862	4.75	0.17
07	Solid Waste Plot	16335	3.00	0.11
08	Disposal/Pumping Station Plot	2728	0.50	0.02
09	Graveyard	310463	57.02	2.09
10	Area of Roads + Parking	6010955	1103.94	40.460
Total Area		14857014	2728.56	100.00

Details are mentioned in the layout plan annexed in the EIA Report please.

2.6.1 Cost Breakup & Time Schedule:

The initial time planning which includes layout plan and broad scale design of residential area, commercial area, and car parking areas, green spaces, and public building has been done for the M/S "Al-Rehman Garden Housing Scheme Phase-VII".

Subsequently the operational and maintenance aspects of the project will be undertaken by the proponent.

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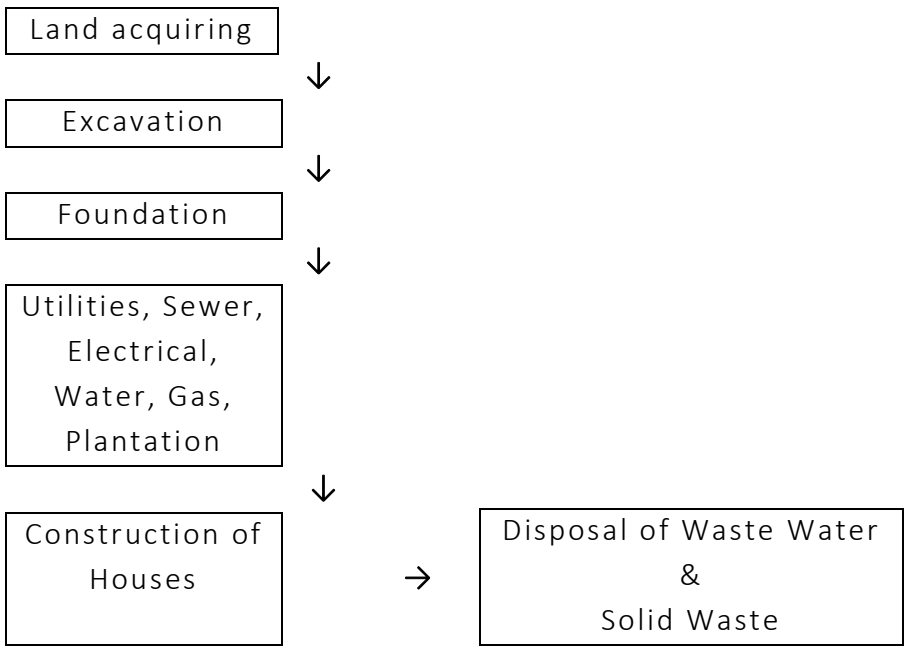
Cost Breakup Analysis		
Sr.No.	**Description**	**Amount Approx.**
01.	Sewerage System	10 Million
02.	Electrical Works	10 Million
03.	Water supply system	10 Million
04.	Roads, Footpath/Boundary walls	25 Million
05.	Miscellaneous	05 Million
06.	Raw Material Procurement	25 Million
07.	Training and Fire-Fighting System	05 Million
08.	Maintenance, Restoration & Plantation	05 Million
09.	Personal Protective Equipment (PPE's)	05 Million
10.	Development	100 Million
11.	Land cost	300 Million
Total Cost		500 Million Approx.

Table: 2.6 Cost Breakup Analysis

2.7 Project Process:



2.7.1 Waste Water Disposal:

Proponent will dispose of waste water into sewer line as per direction from authorized body. Septic tanks will be installed at household level; waste water after treatment in septic tank

will be discharge into nearest sewerage line. Septic tank will be installed at household level and treated wastewater will be disposed of into nearest sewer line (Nullah available for the purpose NOC is attached from the concerned department (Irrigation Department).

2.7.2 Solid Waste Management:

Waste effluents will primarily consist of the domestic sewage from the houses and public buildings. For domestic solid waste, a system of door-to-door garbage collection will be employed. The garbage will be collected at a designated area within the housing scheme as an intermediate garbage disposal. From this place, garbage will be collected and transported to a suitable location for final disposal. The location for this final disposal will be decided in consultation with the district government.

2.7.3 Solid Waste Storage:

Storage area has been allocated for the disposal of solid waste within the said housing scheme. Local vehicles of solid waste managing company will collect the solid waste from the storage site and transfer to the landfill site for dumping. Proponent will make contract with the landfill site/contractor for the collection and disposal of solid waste). Storage area will have boundary walls of approximately 8 ft on four sides having top cover with mesh sheet.

Waste bins will be placed in every street. Waste containers/ wheel bins will be placed at different points, sanitary workers/ sweepers will be appointed for collection of waste.

2.7.4 Solid waste collection and transport:

Wheel bins, hand carts and compactor vehicles will be used for waste collection and proper schedule and route will be developed and allocated for solid waste collection vehicles for collection the waste and transfer to the storage facility of housing scheme. Vehicle will transfer the waste to storage facility with proper covering with plastic.

2.7.5 Schedule for waste collection:

The waste will be collected on daily basis from houses and waste containers/wheel bins and transfer to the storage area.

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2.8 Plantation:

Plantation will be done within the premises of the subject project along the boundary walls, road sides, in the parks and green belts parking area has been reserved in the scheme for horticulture work in the park.

2.8.1 Budget for Plantation:

A budget of 05 million for the Restoration, Maintenance, Plantation and environmental management has been reserved by the proponent.

2.9. Restoration/Rehabilitation plan

None of the locals or residents is being moved from the site as the plot is owned and in possession of Proponent Mr. Muhammad Mushtaq S/o Muhammad Din. Due to the current development around and adjacent to the proposed site, none of significant vegetation features are present in or around the plot; therefore, the proposed project does not require any restoration or rehabilitation plan.

To preserve the project's attractiveness after it is finished, the debris will be removed from the area. All necessary steps will be taken to ensure the project area is safe for workers, secure, and clean. In order to repair the area, ornamental trees and flowering plants will be planted on the unit's interior perimeter.

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CHAPTER#03

DESCRIPTION OF THE ENVIRONMENT

3. Physical Environment

Following is a synopsis of various physical resources of the Project Area.

3.1 Geography

Sheikhupura is situated at a distance of about 36 Km from Lahore, the provincial headquarters. Sheikhupura is located 31.71 latitude and 73.98 longitude and it is situated at elevation 209 meters above sea level.

Sheikhupura has a population of 361,303 making it the 9th biggest city in Punjab.
The city is well connecting with its surroundings big urban centres like Faisalabad 94 Km, Sargodha 143km and Gujranwala 54 Km. Sheikhupura city is connected with Faisalabad through newly constructed road Lahore - Faisalabad road and also connected Faisalabad by M2 and M3 Motorway Hiran Minar, a place of archaeological and historical growth, is situated about 5 kilometres from the city. It is bounded by 6 other districts of Pakistan Punjab namely: Lahore, Nankana Sahib, Narowal, Hafizabad and Gujranwala.

3.2 Geology

The area is a part of Rachna Doab, and consists of some recent sediment brought by spill channel from Chenab River. There are some old channel levee remnants and old basins filled up with clay materials. It is probably of late Pleistocene age derived from mixed calcareous, sedimentary and metamorphic rocks of the lower Himalayas. The only mineral products of the District are Kankar and Kallar. The small particles of Kankar may be burnt into lime. These are the features of all bare lands and are found on the surface or a little below it. Kallar is found on mounds, which are sites of old ruined habitations, and is used for the manufacture of crude saltpeter. The land mass is plain and under urban development projects. There are river-transported deposits (alluvium), which are thick and fairly homogenous in extent. The topsoil consists of brown, soft to firm, clayey silt/ silty clay having slight plasticity and contents of dissolved salts. The top layer is likely to extend about 3 to 6 meter below natural ground. This layer generally continues to deeper depths. These layers of silty clay and sandy gravel may also exist below 10 meter depth.

3.3 Seismology

According to the seismic map of Pakistan, Lahore division is situated in seismic Zone-2A. This zone is associated with unknown geologic conditions and the earth quake damage is moderate. The area has no any major earthquake history for the long lasting. However the design of the project will be made earthquake proof for long lasting.

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3.4 Air Quality

To determine the air quality in the Project Area, air quality monitoring was carried out for priority air quality parameters such as Carbon Monoxide (CO), Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2) and Particulate Matter (PM_{10}) continuously for twenty four (24) hours & was found quite normal in the Project Area.

3.5 Noise Level

The noise level was monitored with the help of a potable digital sound meter at the same locations of ambient air quality monitoring for twenty four (24) hour's with an interval of 1 hr. The Noise Level is within the limits of NEQS.

3.6 Ecological Environment

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

The alignment, in which our project area stands now, was once covered with native vegetation consisting, of trees like Karir (Capparis deciduas), Wan (Salvadora oleoides) and Jand (Prosopis spicigera). With the onslaught of civilization, this vegetation was cleared for agricultural purposes.

Due to rapid increase in the population of the city and to cater for its housing and commercial requirements, these agricultural lands were converted into business centres, multi storey plazas and housing colonies

3.7 Socioeconomic Environment

Socioeconomic environment is represented by the human and economic development and quality of life values. For the study of socioeconomic environment of the project area, the District Census Report was consulted. The city Sheikhupura is gaining a new development scenario in the business activities and competitiveness.

People mostly follow old traditions in almost all walks of their life. Elders are very much respected and play vital role in decision-making. Old people are mostly illiterate. Old customs are being practiced. Arranged marriage system is followed and it is quite successful. People are proud of their traditions and customs. Joint family system prevails and people reap the fruits of this system. Families are quite coherent. Guests are welcome as a tradition from the old past. Life style is simple.

Due to awareness about the importance of education most of younger generation, including both sexes, is now trying to get education. There is a rising trend in the society to change their old traditional socioeconomic pattern of life. Print and electronic media are playing great role in bringing tangible change in the old pattern of life.

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3.7.1 Methodology

Social baseline was developed using both the primary and secondary sources of data. Social survey was conducted in the nearby localities to get primary information about the socio-economic status of these communities. For the purpose of social survey, structured interview schedule was used keeping in view the nature and level of the respondents, in which both open and close ended questions were used. During the survey about 50 people were contacted to study the socioeconomic conditions of the nearby settlements. In addition, informal and formal group discussions were also held within these communities to study their awareness, acceptance, concerns, preferences and perceptions about the project running for many decades.

3.7.2 Administrative Jurisdiction

The city of Sheikhupura is administered by the

- City District Sheikhupura
- Four Tehsils Administrations

3.7.3 Demographic profile

The demographical profile of city shows that it became city in 1619, became tehsil in 1851, there are 14 UCs, and total area of the City is 38 Sq. Km, total Population of the City (Population reported by Urban Unit) was 389.768 in 1998, literacy rate of the City was 60.5 %, average household size was 7.6 person, growth rate during1981-98 was 2.74 % (District Census Report 1998).

Item	Unit	Value
Creation of Tehsil	Year	1851
Creation of City	Year	1619
Number of Union Councils	Number	14
Total Area of the City	Sq.Km	38
Total Population of the City (Census 1998 including current urban growth)	Number	389,768
Population – Male	Number	204,021
Population – Female	Number	185,647
Literacy rate of the City (census 1998)	%	60.5
Average Household size	Number	7.6

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Source:

Outline Development Plan Sheikhupura, Tehsil Municipal Administration Sheikhupura records, Urban Unit information July 2020.

3.8 Analysis of Environmental Findings

The lab results for the analysis of environmental findings have been incorporated. All the findings have been tested, monitored and interpreted in accordance with NEQs defined by EPA for all mediums of environment.

Results are attached in the Annexures.

Table: 3.8Risk Analysis
Potential hazards of the district

Hazards	Likelihood (Score 1-5)	Impact (Score 1-5)	Risk
Floods	2	1	2
Urban flooding	1	1	1
Flash flood	1	1	1
Hill torrent	1	1	1
Glacial Lake Outburst Flood (GLOF)	1	1	1
Landslide	1	1	1
Tornado	1	1	1
Earthquake	2	4	8
Drought	1	1	1
Epidemic	2	4	8
Fire incidents	1	4	4
Other Major Accidents (Building Collapse, road traffic accidents, train accident, Stampede, plane crash)	2	4	8
Environmental Hazards (industrial accidents, severe pollution etc.)	2	2	4

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Risk=impact Likelihood
Low: 1-7
Medium: 8-14
High: 15-25

3.8.1 Income Level

It is noted that by now, the GDP per capita would be about US $ 1,000 per capita. In the project location, the GDP on the average would be slightly higher than the national average.

3.8.2 Education & Literacy

The literacy rate in the country ranges from 97% to 20%. From 2000—2004, Pakistanis in the age group 55–64 had a literacy rate of almost 30%, those aged between 45–54 had a literacy rate of nearly 20%, those between 25–34 had a literacy rate of 20%, and those aged 15–24 had a literacy rate of 10%. These data indicate that, with every passing generation, the literacy rate in Pakistan has risen by around 10%. Literacy rates vary regionally. Despite these statistics, Pakistan still has one of the highest illiteracy rates in the world.

3.8.3 Analysis of Environmental Findings

The lab results for the analysis of environmental findings have been incorporated in the annexure. All the findings have been tested, monitored and interpreted in accordance with NEQs defined by EPA for all mediums of environment. Results are attached in annexure.

3.8.4 Suitability of the Site

The site does not fall in environmental sensitive area and all commodities are at a suitable distance from project site as they will not impact by the construction activities even locals will get more benefits and job opportunities. No replacement, relocation and rehabilitation are required for the development of proposed project.

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CHAPTER 04

SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

This Chapter discusses the screening of the potential environmental impacts of the proposed project, assesses of the significance of these impacts, and recommends Mitigation Measures to minimize if not eliminate the potentially adverse impacts of the proposed activities.

4.1 Project Location:

The subject for proposed project is the Revision & Extension of M/S "Al-Rehman Garden Housing Scheme Phase-VII" to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura.

4.2 Environmental Impacts due to the Project Design

Subject construction of scheme under the name M/S "Al-Rehman Garden Housing Scheme Phase-VII" located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura., the main things are;

- ✓ Garden inside the project for plantation
- ✓ Solid waste and waste water treatment facility like septic tank
- ✓ Rooms for Security guards
- ✓ Main offices
- ✓ Separate water storage taken for the firefighting and domestic purposes
- ✓ Room with Firefighting equipment

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

Impacts

- ✓ Structural stability
- ✓ Soil structure and soil bearing capacity
- ✓ Emergency exit in emergency situations
- ✓ Firefighting system
- ✓ Wastewater disposal system design
- ✓ Rain water harvesting capacity of the drainage system
- ✓ Electricity hazardous

Impact significance: moderate to high or may be negative
Nature of impact: direct
Duration: Long-term
Timing: Constructional phase & Operation phase

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Reversibility: NA
Likelihood: moderate to high
Consequences: moderate to high or may be negative

Mitigation Measures & Recommendations

Following are the mitigation measures and recommendation to minimize the anticipated impacts

- ✓ Design and map of the building is approved from the district level.
- ✓ Road infrastructure should be according to the laws and regulations
- ✓ Emergency exist should be design during the designing phase.
- ✓ Firefighting system should be design for the emergency situations
- ✓ Waste water drainage should be design vast to bear the rain water capacity of the society.
- ✓ Electricity system should be design safe and sound, electricity wires should be covered by thick plastic/electricity resistant covers.
- ✓ All the design should be approved from the district to minimize the impacts due to the designing.

4.3 Environmental impacts during the construction phase

M/S "Al-Rehman Garden Housing Scheme Phase-VII" to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura., has environmental impacts during the constructional phase which are following:

Construction Stage Impacts

During the construction phase may cause the following anticipated impacts/vulnerabilities on the environment:

Impacts on Physical Environments

- ✓ Levelling and compaction of the land
- ✓ Demarcation of project building and other facilities
- ✓ Generation of dust during loading and unloading of construction materials.
- ✓ Generation of noise on account of vehicular use and construction activities.
- ✓ Gaseous emission due to the vehicles and stand by generator (if any)

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- ✓ Ground water quality affects due to the development

Impacts on Biological Environments

- ✓ No significant vegetative cover exists at the project location. There is hardly any vegetation here. No impact is anticipated.
- ✓ The fauna including wildlife species do not exist at the project site. The impact will be nil.

4.4 Operation Stage

Following points must be implemented during the operation stage.

- ✓ Keep water supply, sewerage disposal and electric supply in working condition.
- ✓ Wastewater will pass through Community Septic tanks Then it will be disposed in existing nearby sewer drain/Nullah.
- ✓ Solid wastes and sweepings will be stored in properly placed bins and handed over to contractors.

4.5 Potential Environmental Enhancement Measures

The proposed project will be installed with all precautionary measures to enhance and safe the environment. Following necessary measures will be adopted during construction and operation:

- ✓ Sprinkling of water will be done on dusty road and tracks
- ✓ PPEs will be provided during construction activity
- ✓ Constructional waste and domestic solid waste will be disposed-off or utilized properly
- ✓ Local people will be informed in advance when work is about to start in an area
- ✓ Machinery will never be left unattended
- ✓ Safety signs and boards will be placed during construction
- ✓ Machinery will be kept maintained
- ✓ Proper SOPs will be followed with proper schedule along with the HSE conditions
- ✓ Solid waste will be handed over to contractors & agreement will be made.
- ✓ Noise will be controlled by adopting proper measures
- ✓ Hygienic conditions will be ensured and proper quality will be maintained by quality control testing.
- ✓ Any possible measure will be adopted to make the project safe and environmental friendly.

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CHAPTER#05

ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

5. 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:
- ✓ Ensure the complete implementation of all mitigation measures
- ✓ Ensure the effectiveness of the mitigation measures
- ✓ Provide a mechanism for taking timely action in the face of unanticipated
- ✓ Identify training requirements at various levels.

5.1 Institutional Capacity:

Following functionaries will be involved in the implementation of EMP:

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

Training for the management/contractors/engineers and workers on environmental aspects of the project will be arranged. It will be imparted by a team of experienced trainers.

The project will be implemented and made monitored by the Project proponent, which will be supported by Design and Supervision Engineer.

Project proponent shall be responsible for ensuring compliance to environmental requirements.

- ✓ Will comply with all applicable legislation and is conversant with the requirements of the EMMP
- ✓ Assesses all activities requiring special attention as specified and/or requested by the Engineer and/or Environmental Expert
- ✓ Ensures that the Contractor conducts all activities in a manner that minimizes disturbance to residents and the public in general

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- ✓ May, on the recommendation of the Engineer and/or Environmental Expert order the Contractor to suspend any or all works on site if the Contractor or his subcontractor/ supplier fails to comply with the said environmental specifications

5.2 Training of Building Contractors:

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

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

- ✓ Handling of Machineries in a safe way
- ✓ Use of PPEs
- ✓ Maintenance of vehicles and submission of Env. Monitoring Reports
- ✓ Maintenance of Water Consumption records
- ✓ Testing of water and waste water and submission of Env. Monitoring Reports
- ✓ Placement of safety signs/boards during construction
- ✓ Sprinkling of water on the roads and dusty tracks
- ✓ Monitoring of generator emissions

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

5.3 Responsibility of EMP:

Overall responsibility for implementation of EMP will be that of project proponent. He will appoint an HSE/Project Manager of relevant qualification.

HSE/Project Manager will act as Environmental Manager and will manage the all HSE condition at the PEQS.

Sr#	Concerned Persons	Duties
1	The Project Manager	Following will be the responsibilities of the Project Manager • Ensure that the contractor is aware of all specifications, legal constraints, standards and procedures pertaining to the project specifically with regards to environment • Ensure that all stipulations within the EMMP are communicated and adhered to by contractor(s) • Monitor the implementation of the EMMP throughout the project by means of site inspections and meetings. This will be documented as part of the minutes of the site meeting

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		documents • Ensuring project execution within defined budget and timelines • Conducting regular check of the project status and meetings with project team • Provide support and guidance to project team as and when needed • Project Manager is expected to continually monitor and improve the overall performance of their operation
3	Site Engineer	Following will be the responsibilities of the Site Engineer during the construction and operational activities: • Be fully conversant with the IEE and conditions of its approval • Be fully conversant with the EMMP • Be fully conversant with all relevant environmental legislation, policies and procedures, and ensure compliance with PEQS • Have overall responsibility for the implementation of EMMP • Conduct audits to ensure compliance to the EMMP • Liaise with the Project Manager or his delegate, the Environmental Officer and relevant discipline Engineers on matters concerning the environment • Prevent actions that will harm or may cause harm to the environment, and take steps to prevent pollution on the site • Confirm activities to the demarcated construction site
4	HSE Manager	In addition to the health and safety responsibilities held by staff, managers and supervisors must do whatever is reasonably practical to ensure that both the workplace and the work itself are safe. This includes: • Ensuring that staff are appropriately trained and supervised • Identifying, assessing and managing health and safety risks • Consulting with workers (including staff, affiliates and contractors): ✓ Health and safety risk assessments ✓ Decisions are made about the measures to be taken to eliminate or control these risks ✓ Health and safety risk assessments • Implementing health and safety risk management programs relevant to their operations, teaching, research and consulting

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		functions and work environment • Reporting (to the Human Resources Unit), investigating and responding to all hazards, accidents, incidents and taking action to control the risk • Assisting with the development, implementation and maintenance of a return-to-work program for injured staff. • Be fully conversant with the IEE and conditions of its approval • Be fully conversant with the EMMP • Be fully conversant with all relevant environmental legislation, policies and procedures, and ensure compliance • Convey the contents of this document to the contractor site staff and discuss the contents in detail with the Project Manager and Contractor • Undertake regular and comprehensive inspection of the site and surrounding areas in order to monitor compliance with the EMMP • Take appropriate action if the specifications contained in the EMMP are not followed • Monitor and verify that environmental impacts are kept to a minimum, as far as possible • Review and approve construction methods, with input from the Site Manager, where necessary • Ensure that activities on site comply with all relevant environmental legislation • Compile progress reports on regular basis, with input from the Site Manager, for submission to the Project Manager, including a final post excavation audit • Liaise with the Site Manager regarding the monitoring of the site • Report any non-compliance or remedial measures that need to be applied • All environmental problems arising on the construction area will be reported to the Site Manager by the Environmental Manager. Reports on such problems will be submitted to the Project Manager by the Site Manager
6	Contractors and Service Providers	• Environmental management is part of on-site quality management. Under the environmental management plan, the contractor

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		• Shall propose measures to minimize environmental impacts during construction and submit them to the HSE Officer • Comply with the environmental management specifications • In case of having impacts on the environment, the contractor will inform them to the concerned person in time to get instructions and then take next step • Adhering to any instructions issued by the Engineer/Project Manager on the advice of the HSE Manager • Submitting a report at each site meeting which will document all incidents that have occurred during the period before the site meeting • Maintaining a public complaint register • Arrange that all his employees and those of his subcontractors receive training before the commencement of construction

Environmental Management Plan:

Environmental management plan (EMP) is the most important output of an EIA study. It will include the adverse impacts during design, construction & operation phases of this project, & their mitigation measures along with allocation of responsible persons / agencies for the respective mitigation.

The Environmental Management Plan (EMP) is one of the most important outputs of an EIA process. It consists of the set of measures to be taken during implementation and operation to eliminate, offset or reduce adverse environmental impacts to acceptable levels. As far as responsibilities of mitigation are concerned, the project is design, supervised, constructed & operated by the registered firms, so, all the responsibilities go to the Proponent for proper designing & supervision of construction teams.

The EMP will guide the environmentally-sound project activities & ensure efficient lines of communication between the Engineer, contractors, and Implementing Agency.

The EMMP identifies three phases of development as:

- ✓ Site establishment & preliminary activities;
- ✓ Construction Phase;

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- ✓ Post construction/operational phase.

The purpose of the EMMP is to ensure that the activities are undertaken in a responsible non-detrimental manner with the objectives of:

- ✓ Providing a pro-active, feasible and practical working tool to enable the measurement and monitoring of environmental performance on site;
- ✓ Guiding / controlling the implementation of findings and recommendations of the environmental assessment conducted for the sub-project;
- ✓ Detailing specifications deemed necessary to assist in mitigating the environmental impact of the sub project;
- ✓ Ensuring that safety recommendations are complied with.

A copy of the EMMP must be kept on site during the construction period at all times. The EMMP will be made binding on all contractors operating on the site and will be included in the Contractual Clauses. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

Table: ENVIRONMENTAL MANAGEMENT PLAN (CONSTRUCTION PHASE)

SR#	Project Component / Impact	Project Activities	Targets to be achieved	Mitigation/Prevention Action	Responsibility	
					Implementation	Monitoring
Construction Phase						
01	Air Quality	Storage,	Complia	1.Necessary	During	Proponent

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		Handling, and Transport of Material	nce with prescribed PEQs to control air pollution	measures like a sprinkling of water on a regular basis, especially during dry climatic conditions, should be taken to limit pollution from dust and other windblown materials. 2.Periodic maintenance and management of all the construction machinery & vehicles 3.Waste burning will not be allowed.	Construction Phase by Contractor with coordination of Proponent staff	Consultant
02	Waste	Generation and Disposal of Solid waste near campsite. Dust & particulate matter emissions due to excavation digging & during and during other	Proper & safe handling and disposal of Construction related waste Compliance with applicable waste management rules for	• Ensure prevention of inappropriate disposal of waste material. • Conduct separate collection of construction and office waste to promote recycling and re-use. • Dispose of non-recyclable and	During Construction Phase by Contractor with coordination of Proponent staff	Proponent/ Consultant

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		construction activities of the project	hazardous and non-hazardous waste disposal Implementation of waste management plan	hazardous waste material properly according to waste management rules. • Proper disposal of waste on agreed site as per agreed method. The area to be leveled and contoured after disposing of the excess material. • No waste or debris will be thrown into the nearest canal water or other water bodies. • The contractor will prepare waste management plan related to construction activities; get its approval from site engineer and		

				ensure its full implementation.		
03	Noise	Haulage Roots and Movement of Construction Vehicles. The use of heavy machinery and equipment causes noise. Noise generated by generator.	Compliance with prescribed NEQs to control Noise pollution	• The contractor will strictly follow the PEQS for ambient noise • Control noise through control of working hours and selection of less noisy equipment. • Prohibit use of pressure horns • Provision of acoustic enclosures (hood and shrouds) on generator Proper maintenance of vehicles and construction equipment. • Minimize/avoid unnecessary use of pneumatic drills and other noisy		

				machinery. • The personal protective equipment (PPE) will be provided to the construction workers and its usage will be made mandatory During Construction Phase by Contractor with coordination of Proponent staff		
04	Materials Management	Transport of Materials	Safe and secure environment for construction workers	• If stockpiles are exposed to windy conditions or heavy rain, they shall be covered either depending on the duration of the project. Stockpiles may further be protected by the construction of low brick walls around their bases.	During Construction Phase by Contractor with coordination of Proponent staff	Proponent/ Consultant

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				• All substances required for vehicle / machinery maintenance and repair must be stored in sealed containers until they can be disposed of / removed from the site. Spraying of insecticide shall not take place under windy conditions		
6.	**Workers Health & Safety**	Risk of damage to worker health Risk of any damage by machine, chemicals, liquid waste etc. can be reduced by using safety signs at constructi on site	Preventi on of any possibilit y of work site accident /impact on worker's health	• Provision of Personal Protective Equipment to the workers. • Provision of first aid box at work site to cope with emergency situation. • Safety training to the workers. • Safe driving	During Construction Phase by Contractor with coordination of Proponent staff	Proponent Consultant

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		and campsite		training to the drivers. • Adequate safety signs on site. • Provide training regarding proper handling and use of chemicals/ paints. • Install fire extinguishers at fire handling places. • Inspect and ensure that any lifting devices, such as cranes, are appropriate for expected loads. • Any loss of public/ private property will be compensated by the contractor. Regular checks should be carried out to ensure a contractor's is following safe		

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				working procedures & practices.		
7.	**Socioeconomic Impacts**	Conflicts between locals may arise during construction activities	Prevention of conflicts among locals and make the project socially acceptable Empowerment of locals to possible extent Increase in employment and business opportunities for locals	• Contractor's activities and movement of staff to be restricted to designated construction areas. • The conduct of the construction staff when dealing with the public or other stakeholders shall be in a manner that is polite and courteous all the time. • Lighting on the construction site shall be pointed downwards and away from oncoming traffic. • The site must be kept clean to minimize the visual impact of	During Construction Phase by Contractor with coordination of Proponent staff	Proponent Consultant

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				site. • Machinery and vehicles are to be kept in good working order for the duration of the project to minimize noise nuisance to neighbors. • Noisy activities must be restricted to the times given in the Project Specification or General Conditions of contract. • The Contractor is responsible for ongoing communication with those people that are interested in / affected by the projects. • Employ local residents as much as possible.		

				Promote communication between external workers and local people (e.g. join local events).		

5.4 Environmental Technical Assistance and Training Plan

In order to raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. HSE/Project Manager should play a key role in this respect and arrange the training programs.

HSE/Project Manager will provide training to staff and workers about the best environmental management practices at the construction site and affective implementation of the EMP.
The training modules will include air, noise and water pollution monitoring, social awareness, Environmental Laws, Punjab Environmental Quality Standards (PEQS),

Usage of personal protection equipment's, and health and safety related issues on the construction site.

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

5.4.1 Schedule of Implementation

The proponent is waiting for the environmental approval from environmental protection department. No Construction work has been initiated so far as the company is waiting for the Environmental Approval from the Department. After the approval, the project construction work would be carried out within 6-8 months.

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Sr #	Activities	05 Months			05 Months			05 Months			05 Months		
		8W	8W	4W	8W	8W	4W	8W	8W	4W	8W	8W	4W
01	Detail Designing												
02	Mobilization of Contractors												
03	Lean Development Period												
04	Peak Installation period												
05	Plantation at site												
06	Commissioning												
W=Weeks													

Figure: 5.1 Construction Schedule

5.4.2 Environmental Budget:

Project proponent will allocate the Environmental Budget for the Training, maintenance, Restoration & management of Environment is 05 million that will include filling and maintenance of equipment's, restoration, plantation, and 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.

Table: 5.4 Environmental Practitioners & Experts

Consultants Team		
Name	Designation	Qualification
Mr. Umer Farooq	Senior Environmentalist	MPhil Environmental Sciences
Mr. Basit Farooq	Environmentalist	PhD Environmental Sciences (In Process)
Mr. Anees	Marketing Manager	M.B.A
Mr. Shakeel Ahmad Wahla (Advocate High Court)	Legal Advisor	M.A, L.L.B.

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5.5 Responsibilities of Functionaries

1-Responsibilities of Management of Project

Management of the project will be responsible for the environmental management and supervisory affairs during the project activities. Environmental personnel designated by the management of the project will look after the environmental related issues during the project activities.

The responsibilities of environmental personnel are as follows:

1-Monitoring progress of the project as per planned schedule of activities.

2-Exercising oversight over the implementation of environmental mitigation measures by the contractor.

3-Documenting the experience in the implementation of the environmental process.

4-Preparing training materials and implementing programs.

5-Maintaining interfaces with the other lined departments/ stakeholders and

Reporting to the management of the project on the status of EMMP implementation

5.6 Equipment and Instruments Maintenance Details

The project proponent will create their own system, i.e. equipment for monitoring of air, water and noise or hire the services of a private laboratory for the monitoring and analysis.

5.7 Technical Training Programs

In order to raise the level of professional and managerial staff, they need to upgrade their knowledge in the related areas. The EMC will play a key role in this context.

Contractor's environmental awareness and appropriate knowledge of environmental protection is critical to the successful implementation of the EMP because without appropriate environmental awareness, knowledge and skills required for the implementation of the mitigation measures, it would be difficult for the contractor(s) to implement effective environmental protection measures. A domestic training program is proposed to train the staff that will be involved in the construction and operational stage on environmental protection and management.

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5.7.1 Feedbacks/Concerns Highlighted

The major feedback/ concerns highlighted due to the implementation of this project were categorized with respect of design, construction and operational phase of the project are as under:

Design Stage

- ✓ Adopt efficient engineering designs & techniques to minimize the noise levels.
- ✓ Multi-fuel storage yard should be at an appropriate distance, so that its impact could not be on the population resided at adjacent villages/ settlements.
- ✓ Soil strength and load bearing capacity should be checked before to start the construction activities.
- ✓ Jobs should be given to local people preference should be given to local persons residing at neighbor / adjacent location.

Construction Stage

- ✓ Adopt efficient engineering designs and techniques to minimize noise levels.
- ✓ Proper covering of trucks and regular sprinkling of water on land to avoid or minimize dust particulates emissions.
- ✓ Workers should be trained by contractor to control their activities in the vicinity of project area.
- ✓ Avoid the disposal of waste material in the nearby agriculture or open area.
- ✓ Safety sign should be placed at important locations/ units to avoid accidents.

Operation Stage

- ✓ Disposal of waste material in the area adjoining the project site should be avoided.
- ✓ Vegetation and tree plantation should be encouraged in the project area at operation stage.
- ✓ There should be improved storm collection infrastructure due to the operation of this project.
- ✓ Provision of trainings & first aid kits and fire extinguishers to workers to combat any emergency situation.

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- ✓ Job opportunities should be provided to local residents especially to neighbours

5.8 Replacement, Relocation and Rehabilitation:

M/S "Al-Rehman Garden Housing Scheme Phase-VII" will develop restoration/reclamation or tree plantation plan to develop the project area. Maximum plantation will be done with native species within the unit, along the boundary wall and along the road side if directed by EPA. Also, within the housing scheme horticulture plan will be formulated and area for this will be kept reserved.

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CHAPTER#06
ANALYSIS OF ALTERNATIVES

6.General

This chapter deals with an analytical overview of the different alternatives that have been considered in the project. The analysis has been carried out critically so as to justify the need of the project. Beside the economic viability, environmental sustenance and social soundness of the proposed project should also be considered when analyzing various alternatives. The various alternatives which have been considered during the conduct of the study are as under:

- ✓ No Project Option
- ✓ Alternative Construction Methods
- ✓ Alternative Geometry

6.1 No Project Option

In Sheikhupura there is a shortage of Housing Schemes Sectors. In this report proponent wants to extend & Revised Housing Scheme that's why he is applying for the NOC. Proponent wants to establish/Extend Housing Scheme on the available space/land with his own ownership which is suitable & easily available.

Therefore, no option other than this project is considered.

- ❖ Alternatives of location
- ❖ Development of Environmental Site Selection Criteria:

The site selection criteria were based on a number of parameters as indicated below:

a) Land Availability
b) Environmental Issues
c) Social Issues

a. Land Availability

Proponent is going to extend housing scheme with 2364 Kanals.

b. Environmental Issues

Due consideration has to be given to the sensitive issues related to the environment, forest, wet lands, wildlife reserves, agricultural land etc. while assessing the alternative sites for the development of this facility.

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c. Social Issues

Social issues form in important element in the assessment criteria. Different socially sensitive elements like graveyards, mosques, playgrounds, which can create social issues have to be given due consideration while assessing the different sites.

6.1.2 Alternative Construction Methods

The feasibility & constructability of the project is well established. The process basically includes the transportation of equipment to the site & the assembly of pre-fabricated unit. Thus, the impacts from the construction activities are very manageable from the environmental point of view.

6.1.3 Alternative Geometry

The design is as short as it can be and avoids the local, villages & all settlements.

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CHAPTER 07
STAKEHOLDERS CONSULTATIONS

7. Objectives:

Public consultation plays a vital role in studying stakeholders' perspectives regarding the project and henceforth the successful implementation and execution of the proposed project. Public involvement is a compulsory feature of Impact Assessment, which leads to improved and acceptable decision-making. The primary objective of the stakeholders' consultations was to learn and know the apprehensions, concerns, and opinions of the key stakeholders over environmental implications of the project activities from public perception. The consultation sessions also served as a source of first-hand information about the users and the beneficiaries' expectations from the project.

Dialogue with the stakeholders and recording their concerns at appropriate stages of the project would help to tailor the project in line with stakeholders' aspirations and so increases the likelihood for public acceptance of the project and its subcomponents. It also helps to develop and maintain communication links between the project proponents and stakeholders, providing opportunities to the public to influence the project design in a positive manner. This ensures that the views and concerns of the stakeholders are incorporated into the project design and implementation with the objectives of reducing or offsetting negative impacts and enhancing benefits of the proposed project.

7.1 Environmental Practitioners and Expert

According to the rules and regulations this report will be compiled and submitted to the Environment Protection & Climate Change Department (EP&CCD) and after the review on the report this report will be disseminated to the public. This dissemination and information sharing exercise will then be followed by public participation through print media in which the public will be requested for their reviews. The copies of the report will be placed in the EPA for comments from the public which will be incorporated in the report. As per rules and regulations, Environment Protection Department will hold a public hearing at the proposed project site.

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

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- ✓ Project Proponent
- ✓ Government officials
- ✓ Environmental practitioners and experts
- ✓ Teachers/students
- ✓ Shopkeepers

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

7.2. Responsible Authority

HSE manager will be responsible for all the operational activities

7.2.1 Other Departments and agencies

Proponent has also consulted with other departments and they are completely satisfied with this project installation.

Proponent applied for another department NOC and will be provided in an operational phase of the project.

7.2.2 Environmental Practitioners and Experts

Name	Post	Qualification
Basit Farooq	Senior Environmental Officer	PhD Environmental Sciences (In Process)
Umer Farooq	Environmentalist	MPhil Environmental Sciences (NCBA&E)
M. Shakeel Wahla (Advocate High Court)	Legal Advisor	M.A, L.L.B

Table: 7.1 Environmental Practitioners & Experts

List of Participants during the Public Consultations & Concerns

Sr. No.	Names of main Participants	Feedback/ Concerns (Positive)	Feedback/ Concerns (Negative)
01	Mr. M Usman S/O Abdul Ghani CNIC. No. 35401-4511322-3 R/O Thatha Langhiyan Wala, Post Office Faizpur Khurd Post Office Khas, Faizpur Khurd, Tehsil Ferozewala District Sheikhupura.	People are mostly satisfied with the project. On overall basis, this is a good project because it will help to improve economic/ educational/residential conditions of area.	Dust will blow during construction work Mobility hindrance
02	Muhammad Tayyab Javaid S/O M Javed CNIC. No. 35404-6675180-3 R/O Post Office Khas, Amonkey, Tehsil & District District Sheikhupura.	Construction of the project will create labour opportunities for locals &Social life style of the area will get change	Business will get affected during construction phase
03	Mr. M Saleem S/O Munir Ahmad CNIC. House#96, Street#04, Area Islamabad Baghbanpura Lahore Cantt. District Lahore.	In favour because it will help in reduction unemployment	-None
04	Mr. Muazzam Ali S/O Abdul Khaliq CNIC. 35401-2841067-9 R/O House#33, Street#01, Area Shahdara Station Larycs Colony Lahore.	No issue regarding project rather it will create job opportunities and improve the living standard of local community	- plantation
05 06	Mr. M. Nawaz S/O Akbar Ali CNIC.33104-8903743-3 Asad Tariq S/O Tariq Javed CNIC. 35202-6963311-3	This project is highly recommended and supported as unskilled persons will get the labour opportunities during construction phase.	- None
07 08	M. Raheel S/O Abdul Ghaffar CNIC.34501-8943109-5 Mr. M. Shakeel S/O M. Azeez CNIC.38201-497415-3	No issue regarding project rather it will create job opportunities and improve the living standard of local community	- Plant trees
09	Mr. M. Danish Bhatti S/O M Azam Bhatti CNIC.34501-2764883-9	In favour because it will help in reduction unemployment Revenue generates	- Tree plantation

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7.2.3 Proponent's Environment Management Team:

Name	Designation
Umer Farooq	Senior Environmentalist

Table: 7.2 Proponents Environment Management Team

7.3 Affected & Wider Community:

There is no population present in the safe radius of the site that's why community will not be disturbed due to project operation. Although the opportunity of employment will increase if the project will approve.

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CHAPTER#08
RECOMMENDATIONS & CONCLUSIONS

8. Recommendations:

The Environmental Impact Assessment (EIA) Report & survey results are finally evaluated to recommend the following:

- ✓ The present Environmental Impact Assessment (EIA) Report of M/S "**Al-Rehman Garden Housing Scheme Phase-VII"** meet the administrative and legal framework of the EPA Punjab.
- ✓ All the required PPEs should be provided to the workers working in the construction of the housing scheme.
- ✓ The Proponent should assign task of proper housekeeping in and around the construction activity.
- ✓ The wastewater generated should be treated in a proper way before discharge.
- ✓ The Proponent should plant indigenous plants and trees as their corporate social responsibility (CSR) in a housing scheme.
- ✓ Consider Fire safety precautions to prevent or reduce the likelihood of a fire to break out.
- ✓ Placing and maintaining fire extinguishers in easily accessible places.
- ✓ Display of Safety and Information Sign Boards at required places.

Adequate training of residents on use of firefighting system to deal with the situation as well as environmental and waste management trainings.

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Conclusions:

The EIA Report of Construction of M/S "Al-Rehman Garden Housing Scheme Phase-VII" to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura., is made to fulfil the legal requirement of Pakistan Environmental Protection Act 2012. In order to address the potentially adverse impacts of the project, particularly during the operational phase, an EMP has been developed, which will further improve the environmental performance of the project. The EMP assigns roles and responsibilities, provide environmental guidelines and discuss the scope of Environmental Management Plan.

The EIA Report has thoroughly assessed all the potential environmental impacts associated with the project. The environmental impacts identified by the study are manageable. Site specific and practically suitable mitigation measures are recommended to mitigate the impacts. The EIA concludes that constructional and operational phase of proposed project will not pose any major adverse environmental impacts on environment if the anticipated impacts are properly mitigated and the Environmental management Plan is properly implemented.

Therefore, the project under consideration does not require any further environmental study Hence the EIA Report has been completed for the said project so the project of construction of M/S "Al-Rehman Garden Housing Scheme Phase-VII" to be located at Main Lahore-Jaranwala Road, Mouza Sagyan Khurd, Moranwala, Bansinagar, & Thikriwala Tehsil Ferozewala District Sheikhupura., is recommended for the Environmental Approval and issuance of NOC from the EPA, Punjab.

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- ✓ Guidelines for Public Consultation
- ✓ National Environmental Policy
- ✓ OSHAS 1800 for Health and Safety, Labor Laws
- ✓ The Land Acquisition Act 1894

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