

2023

**INITIAL ENVIRONMENTAL
EXAMINATION REPORT (IEE)**

**METAL CUTTING & FORGING UNIT BY
M/S PRECISION FORGING PVT.
LIMITED**

**17-KM LAHORE-SHEIKHUPURA ROAD, MOUZA MISSAN,
SHEIKHUPURA**

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EXECUTIVE SUMMARY **6**

TITLE & LOCATION OF THE PROJECT **6**

LOCATION	6
NAME OF THE PROPONENT:	9
NAME OF ORGANIZATION PREPARING THE REPORT:	9
A BRIEF OUTLINE OF THE PROPOSAL	9
THE MAJOR IMPACTS	10
TABLE: SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROJECT DURING THE CONSTRUCTION PHASE AND MITIGATION MEASURES SUGGESTED:	11
TABLE: SUMMARY OF ENVIRONMENTAL IMPACTS OF THE PROJECT DURING THE OPERATION PHASE AND THEIR MITIGATION MEASURES:	13
PROPOSED ENVIRONMENTAL MONITORING	14

INTRODUCTION **16**

PURPOSE OF THE REPORT	16
IDENTIFICATION OF THE PROJECT AND PROPONENT	16
DETAILS OF CONSULTANT	17
BRIEF DESCRIPTION OF NATURE, SIZE AND LOCATION OF PROJECT	18
LOCATION	19

DESCRIPTION OF THE PROJECT **21**

TYPE AND CATEGORY OF THE PROJECT:	21
OBJECTIVES OF THE PROJECT	21
ALTERNATIVE CONSIDERATIONS AND REASONS FOR THEIR REJECTION:	21
LOCATION ALTERNATIVES:	21
LOCATION AND SITE LAYOUT OF THE PROJECT:	22
LAND USE ON SITE	23
ROAD ACCESS	23
VEGETATION FEATURES OF THE PROJECT	23
COST AND MAGNITUDE OF THE OPERATION	23
SCHEDULE OF IMPLEMENTATION	23
DESCRIPTION OF THE PROJECT:	24
ACTIVITIES OF THE PROJECT	25
1. RAW MATERIALS PURCHASE & STORAGE	25
2. METAL CUTTING	25
3. FORGING:	25
PROCESS FLOW:	27
SOLID WASTE:	29



SOLID WASTE MANAGEMENT SYSTEM/PRACTICES	29
FLOW CHART OF SOLID WASTE MANAGEMENT PLAN:	29
	29
PLANTATION	29
PARKING AREA	30
FIRE PROTECTION SYSTEM	30
EMERGENCY EXITS:	30
PERSONAL PROTECTIVE EQUIPMENT:	30
POWER SOURCES AND TRANSMISSION:	30
AVAILABLE FACILITIES	30
RESTORATION / REHABILITATION PLAN	30
GOVERNMENT APPROVALS REQUIRED BY THE PROJECT:	31
 DESCRIPTION OF ENVIRONMENT	 32
 PHYSICAL ENVIRONMENT	 32
TOPOGRAPHY & GEOGRAPHY	32
PHYSICAL ENVIRONMENT/ RESOURCES	32
HISTORY:	32
PHYSICAL ENVIRONMENT/ RESOURCES	33
CLIMATE:	34
CLIMATE GRAPH SHEIKHUPURA	34
TEMPERATURE:	34
PRECIPITATION:	35
TOPOGRAPHY	36
SOILS:	36
AIR QUALITY:	37
NOISE LEVEL:	37
NOISE LEVEL MONITORING:	37
BASIC ENVIRONMENTAL CONDITIONS:	37
METROLOGICAL CONDITIONS:	37
MONITORING INSTRUMENT:	37
METHODOLOGY ADOPTED:	37
GROUND WATER:	37
ECOLOGICAL RESOURCES	38
FISHERIES:	38
BIODIVERSITY:	38
FLORA:	38
FAUNA:	38
RARE OR ENDANGERED SPECIES:	38
SOCIAL AND CULTURAL STUDY	38
DEMOGRAPHICS	38
INDUSTRIES:	39
DEMAND BASED INDUSTRIES:	39
LIVESTOCK:	40



AGRICULTURE:	40
EDUCATION:	40
ARCHAEOLOGICAL SITES OF THE DISTRICT:	40
QUALITY OF LIFE VALUES:	42
RECREATIONAL RESOURCES AND DEVELOPMENT:	42
AESTHETIC VALUES:	42
ARCHAEOLOGICAL AND HISTORICAL TREASURES:	42

**ARCHAEOLOGICAL OR HISTORICAL TREASURES WITHIN THE PROJECT AREA
ARE NOT AVAILABLE****CHAPTER # 4** **42**

**SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR
MITIGATION MEASURES** **43**

ENVIRONMENTAL IMPACTS DUE TO PROJECT LOCATION	43
MITIGATION MEASURES FOR LOCATION PHASE IMPACTS	43
ENVIRONMENTAL IMPACTS DUE TO THE PROJECT DESIGN	43
MITIGATION MEASURES AND RECOMMENDATIONS	44
ENVIRONMENTAL IMPACTS DURING THE CONSTRUCTION PHASE	45
MITIGATION MEASURES AND RECOMMENDATIONS	46
ENVIRONMENTAL IMPACTS DURING OPERATION STAGE	47
RECOMMENDATIONS	48
POTENTIAL ENVIRONMENTAL ENHANCEMENT MEASURES	48
PURPOSE OF MITIGATION MEASURES	49
WAYS OF ACHIEVING MITIGATION MEASURES	50

CHAPTER # 5 **51**

ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM **51**

PURPOSE AND OBJECTIVES OF THE EMP:	51
MANAGEMENT APPROACH:	51
INSTITUTIONAL CAPACITY	51
TRAINING SCHEDULES	51
SUMMARY OF IMPACTS AND THEIR MITIGATION MEASURES	53
EQUIPMENT MAINTENANCE DETAIL	56
ENVIRONMENTAL BUDGET	56

**ENVIRONMENTAL MANAGEMENT PLAN FOR METAL CUTTING & FORGING UNIT
OF M/S PRECISION FORGING PVT. LIMITED** **57**

CHAPTER # 6 **62**

STAKEHOLDERS PARTICIPATION **62**



OBJECTIVES OF CONSULTATION	62
METHODOLOGY OF CONSULTATION:	63
PROPONENT	63
RESPONSIBLE AUTHORITY	63
OTHER DEPARTMENTS AND AGENCIES	63
AFFECTED & WIDER COMMUNITY	63
ISSUES DISCUSSED:	64
FINDINGS OF THE OVERALL DISCUSSION:	64
<u>CHAPTER # 7</u>	<u>66</u>
<u>CONCLUSION AND RECOMMENDATIONS</u>	<u>66</u>
CONCLUSIONS	66
RECOMMENDATIONS	66



EXECUTIVE SUMMARY

Title & Location of the project

Subject project for which this Initial Environmental Examination study has been conducted is proposed for Establishment of Metal Cutting & Forging Unit under the name M/S Precision Forging Pvt. Limited located at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura. The capacity of the proposed Metal Cutting & Forging Unit will be 2 ton per day. The total proposed area will be 83776 SFT, and the covered area will be 61518 SFT, and the open area will be 22258 SFT and the cost of the project will be approximately 195 million.

Subject project will be Metal Cutting & Forging Unit. The process begins with the selection of the appropriate ready-made bar of iron. The next phase will be cutting of iron on shearing machine, the cutting phase starts with marking the metal piece according to the design specifications. After the metal cutting process, the next step will be the forging of engine parts. This involves heating the metal to a specific temperature to make it malleable and ready for shaping. Heating will be done through induction furnace. After heating process, the metal will be transferred to forging equipment such as hydraulic press. The forming of engine parts will be done by positioning the heated metal between specially designed dies. After the forging and finishing process, the final product will be passed through a thorough inspection and quality control process to ensure they meet the specified standards and dimensions

The proposed project falls under Schedule I of Review of IEE and EIA Regulations, 2022. TORs of the study under clause 5 (f) of policy and procedure for the filing, review and approval of environmental assessment are annexed as **Annexure – A**.

Location

Subject proposed project is located at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura having coordinates: the layout map of the project is attached as **Annexure-B**

- 31°39'14.97"N
- 74°11'0.98"E

North..... open Land

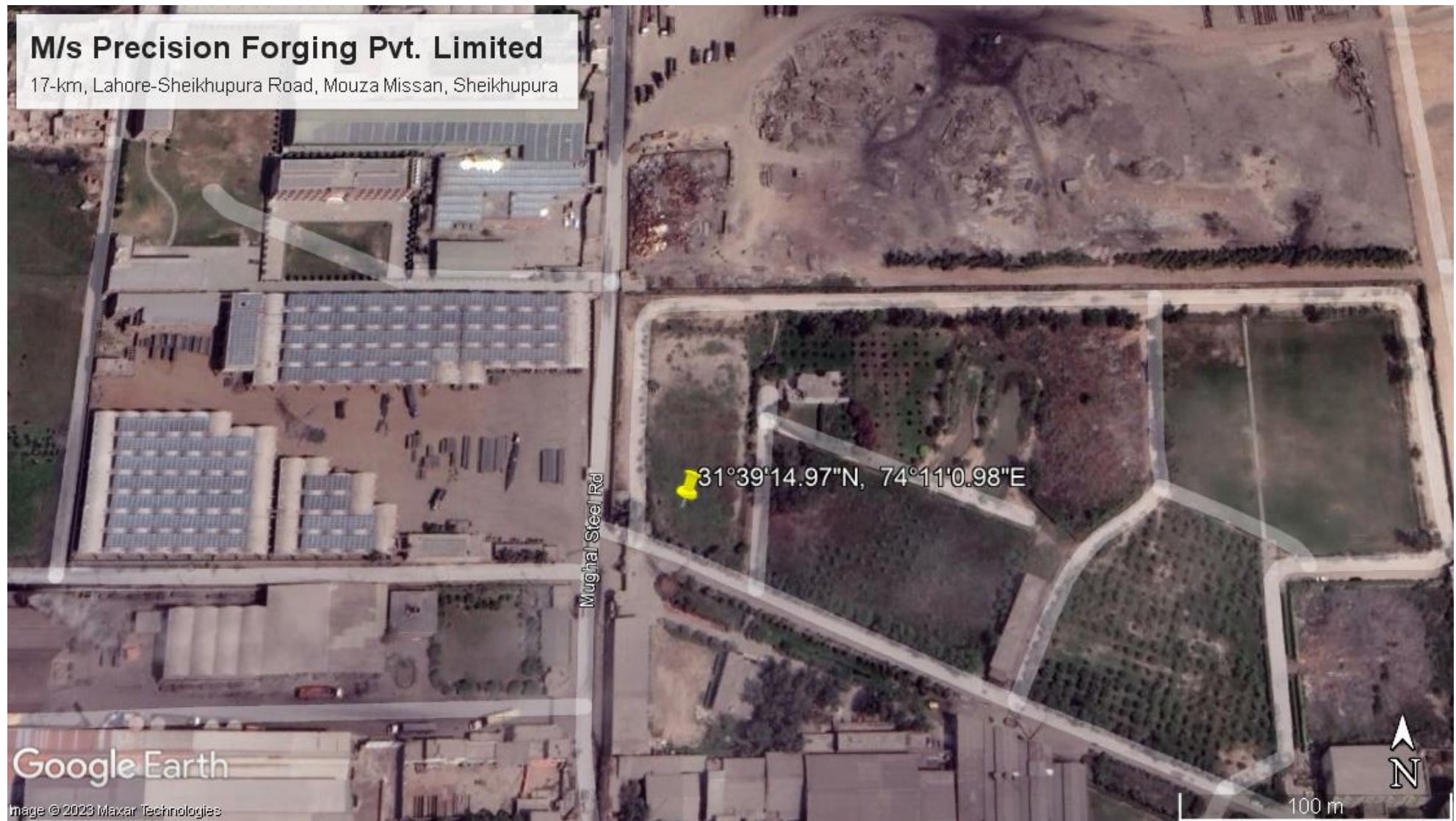
South..... Access Road

East.....open Land

West..... Road



Google map of site proposed for the construction of the subject project is annexed as
Annexure-C





Name of the proponent:

Name	Amjad Parvaiz
CNIC	35404-0972544-7
Mailing Address	Masjid Gulzar Madina, Mohalla Roshan Pura, Sheikhpura

For further details CNIC of the proponent and other relevant documents are attached as **Annexure-D** with this report.

Name of organization preparing the report:

Pak Green Enviro-Engineering (Pvt.) Ltd, as independent consultants, has been appointed by the proponent to conduct Initial Environmental Examination (IEE) report.

Organization	Pak Green Enviro-Engineering (Pvt.) Ltd
Contact No	042-35441444, 0303-4442335.
Office Address	46-M, Gulberg III, Lahore
Email	info@pakgreen.com

For detail company profile see the Chapter # 1 “Introduction”

A brief outline of the proposal

Name of the project:	Establishment Of Metal Cutting & Forging Unit under the name of M/s Precision Forging Pvt. Limited
Location of the project:	17-Km Lahore-Sheikhpura Road, Mouza Missan, Sheikhpura
Proposed Area:	The total proposed area will be 83776 SFT, and the covered area will be 61518 SFT, and the open area will be 22258 SFT (Details of covered area are provided in the map attached as Annexure-B).
Nature of Project:	Nature of the project is proposed and construction will be started after getting the environmental approval.
Cost of the project:	Overall cost of the project will be approx. 195 million rupees
Project process:	Process will include metal iron rod cutting and forging
Raw materials	Metal Iron Rod
Production capacity	2 ton per day



Labor/ Workforce:	During construction: 40 During Operation: 150
Water Requirement:	During Construction: 5000 liter/day for constructional and domestic uses. During Operation: Approximately 2500-4000 gallon per day water will be required for domestic use. There will be no process wastewater.
Solid waste:	During Construction: 0.45kg/person/day construction and domestic waste During operation: 30 kg/day domestic and project related waste

The major impacts

In order to identify all the activities associated with the project during construction and operation phase with potential to cause adverse environmental impacts and harm a thorough review has been conducted. Project will not have any significant adverse impacts on the nearby community and on environment. There will be no boiler and stack. Only domestic wastewater will be generated. Overall the project will have positive impacts on the local population and country as a whole.



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

Potential Impact	Criteria for determining Significance	Key Mitigation Measures
Dust Emissions—Particulate matter emitted during construction activities and gaseous emissions from site generators and transportation vehicles can result in deterioration of ambient air quality in the vicinity of the project site, and be a nuisance to the surrounding workers.	An increase in visible dust beyond the boundaries of the construction site; or Concentration of PM ₁₀ in excess of 150 µg/m ³ PEQS for Ambient Air.	Sprinkling of water on unsealed surfaces is recommended Vehicle speed restrictions should be applied in the project area; Raw materials should be transported in covered trucks. Ensuring that no stockpile is within 250 m of the community.
Construction Noise- Disturbance to surrounding communities due to operation of construction machinery at the project site.	PEQS for Noise OSHA standards	Noise monitoring has been conducted at the project site before starting the construction activity. Reduce noise at source; Take noise levels in consideration during detailed design and construction planning; Reduce traffic noise.
Solid waste Management— Improper waste management may generate health and aesthetic issues	Generation of excessive waste; Recyclable waste and reusable waste is discarded; Improper disposal.	Development of a waste management plan; Constructional waste should be utilized for road filling and maintenance. Domestic waste should be disposed of properly, handed over to contractors, placed in bins.
Vegetation Loss/ Soil erosion—Loss of vegetation as a result of land clearance for the construction purposes	Unnecessary or excessive removal of trees and shrubs.	Preparation of a Reinstatement Plan;



		Minimization of the felling of trees and clearing of vegetation; and avoidance of the use of fuel wood
Water Resources— The extraction of water for the project construction activities can affect the groundwater availability for the project area communities	Water extracted for the project can directly affected the ability of the community to meet their water needs	No impact on the community groundwater needs is envisaged as a result of the project.
Soil Contamination—Oil can contaminate the soil	Presence of visible amount of hydrocarbon in soil	Provision of spill prevention and control kits; Use of impermeable surfaces in workshops, and storage areas
Socioeconomic Issues Workers Safety— Safety hazards associated with the construction activity, particularly with the increase in traffic at the project site.	No specific guidelines exist. A significant impact will be interpreted if there are complaints from the community or the occurrence of any injury or loss	Speed limit of 10 km/h will be maintained on the access road; Traffic controller will be stationed on the access road; night driving will be kept to a minimum
Project and Community Interface—Inter-cultural differences between the project staff from other areas and the local community	No community complaints	Training of the non-local project staff on local culture and norms; Avoidance of unnecessary interaction of local population with the non-local project staff



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

Potential Impact	Criteria for determining Significance	Key Mitigation Measures
Machinery Noise- Working of machinery can be a nuisance for the workers in the working area.	OSHA Standards	PPEs i.e. ear muffs should be provided to workers in case of high noise.
Health & Safety Issues- Health and Safety issues e.g. Cuts and Injuries may be caused during the machinery handling.	OSHA Standards	Proper training of the staff should be conducted to avoid the accidents. First aid measures should be provided at the workplace.
Solid waste management- Improper solid waste management may cause health problems and aesthetic issues	Exposure to potentially hazardous waste; Generation of excessive waste; Recyclable waste and reusable waste is discarded; Improper disposal.	Waste bins should be placed at suitable places. Domestic and process related waste should be handed over to contractors.
Groundwater—The increased withdrawal of groundwater for the project will affect the groundwater resources of the project area	Water extracted for the project can directly affected the ability of the community to meet their water needs	No impact on the community groundwater needs is envisaged as a result of the project. There will be no use of water in process. Water will be need to fulfill domestic needs.



Proposed Environmental Monitoring

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

- **Ambient Air**

Monitoring for ambient air should be conducted on regular basis during construction and operation phases of the project and report should be submitted to EPA Punjab.

- **Noise**

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

- **Water quality**

Regular monitoring of water quality should be conducted on regular basis during construction and operation phases of the project and report should be submitted to EPA Punjab. The monitoring reports are attached as **Annexure-E**

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



Proposed Environmental Monitoring Program:

Sr. No.	Parameters	Monitoring Schedules During Construction	Monitoring Schedules During Operation	Monitoring Duration
1	Stack Emission Analysis	Quarterly	N/A	As per PEQ's
1	Ambient Air Monitoring (NO _x , CO ₂ , SO ₂ , PM ₁₀)	Quarterly	Quarterly	As per PEQ's
2	Noise Level	Quarterly	Quarterly	As per PEQ's
4	Drinking water quality	Quarterly	Quarterly	Some parameters on site Others in lab
5	Waste Water	Quarterly	Quarterly	Some Parameters on Site Others in Lab



CHAPTER # 1

INTRODUCTION

This Section of the report provides an overview of the rational of the Project, objective of project, requirement of the project, purpose of the report and approach adopted to conduct the Initial Environmental Examination (IEE).

Purpose of the report

Initial Environmental Examination (IEE) report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab, Lahore for the compliance of Section 12 of Punjab Environment Protection Act-1997 (Amended 2012) for obtaining No Objection Certificate (NOC) before starting the construction activity at the project site. The other relevant regulations and guidelines considered while preparing this IEE report include:

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

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

Identification of the project and proponent

The proposed project falls under Schedule I of Review of IEE and EIA Regulations, 2022.



Proponent:

Name	Amjad Parvaiz
CNIC	35404-0972544-7
Mailing Address	17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura

For further details CNIC of the proponent and other relevant documents are attached as **Annexure-D** with this report.

Details of Consultant

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

Organization	Pak Green Enviro-Engineering (Pvt.) Ltd
Contact No	042-35441444, 0303-4442335.
Office Address	46-M, Gulberg III, Lahore
Email	info@pakgreen.com , pak.green@hotmail.com

The current study was carried out by the following professionals:

Sr. No.	Designation	Name & Qualification	Experience
1	Chief Environmentalist/ Lead Environmental Professional	Dr. Abdul Hafeez Nasir PhD Scholar Environmental Management	Twelve Years' Experience as Environmentalist
2	Senior Environmentalist/	Mr. Iftikhar Ahmed M.Phil. Environmental Sciences	8 Years' Experience as Environmentalist



	Environmental Professional		
3	Environmental Professional	Mr. Hassan Afzal M.Phil. Environmental Sciences	6 Years' Experience as Environmentalist
4	Environmental Engineer	Muhammad Imran BSc Environmental Engineering	1 year Experience as Environmentalist

Brief description of Nature, Size and Location of Project

Subject project for which this Initial Environmental Examination study has been conducted is proposed Proposed Establishment of metal cutting and forging unit under the name M/S Precision Forging Pvt. Limited located at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura.

The total proposed area will be 83776 SFT, and the covered area will be 61518 SFT, and the open area will be 22258 SFT. Process will include cutting of iron rod and forging to engine parts, Proposed capacity of the project will be approx. 2 ton /day and total cost of the project will be approx. 195 million rupees.

Name of the project: **Proposed Establishment of metal cutting and forging unit by M/S Precision Forging Pvt. Limited**

Location of the project:	17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura
Proposed Area:	The total proposed area will be 83776 SFT, and the covered area will be 61518 SFT, and the open area will be 22258 SFT (Details of covered area are provided in the map attached as Annexure-B).
Nature of Project:	Nature of the project is proposed and construction will be started after getting the environmental approval.
Cost of the project:	Overall cost of the project will be approx. 195 million rupees
Project process:	Process will include Metal cutting and forging
Raw materials	Metal Rod
Production capacity	Approximately 2 ton per day
Labor/ Workforce:	During construction: 40 During Operation:150



Water Requirement:	During Construction: approximately 5000liter/day for constructional and domestic uses. During Operation: maximum 2500-4000 gallon per day for domestic. There will be no process water.
Solid waste:	During Construction: 0.45/person/day construction and domestic waste During operation: 30 kg/day domestic and project related waste

Location

Subject proposed project is located at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura having coordinates:

31°39'14.97"N

74°11'0.98"E

North..... open Land

South..... Access Road

East.....open Land

West..... Road



For further details, layout map of the project is attached as **Annexure-B** with the report.



Screening

The proposed project falls under Schedule I of Review of IEE and EIA Regulations, 2022.



CHAPTER # 2

DESCRIPTION OF THE PROJECT

Type and Category of the Project:

Subject project for which this Initial Environmental Examination study has been conducted is proposed for Establishment of Metal Cutting & Forging Unit unit under the name M/S Precision Forging Pvt. Limited located at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura. The total proposed area will be 83776 SFT, and the covered area will be 61518 SFT, and the open area will be 22258 SFT (Details of covered area are provided in the map attached as Annexure-B). Proposed capacity of the project will be approx. 2 ton /day

The proposed project falls under Schedule I of Review of IEE and EIA Regulations, 2022.

Objectives of the Project

Objectives of the construction of the subject project are:

- To meet the increasing market demands of engine parts.
- To enhance the business of the proponent.
- Contribution to the national economy.
- Compensate to help poverty by providing employment.

Alternative Considerations and Reasons for their Rejection:

Location alternatives:

To fulfill the commercial aspects of the project under reference of this IEE Report, it is to be sited at a place where commercial processing activity is either already going on or there are bright prospects of the same. The current project is proposed Establishment of metal cutting and forging unit by M/S Precision Forging Pvt. Limited unit, it must also meet the legal requirements of the Punjab Environmental Protection Act, 1997 (Amended 2012). Availability of land at the best convenient place is equally important among other considerations for the site selection. Availability of access roads, communication facilities, electricity, basic infrastructure, sewerage etc. is yet the other necessary requirements.

Obviously, environmentally sound, neat and clean environment are the other considerations for site selection. The project will also facilitate the people of the area with increasing the opportunity of employment, and other related facilities.

Keeping these requirements and their feasibility and other basic infrastructural requirements, the selected site is ideally suited for Construction of the subject Metal cutting and forging unit.



Location and site layout of the project:

Proposed site is located at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura having coordinates:

31°39'14.97"N

74°11'0.98"E

North..... open Land

South..... Access Road

East.....open Land

West..... Road



For further details, layout map of the project is attached as **Annexure-B** with the report.

Fig: Google map of site proposed for the construction of subject project



Land Use on site

Site proposed for the construction of the subject project is an empty plot and it is the property of the proponent, reserved by the proponent for the construction of the subject project. Land documents are attached as **Annexure-H**.

Road Access

Paved road at the front side of the project

Vegetation features of the project

Land proposed for the subject project is clear and free of dense vegetation, only shrubs like Few and scattered amount of vegetation will help to avoid land clearing at the project site.

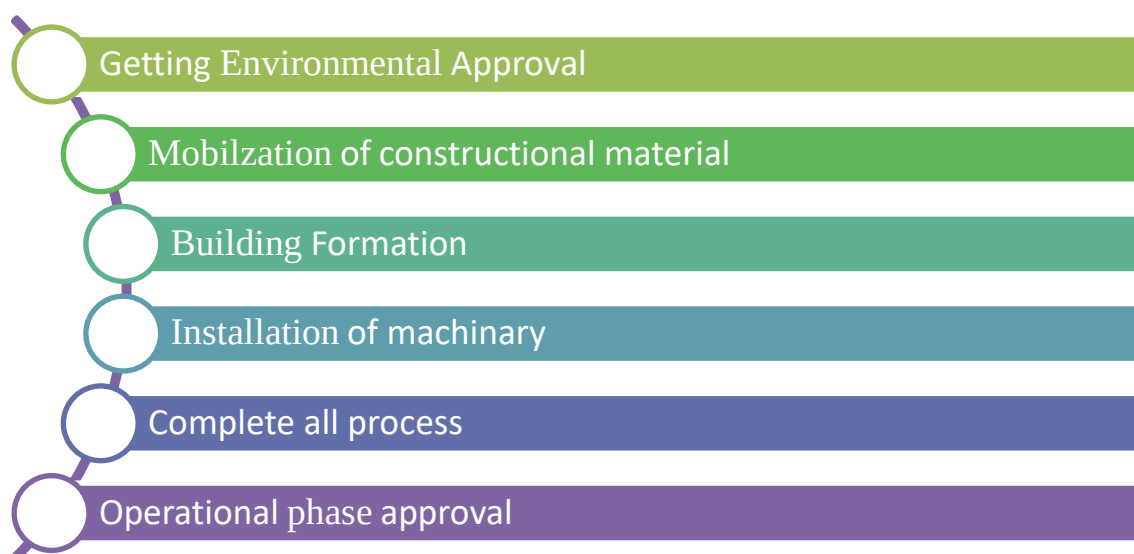
Cost and magnitude of the operation

The total proposed area will be 83776 SFT, and the covered area will be 61518 SFT, and the open area will be 22258 SFT (Details of covered area are provided in the map attached as Annexure-B). Process will include metal cutting and forging. Proposed capacity of the project will be 2 ton /day and total cost of the project will be approx.195 million rupees.

Schedule of Implementation

Detailed feasibility studies and designing of the project have been completed. Necessary legal, administrative and financial formalities are being finalized. The project is expected to be

completed within 10-12 months from the date of environmental approval. Subsequently the operational and maintenance aspects of the project will be undertaken by the proponent.





Description of the project:

Subject project for which this Initial Environmental Examination study has been conducted is proposed Establishment Of Metal Cutting & Forging Unit unit under the name of M/s Precision Forging Pvt. Limited. Ltd at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura

Subject project involves metal cutting and forging. The process begins with the selection of the appropriate ready-made bar of iron. The next phase will be cutting of iron on shearing machine, the cutting phase starts with marking the metal piece according to the design specifications. After the metal cutting process, the next step will be the forging of engine parts. This involves heating the metal to a specific temperature to make it malleable and ready for shaping. Heating will be done through induction furnace. After heating process, the metal will be transferred to forging equipment such as hydraulic press. The forming of engine parts will be done by positioning the heated metal between specially designed dies. After the forging and finishing process, the final product will be passed through a thorough inspection and quality control process to ensure they meet the specified standards and dimensions.

Name of the project: **Proposed Establishment of metal cutting and forging unit by M/S Precision Forging Pvt. Limited**

Location of the project:	17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura
Proposed Area:	The total proposed area will be 83776 SFT, and the covered area will be 61518 SFT, and the open area will be 22258 SFT (Details of covered area are provided in the map attached as Annexure-B).
Nature of Project:	Nature of the project is proposed and construction will be started after getting the environmental approval.
Cost of the project:	Overall cost of the project will be approx. 195 million rupees
Project process:	Process will include Metal cutting and forging
Raw materials	Metal Rod
Production capacity	Approximately 2 ton per day
Labor/ Workforce:	During construction: 40 During Operation:150
Water Requirement:	During Construction: approximately 5000liter/day for constructional and domestic uses. During Operation: maximum 2500-4000 gallon per day for domestic. There will be no process water.



Solid waste:	During Construction: 0.45/person/day construction and domestic waste During operation: 30 kg/day domestic and project related waste
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ACTIVITIES OF THE PROJECT

1. Raw Materials Purchase & Storage

Raw material will include iron ready made bars. Raw material will be chosen by considering the factors such as strength, durability, heat resistance, and machinability.

2. Metal Cutting

Measuring tools and marking equipment will be used to mark the metal piece according to the design specifications. The cutting of iron will be done with shearing machine

3. Forging:

Heating: In first phase metal rod will be heated to specific temperature based on the metal type and desired level of malleability. This will be done in a induction furnace.

Forming: In next phase, heated metal rod will be Transfer to the forging equipment, which can be mechanical press. Apply controlled force to shape the metal by compressing, bending, or stretching it.

Die Design and Preparation: in this phase appropriate dies will be used to achieve the desired shape. Dies are often made from hardened steel and have cavities matching the desired final shape.

Die Forging: Position the heated metal between the dies and apply pressure to shape it.

Finishing: After the forging process, Finishing will be done by performing any necessary trimming, grinding, or machining operations to remove excess material and achieve the final dimensions and surface finish

4. Inspection and Quality Control: Final process will be Inspection of the finished components using various methods such as visual inspection, dimensional measurement, non-destructive testing, and material analysis to ensure they meet the required specifications and quality standards.

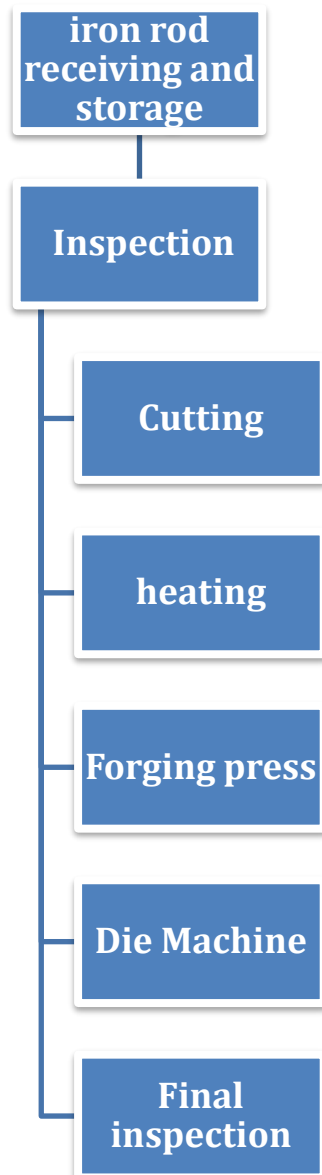


List of machinery:

Name	No. Of Machine
Lifter	1
Shearing Machine	3
Die Machine	2
Forging press	4
Induction furnance	4



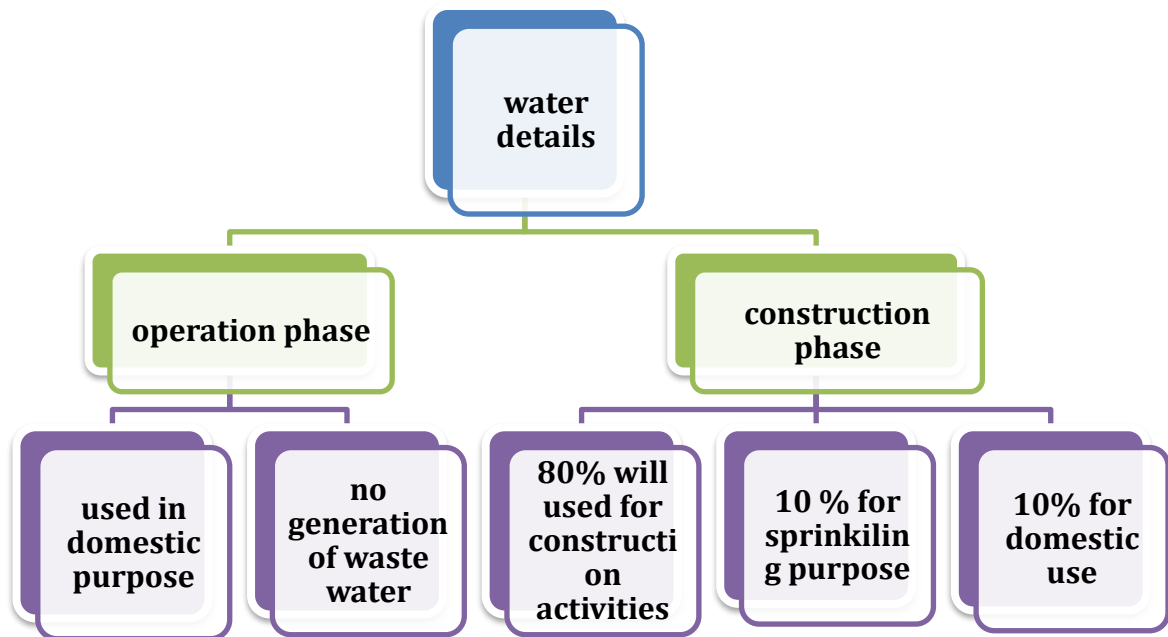
Process Flow:



Water requirements:

During the construction phase of the project estimated 5000 liter/day water will be required for constructional and domestic purposes while during the operational phase of the project, according to an estimate, maximum 2500-4000 gallon/day water will be used for domestic. Ground water will be used as a source of water to fulfill the water requirements during the construction and operation phases of the project.

There will be no process wastewater.



Waste water treatment:

There is no generation of waste water because it is a metal cutting and forging unit process include only cutting and forming of engine parts. Only domestic waste water will be generated upto 60-70% of the used water for domestic purposes will be the waste water which will be produced during the operation phase of the project. The generated wastewater will be treated in treatment facility (Septic Tank) of unit.



Solid waste:

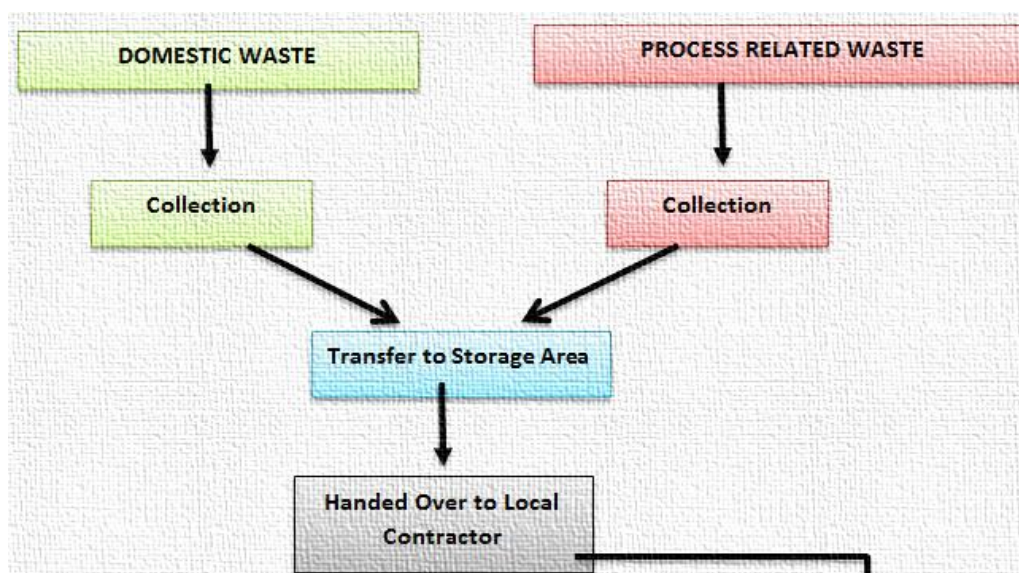
During the construction phase of the project, 0.45 kg/day construction and domestic waste will be produced. Constructional waste will be recycled during the constructional activities for road filling and maintenance purposes. According to an estimate, 30 kg/day domestic and project related solid waste will be produced during the operation phase of the project (based on solid waste generation rates of 30kg/day). Project related waste will include scrap, which will be handed over to the vendor.

Solid waste management system/practices

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

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

Flow chart of solid waste management plan:



Plantation

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



Parking Area

Parking area will be made available within the unit for cars, motorcycles, trucks etc.

Fire Protection System

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

Emergency Exits:

Emergency exit points will be made available for easy evacuation in case of any emergency. Emergency Exit plan is attached as **Annexure-F**.

Personal protective equipment:

Workers will be provided with Gloves, Masks & other personal protective equipment during the working hours to ensure personnel health & safety. Implementation of PPEs will be ensured by the proponent for the proposed project also.

Power sources and transmission:

The power requirements will be fulfilled by WAPDA..

Available Facilities

Available facilities at the proposed project site include:

- Electric supply from WAPDA
- Solid Management (SWM), Water supply, sewerage disposal and drainage systems
- Line and cellular telephone facilities

Restoration / Rehabilitation Plan

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

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



Government approvals required by the project:

All the approvals will be obtained by the project proponent and will be submitted to EPA at the time of operation.

CHAPTER # 3

DESCRIPTION OF ENVIRONMENT

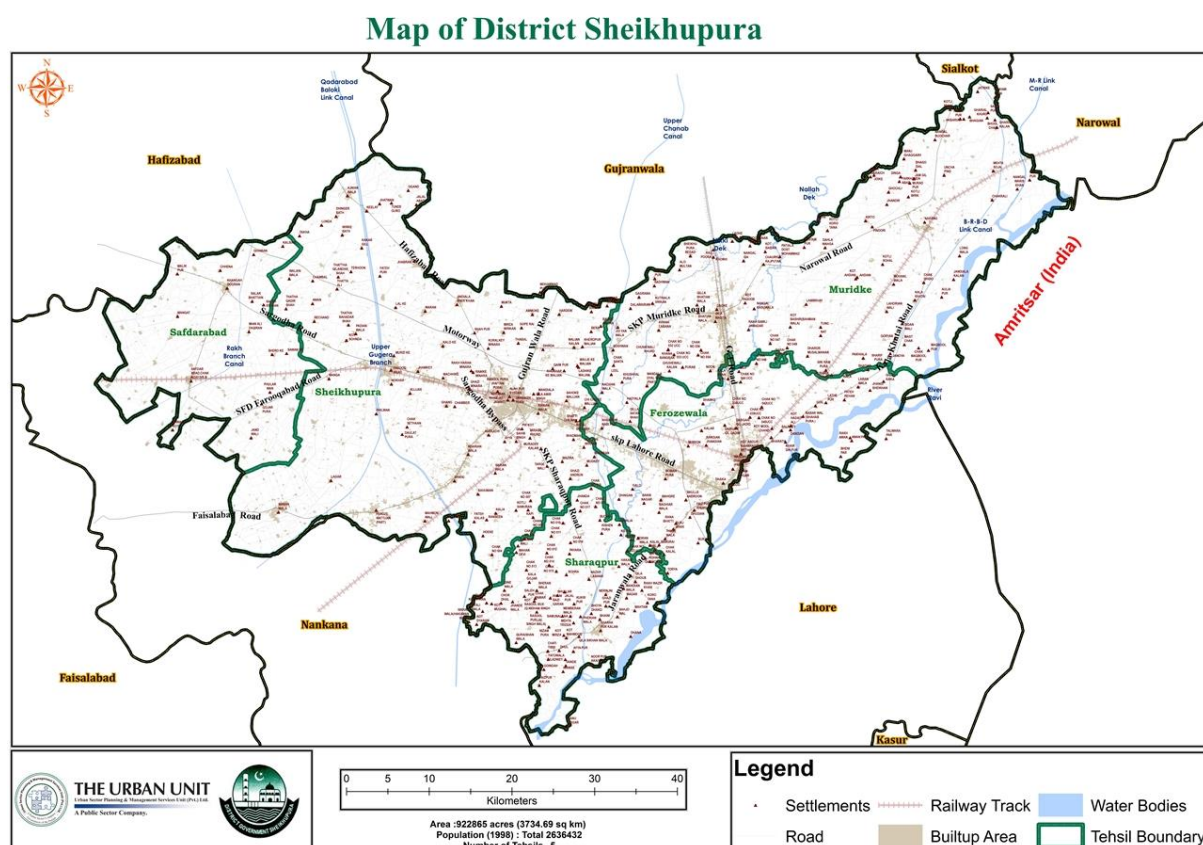
This section describes the baseline conditions, which cover the existing Physical, ecological and socio-economic environment of the project as well as study area. Data was collected by reviewing secondary data and field survey.

Physical Environment

Topography & Geography

The proposed site is situated at District Sheikhupura.

Site area is generally flat and slopes towards south and south-west at an average gradient of 1:3000. The project area does not have any industrial unit within the radius of 5 Km.



Physical Environment/ Resources

History:

Sheikhupura also known as Qila Sheikhupura is a city in the Pakistani province of Punjab. Founded by the Mughal Emperor Jehangir in 1607, Sheikhupura is now the 16th largest city in Pakistan, and is the headquarters of Sheikhupura District. Sheikhupura is also the headquarters



of Sheikhpura Division. The city is an industrial center, and satellite town, located about 38 km northwest of Lahore. According to the 2017 Census of Pakistan, its population is 473,129.

The region around Sheikhpura was previous known as Virk Garh, or "Virk Fort", in reference to the Jat tribe that inhabited the area. The city, founded in 1607, was named by Mughal Emperor Jehangir himself - the city's first name is recorded in the Emperor's autobiography, the Tuzk-e-Jahangiri, in which he refers to the town as Jehangirabad. The city then came to be known by its current name, which derives from Jehangir's nickname Shekhu that was given to him by his mother, wife of Akbar the Great.

Partition

On the eve of the Partition of British India, Sikhs made up 19% of the district's population. Despite the area's Muslim majority, Sikhs had hoped that the boundary commission would award the area to India, given the proximity of Sheikhpura to the city of Nankana Sahib - revered as the birthplace of the founder of Sikhism, Guru Nanak. The city was spared the large-scale rioting that engulfed Lahore earlier in 1947, and the city's Sikh population did not shift to India before the Radcliffe Line that demarcated the border of the newly independent states of Pakistan and India was announced.

The Sikh population had not made arrangements to leave and remained trapped in the city until 31 August 1947. The city's Sacha Sauda refugee camp hosted upwards of 100,000 Sikh refugees who had come to the city after fleeing nearby Gujranwala and other surrounding areas earlier that year. Fierce violence erupted in the city, and an estimated 10,000 people were killed in Sheikhpura between 16 August and 31 August in communal rioting between Sikhs and Muslims. Large numbers of Sikh women were killed by Sikh men in an attempt to prevent Muslim rioters from reaching them.

Physical Environment/ Resources

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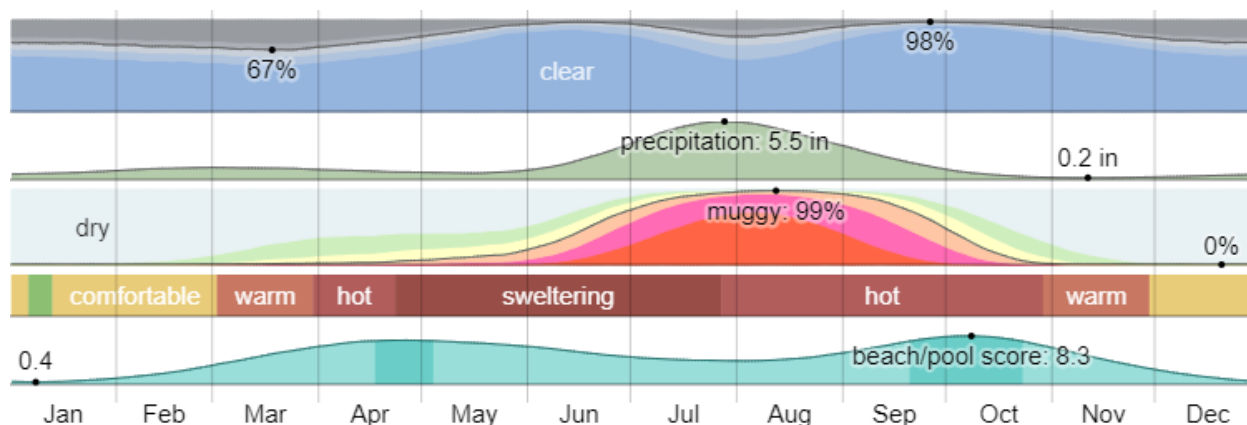


was named by Mughal Emperor Jehangir himself - the city's first name is recorded in the Emperor's autobiography, the Tuzk-e-Jahangiri, in which he refers to the town as Jehangirabad. The city then came to be known by its current name, which derives from Jehangir's nickname Shekhu that was given to him by his mother, wife of Akbar the Great

Climate:

The climatic conditions of the project area are same as the condition of the district Sheikhpura. Sheikhpura has extremes of climate; the summer season begins from April and continues till September. June is the hottest month. The mean maximum and minimum temperature for this month are about 45 and 27 degree Celsius respectively. The winter seasons lasts from November to February. January is the coldest month. The mean maximum and minimum temperatures for the coldest month are 22 and 0 degree Celsius respectively. Rainfall Towards the end of June monsoon conditions appear and during the following two and a half months the rainy season alternates with sultry weather. The winter rain falls during January, February and March ranging from 23 to 31 millimeters.

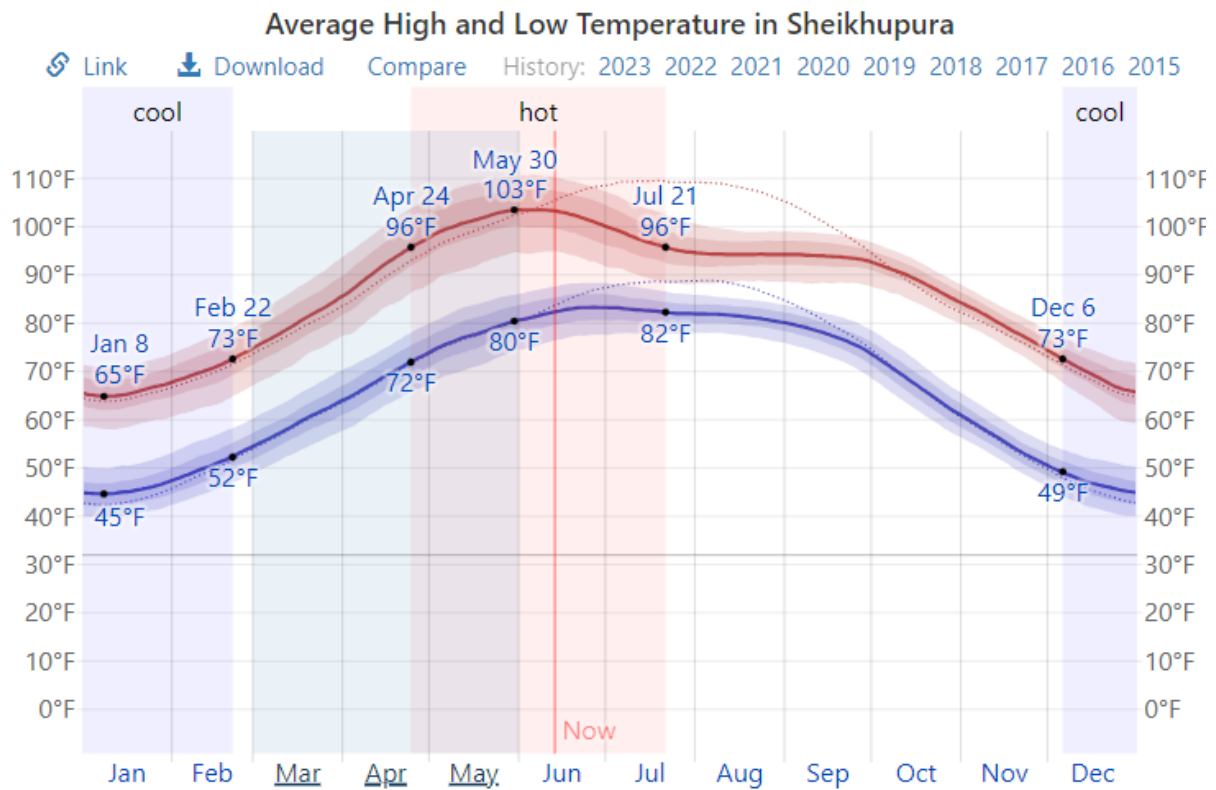
CLIMATE GRAPH SHEIKHUPURA



Graphical representation of climate of Sheikhpura

Temperature:

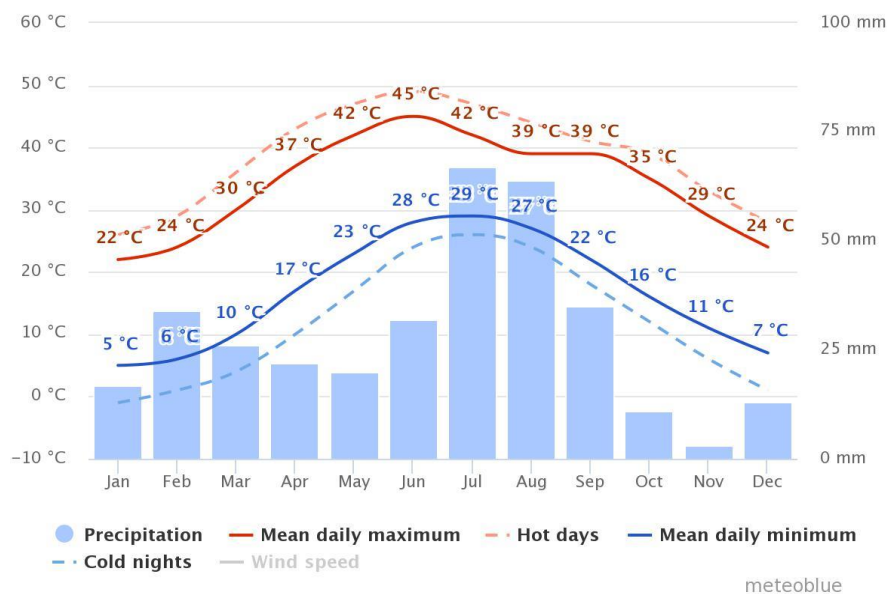
Over the course of a year, the temperature typically varies from 5°C to 30°C and is rarely below 2°C or above 44°C. At an average temperature of 33.7 °C, June is the hottest month of the year. The lowest average temperatures in the year occur in January, when it is around 12.2 °C

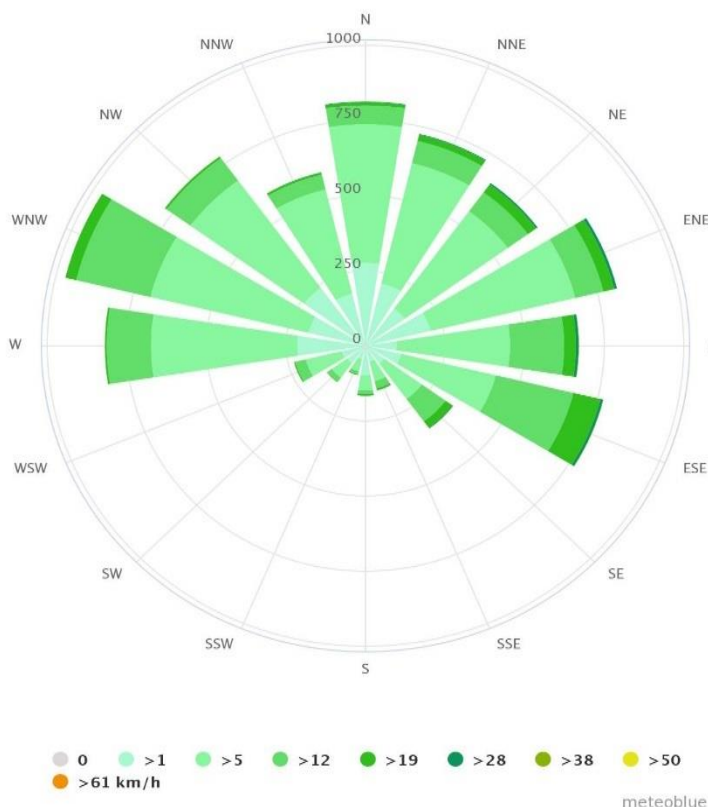


Precipitation:

Precipitation is the lowest in November, with an average of 3 mm. The greatest amount of precipitation occurs in July, with an average of 125 mm.

Between the driest and wettest months, the difference in precipitation is 122 mm. The variation in temperatures throughout the year is 21.5 °C.





Topography

Topography of Sheikhpura District is plain. The area is a part of Rechna Doab and consists of Sub-recent sediments brought by spill channel from the Chenab River. There are some old channel levees remnants and old basins filled up with clay materials. The material is probably of Late Pleistocene age derived from mixed calcareous sedimentary and metamorphic rocks of Lower Himalayas. Seepage from the canals in the Area has considerably raised the water table resulting in water logging and salinity.

Soils:

These are river transported deposits (alluvium), which are quite thick and fairly homogeneous in extent. The top soil 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, where it is underlain by silty fine sand/fine sand. This layer generally continues to deeper depths. These layers of silty clay and sandy gravel may also exist below 10-meter depth.

Air Quality:

Ambient air monitoring at the project site was conducted by the team of Pak Green Laboratories. Lab reports are annexed as **annexure-E**.

Noise Level:

Major source of noise generation is vehicular traffic (particular loaded and unloaded truck, van) along the main road. Noise levels were monitored at different location of the project site.

Lab reports are annexed as **annexure-E**.

Noise Level Monitoring:

Basic Environmental conditions:

During the measurement following conditions were prevailed on workplace:

Metrological Conditions:

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



Monitoring Instrument:

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

Name: Digital sound level meter

Model: AR824

Company: Intel Instruments plus

Frequency Range: 31.5 Hz to 8 kHz

Methodology adopted:

Noise level was monitored at four points; lab results are attached as **Annexure**.

Ground water:

The underground water will be used as a source of water at the project site. Sample was taken from the tube well near the project area to test its parameters. Lab results are attached as **Annexure-E**.



Ecological Resources

Fisheries:

The project area is almost free from any commercial fishing activity. There are no lakes, even natural water ponds in the vicinity. Therefore, Fishery or any worth mentioning aquatic biology in this area is out of question.

Biodiversity:

Natural capital of a country mainly includes all of the country's wilderness areas and scenic landscapes, including also with their associated flora and fauna. Pakistan has a total of nine major ecological zones. The contribution of the "Natural Capital" is recognized at three distinct levels: species, genera, and communities (habitat and ecosystem) both collectively and within each level, the range or variety of the resources are referred to as the "Biological Diversity". The term has relevance for each of Pakistan's administrative units district, province, and particularly country. The more the number of species, genera, and habitats and ecosystems present within these units, the greater is said to be the Biodiversity. The biodiversity of the area, with this background, is discussed as under.

Flora:

Project site is free from any protected species.

Fauna:

Project site is free from any protected species.

Rare or endangered species:

There are no game reserves or protected lands/areas or endangered or rare species either in the area in the range of 5km from the project site.

Social and Cultural Study

Demographics

Muridke is a city and headquarters of Muridke Tehsil in Sheikhpura District of Punjab, Pakistan. It is the 2nd largest city in Sheikhpura Division. It is situated near the city of Lahore, at an elevation of 205 m (675 ft) and is situated on the Grand Trunk Road. In 2005 Muridke became the headquarters of the newly created Muridke Tehsil of Sheikhpura District. According to the 2017 Census of Pakistan, its population is 166,652. It is ranked 53rd



in the List of most populous cities in Pakistan. Chand Bagh School is situated on the Muridke-Sheikhupura road.

Industries:

A variety of important industrial units are operating in district Sheikhupura including leather tanneries, rice mills, fertilizer, chemicals, polyester fibre/yarn and rayon yarn, tractor and motor cycle assembling, electric domestic appliances, tyres and tubes (trucks, buses, cars and light vehicles), jute products, ceramics, electrical goods, pharmaceutical, cotton/woolen textile, etc. Paper and paper board industry is also concentrated in district Sheikhupura.

Demand Based Industries:

District Sheikhupura is one of the major industrially developed districts of the country. It possesses requisite physical/social infrastructure facilities and developed industrial base. Therefore, in view of overall provincial/national requirements and export potential, there exists good prospects for pharmaceutical, cosmetics, disposable syringes, glass ampoules, artificial leather, fibre glass, boilers, pumps and compressors, ball bearing, generators, foundry and forging, automobile transmission, etc.

List of Identified Projects:

- The following industrial units have been identified for investment in district Sheikhupura
- Auto Parts
- Artificial Leather
- Automobile Transmission
- Corn Oil
- Cosmetics
- Furniture
- Fertilizer
- Fiber Glass
- Foundry and Forging
- Leather Products
- Packaging Unit
- Pharmaceutical
- Wood Pulp for Paper Industry



Livestock:

There are 28 tanneries, one milk processing unit, one ice cream unit, 11 leather products units and 5 leather shoes units already operating in the district. In view of the above, there exist good prospects for dairy farms, cattle/goat/sheep fattening farms, leather garments, leather products, etc.

Agriculture:

Major crops and fruit of district Sheikhpura are sugarcane, wheat, rice and guava. A variety of vegetables are also grown in the district. There are 23 flour mills, 93 rice mills, 4 fruit juices, 4 solvent extraction units and 15 vegetable ghee/cooking oil units already operating in the district. In view of the availability of various raw-materials and existing industries, there exist little additional scope for flour mills and rice husking units. However, there exist good prospects for fructose from rice bran, rice husk briquettes, corn oil, furfural from maize cobs, fruit juice/pickles/squashes and vegetables dehydration units.

Education:

Chand Bagh School is an independent boarding school for boys at Muridke in Sheikhpura District, Punjab, Pakistan, approximately 40 km north of Lahore. The school opened in September 1998, having been conceived as a Pakistani version of The Doon School of India. The name "Chand Bagh" refers to the Doon School's estate at Dehradun, India. The origins of the school lie in the independence of Pakistan in 1947 and the series of Indo-Pakistani wars and conflicts which have since followed. In 1985 a group of Pakistan's "Ex-Doscoss", alumni of the Doon School, who had attended it in the days of British India, travelled to Dehradun in India to attend the school's 50th anniversary celebrations. On their return they formed a Doon School Society of Pakistan, which aimed to create a Pakistani version of their old school. After many years in gestation, the school was finally founded by Lieutenant General Ghulam Jilani Khan, a former Governor of the Punjab Province, himself a Dosco, and ten fellow-trustees. In many respects Chand Bagh is modelled on Doon School, Dehradun.

The name "Chand Bagh" means "moon garden" and was chosen in memory of the original Doon School, which had been established in 1935 on the Chand Bagh estate at Dehradun, now in the Indian state of Uttarakhand.

The principal architect of the new buildings, which have romanesque influences, was kamil khan mumtaz. The school opened its doors in september 1998 and occupies a campus of some 190 acres. Around the campus are the chand bagh farms, a further 270 acres.

Archaeological sites of the District:

Sheikhpura, on the outskirts of Lahore, derived its name from a nickname for Prince Jahangir. It was one of Jahangir's princely dominions during his father Akbar's reign, just north of Sheikhpura town lies a hunting complex known as the Hiran Minar. Hunting grounds were an important part of the



physical environment of Mughal emperors, and the Hiran Minar is one of the best known and most beautiful of such sites. Sheikhpura has a number of historical places in the city which attracts visitors to the city:

- Hiran Minar
- Sheikhpura Fort (Qila Sheikhpura)
- Company Bagh
- Shrine of Shah Jamal
- Muqadssa-e-Mariam
- Sacha Sodha
- Tomb of Mian Sher Muhammad Sharaquri

Notable persons:

Aaqib Javed; played as fast bowler for Pakistan cricket team.

Anjum Saeed; played one Olympics for Pakistan hockey team.

Anzhelika Tahir; Miss Pakistan World 2015, a beauty queen from Pakistan.

Ghulam Jilani Khan; the founder of the Chand Bagh School

Kulwant Singh Virk; author

Mohammad Asif; a right arm medium fast bowler in cricket

Muhammad Javed Butta; a former justice of Supreme Court of Pakistan

Nawab Kapur Singh; one of the pivotal figures of the Sikh Confederacy and founder of the Singhpuria Misl.

Rana Naved-ul-Hasan; player for the Pakistan National Cricket Team

Rana Tanveer Hussain; Federal Minister

Saeed Anwar; played three Olympics for Pakistan hockey team.

Sheikh Salim Chishti; Sufi saint of the Chishti Order during the Mughal Empire

Waris Shah; A Great Punjabi Sufi Poet



Zaka Ullah Bhangoo; Pakistani army aviator

Zia Ullah Khan; attributed with major contributions in the military such as serving as Corps Commander of XII Corps Quetta<ref>'XII Corps (Pakistan)'

Quality of Life Values:

Recreational Resources and Development:

The project area has not any private recreational facilities.

Aesthetic Values:

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

Archaeological and Historical Treasures:

Archaeological or historical treasures within the project area are not available



CHAPTER # 4

SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES

Environmental Impacts due to project location

Project is present in the area of the District Sheikhupura. No nearby human settlement exists within the radius of 500 meter. Unit is proposed for Establishment of metal cutting and forging unit; site does not fall in the category of sensitive area and no environmentally sensitive localities exist within radius of study area. The only issue which can arise due to the location of the subject project could be the issue of traffic congestion due to transportation of the construction material at the project site. If the project proponent maintain HSE conditions and comply with the PEQS limits than, there will not be any significant impacts of the project on the environment.

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

Impact significance: Low or may be positive

Nature of impact: Direct

Duration: Long-term

Timing: construction phase

Reversibility: NA

Likelihood: Low (unlikely),

Consequences: Mild or may be positive

Mitigation Measures for location phase impacts

- Project site should have good road infrastructure and efficient road infrastructure already exists there that is used currently to access the site and there is no issue of the road congestion due to the wide, good and paved road named Raiwind Road Lahore.
- Location can be considered as the positive impacts due to utilization of the product in the same District.
- The project will provide the jobs to the local residents as well as to those from the suburban areas.

Environmental Impacts due to the project design

Subject project for which this Initial Environmental Examination study has been conducted is proposed construction of metal cutting and forging unit under the name of M/s Precision Forging Pvt. Ltd.. Ltd at 17-Km Lahore-Sheikhupura Road, Mouza Missan, Sheikhupura.



Firefighting plan, health & safety plan, tree plantation plan, emergency response plan will be incorporated during the design phase of the project. The subject project will consist of;

- Office building
- Iron rod Store
- Cutting area
- Quality Assurance office
- Separate water storage taken for the firefighting and domestic purposes
- Firefighting instrument room
- Parking area

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

- Structural stability of the proposed project.
- Soil structure and soil bearing capacity
- Road infrastructure design
- Emergency exit in the proposed project
- Firefighting system
- Rain water harvesting capacity of the drainage system
- Electricity hazards

Impact significance: moderate to high or may be negative

Nature of impact: direct

Duration: Long-term

Timing: Constructional phase & Operation phase

Reversibility: NA

Likelihood: moderate to high

Consequences: moderate to high or may be negative

Mitigation measures and recommendations

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

- Emergency exist points should be marked within the project building.
- Firefighting system should be designed for the emergency situations.
- Electricity system should be design safe and sound.
- Electricity wires should be covered by thick plastic/electricity resistant covers.



Environmental Impacts during the construction phase

Impacts related to the construction phase of the subject project are discussed below:

- **Grubbing and stripping**

Grubbing and stripping may be a minor and short term impact on the physical environment during the construction phase. It may also be a health and safety hazard for the people at or near the project site.

- **Leveling and compaction of the land**

Leveling and compaction of the land is also a short term and minor impact on the physical environment and it may also be a health and safety hazard for the workers.

- **Demarcation of project building and other facilities**

It may also be a minor impact on the physical environment due to the subject project.

- **Generation of dust during loading and unloading of construction materials**

It is also a minor and short term impact on the physical environment and also for health and safety, which may arise during the construction phase.

- **Generation of noise on account of vehicular use and construction activities**

It is also a minor and short term impact on the physical environment and also for health and safety, which may arise during the construction phase.

- **Gaseous emission due to the vehicles and stand by generator (if any)**

It may also be a minor impact on the physical environment during the construction phase, if vehicles and generators are not properly tuned.

- **Local flooding due to over-use of water and leakage of pipes**

It may be a minor and short-term impact on the physical environment if precautionary measures have not been taken.

- **Safety of construction workers, people in the surroundings and passersby**

Health and safety issues may arise during the construction phase if proper precautionary measures will not be taken.

- **Any outbreak of fire due to electrical and other failures**

This issue may arise due to carelessness or improper management, and it may be a serious hazard which may affect the environment or may also cause the loss of property or life.

- **Solid waste generation due to domestic and construction activities**

Solid waste generation due to domestic and construction activities may be a negative impact on environment if not managed properly.

- **Wastewater generation from the domestic and constructional activities**



Wastewater generation due to domestic and construction activities may be a negative impact on environment if proper wastewater treatment and management system will not be implemented.

- **Ground water quality**

Ground water quality may be affected by the development if proper mitigation measures will not be implemented.

- **Impacts on Fauna and Flora**

Construction will impact the flora/ vegetative cover and fauna present at the project site.

- **Security threat**

Security issue is a major socioeconomic impact which may arise during the construction phase.

- **Impact on land value**

Construction of the subject project may cause positive or negative impact on the land value.

- **Dislocation of the people**

Construction of the subject project may cause the dislocation of the local people if any, which is a negative impact on the socioeconomic environment.

- **Loss of public and private infrastructure**

Construction of the subject project may cause loss of public and private infrastructure if any, which is also a negative impact on the socioeconomic environment.

Impact significance: moderate to high or may be negative

Nature of impact: direct

Duration: Short Term

Timing: Construction phase

Reversibility: NA

Likelihood: moderate

Consequences: moderate

Mitigation Measures and Recommendations

- Precautionary measures should be adopted to save the environment from the impacts of grubbing, stripping, leveling and compaction and health and safety of workers should be ensured during the construction phase.
- Demarcation of the project building and other facilities should be according to the laws and regulations.
- Sprinkling of water on dusty tracks is recommended to avoid the generation of dust on dusty tracks.



- Vehicles should be properly tuned to reduce the impacts of dust and noise.
- Mitigation measures should be taken to meet the PEQS at the stack of generators.
- Proper mitigation measures should be taken to reduce the noise generation during the construction activities.
- PPEs i.e. ear muffs, helmets and masks etc. should be provided to workers to ensure their health and safety during the construction activities.
- Precautionary measures should be taken to reduce the local flooding due to over-use or leakage of pipes.
- Health and safety of construction workers, people in the surroundings and passersby must be ensured.
- Precautionary measures should be taken to avoid any outbreak of fire due to electrical and other failures.
- Constructional waste should be used for landfilling purposes.
- Domestic solid waste should be kept in dust bins and should be handed over to local contractors.
- Add more vegetation to restore the land by more plantations.
- Essential services like water supply, sewerage disposal and solid waste management must be in working condition.
- Construction timings should be scheduled to cause minimum disturbance to neighbors.
- Because of presence of security guards round the clock the security at the project site will be improved as well as in its vicinity. Impact will be moderate positive.
- Land value in the surrounding area will increase due to completion of the present project. Impact will be moderate positive.
- The project does not involve dislocation of the people. There is no requirement of resettling a single person. Impact is nil.
- No movable or immovable property and infrastructure of public and private sectors will be lost or damaged during construction and operation stages. Impact will be nil.

Environmental Impacts during Operation Stage

Main environmental issues associated with Project operation are as follows.

- Health and safety issues for workers may arise during the project process e.g. Particulate matter may be generated during the cutting of the metal rod, which may cause the health issues for the workers and noise of machinery can also be a negative impact on the health of workers.



- Waste water due to domestic and process activities.
- Fire due to short circuits and other activities.
- Solid waste generation due to domestic and project related activities.
- Noise pollution from generator and other machinery.
- Health hazards including the electricity hazards.
- Vehicle access is required especially for transportation. The site is well served with the road network. Heavy traffic will be allowed only during night time during operational phase. The traffic issues at any stage of project life cycle will not arise.

Impact significance: moderate to high or may be negative

Nature of impact: direct

Duration: Long-term

Timing: operational phase

Reversibility: NA

Likelihood: moderate to high

Consequences: moderate to high or may be negative

Recommendations

- Safety of workers should be ensured through proper training and PPEs must be ensured during the working hours.
- A well design firefighting system will be constructed to cope with fire situations in the subject project.
- Solid waste bins should be installed at designated processes and Installed Solid waste bins should regularly cleaned and solid waste must be handed over to the EPA Approved contractor.
- Noise levels should not exceed the PEQS.
- Project proponent should submit all the monitoring report in the EPA Punjab Office for the compliance of the PEQS.

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 roads and tracks.
- PPEs will be provided during construction activity.



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

Purpose of Mitigation measures

Purpose of mitigation measures should include:

- What is the problem i.e. in terms of “major environmental impacts” which may arise by the subject project activity?
- When the problem will occur and when it should be addressed?
- Where the problem should be addressed?
- And how the problem should be addressed?

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



Any impact that would arise due to the subject project activity will be addressed on site. Trainings will be conducted onsite prior to start work while other precautionary measures will also be adopted to make the project safe and environmental friendly.

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

Ways of achieving mitigation measures

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

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

M/S Precision Forging Pvt. Limited will adopt such plan that will assure the minimum impact on the environment and health by implementing proper mitigation measures. Design of the project will assure the structure stability and project life in a long run.

M/S Precision Forging Pvt. Limited will develop Restoration/ reclamation or tree plantation plan to restore the project area. Maximum Plantation will be done with native species within the unit, along the boundary wall and along the roadside if directed by EPA. Also, in-front of main area, horticulture plan will be formulated and area for this will be kept reserved.



CHAPTER # 5

ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

Purpose and Objectives of the EMP:

The primary objectives of the EMP are to:

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

Management Approach:

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

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

Institutional Capacity

Following functionaries will be involved in the implementation of EMP:

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

Training Schedules

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.



Training of building contractor

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

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

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

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

Responsibility of EMP

Overall responsibility for implementation of EMP will be that of project proponent. He will appoint a HSE/Project Manager of relevant qualification. HSE/Project Manager will act as Environmental Manager and will manage the all HSE condition at the PEQS.



Summary of impacts and their mitigation measures

Serial	Environmental Issues/ Impacts	Mitigation Measures
PLANNING, SITE SELECTION AND DESIGN STAGE		
1	Observance of administrative and legal formalities	It is recommended for obtaining of approval from other relevant departments.
2	Acquisition of land	The proposed land is the property of the project proponent.
3	Loss of environmentally sensitive areas	There is not any sensitive area near the project site however the project proponent will achieve the PEQS at the boundary wall of the subject project to avoid the environmental impacts on the nearby industrial unit.
4	Changes in traffic pattern	There is no need to change the traffic pattern due the development of the subject project because no. of industries have been developed at the same link road only few vehicles will visit the project on daily basis.
5	Potential conflicts with stakeholders	There is not any conflict at the current stage of the project. Neighboring industries were visited regarding their concerns. They have no objection regarding development of the subject project as per proposed design.
6	Resettlement issues	No resettlement issues
7	Project Design	Provision of Emergency Exits, Assembly Points, firefighting arrangements, water storage for firefighting should be incorporated in the design. Installation of Dust/flue gases/odor controlling devices should be incorporated in the design. Project proponent is committed to provide all these provision in the design of the project.
SITE DEVELOPMENT STAGE		



1	Erosion due to stripping and site clearance.	Sprinkling of water on road sides or dusty tracks.
2	Generation of dust	Careful loading and unloading of construction materials is recommended. Sprinkling of water on construction site and surrounding areas is recommended.
3	Generation of noise	• Avoid use of horns at the site. • Do not throw heavy equipment and construction materials in haphazard manner.
4	Local flooding/ponding	Immediate repair and maintenance of water supply pipes and sewers in case of any defect will be undertaken.
5	Outbreak of fire	Firefighting equipment must be maintained at the site in good working condition.
6	Safety	Safety of the workers and others must be ensured. Privacy of the neighbors must not be disturbed.
7	Labor issues	Employ the local labor as far as possible Wages of the labor should be as per Government policy
CONSTRUCTION STAGE		
1	Minor erosion of land	There are two types of erosions: 1. Wind Erosion 2. Water erosion • It is recommended to construct the boundary wall first that will reduce the soil erosion due to wind and chances of water erosion due to water flow from the adjacent will be reduced also. • Clearing of land should be step wise; vegetation should be removed only from the area where main building will be developed. • Add more vegetation, restore the land by more plantation



		Sprinkle water on dusty tracks is recommended
2	Contamination of land and water	Hazardous substances like oil, fuel, etc. should be kept on concreted surface. Essential services like water supply, sewerage disposal and solid waste management must be in working condition.
3	Impacts of dust, noise and flue gases on neighbors	Sprinkling of water on dusty tracks is recommended. Avoid use of horns at the site. Do not throw heavy equipment and construction materials in haphazard manner. Proper tunings of vehicles and machinery must be ensured. Schedule construction timings should be implemented for minimum disturbance to neighbors. Continuous Environmental monitoring must be ensured as per proposed monitoring plan.
OPERATION STAGE		
1	Contamination of land and water sources	Continuous vigilance on maintenance of services. Tarpaulin sheets must be placed to avoid leaching of oil into ground.
2	Fire breakouts	Training of workers regarding flammable substances will be ensured. SOPs of fire prevention will be adopted like forbidden of smoking, regular testing of electricity infrastructures and regular testing of gas supply system to the industry. Firefighting equipment must be kept in working condition at site.
3	Safety/security concerns	Safety of the workers and others will be ensured. Privacy of the neighbors will not be disturbed.
4	Malfunction of utilities	It is proposed to appoint maintenance engineer with technicians like plumber and electrician for smooth operation of utility services.



5	Occupational Health, Safety and Environment	• Regular medical check-ups must be ensured to improve the working condition and efficiency of workers. • Safety of management, workers and visitors must be ensured. • Observance construction and safety codes must be ensured. • Provision of emergency exits must be ensured.
6	Production of Solid Waste	Area for solid waste must be reserved within the subject project. The solid waste must be managed on regular basis. The domestic waste will be disposed-off in environment friendly way.

Equipment Maintenance Detail

The subject project is the establishment of metal cutting and forging unit. The company will maintain the records for Health Safety & Environment and will hire HSE manager to check and deal with the HSE issues. The company shall maintain PPEs, medical facilities, firefighting Equipment's as fire buckets, fire hydrants and fire extinguishers and records for their periodic fillings or replacement.

Environmental Budget

The cost which is required to effectively implement the mitigation measures is important for the sustainability of the Project in operation stage of the Project.

Company has allocated the Environmental Budget is 2 % of capital cost for the Training, maintenance and management of Environment that will include filling and maintenance of equipment's, restoration, plantation, and availability of PPEs, strategic planning to cope with any emergency situation and formulate the disaster management plan to cope with natural disaster. Any equipment or devices failure or replacement will not be included in this budget.



ENVIRONMENTAL MANAGEMENT PLAN FOR METAL CUTTING & FORGING UNIT OF M/S PRECISION FORGING PVT. LIMITED

Serial No.	Environmental Parameter/ Element	Mitigation measure to be taken during construction stage		
		Construction	Regular operations	Responsibilities
1.	Gaseous/ Dust emissions	1- Construction materials i.e. sand, clay shall be transported to the project site during night time and will be stored away from the road or foot path. They will be kept under cover to avoid any fugitive dust.	Management will ensure that PPEs i.e. masks will be provided to workers during the working hours.	HSE/Environment Manager
		2- The site proposed for the construction of metal cutting and forging unit and located away from human settlements.	Vehicles to use for the transportation of raw materials at the unit should be properly tuned.	
		3- All equipment, generators, and vehicles used during the project will be properly tuned and maintained in good working condition in order to minimize exhaust emissions.	One diesel fired generator shall cater for emergency situation only. Their exhaust will be emitted through an adequately fabricated stack. It will also be kept in mind that the generators will	



			only function during emergency condition for limited period.	
		4- All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke.	Monitoring should be conducted on Monthly basis as per EPA PEQS Rules.	
2.	Noise	1- All activities will be under PEQS level of noise during construction phase.	All activities will be under PEQS level of noise during operation phase.	HSE/Environment Manager
		2- Ear plugs will be provided & implemented (ensured by the management of Precision Forging	PPEs i.e. ear muffs should be provided to workers in case of high noise.	
3.	Health & safety	1- Local people will be informed in advance when work is about to start in an area. This may result in people keeping young children away from work areas. 2- Machinery will never be left unattended.	1- The EMP guidelines will be followed strictly (committed by the management). 2- Training of workers will be conducted regarding health and safety.	HSE/Environment Manager



		3- Safe driving practices will be adopted, particularly while passing through settlements. 4- Basic health facilities will be provided to workers. 5- PPEs will be provided & implemented. 6- Electrical wires, D.Bs will be kept covered to avoid electrical hazards.	3- PPEs will be provided and implemented. 4- First aid measures will be provided to workers. 5- Shift Rotation, proper ventilation will be provided to workers in case of thermal stress. 6- Safety signs, safety boards, exit arrows etc. will be placed on site. 7- An Assembling point will be kept to gather in case of emergency situation such as fire hazards. 8- Floors will be kept clean without slippery to avoid any hazard. 9- Firefighting system will be installed to avoid any health hazards.	
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			10- Electrical wires, D.Bs will be kept covered to avoid electrical hazards. 11- Machinery will never be left in running condition.	
4.	Generation of domestic & project process related solid waste.	1- Construction Solid waste will be stored in solid waste bins and will be reused for land filling and maintenance purposes and domestic waste will be handed over to the certified contractors.	Domestic, process related solid waste will be stored in solid waste bins and scrap will be sold to local vendor.	HSE/Environment Manager
5.	Waste effluents	As there is no generation of waste water because it is metal cutting and forging unit of engine parts. Only domestic waste will be generated which will be treated	The sewage to be generated shall be treated & then will be drained out in the nearby drain.	HSE/Environment Manager
6.	Water supply	It shall be ensured that no activity interferes with the water supply system and water availability	It shall be ensured that no activity interferes with the water supply system and water availability	HSE/Environment Manager
7.	Soil erosion	The clearing of vegetation along proposed site will be minimized as far as possible.	Plants will be planted during operation phase of the subject Division.	HSE/Environment Manager



8.	Enhancement of aesthetic beauty of the building and the area.	---	1- Flower pots containing flowers and plants will be provided in front of the building to add to the improvement of the environment around. 2- All other necessary measures will be taken to maintain standards of cleanliness so that the building may add to the scenic/aesthetic beauty of the area around.	HSE/Environment Manager
9.	Staff for catering the Environmental Management Plan	---	1- Special staff will be recruited to implement this Environmental Management Plan on regular basis.	HSE/Environment Manager



CHAPTER # 6

STAKEHOLDERS PARTICIPATION

Social acceptability of the project and the area is a key to success. Consultation with the stakeholders is a tool for managing two-way communication between the project proponent and the affected public. Its goal is to improve decision making and built understanding by actively involving individuals, groups and organizations, which have stake in the project. This involvement increases project's long term viability and enhances its benefits to locally affected people and other stakeholders.

In order to evaluate the socioeconomic and environmental impacts, filed surveys are extremely essential. In addition to the surveys at the preliminary stage, consultation with the community and their active participation plays a vital role in successful implementation of the project. To identity the different types of stakeholders and ascertain their perceptions about the project, an initial environmental examination was conducted. Informal group discussions were also held as an additional tool for obtaining feedback from the stakeholders that are being discussed in the following pages.

Objectives of Consultation

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

The important general objectives of the consultation process are:

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



Methodology of consultation:

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

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

Proponent

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

Responsible Authority

Management of M/S Precision Forging Pvt. Limited is the responsible authority to take all measures prior to start the activity.

Other departments and agencies

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

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

Affected & Wider Community

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



inhabitants to evaluate the project socio-economic impacts. List of respondents and socioeconomic questionnaires are attached as **Annexure-I** with the report.

Categories of stakeholders interviewed in the project area:

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

Issues Discussed:

Following issues were discussed during the stakeholder consultation:

- Overall activities of the project;
- Possible impacts on natural vegetation, air, land and properties;
- Possible mitigation measures;
- Benefits of the project specifically for the local people.

Findings of the Overall Discussion:

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



Majority of people favored the proposed project in a sense that the construction of the said project will generate employment opportunities for local people and revenue for the government, will enhance the socioeconomic conditions of the area and automatically will contribute to the national economy of the country.



CHAPTER # 7

CONCLUSION AND RECOMMENDATIONS

Based on the study conducted for Initial Environmental Examination (IEE) for the subject project, the following conclusions are made:

CONCLUSIONS

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

RECOMMENDATIONS

- In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.
- Tree plantation inside the unit and near the unit is recommended.
- The untreated wastewater will not be reused for irrigating the vegetation and lawns.
- High standards of bio-security and safety will be enforced during operation stage. Safety of the workers will be top priority for the management.
- The management of M/S Precision Forging Pvt. Limited will continue to assist the local communities as a corporate/social responsibility. The present IEE report is enough to meet the administrative and legal framework. Therefore, the environmental approval may be accorded for the present project.