



ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd.

LOCATED AT

Plot#60,61,62,63, 64 Rahim Yar Khan Industrial Estate, Rahim
Yar Khan & 136knl Daakhli Moza Abdul Wahid Khumbarrah
Rahim Yar Khan

PROJECT PROPONENT: MR. MUHAMMAD LATIF

SUBMITTED BY

KAT Environment Solutions

321-F, Block-C, Marghazar Colony Lahore

Kat489@gmail.com(03016940349)

LIST OF ABBREVIATIONS

CO ₂	Carbon dioxide
dB(A)	A weighted decibel scale
EIA	Environmental Impact Assessment
EMMP	Environmental Management and Monitoring Plan
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
EPD	Environmental Protection Department
EPO	Environmental Protection Ordinance
IEE	Initial Environmental Examination
Ltd.	Limited
LTI	Loss Time Injury
LWI	Loss Work Injury
m ³	Cubic meter
m ³ /h	Cubic meter per hour
MW	Megawatt
M/S	Messrs
NEQS	National Environmental Quality Standards
No.	Number
NOC	No Objection Certificate
NO _x	Oxides of Nitrogen
PEPC	Pakistan Environmental Protection Council
PEPA, 1997	Pakistan Environmental Protection Act, 1997



ENVIRONMENTAL IMPACT ASSESSMENT (2025)

PEPA, 2012	Punjab Environmental Protection (Amendment) Act, 2012
PEPO	Pakistan Environmental Protection Ordinance
PKR	Pakistani Rupees
PM	Particulate Matter
PPEs	Personal Protective Equipment
Pvt.	Private
SMART	Self-Monitoring and Reporting
SOPs	Standard Operating Procedures
SO _x	Oxides of Sulfur
WAPDA	Water and Power Development Authority

EXECUTIVE SUMMARY

INTRODUCTION

Suncrop Group was founded on the principles of integrity, innovation, and customer service. They are committed to providing high-quality products that are effective, while also offering personalized support and expertise to help our customers succeed. Now Suncrop Group, a diversified Pakistani conglomerate, leads the way in sustainable agriculture, FMCG, and Animal feed sectors.

At Suncrop Group, we believe in the power of agriculture to nourish and sustain our world. We are proud to support farmers and growers with the latest technology and best practices, and to contribute to a thriving agricultural economy. Said project is the Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd located at .

The main objectives of this EIA are to establish baseline environmental conditions, identify potential impacts and suggest suitable mitigation measures for the execution of the said project. This study has been accomplished in line with the provisions - guidelines and directives of Punjab Environmental Protection Agency.

This executive summary presents an overview of the main findings of the EIA Report for the aforesaid project i-e Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd.

PROJECT OUTLINE (Details are given in Chapter 2)

Salient features of project:

Proponent Name:	Mr. Muhammad Latif
Designation	Chief Executive Officer (CEO)
Project Title:	Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd.
Project Location:	Plot#60,61,62,63, 64 Rahim Yar Khan Industrial Estate, Rahim Yar Khan & 136knl Daakhli Moza Abdul Wahid Khumbarrah Rahim Yar Khan
Total Area	10 acres
Source of Water	Groundwater
Cost of Project	PKR 500 million approx.
Nearest Industry	SPEL Rahim Yar khan (front) SS Paper and Board Mills (130 m)
Source of Power:	WAPDA and power generators
Wastewater:	Wastewater from the process will be treated through waste water treatment plant
Solid Waste Management:	To handle the waste, waste management contract with EPA certified body has been done.
Air Emissions	Controlled through scrubbers and cyclones
Tree Plantation	At designated areas
Finished Products	<ul style="list-style-type: none"> • Sulfuric Acid • Potassium Sulfate • Zinc Humic Acid • Hydrochloric acid • Sulphur Fertilizer • Sodium Sulfate Anhydrous • Formic Acid • Alum Sulfate • N-Butyl Acetate • Acetate Plus <p>and some other sanitation, lab, Health and Food and Textile Industry chemicals</p>
Capacities	
Product Capacity (overall)	120 Tons/ day



Boiler Capacity	4.5 TPH.
ETP	For treatment of wastewater ETP will be installed

MAJOR IMPACTS AND RECOMMENDED MITIGATION MEASURES:

Beneficial/Positive Impacts:

- The establishment of the said project will contribute to enhancing Pakistan’s domestic productivity, and help diversify Pakistan’s economy
- Provision of employment and stimulation of local economy.
- Provision of high-quality chemicals to be used in sanitation, lab, fertilizers and textiles etc
- Potential of improvement for social and cultural values of local people’s exchange of values and standards through positive social interactions. Positive changes in lifestyles will occur due to availability of income when the natives take up Company jobs.

Negative Impacts:

Impacts	Mitigation measures
Construction phase	
Dust emissions	<p>Most of the dust generating activities during construction will last for a brief period, when excavation works will be executed. Thereafter, vehicular movement will generate most of the dusts. Dusts will be suppressed using water bowser to spray exposed land surfaces and particularly areas likely to be disturbed by trucks and other vehicles during the construction of the factory premises. Vehicular speed limits of 20 km/h will be ensured in order to minimize dust generation. Further mitigation measures will be:</p> <ul style="list-style-type: none"> • Covering haulage vehicles transporting aggregate, soil and cement • Covering onsite stockpiles of aggregate, cement, soil, etc. • Providing workers with the necessary Personal Protective Equipment (PPE) e.g. dust masks and ensure that they are worn • Operating well maintained vehicles and equipment
Wastewater	Existing toilets with septic tanks will be provided to workers during construction phase of extension of project.



Impacts of accidental spillages	<ul style="list-style-type: none"> • The integrity of storage facilities will be ensured • Drip pans will be made available where necessary
Safety	<ul style="list-style-type: none"> • Safety signage will be put in relevant places within the construction site • Reckless driving by construction workers will be prohibited and monitored. • Workers will be given PPEs such as; helmets, mask, ear-plugs/muffs, safety boots, safety goggles, safety jackets, harnesses etc. and its use was strictly enforced • Workers will be trained on regular basis regarding personal safety • Incidents will be reported directly to the concerned authority
Solid waste management	<ul style="list-style-type: none"> • Recycling or reuse of waste wherever possible. • Application of a good strategy to collect, remove and safely dispose of waste on daily basis to ensure a clean environment in the factory site • Integrated waste management system will be adopted for the proper management of the waste at site • At the end of the construction phase, left-over waste will be removed as per practices of area • All the idle machinery and equipment will be immediately removed from the site • Scrap and the debris will be removed from the site at the end of the construction stage after appropriate segregation of the material
Operation Phase	
Air Emissions, Particulate emissions and stack emissions	<ul style="list-style-type: none"> • Emissions from boiler will be controlled by equipping with cyclone, scrubber and room • Power Engines will be equipped with air emission control technology. • Emissions from process will also be controlled by installing absorption towers and excessive gaseous loss will be captured and utilized again in the manufacturing process.



	<ul style="list-style-type: none">• Monitoring of Ambient air parameters (Particulate matter, SO_x, NO_x) emissions should be carried out on regular basis to ensure compliance with the PEQS.• The inspection and the maintenance of the boiler and generator, process chambers will be done on regular basis.• Plantation of indigenous trees within the premises and along the boundary.
Noise Emissions	<ul style="list-style-type: none">• Effective noise suppression design and plan will be made for all noise producing equipment i.e. high noise generating machines will be kept in isolation from other machines to minimize the overall cumulative noise.• Noise barriers should be implanted• Noise area will not be open site. The source of noise will be in closed and covered place. Where the OSH standard will be applied.• The repairing and the small source of noise will be removed if it will possible.• PPEs are provided to workers• Proper tree plantation has been done• Noise monitoring will be carried out periodically.
Degradation of surface waters quality due to process water and sewage direct disposal	<ul style="list-style-type: none">• For treatment of wastewater, effluent treatment plant will be installed which is the part of the extension.• The capacity of treatment plant will be 200 m³/ day.• The technology of wastewater will be Chemical based treatment along with biological oxidation.• Wastewater will be disposed off in Urban Drain, the management has obtained approval and submits fees regularly for renewal for disposal NOC. Recent fee receipt is attached with the report.



	<ul style="list-style-type: none"> • The operational maintenance of ETP will be monitored on daily basis. • EPA certified laboratory will be engaged for analysis of wastewater from outlet against PEQS.
<p>To minimize loss work injury/hazards/incidents/accidents</p>	<ul style="list-style-type: none"> • Proper training will be provided for the proper usage of machineries and personal protective equipment (PPE) will be provided. It will be ensured that the individual who has received the correct training is operating a particular machine. • Site supervisor or health and safety should be present on site • Risk Assessment will be done on daily basis • Emergency response plans will be remained active. • Monitoring cameras and sensors will be implanted at the work site • OSHA polices will be implemented on site • Regulation of the health and safety polices will be done on regular basis • Regular housekeeping practices will be ensured by keeping the floor dry and during washing; proper protective equipment are being used. Restricted entry should be ensured during processing. • Training of staff in the handling of lifting materials. • Timely maintenance and repair of electrical equipment will be conducted. • Implementation of work rotations, provision of regular work breaks. • At workplace, first aid facilities will be maintained at readily accessible places.
<p>To minimize disturbance of</p>	<ul style="list-style-type: none"> • All the machinery will be installed and operated in a closed hall and from operation of machinery noise will not be a problem for the residents in the area nearby. Further Administration of the unit will



communities due to noise	<p>take the precautionary measures to avoid the noise emissions. There is no possibility of Noise pollution</p> <ul style="list-style-type: none">• A thick greenbelt will be developed all around the plant which will be acting as noise barrier.• All the workers will be provided with ear plugs.• All the transporters will be advised to carry out regular maintenance of their vehicles.
Solid waste management	<ul style="list-style-type: none">• There will be separated bins for segregation of different type of waste• Proper waste collection system will be ensured. For this purpose, waste bins are placed inside the boundary.• The recyclable waste will be sent to waste contractors.• The sludge of from the ETP plant will sold out to waste companies.• The site in charge will ensure the separation of waste at production line.• Proper person will be hired for the collection and removal of waste from the site.• Records of generated waste should be maintained.• All non-hazardous waste that can be recycled or reused will be handed over to the contractors.• All hazardous waste from process will be sold to EPA certified contractor.• Training will be provided to personnel for identification, segregation and management of waste.• All containers of waste will be labeled properly.• All the container should be caped clean, making sure no Oster will produce in it.• The proper waste management system will be applied.



	<ul style="list-style-type: none">• Small bins and large containers will be provided on every waste producing site at defined place causing no risk to worker and machinery.• In-house audits of the waste management will be undertaken on regular basis.
Traffic	<ul style="list-style-type: none">• Nighttime driving of project vehicles will be limited where possible.• Vehicles will remain confined to defined access.• The route of the vehicles will be defined and given to drivers and security system.• The road will be labeled according to the rules and regulations.• Speed limits will be maintained.• The timetable and schedule of the vehicles will be defined and the monitoring of vehicles will be done every time.• Road signage relevant to the project traffic will be placed, where necessary.• Community complaint register and other means will be adopted for the community to complain about non-adherence of traffic to speed limits, safe driving and other safety related concerns.• All vehicle drivers will be trained in community safety aspects. Drivers will be trained in responsible and safe driving practices; safe speed limits for vehicles will be followed.

ENVIRONMENTAL MANAGEMENT & MONITORING PLANS:

During construction, ambient air quality for dust level in particular noise level (tests), solid waste management and soil contamination, and community and workers’ safety (visual) need to be monitored. During operation, stack emissions, noise level, air quality,

wastewater quality and workers' safety will be monitored. Plan has been included in **Chapter-7** of this EIA Report.

CONCLUSION & RECOMMENDATION

It can be concluded that all the major and minor adverse environmental impacts from the construction/ Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd has been mitigated in environmental friendly manner and the Environmental Impact Assessment is being done in the light of guidelines recommended by Punjab EPA. Hence Environmental Approval may be accorded to the subject chemical industry for construction phase.

Recommendations:

Following Recommendations are suggested:

- Wastewater produced from process should be treated through Effluent Treatment Plant
- All the workers should be given with proper PPE's during operation phase
- All the concerns of stakeholders should be catered before construction
- EMP should be properly implemented
- The construction and installation should be completed in guidelines of accorded Environmental Approval.



LIST OF ANNEXURE

Following Documents are attached as annexure.

ANNEXURE I:	PROPONENT CNC
ANNEXURE II:	ALLOTMENT LETTER
ANNEXURE III:	LAYOUT MAP
ANNEXURE IV:	GLOSSARY
ANNEXURE V:	ENVIRONMENTAL MONITORING REPORTS
ANNEXURE VI:	HAZARDOUS CHEMICALS MANAGEMENT PLAN
ANNEXURE VII	GOOGLE EARTH MAP



TABLE OF CONTENT

CHAPTER 1: INTRODUCTION.....20

1.1 GENERAL..... 20

1.2 THE PROPONENT..... 20

1.3 THE PROJECT 21

 1.3.1 Nature of Project 21

 1.3.2 Size of Project 21

 1.3.3 Location of Project..... 21

 1.3.4 Total area..... 22

 1.3.5 Cost of the Project..... 22

1.4 DETAILS OF CONSULTANTS..... 22

1.5 PURPOSE OF REPORT..... 22

1.6 Structure of Report 23

2 CHAPTER 2 25

2.1 General..... 25

2.2 Type and Category of Project 25

2.3 Objectives of Project..... 25

2.4 Alternatives 26

 2.4.1 Site Alternatives..... 26

 2.4.2 Project Alternative..... 27

 2.4.2.1 Labor..... 27

 2.4.3 Environmental alternatives..... 27

 2.4.3.1 Wastewater Treatment..... 27

 2.4.4 Economic Alternative 29

3 CHAPTER 3: DESCRIPTION OF PROJECT30

3.1 Objectives of Project..... 30

3.2 Particulars of Project Site..... 30

3.3 Location and Layout of Project..... 31

 3.3.1 Location of the Project 31

3.4 Nature of Area 31

3.5 Land Ownership 31



3.6 Government Approvals..... 31

3.7 Land Use on Site 32

3.8 Road Access..... 32

3.9 Vegetative Features on Site 32

3.10 Cost and Magnitude of Operation..... 32

3.11 Schedule of Implementation 33

3.12 Description of the project:..... 33

 3.12.1 Products: 33

 3.12.2 Manufacturing process:..... 34

 3.12.2.1 Production of Butyl Acetate..... 34

 3.12.2.2 Production of Sodium Sulphate 35

 3.12.2.3 Production of Formic Acid..... 36

 3.12.2.4 Production of Sulphuric Acid..... 37

 3.12.2.5 Boiler 39

 3.12.2.6 Construction of Warehouses 39

 3.12.3 Wastewater Treatment 40

 3.12.4 Solar System 40

3.13 Relocation and Rehabilitation Plan..... 40

3.14 List of Machinery..... 40

3.15 Amenities 42

 3.15.1 Electricity Consumption 42

3.1.1. Water Resource..... 42

 3.15.2 Management Plans 42

 3.15.3 Air Emissions..... 42

 3.15.4 Wastewater Management and Disposal..... 43

 3.15.5 Waste Management 43

 3.15.6 Emergency Preparedness 43

 3.15.7 Safety Trainings..... 44

 3.15.8 Use of Drugs and Narcotics..... 44

 3.15.9 Hazardous Chemicals Management Plan..... 44

 3.15.10 Personal Protective Equipment..... 44

4 CHAPTER 4: DESCRIPTION OF THE ENVIRONMENT45



- 4.1 General..... 45
- 4.2 Methodology..... 45
 - 4.2.1 Data Collection 45
 - 4.2.2 Social Survey..... 45
 - 4.2.3 Sampling Design..... 46
 - 4.2.4 Questionnaires..... 46
 - 4.2.5 Data Editing and Analysis..... 46
 - 4.2.6 Review of Legal and Administrative Framework..... 46
 - 4.2.7 Baseline Conditions 47
- 4.3 Physical Resources..... 47
 - 4.3.1 Geography and Geology..... 47
 - 4.3.2 Topography 48
 - 4.3.3 Hydrology..... 48
 - 4.3.4 Climate..... 48
 - 4.3.4.1 Temperature..... 48
 - 4.3.4.2 Rainfall..... 49
- 4.4 Ecological Environment..... 49
 - 4.4.1 Aquatic Flora and Fauna 49
 - 4.4.2 Flora..... 50
 - 4.4.3 Fauna..... 50
- 4.1. Environmental Monitoring 52
- 4.2. SOCIO-ECONOMIC RESOURCES..... 53
 - 4.4.4 Nearby Residential Areas..... 53
- 4.5 Quality of Life Values..... 53
 - 4.5.1 Occupation of Respondents..... 53
- 4.3. Literacy Rate 54
- 4.4. Industries..... 54
- 4.5. Educational facilities 54
- 4.6. Facilities Available..... 54
- 5 CHAPTER 5: STAKEHOLDER CONSULTATION 55**
 - 5.1 GENERAL..... 55



5.2 OBJECTIVES OF CONSULTATION..... 55

5.3 IDENTIFICATION OF STAKEHOLDERS 56

 5.3.1 Direct..... 56

 5.3.2 Indirect..... 56

5.4 PUBLIC DISCLOSURE 57

5.5 CONSULTATION PROCESS..... 57

 5.5.1 Consultation Methodology..... 58

 5.5.1.1 Consultation Material 58

 5.5.1.2 Consultation Mechanism 58

 5.5.2 Primary Stakeholders Consultation..... 59

 5.5.2.1 STAKEHOLDER CONCERNS AND RECOMMENDATIONS 59

5.6 STAKEHOLDERS CONSULTED 61

 5.6.1 Secondary Stakeholders Consultation..... 62

6 CHAPTER6: POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES 63

6.1 GENERAL..... 63

6.2 IDENTIFICATION OF POTENTIAL IMPACTS..... 63

6.3 CLASSIFICATION OF IMPACTS..... 64

6.4 SCOPING CRITERIA FOR IMPACTS..... 64

6.5 METHODOLOGY FOR IMPACT ASSESSMENT 64

 6.5.1 What is the problem?..... 67

 6.5.2 When problem will occur and when it should be addressed? 68

 6.5.3 Where problem should be addressed?..... 68

 6.5.4 How the problem should be addressed? 68

 6.5.5 Ways of Achieving Mitigation Measures:..... 68

 6.5.5.1 Changing in Planning Design..... 68

 6.5.5.2 Improved Management and Monitoring Practices..... 68

 6.5.5.3 Compensation in Money Terms 69

 6.5.5.4 Replacement/Relocation/Rehabilitation 69

6.6 Impact Summary 69

6.7 IMPACTS DUE TO PROJECT LOCATION 70

6.8 DESIGN PHASE..... 70



6.9 IMPACTS ASSOCIATED WITH CONSTRUCTION PHASE..... 71

6.10 IMPACTS ASSOCIATED WITH OPERATION PHASE..... 74

6.11 ENVIRONMENTAL IMPACTS..... 75

6.11.1 AIR EMISSIONS..... 75

6.11.2 NOISE 76

6.11.3 TRAFFIC 77

6.11.4 SOLID WASTE..... 78

6.11.5 WASTEWATER..... 79

6.11.6 Hazardous Chemicals..... 80

6.11.7 ABNORMAL CONDITIONS 83

6.11.8 OCCUPATIONAL HEALTH AND SAFETY 83

6.12 SOCIOECONOMIC IMPACTS 84

6.12.1 EMPLOYMENT OPPORTUNITIES..... 85

6.13 POTENTIAL ENVIRONMENTAL ENHANCEMENT MEASURES 85

6.13.1 GREENBELT DEVELOPMENT 85

7 CHAPTER 7: ENVIRONMENTAL MANGEMENT AND MONITORING PLANS...87

7.1 GENERAL..... 87

7.2 OBJECTIVES OF ENVIRONMENTAL MANAGEMENT PLAN 87

7.3 MANAGEMENT APPROACH 88

7.4 COMPONENTS OF THE EMP 88

THE EMP CONSISTS OF THE FOLLOWING:..... 88

7.5 ENVIRONMENT MANAGEMENT PLAN..... 88

7.6 ENVIRONMENTAL MONITORING PLAN 111

7.7 INSTITUTIONAL CAPACITY OF THE UNIT 113

7.7.1 Primary Responsibilities 113

7.7.2 Operation Management & Control 113

7.7.3 Supervision & Monitoring..... 113

7.7.4 Communications & Documentation 113

7.7.4.1 Meetings..... 113

7.7.4.2 Changes-Record Register 114

7.8 ENVIRONMENTAL TRAINING..... 114



7.9 EQUIPMENT MAINTENANCE DETAILS..... 114

7.10 ENVIRONMENTAL BUDGET 115

8 CHAPTER 8: CONCLUSION AND RECOMMENDATIONS116

8.1 CONCLUSION..... 116

8.2 RECOMMENDATIONS..... 116



LIST OF Figures

Figure 3.1 Location Map of Project Site 31

Figure 3.2 Road Access 32

**Figure 3-1 Average Annual Temperature & Rainfall of R.Y.K (Source: Climate-
data.org) 49**

CHAPTER 1

INTRODUCTION

CHAPTER 1: INTRODUCTION

1.1 GENERAL

Under the dynamic leadership of the Group and strong Human Resource, Suncrop Agritech (pvt) Ltd has been constantly striving to achieve excellence and generate highest value for all of its stakeholders. The company complies with all international and national regulations for chemical supply, storage and manufacturing.

To full fill the compliance of section 12 of PEPA, Act 1997 (amended 2012 & 2017) KAT Environmental Solutions has been engaged for conducting Environmental Impact Assessment (EIA). Said project is the Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd.

This Report presents the Environmental Impact Assessment (EIA) for aforesaid unit. The purpose of this study is to identify the environmental baseline i.e. physical, biological and socio-economic/cultural conditions and assess all possible impacts arising during the construction and operation phase of the project with the aim to find out appropriate measures for their mitigation, to either eliminate those impacts or to bring them to acceptable level and formulate Environmental Management Plan (EMP) for implementation of the project in environment-friendly manner.

The report provides relevant information, as required under the officially approved format, to facilitate the decision makers i.e. EPA Punjab for the issuance of Environmental Approval.

1.2 THE PROPONENT

Name	Mr. Muhammad Latif
CNIC	32102-5353473-5
Designation	Chief Executive Officer
Address	Plot#60,61,62,63, 64,Rahim Yar Khan Industrial Estate, Rahim Yar Khan

Contact Number	0301-8430212
-----------------------	--------------

1.3 THE PROJECT

1.3.1 Nature of Project

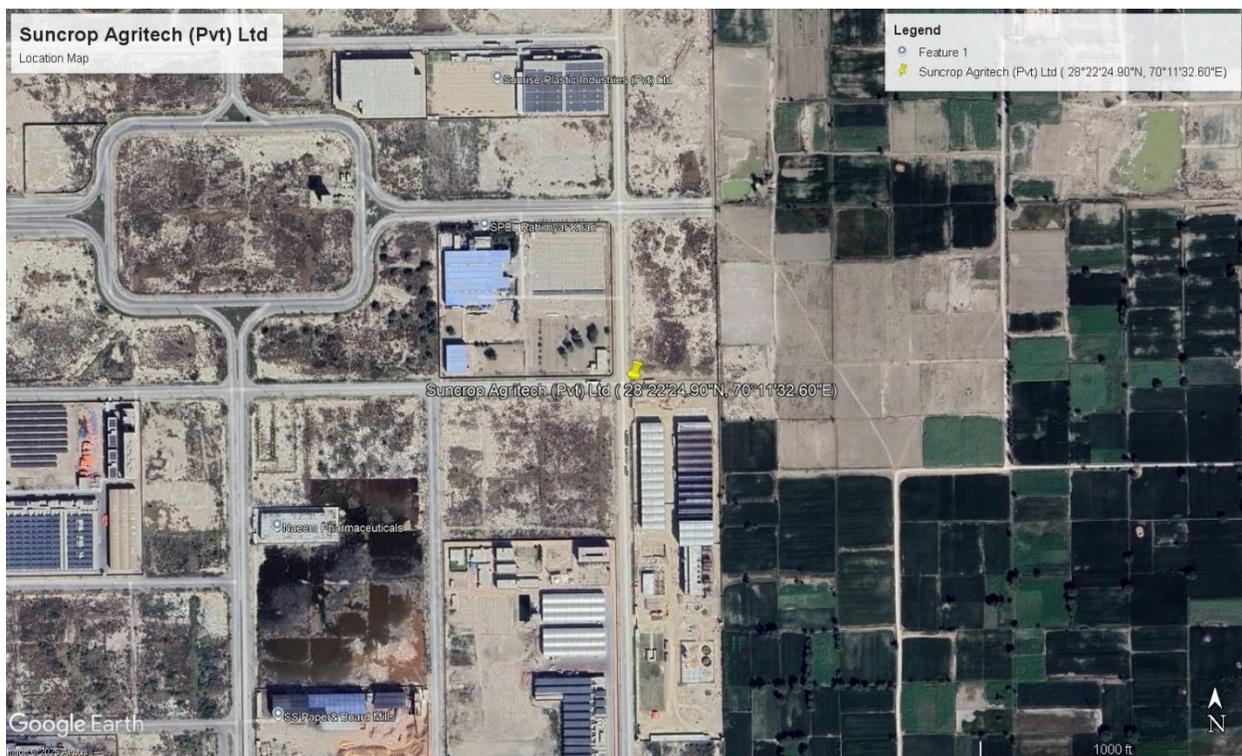
The said project is the Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd. Its salient features have been described later in this Chapter, Chapter 3 and briefly in Executive Summary of this EIA Report.

1.3.2 Size of Project

The total area of plot will be 10 acres and the capacity of unit will be 120 tons/day. The production capacity of chemicals will be varied as per consumer demand.

1.3.3 Location of Project

Said Project is located at Plot#60,61,62,63, 64 Rahim Yar Khan Industrial Estate, Rahim Yar Khan & 136knl Daakhli Moza Abdul Wahid Khumbarrah Rahim Yar Khan.



1.3.4 **Total area**

Total area required for said project is approx. 10 acres.

1.3.5 **Cost of the Project**

Cost of project has been estimated at Approx. PKR 500 million.

1.4 **DETAILS OF CONSULTANTS**

For the preparation of the Initial Environmental Examination report of the said project, the proponent has hired the services of the environmental consultants; M/S **KAT Environmental Solutions**. Team comprising of environmental engineers, chemical engineers, environmental experts and environmentalists has worked on this report

Environmental Compliance Studies

- Initial Environmental Examination
- Environmental Impact Assessment
- Socio-Environmental Impact Assessment
- Green House Gas Estimation
- Environmental Management Plan

1.5 **PURPOSE OF REPORT**

The development of any Project leads to positive and adverse changes in environmental and change in social settings of the Project Area. The intensity and level of change, however, depends upon the nature of the Project and the baseline environmental conditions of the area. The development and commencement of said project will cause minor to moderate adverse environmental and social impacts on the surrounding area. Thus, an environmental and social study is mandatory to establish the baseline conditions, evaluate the possible adverse impacts if any, and devise the mitigation measures.

Section 12 of Pakistan Environmental Protection Act, 1997 (PEPA, 1997) states ***“No proponent of a project shall commence construction or operation unless he has***

filed with the Provincial Agency an Initial Environmental Examination (IEE) and, where the project is likely to cause an adverse environmental effect, an Environmental Impact Assessment (EIA), and has obtained approval from the Provincial Agency in respect thereof.” Later on, Punjab Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022 provided the guidelines for categorizing the Projects. The main objectives of this EIA study were:

- To determine and document the state of the environment of the project area to establish a baseline in order to assess the suitability of the said project in that area.
- To identify pre-construction, construction and operation activities and to assess their impacts on environment.
- Provide assistance to the proponent for planning, designing and implementing the project in a way that would strengthen environment, improve ecological resilience, eliminate or minimize the negative impact on the biophysical and socio-economic environment and maximizing the benefits to all parties in cost effective manner.
- To present Mitigation and Monitoring Plan to smoothly implement the suggested mitigation measures and supervise their efficiency and effectiveness.
- To provide opportunity to the public for understanding the project and its impacts on the community and their environment in the context of sustainable development.
- Prepare an EIA Report for submittal to the Environmental Protection Agency, Punjab for according Environmental Approval.

1.6 Structure of Report

This EIA reviews information on existing environmental attributes of the Study Area. Geological, hydrological and ecological features, air quality, noise, water quality, soils, social and economic aspects and cultural resources are included. The report predicts the probable impacts on the environment due to the said project. This EIA also proposes various environmental management measures. Details of all background environmental quality, environmental impact/pollutant generating activities, pollution sources, predicted



environmental quality and related aspects have been provided in this report. The structure of the assessment report will be as follow;

- Description of the Project
- Alternatives
- Scoping & Screening
- Description of Environmental and Social Conditions
- Assessment of Environmental Impacts and Mitigation Measures
- Mitigation Measures for Identified Impacts
- Public Consultation
- Environmental Management and Monitoring Plan (EMMP)
- Recommendations and Conclusions

CHAPTER 2

SCREENING & SCOPING

CHAPTER 2

SCREENING AND SCOPING

2.1 General

This section of the study concentrates on details of the project and its salient features; such as location, site layout, objectives, selection of alternatives, cost and magnitude of operation and various phases. Inputs and discharges relevant to different phases of the project, such as electricity & materials, etc. have also been examined as a response to possible environmental concerns.

2.2 Type and Category of Project

As per Review of Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) Regulations, 2000 the Project of Establishment of Project fall in "**B (2)**" **Category of Schedule II i-e Chemical Manufacturing Units including Pharmaceuticals and cosmetics.**

2.3 Objectives of Project

Following are the main objectives of said chemical manufacturing unit:

1. To produce quality chemical products for sanitation, fertilizers, labs and textiles etc.
2. To provide employment to the people
3. To change the social life style of the area
4. To upgrade the socio-economic condition of the area
5. Minimization of environmental impacts by adopting best management practices.
6. To support the local economy through significant investment and upgrades to infrastructure.

2.4 Alternatives

The analysis of the alternatives is a part of the EIA process to select the best among all possible project options. The alternatives of a project are defined as the options that can help to meet the objectives of a project by different means including alternative project sites, Environmental alternative etc. The key criteria when identifying alternatives is that they should be feasible and reasonable.

Selection of preferred alternative is based on scores of factors including cost, schedule of delivery, environmental and social impact and the cost for their redressal. The drivers that affect potential alternative options and scenarios include: availability of project sites, current technologies; design changes that need to be introduced, operational situation, capital & recurrent costs, environmental & social issues, their potential impacts, and costs of mitigation.

The details of the site alternatives and project alternatives are discussed below

2.4.1 Site Alternatives

No other site alternative was available to be considered as feasible option for the installation of the plant as proposed project site is owned by the M/S Suncrop Agritech (Pvt) Ltd. The proposed site was selected because of the following reasons;

- The selected site is located in the proximity of other relevant industries
- The selected site is located at designated industrial estate.
- The site is well connected to the other parts of the country through National Highway.
- No human settlements displacement or relocation is associated with the project development and operation
- Operation of the aforesaid unit in the respective zone will provide job opportunities to local people and will improve their socio-economic status of the study area.
- The drain for effluent discharge is nearby.

No important religious, archaeological, recreational site or ecologically/declared protected area and human settlement exists within close proximity of the selected site. In view of these facts, it can be concluded that the selected site is best suited for the project, and will not pose any adverse impact or threat on any component of the environment.

2.4.2 Project Alternative

2.4.2.1 Labor

Cheap labor has always been the backbone of the economy of Pakistan. Cheap and ample supply of labor strengthens the industrial and agriculture sector of the country. There are approximately 7 upstream and 6,000 downstream production units in the country which provide employment directly and indirectly to ~ 600,000 people. Of the downstream units, only 700 belong to the organized sector while the remaining 5,300 units operate in the unorganized sector. Also, this project will emphasize to hire local labors as many as possible increasing the occupational status of the area.

Considering the above-mentioned factors, no project alternative can be envisaged.

2.4.3 Environmental alternatives

2.4.3.1 Wastewater Treatment

Wastewater, or sewage, originates from human and home wastewaters, industrial wastes, animal wastes, rain runoff, and groundwater infiltration. Generally, wastewater is the flow of used water from a neighborhood. The wastewater consists of 99.9% water by weight, where the remaining 0.1% is suspended or dissolved material. This solid material is a mixture of excrements, detergents, food leftovers, grease, oils, salts, plastics, heavy metals, sands, and grits. Types of wastewaters include: municipal wastewater, industrial wastewaters, mixtures of industrial/domestic wastewaters, and agricultural wastewaters. Typical agricultural industries include: dairy processing industries, meat processing factories, juice and beverage industries, slaughterhouses, vegetable processing facilities, rendering plants, and drainage water of irrigation systems.

Subsequent to primary treatment of wastewater, large amounts of dissolved and colloidal material must be removed. Secondary treatment, i.e., biological treatment, can transform dissolved materials into larger particles. Chemical treatment, or tertiary treatment, using chemical materials will react with a portion of the undesired chemicals and heavy metals. Biological treatment tends to be a biological process with chemical treatment implemented for the removal of toxic compounds. The cost of chemical additives and the environmental problem of disposing of chemical sludge make this treatment process deficient, so the biological treatment must be implemented. In fact, the microorganisms utilize the dissolved organic matter as food for themselves.

Different technologies are being used to treat industrial wastewater like activated sludge process, Aeration lagoons, chlorination, ozonation, wetlands. Aeration lagoons are profound (3-4 m) compared to oxidation ponds. The aerators keep the microbial biomass suspended and provide sufficient dissolved oxygen. The hydraulic retention time (HRT) ranges from 3 to 8 days based on a treatment level, strength, and temperature. Lagoon systems require more land than other treatment methods. They are less efficient in cold climates and may require additional land or longer detention times in these areas. Odor can become a nuisance during algal blooms or with anaerobic lagoons and lagoons that are inadequately maintained.

Constructed wetlands are used for wastewater treatment or for greywater treatment. They can be used after a septic tank for primary treatment (or other types of systems) in order to separate the solids from the liquid effluent. Some constructed wetland designs however do not use upfront primary treatment. Disadvantages of constructed wetlands include high land area requirements (depending on the design, they may require a relatively large land area compared to a conventional facility), the need for a preliminary treatment before the wastewaters treated by the system (normally they do not used to treat raw wastewaters).



The system of ETP plant which is going to be installed in the said unit will treat wastewater to PEQS. This is the approach which helps the investor to even reuse the water for horticulture activities.

2.4.4 **Economic Alternative**

It is cleared that if such huge investment is being done, it will impact the resources as well. If it is considered that as per the capacity of the unit, the electricity is being supplied from WAPDA, it will impact the national supply. To deal with this issue Suncrop Agritech (Pvt) Ltd has planned to generate and use in-house power generation through solar. As well as energy efficient machineries will be installed.

CHAPTER 3

DESCRIPTION OF PROJECT

SUNCROP AGRITECH (PVT) LTD

CHAPTER 3:

DESCRIPTION OF PROJECT

This section of the study concentrates on details of the project and its salient features; such as its location, objective, site layout, cost and magnitude of operation at various phases and process employed for the subject process.

3.1 Objectives of Project

The main objective of this project is the Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd for supplying chemicals as per consumer demand.

3.2 Particulars of Project Site

Details of location of project are provided in table below:

Table 1: Particulars of Project Site

Particulars	Details
Latitude	28°22'24.90"N
Longitude	70°11'32.60"E
Location Address	Plot#60,61,62,63, 64 Rahim Yar Khan Industrial Estate, Rahim Yar Khan & 136knl Daakhli Moza Abdul Wahid Khumbarrah Rahim Yar Khan
District	Rahim Yar Khan
Nature of area	Industrial
Road connectivity	National Highway

3.3 Location and Layout of Project

3.3.1 Location of the Project

Project site is located at Plot#60,61,62,63, 64 Rahim Yar Khan Industrial Estate, Rahim Yar Khan & 136knl Daakhli Moza Abdul Wahid Khumbarrah Rahim Yar Khan. Google map is given below:

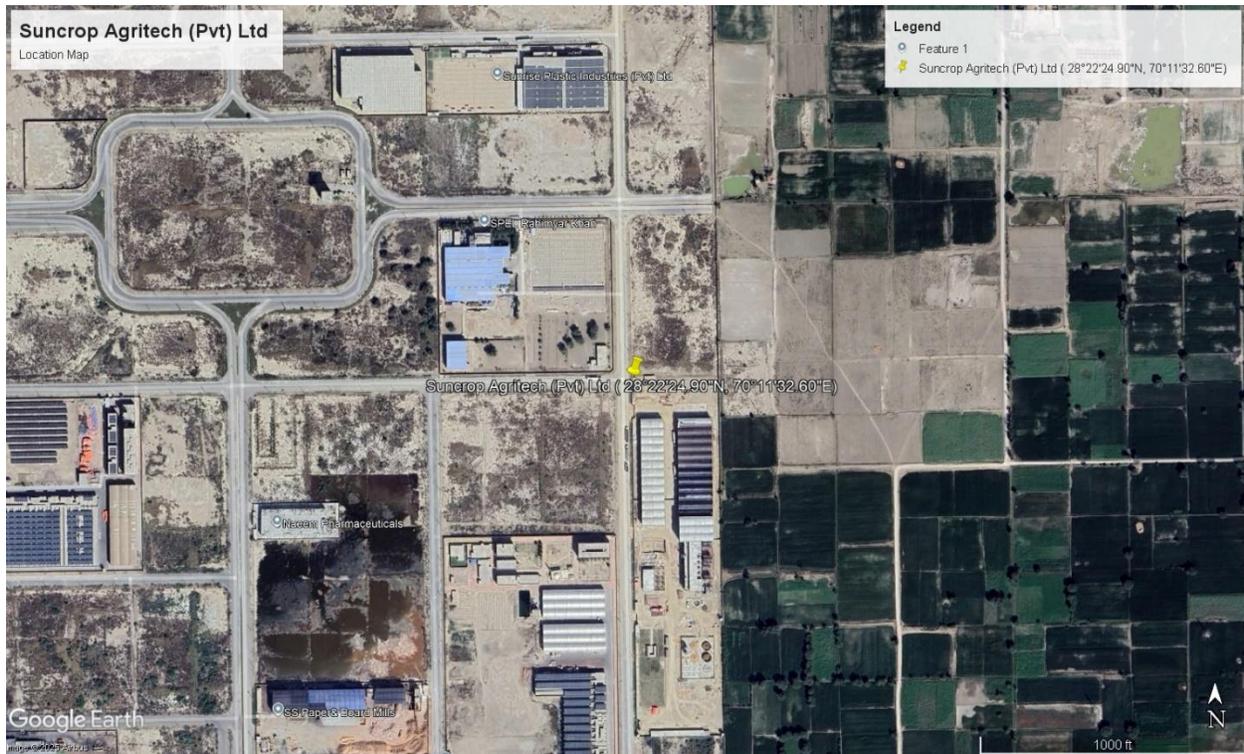


Figure 3.1 Location Map of Project Site

3.4 Nature of Area

Said area is industrial in nature.

3.5 Land Ownership

The land is owned by Suncrop Agritech (Pvt) Ltd. Possession letter has been attached as **Annexure II**.

3.6 Government Approvals

Management has applied for the approvals from different concerned departments. The management has obtained approvals from Rescue 1122, Civil defence and other applicable departments.

3.7 Land Use on Site

The land use on the site will be industrial in nature. There is no settlement, grassland or preserved area in the proximity of the project area that could be damaged or dismantled.

3.8 Road Access

The said Project area has road accessibility as it is accessible through National highway at the distance of 2 km from the proposed unit.

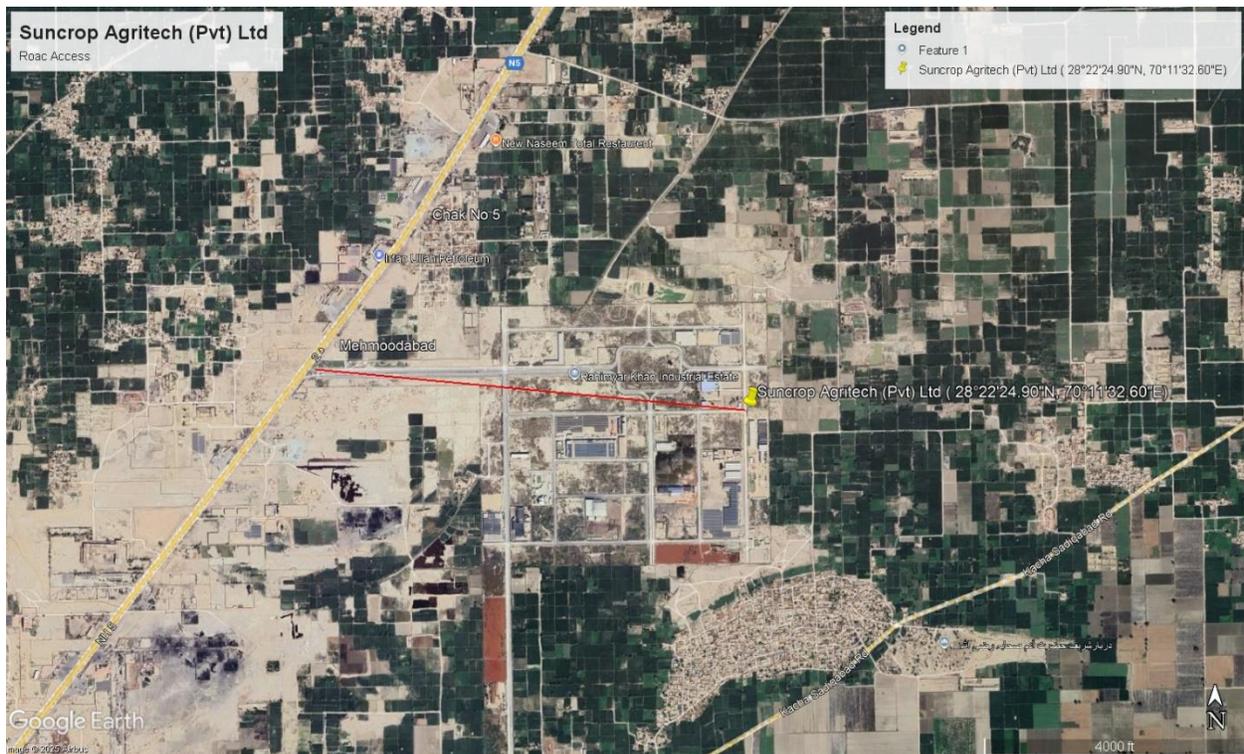


Figure 3.2 Road Access

3.9 Vegetative Features on Site

The area around the project area is industrial, the vegetative features of the area include; green open fields safeda, bari, neem and kikar.

3.10 Cost and Magnitude of Operation

Cost includes land cost, Building & Infrastructure cost, machinery cost, land scaping cost and running cost. Total cost of the project is PKR 500 Million (Approx.).

3.11 Schedule of Implementation

The schedule of implementation for the commencement of the civil work involved for the installation construction and operational maintenance is approximately 12 months and the detail timeline of the construction period is given in Table below:

Table 2: Timeline for Project Development

Sr. #	Activities	3 Months			3 Months			3 Months			3 Months		
		4W	4W	4W	4W	4W	4W	4W	4W	4W	4W	4W	
1	Detailed Designing												
2	Mobilization of Contractors												
3	Lean Development Period												
4	Peak installation Period												
5	Commissioning												*
W=48 Weeks													

3.12 Description of the project:

Project description is given in details in the preceding. Additional information is provided as under:

3.12.1 Products:

Capacity of the Unit will be 120 Tons/day of chemicals product.

Sr. No	Product List
1.	Sulfuric Acid
2.	Potassium Sulfate

3.	Zinc Humic Acid
4.	Hydrochloric acid
5.	Sulphur Fertilizer
6.	Sodium Sulfate Anhydrous
7.	Formic Acid
8.	Alum Sulfate
9.	N-Butyl Acetate
10.	Acetate Plus
11.	and some other sanitation, lab, Health and Food and Textile Industry chemicals

3.12.2 Manufacturing process:

Major steps of manufacturing process are described as under:

3.12.2.1 Production of Butyl Acetate

Raw Material Charging

Acetic acid and n-butanol will be charged into the reactor vessel under controlled conditions.

Reaction Phase

Inside the reactor, the esterification reaction between acetic acid and n-butanol will be initiated and maintained at the required temperature and pressure. A condenser will be connected to recover and recycle unreacted vapors.

Neutralization and Washing

After completion of the reaction, the reaction mixture will be transferred to the washing vessel. Here, a mixture of sodium hydroxide and sodium carbonate will be added to neutralize the unreacted acid and to wash out any impurities.

Distillation

The neutralized mixture will then be sent to the distillation unit, where butyl acetate will be separated based on its boiling point.

Phase Separation

The distillate will enter a settling tank to allow for separation of butyl acetate (organic phase) from water (aqueous phase).

Product Collection

The butyl acetate will be collected from the top layer of the settling tank and transferred to product storage.

Water Treatment

The water (bottom layer) separated from the settling tank will be collected and assessed. If needed, acid will be added to adjust the pH.

3.12.2.2 Production of Sodium Sulphate

Dissolving Stage

Raw materials will be introduced into the dissolving tank, where they will be dissolved in water to form a homogeneous solution.

Settling

The solution will then be transferred to settlers, where solids will settle, and the pH will be adjusted using sodium hydroxide to maintain the required chemical conditions.

Filtration – Filter Press

The settled mixture will pass through a filter press to remove any remaining solid particles. During this filtration, sludge will be generated, which will be separated from the filtrate.

Sludge Disposal

The separated sludge will be dried and then disposed of according to the waste disposal SOP to ensure environmental compliance.

Storage

The filtered solution will be collected and stored in dedicated storage tanks for further processing.

Evaporation

From the storage tanks, the solution will undergo evaporation to concentrate the sodium sulphate.

Recycling

Washing water from the evaporator will be recycled back into the dissolving tank to optimize resource usage and minimize waste.

Nutsche Filtration

The concentrated solution will then pass through a Nutsche filter, where final solid separation will occur, forming a cake of sodium sulphate.

Drying

The filtered sodium sulphate cake will be moved to a dryer to remove moisture and prepare it for final packaging.

Packing

The dry sodium sulphate will finally be sent to the packing unit, where it will be weighed, packed, and labeled for dispatch or storage.

3.12.2.3 Production of Formic Acid

Chemical Reaction Initiation

The process will begin with a chemical reaction between Sodium Formate and Sulphuric Acid, producing formic acid slurry.

vaSlurry Handling

The resulting formic acid slurry will be either: Sent to storage tanks for further processing, or directly transferred to the absorption towers where vapors are formed.

Vapor Formation

From the slurry, formic acid vapors will be generated and passed into absorption towers. This step ensures controlled vapor management and process efficiency.

Distillation

The slurry will undergo distillation. This step will be conducted under vacuum to minimize energy consumption and ensure no environmental impact from emissions.

Purification

The distilled formic acid will then be sent through a purification unit to enhance product quality.

Separation of Impurities

Post-purification, the remaining impurities will be separated, ensuring the final product meets quality standards.

Condensation

Purified vapors will then pass through a condensation system, still operating under vacuum conditions to avoid environmental exposure.

Final Storage

The final condensed formic acid will be collected in storage tanks, ready for further handling, packaging, or dispatch

3.12.2.4 Production of Sulphuric Acid

Raw Material Handling

Sulphur will be extracted from sulphur pits and transferred as a raw material to the combustion system.

Combustion in Furnace

The elemental sulphur will be fed into a furnace where it will undergo combustion in the presence of excess air to form sulphur dioxide (SO₂) gas.

SO₂ Gas Handling

The generated SO₂ gas will be captured and transferred through a closed-loop system to ensure minimal environmental release.

Catalytic Conversion

The SO₂ gas will be passed through a converter containing vanadium pentoxide (V₂O₅) catalyst, where it will be oxidized to sulphur trioxide (SO₃) under controlled temperature and pressure conditions.

Drying Tower Circulation

The SO₃ gas will be directed to a drying tower where moisture will be removed using concentrated sulphuric acid. The resulting dry air will be recycled back into the furnace, maintaining a continuous closed-loop cycle for energy efficiency and emissions control.

Absorption Tower Operation

The dry SO₃ gas will be moved into the absorption tower, where it will react with concentrated sulphuric acid to form oleum or more concentrated sulphuric acid, depending on the plant design.

Flue Gas Management

Any flue gases released from the process will be directed towards the chimney. Before final release, these gases will be scrubbed in a scrubber system.

Scrubber Functionality

In the scrubber, sodium hydroxide (NaOH) solution will be used to neutralize acidic gases, converting NaOH into sodium sulphate (Na_2SO_4) as a by-product.

By-product Transfer

The resulting sodium sulphate solution will be transferred to the sulphate production plant for further processing.

Acid Cooling

The produced sulphuric acid will be passed through acid coolers to reduce its temperature and stabilize it for safe handling and storage.

Final Storage

Finally, the cooled sulphuric acid will be transferred to dedicated storage tanks for use in downstream processes or dispatch.

3.12.2.5 Boiler

Boiler of capacity 4.5 TPH will be installed. Coal fired boilers with hybrid technology will be used,

3.12.2.6 Construction of Warehouses

Warehouse for storage of raw chemicals, middle product, waste storage, discarded material and final product different storage sections will be constructed. Before constructing the storage halls, the section of process will be noted and storage hall for each section will be constructed near to same process. The purpose of the construction is to provide adequate space for storage of materials and final product. Proper ventilation, emergency exits and storage/ stacking SOP's will be followed.

Engineers section

In this section some rooms will be presented for the engineers.

Utility section

In this section the manager and supervisors will present to maintain the power and process of industry. They will monitor all types of machinery, boilers, generators and electricity.

Quality section

This section will also contain some rooms and cabins where the quality inspectors and managers will present to inshore the quality of raw material and final product.

Compliance department

This department will contain of rooms and cabin also. Some compliance officers, management of compliance, HSE officers will work from here. They will ensure the environment, health and safety policy of industry.

3.12.3 Wastewater Treatment

The technology of wastewater will be Chemical based treatment along with biological oxidation.

3.12.4 Solar System

Solar system installation will help the industry to move towards sustainable measures for energy conservation and dependance on renewable energy resources.

3.13 Relocation and Rehabilitation Plan

There exists no human settlement within premises of the selected project site to be displaced as a result of the proposed project. As the selected site is located at designated industrial estate So, no restoration and rehabilitation are required.

3.14 List of Machinery

List of Machinery is as under:

Table 3: List of Machinery

SR NO.	Equipment
--------	-----------



1	Cooling Tower Water Tank
2	Cooling Tower
3	Water Pump
4	Sulphuric Storage Tank
5	Sulphuric Shifting Pump
6	Reactor
7	Sulphuric Dosing Tank
8	Condenser
9	formic Vapour recovery Towers
10	Vacuum Surging Tank
11	Vacuum Pump
12	Mini RO
13	Soft Water Unit
14	Pumps at Sulphuric acid plant
15	Formic Storage Tanks
16	Formic filling section Pump
17	Auto filling machines
18	Alum Reactors
19	Alum Crusher
20	coal Boilers
21	Waste Heat Recovery Boilers
22	Evaporatos
23	Oil Heating Unit
24	Scrubbers
25	Absorption Towers Sulphuric
26	Air blower system
27	Acid circulation Pump
28	Generators

3.15 **Amenities**

The following social amenities are present at site and the management of the waste (construction waste, solid waste and effluents) is explained in sub-sections below:

3.15.1 **Electricity Consumption**

Electricity consumption will be fulfilled by grid station of industrial estate. In future the management has planned to move towards energy efficient way of solarization. Backup generator will also be present at the site

3.1.1. **Water Resource**

During construction and operational phase ground water will be consumed. The water will be pumped from ground through turbine. Water conservation plan has also been prepared. For this purpose, rain water harvesting will be done. The management has constructed rainwater storage tanks which will be further utilized after passing through filtration process. RO plant will also be present at site.

3.15.2 **Management Plans**

Following management plans will be implemented to reduce the impact of the proposed activity:

3.15.3 **Air Emissions**

Air emissions will be generated while continuous operation of generator, process and boiler etc. may deteriorate the quality of air in the open area. No other emissions will be generated from process related activities.

To deal with the pollution generated from these activities, regular monitoring and testing of generators and boiler will be carried out to ensure compliance. The workers dealing with the process activities will be provided with masks, safety shoes and all other necessary PPEs. To reduce the public nuisance native trees will be planted on the boundary to reduce the nuisance and to reclaim the disturbed soil effectively. Scrubbers

with double absorption technique on chambers, cyclones and scrubbers on boilers are installed.

3.15.4 Wastewater Management and Disposal

In the proposed project the wastewater will be generated from washing of reactors and other machinery, municipal and process activities. This wastewater will be transferred to the wastewater treatment plant where the water will be treated and the results of the final discharge water will be maintained according to the PEQS and then discharge to sewerage lines of industrial estate.

It is proposed that tree plantation will be carried out around the premises of project area. The generated wastewater will also be consumed for on-site horticultural activities after treatment.

3.15.5 Waste Management

The solid waste will be generated during the cooking in the worker's mess and during processing like batch preparation and other packaging waste. The solid waste which will produce during process activities will be sold out to EPA certified contractor. Regular training will be given to the workers dealing with the waste management it will include identification, segregation and management of waste. Other waste produced from the admin block, warehouse will go to the municipal waste committee

3.15.6 Emergency Preparedness

Emergency response preparedness committee will be formulated consisting of heads of all departments and nominated members. Project Manager will be the head of the team who will chair the Committee. In the case of emergency, he will immediately inform the concerned authorities. HSE Manager will be responsible for on-site HSE management.

First aid facilities will be available at facility which will include; blankets, hot water bottles, sterilized dressing, snake bite kit, cotton and iodine (2% alcohol).

3.15.7 Safety Trainings

Skilled, semi-skilled and un-skilled staff will be provided with proper training about the work and safety practices that need to adopt during the process activities.

3.15.8 Use of Drugs and Narcotics

Drugs and narcotics are strictly prohibited during working hours in working area. Smoking will be only allowed during rest timings at properly isolated places.

3.15.9 Hazardous Chemicals Management Plan

All hazardous chemicals, whether used as raw materials or generated as final products, shall be managed under a structured chemical safety program to ensure safe handling, storage, use, and disposal. Material Safety Data Sheets (MSDS) for each chemical will be maintained and readily accessible. Hazardous materials will be clearly labeled and stored in designated, ventilated areas with secondary containment to prevent leaks or spills. Personnel handling these substances will receive appropriate training in chemical hazard identification, emergency response, and use of personal protective equipment (PPE). Regular audits and inspections will be conducted to verify compliance with local regulations and to prevent unauthorized access or environmental release. Emergency procedures will include spill response protocols and first-aid measures, and appropriate fire safety systems will be in place based on chemical compatibility and reactivity.

3.15.10 Personal Protective Equipment

Following Personal Protective Equipment (PPEs) will be provided to the workers:

- Safety Helmet
- Coveralls
- Safety Shoes
- Dust Mask
- Safety Gloves
- Safety goggles
- Ear plugs/ muffles

CHAPTER 4

DESCRIPTION OF

ENVIRONMENT

CHAPTER 4: DESCRIPTION OF THE ENVIRONMENT

4.1 General

An environmental baseline study is intended to establish a database against which potential project impacts can be predicted and managed later. The IEE of the proposed Project covers a comprehensive description of the project area, including environmental attributes which are expected to be affected by the project, as well as, those which are not expected to be directly affected by the construction and operation of the project. The existing environmental conditions around the proposed project have been considered with respect to physical, biological and socio-economic aspects. Further, consultations were held with the general public and stakeholders of the project area in order to seek the public opinion on the implementation of the proposed project

4.2 Methodology

The methodology employed to collect the baseline data and information regarding the social structure and various related parameters as discussed in sub-sections below:

4.2.1 Data Collection

The primary data was collected by visiting the project area and its communities in its nearby vicinity. The secondary data regarding physical parameters (topography, geology, seismology, and climate) was obtained by visiting relevant various government departments and their official websites. The biological parameters such as flora and fauna were studied by preparing a floristic list based on visual observation and fauna was studied by using opportunities approach.

4.2.2 Social Survey

The purpose of social survey was to record the present condition of the people living in the project area and to assess the expected project impacts on their life, subsistence

systems and socio-cultural conditions. Prior to conducting the field surveys, the following steps were taken:

- Clear boundaries of the project area were identified
- Decided the sampling procedure in order to draw a representative sample size of the target population and households
- Developed the tools for data collection i.e. questionnaires to access the socio-economic status of the area

4.2.3 Sampling Design

Social baseline data of the persons residing in the study area has been estimated and collected through random sampling by using pre-developed questionnaires.

4.2.4 Questionnaires

In order to test the validity and reliability of the proposed questionnaires, they were reviewed to assess whether questions needed to be clarified, changed or re-sequenced and then a final editing of questionnaires was conducted prior to their application in the project area.

4.2.5 Data Editing and Analysis

The filled questionnaires and recorded information were compiled by the same field investigators who were involved in the data collection. This was done immediately after completing the field investigations. Data sets were processed. Analysis of the data and preparation of conclusions in the minimum possible time was done using statistical techniques of data analysis.

4.2.6 Review of Legal and Administrative Framework

The objective of reviewing legal and administrative framework is to obtain information on all legislation pertaining project development. The Socio-Environment Team of Green Yasin Environment Consultants reviewed the environmental policies, national,

international and provincial laws and guidelines relevant to the development of project which helped in systematic identification of impacts.

4.2.7 Baseline Conditions

Baseline conditions refer to the existing physical, environmental and socio-economic status of the project area. On the basis of baseline information, the project interventions are assessed and mitigation measures are proposed. The baseline information also helps to indicate the specific issues to be monitored during construction and operational phases. The baseline data (physical, biological and socio-economic parameters) related to the project area is described below. Information provided is based on primary and secondary data collected by site visits, desk studies and consultation with locals respectively. The detail of each parameter is discussed in sub-sections below:

4.3 Physical Resources

The physical resources consist of existing land form and land use at the project site including geology, hydrology, meteorology and climatology. The pre-project condition (i.e. baseline) of these components of the physical environment is described in detail.

4.3.1 Geography and Geology

Punjab Province mostly comprises of plain areas lying in Indus Basin formation. Rahim Yar Khan District lies between Indus basin and Cholistan Desert formation the project area lies on un-deformed Indian plate rock with a recent sedimentary cover. The project area only falls within one geological category of flood plain deposits. Fortunately, no fault line has been noted and the area is not seismically active. Major portion of the Punjab Province falls in the Indus Plain, which geologically originated in Late Pleistocene period by deposition of sediments from the Himalayas into abyssal sea. The soils generally range from loamy sand to sandy. The lands are extensively cultivated under irrigation from canal systems off-taking from Indus River. Hand

Pumps Groundwater is also extensively exploited for irrigation purposes by installing deep and Shallow Tube wells.

4.3.2 Topography

Topography of the project area is quite uniform. Topographic variation of study area is ranging from 95 meters (311.6 ft) above Mean Sea Level (MSL). As it is obvious from that at one point a small elevated place in the North East of the project area is identified and is small amount of height 4 to 7 feet during the topographic survey a depression at the Western side

4.3.3 Hydrology

Groundwater from depth of 40-60 feet below Natural Ground Level (NGL) can be used for drinking and other purpose. Groundwater is the major source of water in the study area, which is extracted with the help of pumps and motors.

4.3.4 Climate

4.3.4.1 Temperature

Climate of District Rahim Yar Khan is generally very hot and dry in summer and cold and dry in winter. Summer season is comparatively longer which starts from April and continues till October whereas winter season goes from November to March. In the project area, January is the coldest month with mean daily minimum temperature 4.4 °C and June is the hottest month with mean daily maximum temperature 42.4 °C.

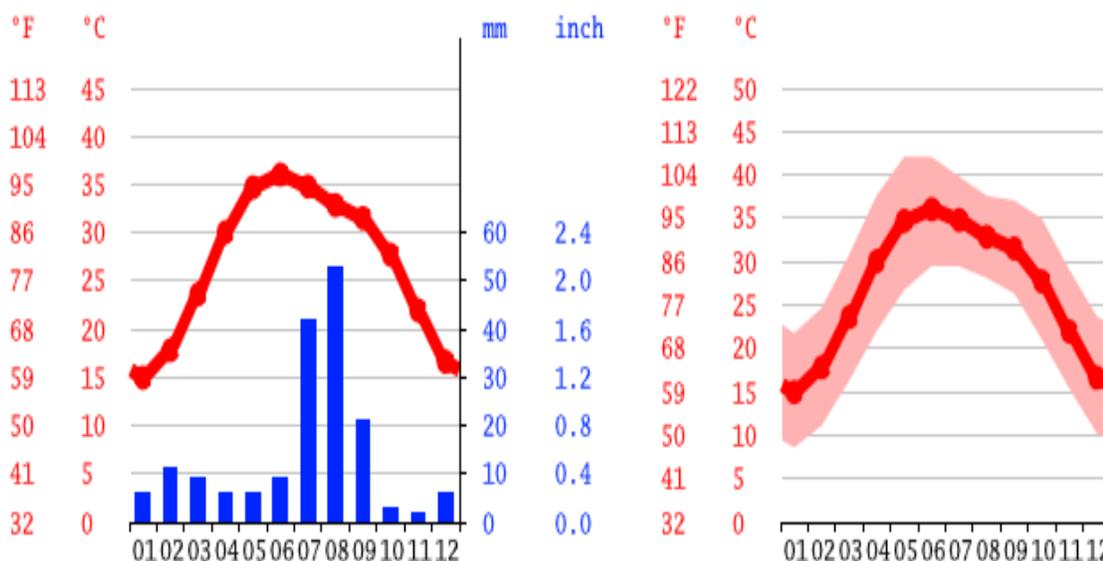


Figure 4-1 Average Annual Temperature & Rainfall of R.Y.K (Source: Climate-data.org)

4.3.4.2 Rainfall

The driest month is November. There is 4 mm/0.15 inch of precipitation in November. Most of the precipitation here falls in August, averaging 52 mm/2 inches.

4.4 Ecological Environment

Rahim Yar Khan District is enriched with the presence of natural flora and fauna, although with the growing population and development activities, the presence of the some has been somewhat affected. They are discussed in detail below:

4.4.1 Aquatic Flora and Fauna

No aquatic ecosystem (i.e., canal, stream, river or pond) observed within or around the study area, which omits the possibility of any kind of aquatic species that may be harmed due to the establishment of proposed project.

4.4.2 Flora

The project is located in Industrial area. The project site has no vegetative cover; hence, no trees or vegetation will be removed.. The dominant tree species in study area include; Eucalyptus, Neem, Kikar and Kabali Kikar (Invasive Specie). The crops present around project site include wheat, sugarcane and common grass.:

Table 4-1 Inventory of the Trees Present in Rahim Yar Khan District

S#	Common Name	Scientific Name
1	Neem	<i>Azadirachta indica</i>
2	Kikar	<i>Vachellia nilotica</i>
3	Safeda	<i>Eucalyptus globulus</i>
4	Kabali kikar	<i>Prosopis juliflora</i>

4.4.3 Fauna

For study of fauna in the project area, field guides and books were consulted. On the other hand field observations were conducted along with the interviews of local community members about the fauna of the area.

The fauna commonly found in District Rahim yar Khan includes; Hares, Falcon, Eagle, Quail, Starling, Jungle Pigeon, Russian Sparrow, Doves, King Fisher, Parrot, Myna, Crow and Local Sparrow.

Commonly found mammals in the area include; dogs, cats, horses, house-rats, squirrels, porcupines and bats. However, Small Indian Mongoose and Indian Palm Squirrel are also found in the District Rahim Yar Khan.

Table 4-2 Mammals in the Study Area

Sr. #	Common Name	Scientific Name
1	Rat	<i>Rattus</i>
2	Bat	<i>Chiroptera</i>

3	Small Indian Mongoose	<i>Herpestes javanicus</i>
4	Indian Palm Squirrel	<i>Funambulus palmarum</i>
5	Porcupines	<i>Erethizon dorsatum</i>
6	Squirrels	<i>Sciuridae</i>

The commonly found birds species include; House Sparrow, Crow and some of them are mentioned below with scientific names:

Table 4-3 Birds in the Study Area

S#	Common Name	Scientific Name
1	House Sparrow	<i>Passer domesticus</i>
2	House Crow	<i>Corvus splendens</i>
3	Pigeon	<i>Columbidae</i>
4	Bulbul	<i>Pycno notidae</i>
5	Teetar	<i>Francolinus francolinus</i>
6	Parrot	<i>Psittaci forms</i>
7	Titodi	<i>Vanellus indicus</i>

In District Rahim Yar Khan reptiles such as Snakes (Cobra and Kraits), Spiny Tailed Lizard and Fringed Toed Lizard are common in the tract, but cases of snake bites are very rare, as these reptiles have been either killed by expanding urbanization or they have moved away.

Table 4-4 Reptiles in the Study Area

S#	Common Name	Scientific Name
1	Snake	<i>Serpentes</i>
2	Spiny Tailed Lizard	<i>Uromastix hardwickii</i>
3	Fingered Toed Lizard	<i>Acanthodactylus cantoris</i>
4	Earthworm	<i>Lumbricina</i>

The amphibians commonly seen around the project area, especially during the rainy season includes;

Table 4-5 Amphibians in the Study Area

S#	Common Name	Scientific Name
1	Common Frog	<i>Rana temporaria</i>
2	Indus Valley Toad	<i>Bufo stomaticus</i>

A large number of insects are present due to open fields in the project site. Few of these insects are known to cause diseases in local population. Following is a list of commonly observed insects at the site:

Table 4-6 Insects in Study Area

S#	Common Name	Scientific Name
1	Black Ants	<i>Paratracheaiognicornis</i>
2	Dragon Fly	<i>Dragon Fly</i>
3	House Flies	<i>Musca domestica</i>
4	Butter Flies	<i>Parnassiusbalucha</i>
5	Honey Bees	<i>Apismellifera</i>
6	Wasps	<i>Anagyrus pseudococci</i>
7	Grasshopper	<i>Melanoplus differentialis</i>
8	Mosquito	<i>Anophlese sp.</i>

No endangered species are found at the site. The area has not been identified as ecologically sensitive area by wildlife department.

4.1. Environmental Monitoring

Laboratory analysis for environmental monitoring of proposed site is done in order to check the baseline conditions and pollution load. In this connection EPA certified

laboratory, was engaged to carry out environmental monitoring of wind speed, air quality, drinking water quality, noise level and particulate matter concentration in the project area.

4.2. SOCIO-ECONOMIC RESOURCES

This section provides collective information about the existing socio-economic and environmental condition of the project area within the AOI. The different types of socio-economic aspects were covered such as demographic profile, occupation, education and health facilities. This data helped in identifying major interventions for the development of Environmental Management and Monitoring Plan (EMMP). The study also helped to assess the positive or adverse impacts on local community.

4.4.4 Nearby Residential Areas

The proposed project site is located at Chak No 57/P Tehsil Khanpur District Rahim yar Khan. The nearby residential area is Bukhari Colony at distance of 900 m. During the survey of project area, socioenvironmental team of Green Yasin Environment Consultants visited near by residential area which is in the closest to the project site.

4.5 Quality of Life Values

Socio-Economic Questionnaire and Environmental Checklist were used as survey tools by the Green Yasin Environment Consultants survey team to collect desired information. Graphical representation of results of Socio-Economic Survey is given below:

4.5.1 Occupation of Respondents

Majority of the respondents (40%) are attached with agriculture, 35% shopkeepers and remaining 25% are labors. During survey, efforts were made to interact with people representing all walks of life.

4.3. Literacy Rate

From survey results, it was found that 75 % of the studied population was illiterate, 15% was up to primary level, 10% studied up to middle level.

4.4. Industries

Rahim Yar Khan is the big industrial city of Pakistan. Before independence, there were only few industrial units in Rahim Yar Khan City. Now, there are many of fertilizer industries with other subsidiary units. Roughly, there are 353 large Industrial units, out of which 5 are Fertilizer units, which are supporting local economy as well as alleviation poverty. The fertilizer industry is an essential contributor towards the agriculture sector of Pakistan's economy. The industry is significant as it plays a vital role in ensuring the country's food security.

There are also a number of sugar mill units has been established since 1973 and body building workshops. Besides, there are units of canning and preservation of food, edible oils, beverages, metal and wood furniture, cotton industry, rubber products, chemicals, glass products, stationary etc.

4.5. Educational facilities

In the project area some educational institutions are found which include Government Primary and Secondary Institutions. Overall, in Rahim Yar Khan District, educational facilities are mainly being provided by the Government of Punjab, the city government and the private sector and voluntary organizations. Educational facilities nearby project site are:

4.6. Facilities Available

Facilities available at the houses, shops and factories are depicted here. It shows that electricity, water supply, telecommunication, sewerage, gas supply and every other routine facility is available in AOI.

CHAPTER 5

STAKEHOLDER CONSULTATION

CHAPTER 5: STAKEHOLDER CONSULTATION

5.1 GENERAL

Public consultation refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. According to the IEE and EIA Review Regulations, public consultation is mandatory for any socio-environmental study.

Impact assessment survey and public consultation sessions held with different stakeholder groups that may be impacted by the said project development. The consultation process was carried out in accordance with the guidelines laid by EPA. The objectives of this process were to:

- Share information with stakeholders on said project installation and operation
- To assess the impacts on the physical, biological, and socio-economic environment
- Understand stakeholder concerns regarding various aspects of the project
- Understand the perceptions, assessment of social impacts and concerns of the communities of the project area
- Find out the awareness level and situation of acceptability to identify any issues for the implementation of the said project
- To invite people to express their views about the positive/negative impacts on their life styles and environment

This report includes all the comments, which were taken into account in preparing the definitive development concept for the establishment of said project. Public consultation performa is attached as Annexure of this EIA Report.

5.2 OBJECTIVES OF CONSULTATION

Public consultation plays a vital role in studying the impacts said project on stakeholders in its successful implementation and execution. It provides an opportunity to exchange

knowledge with the all stakeholders. Referring particularly to a project related to environmental assessment, involvement of public is all the more essential, as it leads to better and more acceptable decision-making. The overall objective of the consultation with the stakeholders is to help verify the environmental and social issues, besides technical ones, that have been presumed to arise and to identify those which are not known or are specific to the project. In fact, discourse with many who have thoroughly observed the site conditions in the pre-developmental phase, goes a long way in updating the knowledge and understanding.

5.3 IDENTIFICATION OF STAKEHOLDERS

All the people who are directly or indirectly affected or concerned with the project are the stakeholder. Besides the living population of the surrounding areas, some other stakeholders were identified and contacted. They are the key players including; shops owners, vendors, public offices, school, university, hospitals,. Not only published material (Both brief and comprehensive literature were obtained on request) but also noted their views and the concerns. Following stakeholders are identified for this project:

Project stakeholders include the settled families, either property owners or the tenants, businessmen (land owners, traders, shopkeepers, vendors, transporters, restaurant owners etc.), employees of the commercial entities. PAPs are of two types, for instance:

5.3.1 Direct

In this case, the PAPs are those who will be benefited directly by project. No disturbance on the local community is being foreseen due to the installation of the said plant.

5.3.2 Indirect

Indirect impact will occur on those who are living or doing business within project area of influence. Indirect respondents include;

- ✓ Government agencies responsible to deal with the project related activities
- ✓ Government Agencies directly, indirectly or widely involved in the execution and monitoring of the said project

- ✓ Workers of political, cultural, religious or social scientific bodies, directly or indirectly related

5.4 PUBLIC DISCLOSURE

Public disclosure is the outcome of all such activities where public is involved at least in the information sharing process. This is an integral part of that process so before the proponent applies for NOC to the EPA, this disclosure will be distributed properly among all stakeholder. It is the responsibility of the proponent and the consultants to display public disclosure document at prominent places where community has easy access.

5.5 CONSULTATION PROCESS

Information disclosure, public consultation and discussion regarding the various aspects of the project with the people of the area are necessary. This process is intensified during the EIA Studies, and separate rounds of public consultations were held. Surveys were carried out in order to investigate physical, biological and socio-economic resources falling within the immediate area of influence of the project. Primary data collection included:

- Data collection regarding the socio-economic condition of the study area
- Pretesting of socio-economic survey tools in the field
- To consult the locals for collection of information on biological environment

Various meeting with the stakeholders were held the following objectives:

- Share information with stakeholders on the said project and expected impacts on community in the vicinity of the project
- Understand stakeholders' concerns regarding various aspects of the project, including the existing condition of the upgrading requirements, and the likely impact of construction and operation activities
- Provide an opportunity to the public to influence the project design in a positive manner
- Obtain local and traditional knowledge, before decision making

- Increase public confidence about the proponent, reviewers and decision makers
- Reduce conflict through the early identification of controversial issues, and work through them to find acceptable solutions
- Dissemination of information through discussions, education and liaison
- Documentation of information narrated by the stakeholders and mitigation measures proposed by the stakeholders
- Incorporation of public concerns and their address in the EIA; and eliciting their comments and feedback

5.5.1 **Consultation Methodology**

The methodology adopted for consultations is summarized below.

5.5.1.1 Consultation Material

The main document for distribution to stakeholders during the consultations was Social Impact Assessment Interview. The filled Survey forms of stakeholders are annexed

5.5.1.2 Consultation Mechanism

Primary stakeholders were consulted during informal and formal meetings held in the project area. The consultation process was carried out in the Urdu language. During these meetings a simple, non-technical, description of the project was given, with an overview of the project's likely human and environmental impact. This was followed by an open discussion allowing participants to voice their concerns and opinions. In addition to providing communities with information on the said project, their feedback was documented during the primary stakeholder consultation. The issues and suggestions raised were recorded in field notes for analysis, and interpretation.

By reaching out to a wider segment of the population and using various communication tools such as participatory needs assessment, community consultation meetings, focus group discussions, in-depth interviews, and participatory rural appraisal EIA involved the community in active decision-making. This process will continue even after this EIA has

been submitted, as well as during future EIA in which similar tools will be used to create consensus among stakeholders on specific environmental and social issues.

Secondary stakeholder consultations were more formal as they involved government representatives and local organizations, consulted during face-to-face meetings. They were briefed on the EIA process, the project design, and the potential negative and positive impact of the project on the area’s environment and communities. It was important not to raise community expectations unnecessarily or unrealistically during the stakeholder consultation meetings in order to avoid undue conflict with community’s leaders or local administrators. The issues recorded in the consultation process were examined, validated, and addressed in the EIA report.

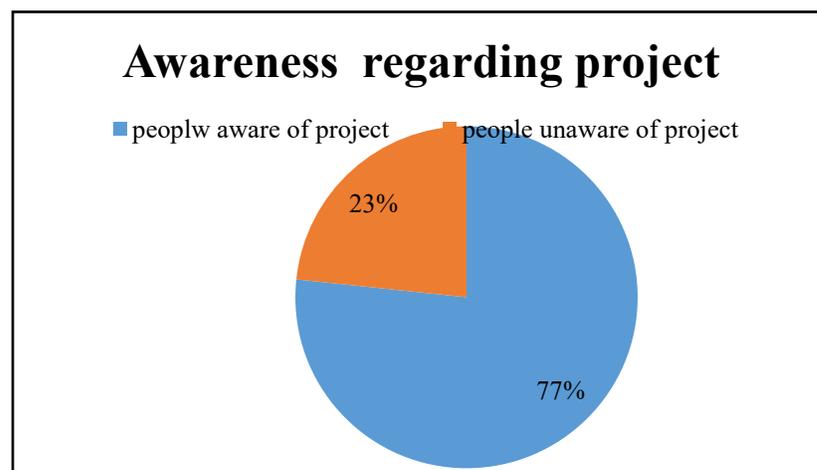
5.5.2 Primary Stakeholders Consultation

The community consultations were conducted with the community members outside their settlements to encourage and facilitate their participation.

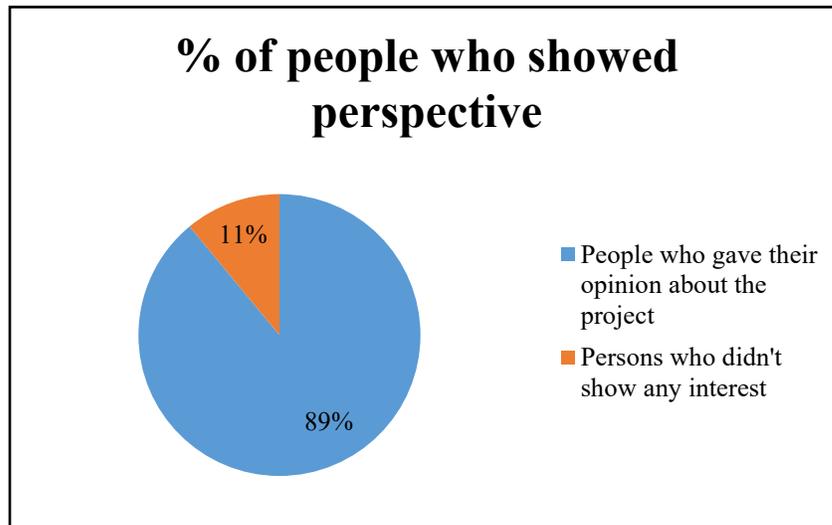
5.5.2.1 STAKEHOLDER CONCERNS AND RECOMMENDATIONS

The finding of the community consultation has been addressed in various sections of EIA. Mitigation plan has been incorporated into EMP. The summary of consultation with various stakeholders is given below

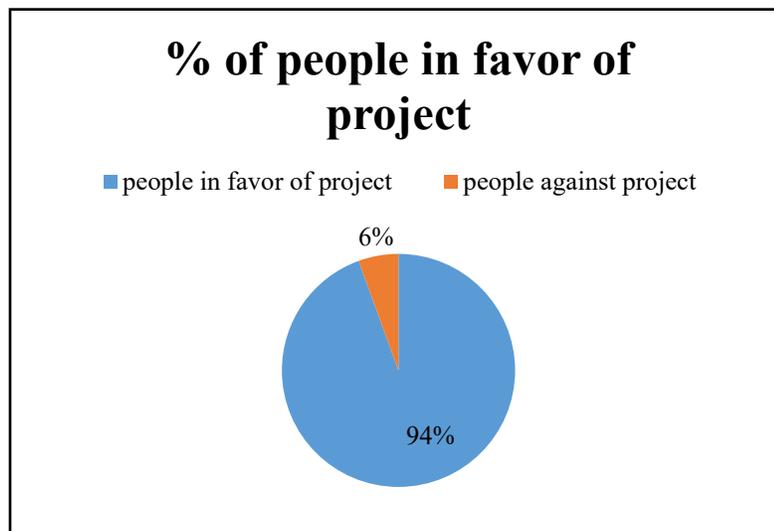
Out of total respondents of, 77% knew about the project whereas 23% were not aware of the project planning and implementation. All people were then briefed about the project.



89% commented their views about the project and 11% didn't respond.



Out of 89%, majority of the people (about 94%) favored the construction of the project keeping in view its importance and 6% people showed pessimistic views in general but mitigation measures and solutions to their concerns were provided.



Majority of people were in favor of project. They said that project will result not only in direct jobs opportunities for locals but also will enhance subsidiary business, trade, education, and agriculture and community development. The people were of the view that industry might also elevate education standards, struggle for career enhancement besides improvement in standard and quality of living in area. People were also of the

view that industry may also be instrumental in connecting the local people with major cities and will result in increase in GDP.

Very few near to 6 % only shows concerns over power house emissions, noise, wastewater and health impacts. Majority of the concerns were changed in the favor of installation after communicating the participants proper solutions and mitigation measures

5.6 STAKEHOLDERS CONSULTED

Names of consulted stakeholders are given in table below:

Table 5-1: List of consulted stakeholders

Sr. No	Stakeholder name
1.	Muhammad Naeem
2.	Farman Ali
3.	Bashir Ali
4.	Shehzad Saleem
5.	Parvez Hussain
6.	Muhammad Fayyaz
7.	Muhammad Ikhlaq
8.	Muhammad Asif
9.	Muhammad Anwar
10.	Muhammad Asad
11.	Muhammad Adeel
12.	Abdul Rehman
13.	Allah Ditta
14.	Arif Khan
15.	Basheer Hussain
16.	Ghulam Nabi

17.	Nasrullah
18.	Muhammad Aslam
19.	Hameed Ahmad
20.	Muhammad Zafar
21.	Muhammad Maqsood
22.	Muhammad Farooq

5.6.1 Secondary Stakeholders Consultation

The consultations were carried out with the local government officials and officials of the following departments:

1. District Office Environment
2. Proponent
3. Environmental Precautionar

Comments and recommendations of all government representatives are presented in table below:

S#	Participant	Designation	Concerns/Remarks
Responsible Authority			
1	Mr. Shahzad	Inspector Environment	<ul style="list-style-type: none"> • Environmental enhancement measures such as; Tree plantation, monitoring and safety should be ensured • WWTP should be installed • HSE plan should be enforced strictly • Should work for local people benefit • Preventive measures should be adopted to avoid any unfortunate incident
Proponent			
1	Muhammad Latif	Proponent	<ul style="list-style-type: none"> • Local employment will be ensured • Tree plantation will be done to make project environment friendly • No waste will be dumped improperly • Quality will be ensured
Environmental Practitioners and Experts			
1	Dr. Muhammad Faqir Irfan	PhD. Environment Lawyer	<ul style="list-style-type: none"> • Health and safety arrangements must be provided

CHAPTER 6

**POTENTIAL ENVIRONMENTAL
IMPACTS AND MITIGATION
MEASURES**

CHAPTER 6: POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

6.1 GENERAL

This chapter describes the potential environmental and social impacts of the proposed activities, predicts the magnitude of the impact and assesses the significance. The main intention of this section is to provide the mitigation measures that need to be adopted wherever necessary, to reduce, minimize, or compensate for the negative impacts.

6.2 IDENTIFICATION OF POTENTIAL IMPACTS

In the first step, potential impacts of the project are identified by desktop screening exercise, using checklists during field visits for collection of baseline data, professional judgment, published literature on environmental impacts of similar projects and standard environmental guidelines. Potential impacts are also identified through discussion with project proponent, consultation with stakeholder and community to identify their concerns. The main aspects associated with potential impacts are as follows:

- Water resources
- Ambient Air Quality
- Waste discharges
- Noise pollution
- Ecology of the area, including flora and fauna
- Vehicle movement
- Socio-economic conditions
- Archaeology

6.3 CLASSIFICATION OF IMPACTS

According to the type of potential receptors, the potential impacts are classified. The following receptor categories were used.

Category of Receptor	Description
Community	People their social and cultural values, aspirations and archaeological sensitivity
Land and Soil	Land resources, soil resources
Air Quality	Ambient air quality
Water Resources	Ground and surface water resources
Ecosystem	Vegetation, wildlife and biodiversity

6.4 SCOPING CRITERIA FOR IMPACTS

The identified potential impacts of the project are evaluated on the basis of following criteria;

- The present baseline condition, the change in environmental parameters likely to be affected by the project related activities;
- Is there any impact that environmental standards or environmental guidelines applicable to the project will be breached?
- Is there a high risk of permanent, irreversible, and significant change to environmental condition due to particular project activity?
- Did the community express any concern about this aspect?

6.5 METHODOLOGY FOR IMPACT ASSESSMENT

The impact assessment methodology defines three levels of consequences (or severity) and likelihood (chance of occurrence) i.e. Low, Moderate/Medium or High. The



significance of an impact is determined on the basis of the level of consequence and likelihood of the impact.

Table 6-1: Definitions of severity and likelihood of impacts

Level	Severity of Impact (Consequence)	Likelihood
High	Serious / catastrophic damage to local and regional environment Serious threat to corporate reputation/ profitability / ability to do business	High likelihood of occurrence during lifetime of operation Regular / continuous part of operations
Moderate	Measurable damage to the environment Potential to affect reputation / cost Reduced efficiency	Moderate possibility of occurrence during lifetime of operation Periodic / occasional part of operations
Low	Negligible damage to the environment No risk to business	Unlikely to occur during lifetime of operation

Table 6-2: Impact Significance Matrix

		Likelihood (Probability of occurrence)		
		High	Medium	Low
Impact (Consequence)	High	High	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

The prediction of impacts also includes the duration of impacts in terms of short-term or long-term, nature of impact, geographical location of the impact, reversibility of the impact. The criterion for impact assessment is illustrated in the Table

Table 6-3: Impact Assessment Criteria

Impact Characteristics	Categories
Nature of the Impact	<p>Direct: The environmental parameters that are directly affecting by this project.</p> <p>-Indirect: The environmental parameters change due to the combinational effect by project and environmental impacts</p>
Duration of the Impact	<p>Short term: Lasting only till the duration of the project</p> <p>Medium term: Lasting from a few months to a year</p> <p>Long term: Lasting for a period much greater than medium term impacts</p>
Geographical Location of the impact	<p>Local: Within the area of project i.e. operation site and access roads</p> <p>Regional: Within the boundaries of the project area</p> <p>National: Within the boundaries of the country</p>
Reversibility of the impact	<p>Reversible: When a receptor resumes its pre-project condition</p> <p>Irreversible: When a receptor cannot resume its pre-project condition</p>

6.5.1 What is the problem?

The project is about chemical manufacturing industry, namely “Establishment of Hazardous Chemicals Manufacturing and Storage Unit by M/s Suncrop Agritech (Pvt) Ltd”. The major impact associated with the construction and operation of said industry includes solid waste management, wastewater management, noise emissions, tree plantation and fire-fighting arrangements.

6.5.2 When problem will occur and when it should be addressed?

The impacts from the said industry mainly occur during the construction and operational phase of the project. These issues include; noise generation, fugitive dust emissions, solid waste management, wastewater disposal, top-soil removal, Health and Safety issues and change in the geographic features of the area. These all problems should be addressed on-site where they are being generated, to avoid the residual or adverse impacts. The tell the description and impacts to Government and public by reports and public hearing.

6.5.3 Where problem should be addressed?

The problem will be generated from site development and operation of the industry. So, it should be addressed on source, i.e. at site within the same timeframe.

6.5.4 How the problem should be addressed?

Problem should be addressed with its full detail i.e. its magnitude, possible impacts and problem, long time effect, environmental impacts, and proper mitigation measures will be provided according to the nature of the impacts/problems.

6.5.5 Ways of Achieving Mitigation Measures:

Following ways will be adopted to reduce the impacts of the said project:

6.5.5.1 Changing in Planning Design

The design of industry is developed considering environmental risk and hazards. As the area is industrial lot of industries are present there. Moreover, there is no endangered and threatened species present in the project area. Any human settlement or infrastructure was not dislocated or dismantled due to the project development. The proper roads and transportation system along with migration measures is there. The project is fare away from urban development. Not any impact will affect the urbanization. Hence, there is no need to change the design of the project.

6.5.5.2 Improved Management and Monitoring Practices

The anticipated impacts will be reduced significantly by adopting better management activities, as it will be carried out for the betterment of the society. While environmental

monitoring will be conducted on the regular basis to keep the sources of the air pollution, wastewater generation, noise and public nuisances in-check. All the migration measure and advance technology will be implanted to mitigate the impact. All the practices will meet the Punjab environmental standards and international standard like OSHA.

6.5.5.3 Compensation in Money Terms

Due to the development of the project, no tree cutting is involved, however, there is no protected or environmentally sensitive area present within 3.0 km vicinity of the project that could be impacted. Hence, no compensation in the monetary terms is required.

6.5.5.4 Replacement/Relocation/Rehabilitation

The project site is owned by the proponent and reserved for the said industry. No replacement, relocation and rehabilitation is required for the commencement of the aforesaid project.

6.6 Impact Summary

Environmental Parameters	Impact Assessment during Different Phases	
	Construction	Operational
A: Physical		
Land Resources		
Soil Erosion and Contamination	0	0
Transportation	-1t	-1 t
Solid Waste and By-Products	-1t	+1p
Land Use	NA	NA
Air Resources		
Noise Pollution	-1t	-1p
Air Emission	-2t	-1p
Dust	-1t	-1t
Water Resources		
Ground Water	-1t	-1p
Surface Water	NA	NA
Wastewater	-1t	-1p
B : Ecological		
Flora		

Tree Cutting	N/A	N/A
Fauna		
Terrestrial Fauna	N/A	N/A
C: Socio-Economic		
Employment Opportunities	+1t	+1p
Land Value Appreciation	N/A	N/A
D: Hazards		
Physical Hazards	-1t	-1p
Health and Safety	-1t	-1p
<i>Legends: 1= Low; 2= Medium; 3= High; 4= Extremely High; NA= Not Applicable; t= Temporary; p= Permanent; app= Applicable; 0= Negligible</i>		

6.7 IMPACTS DUE TO PROJECT LOCATION

The said project site is located in area surrounded by other industries. As all the rules and migration procedure is applied. The project site is owned by the company. Further, the project site is devoid of any human habitation hence evacuation of the project-affected persons will not be involved in this project. Thus, no resettlement and rehabilitation issues will be involved in the said project. This project will be developed while undertaking minimum cutting for making terraces for construction while making minimum modifications in the terrain conditions and implementing environmental measures.

The topsoil removed from the site will be restored in dumps during construction period and in the post construction phase. The top soil will be spread on the unbuilt area of the plot and tree plantations and green belt development will be taken up. As the top soil removed from the site will be reused for the growth of plants, no adverse impact will be envisaged due to removal of topsoil from the site.

6.8 DESIGN PHASE

In general, the design of the said project optimized the use of best available technology in order to prevent or minimize potentially significant environmental impacts associated with the project as well as to ensure high level business and environmental performances.

In pre-construction / design phase, a management system will be provided at design level for the reduction of impacts. Design of the said project will adhere to all standard technical requirements in order to avoid adverse impacts on the environment and human health. Efficient infrastructure will be developed. Procurement of construction materials from approved dealers will be ensured.

6.9 IMPACTS ASSOCIATED WITH CONSTRUCTION PHASE

Sr. No	Aspect	Impacts	Mitigation Measures
1	Economy Improvement	<p>During construction phase, employment opportunities for local people will be generated.</p> <p>Raw material will be obtained locally increasing the economic value of area.</p>	<p>No specified mitigation measure is required. The contract is signed with the authorized construction companies. All of labor rules will applied on them.</p>
2	Air Quality	<p>During construction phase, suspended particulate matter are the main pollutants during the site development activities such as leveling of land, filling activities, transportation of construction material to the project site from various places.</p> <p>Fugitive emissions will be observed due to vehicular movement. But it will be</p>	<p>Dust emissions will be minimized through strict enforcement of onsite speed controls.</p> <p>The routes will be sprinkled with water regularly to reduce the amount of dust generated by construction vehicles.</p> <p>Construction machinery will be kept away from the walkways.</p> <p>All the vehicles carrying the construction material will be</p>



		negligible or temporary phenomenon.	<p>fully covered and well maintained.</p> <p>The inspection of the vehicles and construction machinery will do on regular basis.</p> <p>All vehicles and construction machinery will be properly tuned, serviced and monitored on regular basis.</p>
3	Water Quality	During construction phase, water will be required for construction of structures, sprinkling on roads for dust suppression, domestic uses of construction workers	During this phase, water conservation practices will be given proper consideration.
4	Relocation of Utilities	The project site is already near other industries. The construction will not relocate the existing public utilities.	No mitigation measure is required.
5	Solid Waste Generation	During excavation of the site for foundation works and landscaping, solid waste will be generated. The waste consisted of metal cuttings, rejected materials, surplus material, paper bags, cement bags, empty cartons and broken glass pieces.	<p>Recyclable material will be separated at source.</p> <p>The cement bags and other such items will be handed over to approve contractors on weekly basis.</p> <p>Other waste will be accumulated at waste area and</p>



			will be taken by the municipal waste management company.
6	Noise Pollution	During construction phase, the major sources of noise will be due to operation of construction equipment. The anticipated noise will be mostly confined to the facility itself.	<p>Several mitigation measures will be considered. For this purpose, most of the construction works will be done in day time.</p> <p>The advance machinery will be recommended to lower the noise and work efficiency.</p> <p>Proper PPEs (ears plugs and ears muffles) will be given to workers so that expose less to noise.</p>
7	Ecology	The project site is located in industrial area. It was devoid of thick forest and vegetation.	After the construction, tree plantation will be done to act as pollution barrier as well as to enhance the aesthetic beauty of the area.
8	Worker's Health, Safety and Environment	The construction activities had the potential to pose negative impact on the health and safety of workers in case of unfavorable working conditions.	<p>The contractor ensured that the workers and labors will be trained in safety procedures for all relevant aspects of the construction.</p> <p>Workers will be provided with proper safety equipment which</p>

			<p>were required on the basis of nature of the work.</p> <p>First aid kits will be kept available on the site to ensure safe working environment for the labors and workers.</p> <p>As per the requirement warning signs will be displayed in local language.</p> <p>Proper fencing will be done around the site.</p> <p>A safety officer will be appointed at the site for risk assessment and ensure the safety of workers.</p>
--	--	--	---

6.10 IMPACTS ASSOCIATED WITH OPERATION PHASE

During the operation phase different type of the process will be done. The possible impacts of the process, Boiler, etc is being evaluated as down here.

In this section, the combined environmental and socio-economic impacts associated with the said process of this project in operation phase are discussed. The impacts that are discussed are as follows:

Environmental Impacts

- Air emissions
- Noise
- Traffic

- Solid waste and by-products
- Wastewater
- Resource Consumption
- Abnormal conditions
- Occupational Health and Safety

Socioeconomic Impacts

- Employment Opportunity
- Community Development

6.11 ENVIRONMENTAL IMPACTS**6.11.1 AIR EMISSIONS****POTENTIAL IMPACTS**

Air emissions from the project are relatively small and specified. Fugitive dusts and emissions may result during raw material handling and storage which is relatively less likely to occur. Some volatile organic compounds may present due to miss-handling and unfortune events. Other potential sources for air emissions are combustion products (nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide) from standby diesel generators, boilers and combustion products from vehicles used for project activities. The chances of air emissions are from process as well which should be mitigated properly. Air Emissions from boilers and generator include Smog producing compounds like nitrogen oxides and volatile organic compounds. The smoke of boilers and generator produce other compounds like, Particulate matter, Carbon monoxide, Sulfur dioxide, Air Toxins (Toxics), Greenhouse Gases, Wastewater (once-through cooling water, cooling system blowdown, boiler blowdown, water-side boiler cleaning and demineralizer regenerant. The emissions from standby generators will be less in concentration. The emission levels depend on the type and quality of fuel and the manner in which it is burnt.

MITIGATION MEASURES

The following mitigation measures will be implemented. The proposed mitigation measures to reduce the impacts on air quality during the operation activities are:

- Emissions from boiler are controlled by equipping with cyclone, scrubber and room
- Emissions from the admin block and warehouse also pass through the ventilation system including filters
- Emissions from process will be captured by installing absorption towers and no fumes will be allowed to release into the air.
- Monitoring of Ambient air parameters (Particulate matter, SO_x, NO_x) emissions should be carried out on regular basis to ensure compliance with the PEQS.
- The inspection and the maintenance of the boiler and generator will be done on regular basis.
- Plantation of indigenous trees within the premises and along the boundary.

RESIDUAL IMPACT

If proper mitigation measures are effectively implemented, the residual impact of the proposed activities on the area's air quality is expected to be low in terms of significance, reversible.

6.11.2 NOISE

POTENTIAL IMPACTS

The main sources of pollution from noise are during raw material and finished good loading and unloading, vehicle movements, operation of machines. The increased noise may be a source of disturbance to workers, working near to the machines. The main source of the noise is boiler. But this area is closed and separated from other operational areas. So, the Noise level during operation phase of unit will be limited to specific site. Concerned staff will be working in the area with required personal protective equipment (PPE) to minimize or reduce the noise exposure.

MITIGATION MEASURES

The following mitigation measures will be undertaken in order to further reduce the noise levels:

- Effective noise suppression design and plan will be made for all noise producing equipment i.e. high noise generating machines will be kept in isolation from other machines to minimize the overall cumulative noise.
- Noise barriers should be implanted
- Noise area will not be open site. The source of noise will be in closed and covered place. Where the OSH standard will be applied.
- The repairing and the small source of noise will be removed if it will possible.
- PPEs are provided to workers
- Proper tree plantation has been done
- Noise monitoring will be carried out periodically.

RESIDUAL IMPACTS

Implementation of the mitigation measures proposed above will result in negligible to no residual impact due to unit noise on the surrounding environment.

6.11.3 TRAFFIC

The operational phase of the unit will result in increased traffic. However, the impact will be minimal. Vehicles will be well maintained to prevent unnecessary exhaust emissions and drivers will be appropriately trained.

MITIGATION MEASURES

The following mitigation measure will be implemented.

- Nighttime driving of project vehicles will be limited where possible.
- Vehicles will remain confined to defined access.
- The route of the vehicles will be defined and given to drivers and security system.
- The road will be labeled according to the rules and regulations.
- Speed limits will be maintained.

- The timetable and schedule of the vehicles will be defined and the monitoring of vehicles will be done every time.
- Road signage relevant to the project traffic will be placed, where necessary.
- Community complaint register and other means will be adopted for the community to complain about non-adherence of traffic to speed limits, safe driving and other safety related concerns.
- All vehicle drivers will be trained in community safety aspects. Drivers will be trained in responsible and safe driving practices; safe speed limits for vehicles will be followed.

6.11.4 **SOLID WASTE**

Solid waste generated will be generated from batch making process, empty packets, bottles and raps of chemical from ETP (solid sludge), organic and domestic solid waste from admin block will produce. Most of the generated waste will be recyclable. The generated domestic solid waste will be handled as per area practices. If the waste management is not carried out properly, it can affect health of workers, pollution of soil, surface or ground water. All waste generated from the project will be managed by proposed controls. The environmental impacts will be minimized after the implementation of the proposed mitigations. All process waste will be handed over to certified contractor.

MITIGATION MEASURES

The following mitigation measures will be implemented:

GENERAL WASTE MANAGEMENT PRACTICES

During operational phase of the project, a proper waste management plan will be devised and implemented. Key elements of the waste management system will include the following:

ON-SITE HANDLING

- There will be separated bins for segregation of different type of waste
- Proper waste collection system will be ensured. For this purpose, waste bins are placed inside the boundary.
- The recyclable waste will be sent to waste contractors.
- The sludge of from the ETP plant will salad out to waste companies.
- Waste from process will be sold to EPA certified contractor.
- The site in charge will ensure the separation of waste at production line.
- Proper person will be haired for the collection and removal of waste from the site.
- Records of generated waste should be maintained.
- All non-hazardous waste that can be recycled or reused will be handed over to the contractors.

OTHER MANAGEMENT MEASURES

- Training will be provided to personnel for identification, segregation and management of waste.
- All containers of waste will be labeled properly.
- All the container should be caped clean, making sure no Oster will produce in it.
- The proper waste management system will be applied.
- Small bins and large containers will be provided on every waste producing site at defined place causing no risk to worker and machinery.
- In-house audits of the waste management will be undertaken on regular basis.

RESIDUAL IMPACTS

Proper implementation of the mitigation measures will minimize the residual impact from waste. Monitoring and inspection will be undertaken to ensure the implementation of mitigation measures.

6.11.5 WASTEWATER

Wastewater will be produced from process and domestic uses. The wastewater may include different type of chemicals.

Mitigation Measures

- For treatment of wastewater, effluent treatment plant will be installed
- Priority parameters will be tested on monthly basis and all parameters on quarter basis.
- Wastewater will be disposed off in sewerage lines of industrial estate, the management has obtained approval.
- The operational maintenance of ETP will be monitored on daily basis.
- Wastewater after treatment will also be used for horticulture purposes.

RESIDUAL IMPACTS

Implementation of the proposed mitigation measures and regular monitoring is not likely to leave any significant impact of the waste water from the unit.

6.11.6 Hazardous Chemicals

As the unit involves handling, transportation and manufacturing of sensitive and hazardous chemicals, mitigation measures are required for transportation, handling and storage of hazardous chemicals.

Mitigation Measures

- A detailed chemical hazard assessment will be conducted for all materials handled on site.
- An up-to-date chemical inventory will be maintained, and Material Safety Data Sheets (MSDS) will be reviewed to classify risks.
- Chemicals will be categorized based on their reactivity, toxicity, flammability, and environmental impact.
- Job hazard analyses (JHA) will be performed for all operations involving hazardous chemicals.
- Engineering controls such as fume hoods, local exhaust ventilation, and gas detection systems will be installed.



- Closed-loop transfer systems will be used to prevent exposure during liquid chemical handling.
- Storage areas will be designed with secondary containment, fire-rated barriers, and explosion-proof installations.
- Emergency shut-off valves and alarm systems will be installed and tested regularly.
- Standard operating procedures (SOPs) for handling, storage, and disposal of chemicals will be developed and enforced.
- Clear labeling and hazard signage will be displayed in all relevant areas.
- Worker rotation schedules will be implemented in high-exposure zones to limit individual exposure.
- Routine chemical safety audits and risk reviews will be conducted periodically.
- Appropriate personal protective equipment (PPE) such as gloves, goggles, aprons, and respirators will be provided.
- PPE selection will be based on the chemical's hazard profile as per the MSDS.
- Workers will be trained in proper PPE use, inspection, and maintenance procedures.
- Damaged or contaminated PPE will be replaced immediately and disposed of according to hazardous waste rules.
- Spill kits and absorbents will be placed in all areas where chemicals are used or stored.
- Employees will be trained in spill containment, neutralization, and clean-up techniques.
- Evacuation procedures and muster points will be established for large-scale chemical incidents.
- Emergency response drills and mock spill scenarios will be conducted regularly.
- Flammable chemicals will be stored away from oxidizers and ignition sources.



- Fire extinguishers and fire suppression systems will be installed and inspected periodically.
- Grounding and bonding procedures will be followed to control static buildup during transfers.
- Flameproof electrical fittings will be installed in hazardous areas.
- Eyewash stations and safety showers will be installed near all chemical handling zones.
- First-aid responders will be trained to manage chemical burns, inhalation, and ingestion cases.
- All incidents, near misses, and exposures will be documented and investigated.
- Corrective actions will be implemented to prevent recurrence of similar incidents.
- Regulatory bodies will be notified in case of major chemical spills or exposures.
- Hazardous waste will be segregated, labeled, and stored in compatible containers with secondary containment.
- Waste will be handed over to licensed hazardous waste disposal contractors.
- Disposal records and manifests will be maintained for regulatory compliance.
- Illegal dumping or unsafe waste practices will be strictly prohibited.
- Certified vehicles with proper labeling and documentation will be used for transporting hazardous chemicals.
- Drivers and transport personnel will be trained in emergency response and spill control.
- Vehicles will be marked with hazard placards and carry relevant MSDS and permits.
- Chemical transport during high-risk conditions or through sensitive areas will be avoided.

- Employees will receive regular training on chemical hazards, emergency procedures, PPE, and safe practices.
- Training attendance and competency records will be maintained.
- Chemical hazard signs and labels will be displayed in local languages where required.
- All practices will be aligned with applicable occupational health, safety, and environmental regulations.
- Documentation for inspections, MSDS, incident reports, permits, and disposal records will be maintained and reviewed.

6.11.7 **ABNORMAL CONDITIONS**

Abnormal events might include loss of power and diesters. The unit will have its own backup power supply using diesel generator to protect against a loss of power. This site is far from river so no changes of flood. As the project will be constructed above to the ground and high liniment so when the heavy rain occur the water flow will stand on project site.

6.11.8 **OCCUPATIONAL HEALTH AND SAFETY**

This section discusses the occupational health and safety impacts of the operation of said unit. Physical hazards may include exposure to same-level fall hazards due to slippery conditions. In a variety of situations, a worker can be exposed to lifting, carrying, and repetitive work and work posture injuries.

MITIGATION MEASURES

In order to reduce the physical hazards and other health and safety issues that may be encountered at workplace, following will be followed.

- Proper training will be provided for the proper usage of machineries and personal protective equipment (PPE) will be provided. It will be ensured that the individual who has received the correct training is operating a particular machine.
- Site supervisor or health and safety should be present on site

- Risk Assessment will be done on daily basis
- Emergency response plans will be remained active.
- Monitoring cameras and sensors will be implanted at the work site
- OSHA polices will be implemented on site
- Regulation of the health and safety polices will be done on regular basis
- Regular housekeeping practices will be ensured by keeping the floor dry and during washing; proper protective equipment are being used. Restricted entry should be ensured during washing.
- Training of staff in the handling of lifting materials.
- Timely maintenance and repair of electrical equipment will be conducted.
- Implementation of work rotations, provision of regular work breaks.
- At workplace, first aid facilities will be maintained at readily accessible places.

6.12 SOCIOECONOMIC IMPACTS

A summary of potential socio-economic impacts of the project is presented in Table below.

Table 6-4: Potential Socioeconomic impacts of the project

Impact	Beneficial	Adverse
Economic	<ul style="list-style-type: none"> • Employment generation • Procurement of equipment and services • Local authority business tax / rates revenue • Increase in property value 	Negative economic Impacts are not anticipated
Social	<ul style="list-style-type: none"> • Indirect beneficial community impacts from employment • Provision of training to employees and workers 	Risks of occupational and environmental health issues.

By implementing the following mitigation measures, impact to community can be minimized.

- All vehicle drivers will be trained in community safety aspects.
- The company will maintain a social complaint register at the site to document all complaints received from local communities. The register will also record the measures taken to mitigate these concerns.
- It will be ensured that generators, vehicles, and other potentially noisy equipment used are in good condition. Noise from generators, vehicles and other equipment will be kept to the minimum through regular maintenance.
- Maximum number of unskilled and semi-skilled jobs will be reserved for the local communities.

6.12.1 EMPLOYMENT OPPORTUNITIES

The project is expected to have positive impact on economic condition of locals. Employment opportunities will be generated due to project activities.

Similarly, the operation of the project will create far greater number of indirect income resources for example income resource for transporters for the transportation of the raw materials, procurement of required goods from local market etc.

Overall, the project will have a positive impact on the employment opportunities of Pakistan.

6.13 POTENTIAL ENVIRONMENTAL ENHANCEMENT MEASURES

6.13.1 GREENBELT DEVELOPMENT

Apart from functioning as a pollutant sink, green belts provide other benefits like:

- Green belt helps in noise abatement for the surrounding area. Thus, it is recommended as noise barriers.
- Green belt will help to regulate the air quality
- Green belt also absorbs extra heat help to maintain the change of enthalpy



- Green belt will provide natural refreshment to workers
- It will increase the ornamental beauty of the industry
- Green belt helps in achieving bio diversity by providing possible habitats for birds and animals.
- Green belts increase the aesthetic value of the site.

Suncrop Agritech (Pvt) Ltd has already developed a greenbelt. Adequate number of small plants and trees are planted along the periphery of the unit and available open spaces.

CHAPTER 7

**ENVIRONMENTAL
MANAGEMENT PLAN**

CHAPTER 7: ENVIRONMENTAL MANGEMENT AND MONITORING PLANS

7.1 GENERAL

This EIA provides the Environmental Management Plan (EMP) of the project to keep it environment benign as well as the monitoring plan to ensure the compliance of the established EMP.

Outline and key features of the EMP for construction and operations phase is presented in sub-sections below. As per the environmental legislation in Pakistan, the EMP for the operations phase, along with other documents, is to be submitted to the environmental protection agency to obtain confirmation for compliance and Environmental Approval for project operation. Even after implementation of the suggested mitigation measures, the impact may remain significant, and require regular monitoring. This section also underlies the monitoring framework for both construction and operation phases to check compliance of the EMP and to take timely actions for correction in case any accident of significant criteria, requirements or goals are found.

7.2 OBJECTIVES OF ENVIRONMENTAL MANAGEMENT PLAN

The primary objectives of the EMP are to:

- Facilitate the implementation of the mitigation measures identified
- Define the responsibilities of the project proponent and contractor and provide a means of effective communication of environmental issues between them.
- Identify monitoring parameters in order to ensure the effectiveness of the mitigation measures
- Provide a mechanism for taking timely action in the face of unanticipated environmental situations.
- Identify training requirements at various levels.
- To apply the rules and regulation of the Punjab Environmental laws and international standards

- Making of environmental management policies
- Reviewing, regulating and improving of environmental policies on regular basis.

7.3 MANAGEMENT APPROACH

The organizational roles and responsibilities of the key players are summarized below:

Proponent: The project proponent will undertake overall responsibility for compliance with the EMP. Concerned Departments will carry out verification checks to ensure that the contractors are effectively implementing their environmental and social requirements.

Contractors: The contractors will implement the majority of environmental and social mitigation measures. The contractors will carry out field activities as part of the project. The contractors are subject to certain liabilities under the environmental laws of the country, and under its contract with proponent.

7.4 COMPONENTS OF THE EMP

THE EMP CONSISTS OF THE FOLLOWING:

- Management plan
- Monitoring Plan
- Communication and documentation
- Institutional capacity
- Environmental training

7.5 ENVIRONMENT MANAGEMENT PLAN

It lists all the mitigation measures identified in the EIA and the associated environmental or social aspect in line during operational phase with the administrative framework involving all the responsible implementing authorities who are required to take the planned actions/measures. It enhances project benefits by reducing its impacts and making it environmental friendly.



Table 7-1: Environmental Management Plan

Objective	Management Action	Responsibility	Time framework	Residual impact
Construction phase				
Employment Opportunities				
To promote the employment of local persons	Recruitment of local workers will be undertaken without discrimination and in accordance with company recruitment policy by contractors involved in construction	Contractor	On commencement of construction activities	Unemployed people of area will get job opportunities and their standard of living improved
To promote the use of local service providers	Local procurement of goods and services will be undertaken wherever possible and cost effective and where practicable to the project	Contractor	On commencement of construction activities	Indirect job opportunities
Safety during construction				
To ensure safety on construction site	<ul style="list-style-type: none"> Safety signage will be put in relevant places within the construction site 	Contractor/Environmental	On commencement of	Safety of workers will be ensured by implementing



	<ul style="list-style-type: none"> • Site Health and Safety officer is present • Construction drivers are subjected to public safety awareness • Reckless driving by construction workers will be prohibited and monitored • Workers will be given PPEs such as; helmets, mask, ear-plugs/muffs, safety boots, etc. and its use will be strictly enforced • Workers will be trained on the regular basis regarding personal safety • Incidents will be reported directly to the concerned authority 	manager/HSE manager	construction activities	proposed mitigation measures.
Construction waste management				
To prevent the contamination of soils and water resources	<ul style="list-style-type: none"> • The construction site will have litter bins for waste collection 	Contractor	Throughout construction stage	Waste was disposed of/reused/ recycle or resale as per practices of area.



<p>due to inappropriate management and disposal of waste</p>	<ul style="list-style-type: none">• Recycling or reuse of waste wherever possible.• Application of a good strategy to collect, remove and safely dispose of waste on daily basis to ensure a clean environment in the factory site• Integrated waste management system will be adopted for the proper management of the waste at site• At the end of the construction phase, left-over waste will be removed by using the standard waste management procedures• All the idle machinery and equipment will be immediately removed from the site• Scrap and the debris will be removed from the site at the end of the construction stage after			
--	--	--	--	--



	<p>appropriate segregation of the material</p> <ul style="list-style-type: none"> All the domestic waste produce by the worker will be given to the municipal waste management company 			
Pollution control management				
To contain spillages	<ul style="list-style-type: none"> Proper maintenance of construction vehicles and equipment will be undertaken Appropriate environmental security measures including shovels and plastic bags etc will be provided to prevent accidental release to ground. Appropriate procedures and protocols will be established and monitored for materials transport and handling whilst on the site. 	Contractor	On-site establishment	Potential for accidental release of materials during transport and handling on the site should be minimized.



	<ul style="list-style-type: none"> • Emergency response plan will be developed for any incident. 			
To manage sewage	Existing toilets will be used at site.	Contractor	On commencement of construction	Portable toilets will be cleaned properly and regularly
Protection of biodiversity				
To avoid unnecessary disturbance of and quick recovery of biodiversity in the plant site	<ul style="list-style-type: none"> • Avoid destruction of biodiversity outside the designated factory construction site • Minimize clearing of vegetation during construction • Surface soil excavated during construction to be placed back on the sub-soil to fast vegetation recovery • Prepare and implement an appropriate landscaping programme to help in re- 	Contractor	Throughout construction phase	Although the land is industrial in nature but vegetation loss cannot be avoided, but successful restoration, improvement and long-term management of the surrounding areas and maintenance of planted trees will be provided



	<p>vegetation of affected project areas after construction</p> <ul style="list-style-type: none"> • The flora of the site will be restored at the end of the construction phase by landscaping and planting native vegetation • Defining the route for vehicles and machinery transport, defining the work area, the pathway for the worker area will also be defined and policy will form for the minimum use of outer land during construction. 			
Air quality & dust management				
To minimize the dust entrainment during construction	<ul style="list-style-type: none"> • Regular surface wetting will be implemented on dusty sections in the factory construction site • Strict on-site speed controls will be enforced for construction vehicles 	Contractor	On commencement of construction activities	Dust propagation will be limited to construction area and will not influence local community. However, workers were supplied with



	<ul style="list-style-type: none"> • All trucks hauling soil, sand and other loose materials will be covered • No excavation activity will be carried out during windy days • The watering of the route will be done on regular basis • Specified routes will also help to overcome the dust to evolve. • Fuel-efficient and well-maintained haulage trucks will be employed to minimize exhaust emissions • Construction workers will be sensitized on measures to reduce air pollution 			dust masks especially on dry days.
Noise				
To minimize disturbance due to noise	<ul style="list-style-type: none"> • Loading and unloading of materials will be done carefully to reduce 	Contractor	On commencement of	within PEQs



	<p>noise disturbances to surrounding households</p> <ul style="list-style-type: none"> • Residences are at a safe distance from site so no disturbance will be envisaged. • Drivers will be instructed to avoid unnecessary gunning of vehicles, hooting and buzzing. • Regular maintenance of the machinery will be done to reduce the noise • Vehicles will be tuned on regular basis • The inspection of the vehicles will be done by health and safety officer on regular interval 		<p>construction activities</p>	
Occupational health & safety				
<p>To ensure healthy and Secure/safe environment in the</p>	<ul style="list-style-type: none"> • Management will ensure that fire extinguishers should be located in strategic and visible places 	<p>Contractor</p>	<p>Throughout construction phase</p>	<p>Record of all incidents will be maintained and reported to HSE manager.</p>



<p>construction site for all workers</p>	<ul style="list-style-type: none"> • Health and Safety data sheet will be design and formed by Safety officer. • All vehicles and construction equipment will be under control of competent personnel • Inspection of material and harmonization to the occupational health and safety standards. • Adequate security for workers will be provided during construction • Sensitize workers to operate in teams 			
<p>Operation phase</p>				
<p>Wastewater management</p>				
<p>Degradation of surface waters quality due to process water and sewage direct disposal</p>	<ul style="list-style-type: none"> • For treatment of wastewater, effluent treatment plant will be installed 	<p>Suncrop Agritech (Pvt) Ltd</p>	<p>Throughout project life cycle</p>	<p>None</p>



	<ul style="list-style-type: none"> • Priority parameters will be tested on monthly basis and all parameters on quarter basis. • Wastewater will be disposed off in sewerage lines of industrial estate • The operational maintenance of ETP will be monitored on daily basis. • After treatment the wastewater will also be used for horticulture activities. 			
Air quality management				
Particulate emissions and stack emissions	<ul style="list-style-type: none"> • Emissions from boiler are controlled by equipping with cyclone, scrubber and room • Emissions from the admin block and warehouse also pass through the ventilation system including filters • Power Engines will be equipped with air emission control technology. 	Suncrop Agritech (Pvt) Ltd	Throughout operation phase	Local air quality will be virtually unaffected and will be based on PEQs



	<ul style="list-style-type: none"> • Emissions from process will be collected through adsorption chambers (double showering absorption technique) scrubbers • Monitoring of Ambient air parameters (Particulate matter, SO_x, NO_x) emissions should be carried out on regular basis to ensure compliance with the PEQS. • The inspection and the maintenance of the boiler and generator will be done on regular basis. • Plantation of indigenous trees within the premises and along the boundary. • Biomass as fuel will be used in boiler. 			
Noise & vibration				
To minimize disturbance of	<ul style="list-style-type: none"> • All the machinery will be installed and operated in a closed hall and from operation of machinery noise will not be 	Suncrop Agritech (Pvt) Ltd	Throughout project life cycle	Noise level will be based on PEQs



communities due to noise	<p>a problem for the residents in the area nearby. Further Administration of the unit will take the precautionary measures to avoid the noise emissions. There is no possibility of Noise pollution</p> <ul style="list-style-type: none">• A thick greenbelt will be developed all around the plant which will be acting as noise barrier.• Introduction of control and monitoring rooms having good sound insulation properties.• All the workers will be provided with ear plugs.• Latest technology will be implanted which has low level of noise. The boiler and power house (closed system) will be planted away from the admin and the work area.			
Traffic & transport				



<p>Increased heavy vehicles traffic both locally and nationally.</p>	<ul style="list-style-type: none"> Maximize the use of the rail network, when available, for bulk deliveries and abnormal loads. Restricting delivery hours to reduce noise nuisance; avoid heavy truck movements in the night hours will be considered whether deliveries should be scheduled to avoid peak times to reduce congestion Routes for the transport and speed limits will be defined for vehicles and machinery 	<p>Management of Suncrop Agritech (Pvt) Ltd</p>	<p>Throughout project operation</p>	<p>The traffic has the potential to contribute to congestion and lead to complaints due to noise/vibration nuisance on a local basis. However, the study indicates that there will not be a significant impact.</p>
<p>HSE</p>				
<p>To minimize loss work injury/hazards/incidents/accidents</p>	<ul style="list-style-type: none"> Training regarding HSE should be given on the regular basis Workers will be given PPEs such as; helmets, mask, ear-plugs/muffs, safety boots, etc. 	<p>Environmental manager/HSE of Suncrop Agritech (Pvt) Ltd</p>	<p>Throughout life cycle of project</p>	<p>Potential of injuries will be minimized</p>



	<ul style="list-style-type: none"> • Risk assessment will be done on daily basis by HSE officer • Permits and safety data sheets will be filled on regular basis and record will be maintained • It should be strictly enforced to wear PPEs while working • Workers will be trained on the regular basis regarding personal safety and disaster management • Incidents should be reported directly to the concerned authority 			
First aid				
To ensure safety and health	<ul style="list-style-type: none"> • First aid box will be available at the site • First aid training will be given to the employees on the regular basis • Numbers of all the concerned/authorized persons that will be contacted in the case of 	Environmental manager/HSE of Suncrop Agritech (Pvt) Ltd	Throughout life cycle of project	None



	emergency will be displayed on-site			
Fire hazard				
To prevent any disaster	<ul style="list-style-type: none"> • Firefighting equipment including DCP type fire extinguisher, CO2 Type extinguisher, sand buckets, sand drums with spade and hose pipe cabinet will be installed inside the plant • All the equipment will be placed at strategic locations where the risk of out-burst of the fire is high. List of fire posts is annexed. • Smoking will not be permitted in the vicinity of the plant • Regular site inspection will be done to eliminate all the chances of the hazards 	Environmental manager/HSE	Throughout life cycle of project	Potential of disaster will be minimized by suggested mitigation measures implementation



	<ul style="list-style-type: none"> • Checking and maintenance of the fire-fighting equipment will be carried out on the regular basis 			
Hazardous Chemicals Management				
To handle, storage, transportation of hazardous chemicals	<ul style="list-style-type: none"> • A detailed chemical hazard assessment will be conducted for all materials handled on site. • An up-to-date chemical inventory will be maintained, and Material Safety Data Sheets (MSDS) will be reviewed to classify risks. • Chemicals will be categorized based on their reactivity, toxicity, flammability, and environmental impact. • Job hazard analyses (JHA) will be performed for all operations involving hazardous chemicals. • Engineering controls such as fume hoods, local exhaust ventilation, and gas detection systems will be installed. 	Environmental manager/HSE	Throughout life cycle of project	Potential of disaster will be minimized by suggested mitigation measures implementation



	<ul style="list-style-type: none">• Closed-loop transfer systems will be used to prevent exposure during liquid chemical handling.• Storage areas will be designed with secondary containment, fire-rated barriers, and explosion-proof installations.• Emergency shut-off valves and alarm systems will be installed and tested regularly.• Standard operating procedures (SOPs) for handling, storage, and disposal of chemicals will be developed and enforced.• Clear labeling and hazard signage will be displayed in all relevant areas.• Worker rotation schedules will be implemented in high-exposure zones to limit individual exposure.• Routine chemical safety audits and risk reviews will be conducted periodically.• Appropriate personal protective equipment (PPE) such as gloves,			
--	---	--	--	--



	<p>goggles, aprons, and respirators will be provided.</p> <ul style="list-style-type: none">• PPE selection will be based on the chemical’s hazard profile as per the MSDS.• Workers will be trained in proper PPE use, inspection, and maintenance procedures.• Damaged or contaminated PPE will be replaced immediately and disposed of according to hazardous waste rules.• Spill kits and absorbents will be placed in all areas where chemicals are used or stored.• Employees will be trained in spill containment, neutralization, and clean-up techniques.• Evacuation procedures and muster points will be established for large-scale chemical incidents.• Emergency response drills and mock spill scenarios will be conducted regularly.			
--	--	--	--	--



	<ul style="list-style-type: none">• Flammable chemicals will be stored away from oxidizers and ignition sources.• Fire extinguishers and fire suppression systems will be installed and inspected periodically.• Grounding and bonding procedures will be followed to control static buildup during transfers.• Flameproof electrical fittings will be installed in hazardous areas.• Eyewash stations and safety showers will be installed near all chemical handling zones.• First-aid responders will be trained to manage chemical burns, inhalation, and ingestion cases.• All incidents, near misses, and exposures will be documented and investigated.• Corrective actions will be implemented to prevent recurrence of similar incidents.			
--	---	--	--	--



	<ul style="list-style-type: none">• Regulatory bodies will be notified in case of major chemical spills or exposures.• Hazardous waste will be segregated, labeled, and stored in compatible containers with secondary containment.• Waste will be handed over to licensed hazardous waste disposal contractors.• Disposal records and manifests will be maintained for regulatory compliance.• Illegal dumping or unsafe waste practices will be strictly prohibited.• Certified vehicles with proper labeling and documentation will be used for transporting hazardous chemicals.• Drivers and transport personnel will be trained in emergency response and spill control.• Vehicles will be marked with hazard placards and carry relevant MSDS and permits.			
--	--	--	--	--



	<ul style="list-style-type: none"> • Chemical transport during high-risk conditions or through sensitive areas will be avoided. • Employees will receive regular training on chemical hazards, emergency procedures, PPE, and safe practices. • Training attendance and competency records will be maintained. • Chemical hazard signs and labels will be displayed in local languages where required. • All practices will be aligned with applicable occupational health, safety, and environmental regulations. • Documentation for inspections, MSDS, incident reports, permits, and disposal records will be maintained and reviewed 			
Employment				
To provide job opportunities and helping in improving	<ul style="list-style-type: none"> • During this phase, skilled and unskilled labour will be required. 	Suncrop Agritech (Pvt) Ltd	During construction and operation phase	Direct and indirect jobs



<p>living standard of people</p>	<ul style="list-style-type: none">• Employment opportunities for the un-skilled workers will therefore increase which will enhance the positive benefits for the local people who are in dire need of income for sustenance.✓ Indirect opportunities for employment will arise from the provision of services to the construction teams, such as sale of raw-material such as cement, bricks, sand etc., as well as food and beverages for the labour and after completion of construction phase serve as a permanent business opportunity.			
----------------------------------	--	--	--	--

7.6 ENVIRONMENTAL MONITORING PLAN

Environmental monitoring is a vital component of the Environmental Management Plan. It is the mechanism through which the effectiveness of the environmental management Plan in protecting the environment is measured. The feedback provided by the environmental monitoring is instrumental in identifying any problem or lapse in the system under implementation and planning corrective actions.

Table 7-2: Environmental Monitoring Plan

Env. Components	Project Stage	Parameters	Instrument	Standards	Monitoring			Institutional Responsibility
					Location	Frequency	Duration	
Air	Construction	PM ₁₀ , SO ₂ , NO ₂ , CO, SPM, O ₃	Air Quality Monitors/Gadgets	PEQS	Project site	Twice during construction	As per approved testing method	Contractor through approved monitoring lab
	Operation	Stack emissions	Air Quality Monitors/Gadgets	PEQs	stack	Quarterly	As per approved testing method	Through approved third party/monitoring lab



ENVIRONMENTAL IMPACT ASSESSMENT (2025)

Noise Levels	Construction	Noise levels on dB(A) scale	Digital Sound Meter	PEQs	Project site	Twice during construction	Reading to be taken at 15 seconds interval for 15 minutes every hour and then averaged	Contractor through approved monitoring lab
	Operation	Noise levels on dB(A) scale	Digital Sound Meter	PEQs	Project site	Quarterly	Reading to be taken at 15 seconds interval for 15 minutes every hour and then averaged	Through approved third party/monitoring lab
Wastewater	Operation	BOD, COD, TSS etc	Through approved equipments	PEQs	ETP	Monthly	As per approved testing method	Through approved third party/monitoring lab

7.7 INSTITUTIONAL CAPACITY OF THE UNIT

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

7.7.1 Primary Responsibilities

The primary responsibility for implementing different aspects of the EMP within the company lies with the concerned departments of Suncrop Agritech (Pvt) Ltd.

7.7.2 Operation Management & Control

Conducting the operational activities in environmentally sound manner will be the responsibility of the concerned Manager; for which he will be trained.

7.7.3 Supervision & Monitoring

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

7.7.4 Communications & Documentation

An effective mechanism to store and communicate environmental information during the project is an essential requirement of an EMP.

7.7.4.1 Meetings

As environment is multidisciplinary subject with environmentalist having a dynamic role therefore In-charge environment would be considered as integral part in both constructional and operational team. Participation of Environmental in-charge in daily morning meeting and any other special meeting is mandatory. Besides internal meeting HSE in-charge/Environment in-charge is also responsible to conduct meeting with local in keeping administration in liaison.

7.7.4.2 Changes-Record Register

A change-record register will be maintained at the site, in order to document any changes in project design. These changes will be handled through the change management mechanism.

7.8 ENVIRONMENTAL TRAINING

Environmental training will help to ensure that the requirements of the EIA and EMP are clearly understood and followed by all project personnel in the course of the project.

Table 7-3: Training Program

Target audience	Trainers	Contents	Schedule
Selected management staff	Contractors	Key finding of mitigation measure	After every five months
All personnel	HSE Officer	Mitigation measures	Monthly
Technical Staff	HSE Officer	Waste disposal or sale out status, vehicle movement restriction and other mitigation measures	After every three month
Other staff	HSE Officer	Waste disposal, resource conservation and other mitigation workers	Monthly

7.9 EQUIPMENT MAINTENANCE DETAILS

The project is about chemical manufacturing industry namely "Suncrop Agritech (Pvt) Ltd". Machines in said unit will be maintained on the regular basis. Following is the maintenance details for the machines and equipments:

Task	Weekly	Monthly	Semi-Annually	Annually
Visual Inspection	✓			
Testing and Inspection		✓		
Maintenance of Machines				
Fire Mains and Nozzles				
Containers/Cylinders				
Control and Section Valves				

7.10 ENVIRONMENTAL BUDGET

Approximately PKR 15 million budget will be reserved for tree plantation, solid waste management, wastewater management and environmental monitoring. Monitoring tests for ambient air quality, noise and groundwater quality will also be conducted.

CHAPTER 8

CONCLUSION AND RECOMMENDATIONS

CHAPTER 8: CONCLUSION AND RECOMMENDATIONS

8.1 CONCLUSION

The report presents Environmental Impact Assessment (EIA) of the said unit. EIA of said Project is performed according to guidelines of EPA. It includes description of the project, description of the environmental baselines, potential environmental impacts and suggested mitigation measures. An implementation mechanism for mitigation measures in the form of an Environmental Management Plan is included in the study.

The performed EIA showed all anticipated impacts (both positive and negative), associated with the project. Appropriate mitigation measures as explained in the environmental study will strengthen the environment and promote sustainable development.

Based on overall assessment of the environmental impact of the project, it is concluded that the economic benefit from the project is not at the cost of environment. From the historical records and vast experience in sustainable development keeping environment as integral part of manufacturing system, Suncrop Agritech (Pvt) Ltd is worthy of Environmental approval. Further the project is not likely to cause any significant adverse impact on the physical and biological environment but positive impact on social development and economic prosperity of the area, provided that suitable mitigation measures as identified in this study are implemented.

It is accordingly recommended that Environmental Approval for the project may be issued by the Punjab Environmental Protection Agency, subject to payment of the requisite scrutiny fee by the proponent of the project.

8.2 RECOMMENDATIONS

The Environmental Impact Assessment study and survey results are finally evaluated to recommend the following:

- Implementation of EMP must be given top priority.
- Proper PPEs including ear plugs, ear muffs, mufflers, goggles, gloves and shoes etc. should be provided to workers
- Train workers to use PPEs
- Advise workers to follow SOPs.
- Equipment maintenance and efficiency must be checked.
- No compromise on public health and environment should be allowed.
- Waste minimization practices should be employed and workers should be encouraged to adopt such methods.
- Wages should be distributed on time.
- Proper tree plantation plan should also be developed in order to make the unit environment friendly.
- Small waste storage bins should be installed at different corner for proper waste collection and discharge.
- Proper dispensary and first aid box should be provided for workers
- Smoking should be avoided within premises of project site and near fuel storage areas.
- The Security Guards shall also be trained to act in case of all possible emergency situations. The fire alarms can be activated to signal evacuation. At the same time, communication shall be made with hospitals, emergency services and police for urgent support.
- The proposed Environmental Management & Monitoring Plan should be implemented.
- The construction and installation should be completed in guidelines of accorded Environmental Approval.

ANNEXURE I

PROPONENT CNIC

SUNCROP AGRITECH (PVT) LTD



PAKISTAN National Identity Card

ISLAMIC REPUBLIC OF PAKISTAN

Name
Muhammad Latif

EPA
Punjab



Father Name
Muhammad Moosa



Gender: M
Country of Stay: Pakistan

Identity Number: 32102-5353473-5
Date of Birth: 14.08.1988

Date of Issue: 13.08.2016
Date of Expiry: 13.08.2026

[Handwritten Signature]

Holder's Signature

CEO

32102-5353473-5



EPA Punjab



مستقل تجارتی چوک چورنگہ، مکان نمبر 7، محلہ ظفر آباد، ڈیرہ غازی خان

502721089126

Registrar General of Pakistan

گمشدہ کارڈ ملنے پر قریبی لیبر بکس میں ڈال دیں

TR 721

ANNEXURE II

PROPERTY DOCUMENTS

SUNCROP AGRITECH (PVT) LTD

PIEDMC/RIE/139/0773

April 09, 2024

M/s SUNCROP AGRITECH (Pvt.) Ltd.

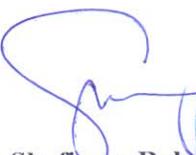
Through its CEO, Mr. Muhammad Latif,
8-B Industrial Estate, Multan.

**CONDITIONAL POSSESSION OF INDUSTRIAL PLOT NUMBER 60, 61, 62, 63 & 64
RAHIM YAR KHAN INDUSTRIAL ESTATE (RIE)**

Dear Sir,

Please contact with the Project Director of Rahim Yar Khan Industrial Estate in connection with the possession of the Plot No. **60, 61, 62, 63 & 64** measuring **10.00** Acres situated at Rahim Yar Khan Industrial Estate, Rahim Yar Khan. Layout plan is enclosed as **Annexure-A**.

This Conditional Possession Letter is issued on the conditions mentioned in the Agreement for conditional possession of plot enclosed as **Annexure-B**.


M. Shafiq ur Rehman
Company Secretary

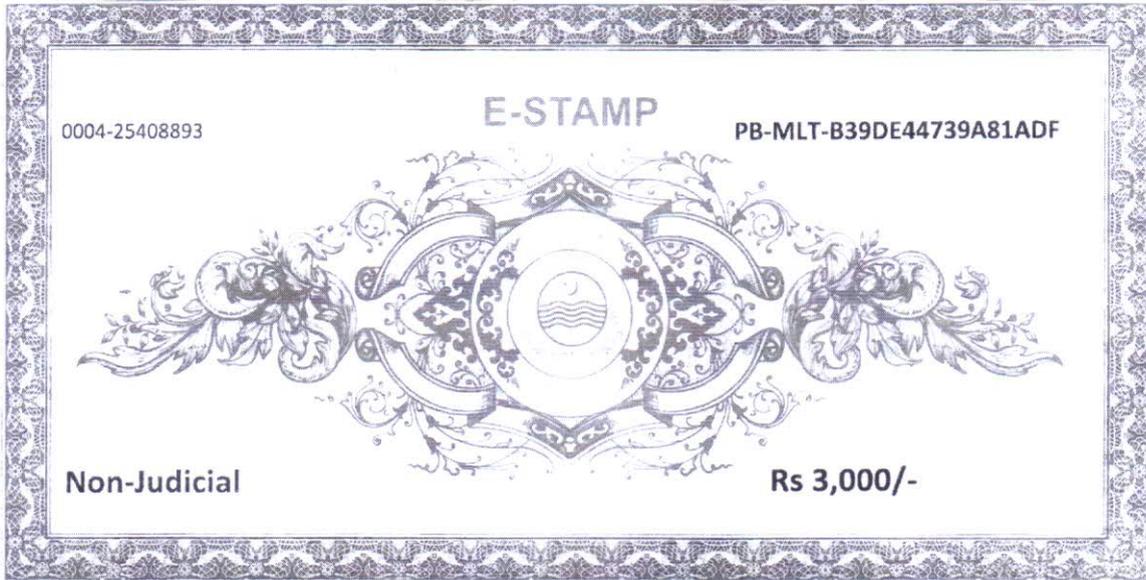


A copy is forwarded to **Project Director**, Rahim Yar Khan Industrial Estate, Rahim Yar Khan with the request to please hand over the possession of Plot No. **60 to 64** to its Allottee **M/s SUNCROP AGRITECH (Pvt.) Ltd.** The attached possession slip may please be returned to Marketing Department after doing the needful.

Note.

Please do not proceed with excavation of boundary wall without prior demarcation by RIE Site Staff. Any damage done to the utilities due to your negligence will be borne by you and follow PIEDMC approved front boundary wall design.

5911254



Description	: AGREEMENT OR MEMORANDUM OF AN AGREEMENT - 5(ccc)
First Party	: Punjab Industrial Estates Development and Management Company [30000-0000000-0]
Second Party	: Suncrop Agritech Private Limited [30000-0000000-0]
Agent	: Muhammad Anas [36302-0420439-9]
Stamp Duty Paid by	: Suncrop Agritech Private Limited [30900-0000000-0]
Issue Date	: 28-Feb-2024, 10:51:44 AM
Paid Through Challan	: 20240DBBF: 284AE0
Amount in Words	: Three Thousand Rupees Only

Please Write Below This Line

AGREEMENT FOR CONDITIONAL POSSESSION OF PLOT

This Agreement (the "Agreement") is made at Lahore on this 29 of April, 2024

BETWEEN

PUNJAB INDUSTRIAL ESTATES DEVELOPMENT AND MANAGEMENT COMPANY (PIEDMC) through its Chief Executive Officer, hereinafter referred to as the **VENDOR** (which expression shall unless excluded by or repugnant to the context be deemed to include its successors, executors, administrators, representatives and assignees) of the one part;

AND

M/s Suncrop Agritech (Pvt.) Ltd, through its CEO **Mr. Muhammad Latif S/o Muhammad Moosa** holding CNIC No. **32102-5353473-5** hereinafter referred to as the **VENDEE** (which expression shall unless excluded or repugnant to the context be deemed to include his/her/its/their heirs, successors, executors, administrators, representatives and assignees) of the other part.

WHEREAS the Vendor represents that it is the lawful owner in possession of Industrial Plot no. **60, 61, 62, 63 & 64** measuring **10.0 Acres** in **Rahim Yar Khan**, and agrees to give conditional possession thereof, to Vendee and the Vendee agrees to take conditional possession of **60, 61, 62, 63 & 64 measuring 10.0 Acres** situated at **Rahim Yar Khan Industrial Estate, Rahim Yar Khan** (hereinafter referred to as the **Plot**) free from all encumbrances, attachments, charges and other claims subject to the terms and conditions hereunder contained.

AND WHEREAS the Vendee has already paid to the Vendor sum of **Rs. 150,000,000/- (Rupees One Hundred Fifty Million Only)** and deposited with Vendor post-dated cheques for payment of the balance due amount of the purchase money amounting to **Rs. 100,000,000/- (Rupees One Hundred Million Only)** as per following installment schedule:

- | | |
|---------------------|------------------|
| a) Dated 26-10-2024 | Rs. 20,000,000/- |
| b) Dated 26-02-2025 | Rs. 20,000,000/- |
| c) Dated 26-06-2025 | Rs. 20,000,000/- |
| d) Dated 26-10-2025 | Rs. 20,000,000/- |
| e) Dated 26-02-2026 | Rs. 20,000,000/- |



The Vendee hereby undertakes that:

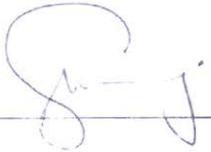
1. Vendee will abide by all rules and regulations of Special Economic Zone Act 2012, Special Economic Zone Rules 2013 and SEZ Zone Enterprise Admission and Sale, Lease and Sub-Lease of Plot Regulations, 2021.
2. Vendee shall commence construction on the Plot within **6** months of SEZ Zone Enterprise Approval Notification dated **26th February 2024** and the project shall be completed within **24** months of the said notification i.e. till **25th February 2026** unless extended by the respective Special Economic Zone Committee as per clause (52) sub clause (3) of SEZ Rules 2013.
3. Vendee shall ensure that the post-dated cheques are credited to the accounts of the Vendor whenever they are presented by Vendor on or after the due date as mentioned on the post-dated cheque.
4. Vendee understands that PIEDMC shall impose collection charges, penalty charges, interest charges (@KIBOR+4%) for any returned cheque.
5. Vendee understands that PIEDMC reserves the right to also take, inter alia, legal action in case any post-dated cheque is bounced/dishonored.
6. Vendee understands that if it is found that there is any change (increase or decrease) in the area of the Plot, the price of the Plot will be adjusted accordingly as per the rate on which Plot was purchased.
7. All terms & conditions mentioned in the Zone Enterprise Entry Application approval letter and Provisional Allotment Letter shall remain binding.
8. Vendee shall not re-sell/ rent and/ or transfer in anyway whatsoever, Plot(s) or any portion thereof, or rights therein, to any party without execution of final Sale Deed.
9. Vendee understands that the Sale Deed shall be executed only after the project is completed and it has performed business operations for at least six months.
10. Vendee shall not use the Plot or any part thereof or the buildings and superstructure raised thereon or plant or machinery or other equipment installed thereon for any purpose other than those approved in the Zone Enterprise Entry Application;
11. Vendee shall not create any encumbrance on the Plot without written approval of the PIEDMC;
12. Vendee shall adhere to the construction schedule (**Annex-I**) and if the construction is not started as per schedule date, the possession letter shall be considered as withdrawn.
13. Vendee has familiarized himself with the 'Electrical Connection Policy' and 'Gas Connection Policy' of the Vendor and shall pay all costs/ fees as per the policies.
14. Vendee understands that the vendor will not be able to offer any relief or concessionary tariff/benefit to the vendee and that vendee shall have to claim those benefits separately from the concerned authority.
15. Failure to commence construction or completion of the project within above said time lines shall result in, in addition to any other penalty for which the Vendee may be liable, the cancellation of the Plot(s) against a cancellation charge of **5%** of the amount submitted by the Vendee. Upon cancellation any structure will become property of PIEDMC.
16. The construction of the building shall be strictly in accordance with the following specifications -
 - a) PIEDMC's Building Regulations.
 - b) Pakistan Building Code
 - c) Pakistan Standards Institute's specifications
 - d) Punjab Provincial Building Specifications
17. The Vendee shall strictly abide by the Building Bye-Laws, and those enacted by the Vendor from time to time. In case of violation of Building Bye-Laws, the Vendor shall have right to impose penalty/charge keeping in view, the nature of violation. The Vendor shall also have a right to direct Vendee to rectify any such violation within a specified time period.
18. The Vendee shall follow Pakistan Environmental Protection Act 1997/National Environment Quality Standards, Punjab Environmental Quality Standards for Municipal and Liquid Industrial Effluents, for preservation and conservation of environment in the Industrial Estate and disposal of waste/effluents. If the Vendee is found, violating the said laws during or after construction of building, the Vendor shall have right to impose fine/penalty as applicable and direct the Vendee to rectify such violation within a specified period. In case Vendee fails to rectify the violation, the Vendor may order any appropriate measure including but not limited to sealing of premises to stop any such violation.



19. The Vendee shall use the Plot solely for the purpose(s) specified in the Application. In order to change nature of business, the Vendee shall obtain prior Approval as per prescribed rules and regulations of Special Economic Zone.
20. The Vendee shall pay Annual Recurring Expenses (ARE)/Monthly Recurring Expenses (MRE) to the Vendor for which the Vendor shall issue receipt to the Vendee. The AREs/MREs shall be paid by the Vendee at the rates and in the mode and manner as may be stipulated by the Vendor from time to time for maintenance of Industrial Estate.

IN WITNESS WHEREOF, the Parties have set and subscribed their respective hands on this 09 of April, 2024 at Lahore in presence of witnesses.

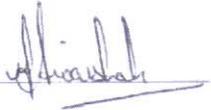
VENDOR



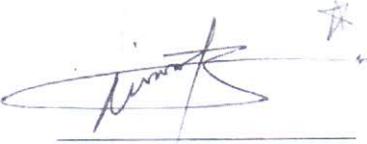
VENDEE



WITNESS



WITNESS

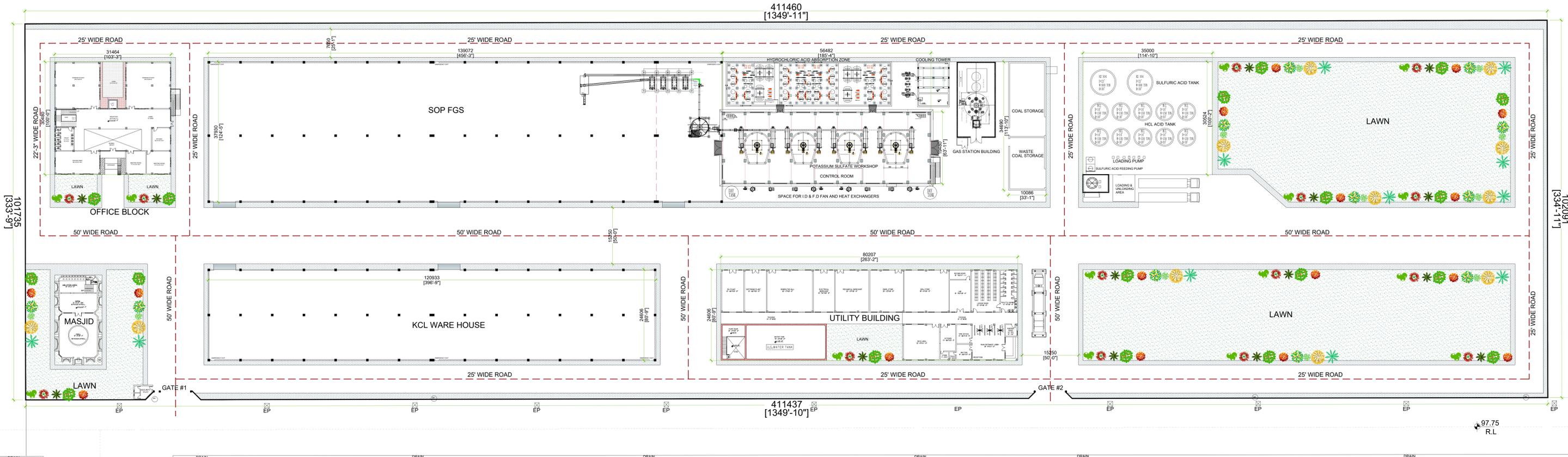


Name: Shuhaimi Anwar Shah
Designation: AM (Law)
CNIC No: 3652-1393727-3

Name: NAEEM ZAFAR
Designation: CFO
CNIC No: 36302-2337108-9

ANNEXURE III

LAYOUT MAPS



PLOT# 60 TO 64

ROAD 60' WIDE

MASTER LAYOUT PLAN

PROJECT:
SUNCROP AGRI TECH PVT.LTD
(RAHIM YAR KHAN)

TITLE:
SOP PLANT(MASTER LAYOUT PLAN)

REVISION	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
◇	06-12-23	ISSUED FOR APPROVAL	NAD	MEH	AJ

ISSUED FOR :
APPROVAL

APPROVED BY:
AHAD JOHRI

DRAWN:
TAHIR

CHECKED:
AHAD JOHRI

ARCHITECT:
FAWAD JOHRI

SCALE:
1:1

AHAD & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
599 M-BLOCK LDA AVENUE 1 RAIWIND ROAD LAHORE PAKISTAN
ahadjohri@gmail.com MOB.NO. 0321-4144994, 0423-5774751

DWG NO. 1937-MP-A-01

ANNEXURE IV

GLOSSARY

GLOSSARY

Alternatives	The evaluation of alternatives to project development in EIA (timing, location, technologies etc) including the no go, or no development action.
Ambient	Relating to the immediate surroundings of something
Contamination	Pollution
Conservation	The preservation of natural resources for use by future generations
Consultation	A process of communication with those potentially affected by a project, policy, plan or program.
Effluent	means any material in solid, liquid or gaseous form or combination thereof being discharged from industrial activity or any other source and includes a slurry, suspension or vapor
EMP	An EMP is a site specific or project specific plan developed to ensure that appropriate environmental management practices are followed during a project's construction and operation.
Environment budget	Monitory assets reserve for environmental activity
Environment	means air, water and land; all layers of the atmosphere; all organic and inorganic matter and living organisms; the ecosystem and ecological relationships; buildings, structures, roads, facilities and works; all social and economic conditions affecting community life; and the inter-relationships between any of the factors mentioned
Environmental Audits	An environmental management tool consisting of a periodic and objective evaluation of an organization and installations to assess compliance with regulatory and other requirements, as defined by audit criteria
Environmental	means an environmental study comprising collection of

Impact Assessment	data, prediction of qualitative and quantitative impacts, comparison of alternatives, evaluation of preventive, mitigatory and compensatory measures, formulation of environmental management and training plans and monitoring arrangements, and framing of recommendations and such other components as may be prescribed
Extent/ Magnitude	The size or degree of the predicted impact
Fauna	Animal life occurring in particular region or time
Flora	plant life occurring in particular region or time
Geological	Relating to the study of the earth's physical structure and substance.
Impact	The consequence of an action or activity on the human or natural environment. Impacts may be positive, negative or neutral
Issue	A question or concern regarding an environmental impact, consequence or effect
Mitigation	Prescribed actions taken to prevent, avoid, reduce or minimize the impacts or potential adverse effects of a project
Monitoring	A combination of observation and measurement to assess the environmental and social performance of a project and its compliance with EIA/ EMP, or other approvals and regulatory conditions
Particulate Matter	A complex mixture of extremely small particles and liquid droplets that get into the air
Proponent	the person who intends to carry-out a proposed project
Sustainable development	Economic development that is conducted without depletion of natural resources.
Waste	means any material, substance, or by-product eliminated or discarded as no longer useful or required after the completion of a process

ANNEXURE V

ENVIRONMENTAL MONITORING

REPORTS

ANNEXURE VI

HAZARDOUS CHEMICAL

MANAGEMENT PLAN



HAZARDOUS CHEMICALS MANAGEMENT PLAN

Suncrop Agritech (Pvt) Ltd

Dated: 07-05-2025

1. Purpose

To establish safe procedures for the handling, storage, use, and disposal of hazardous chemicals in the workplace, ensuring protection of personnel, assets, the environment, and compliance with applicable national and international HSE regulations.

2. Scope

This plan applies to all hazardous chemicals present in the facility, including raw materials, intermediates, and final products involved in manufacturing, processing, storage, and transportation.

3. Responsibilities

- **HSE Manager:** Oversee implementation, training, and audits.
- **Supervisors:** Ensure safe work practices and immediate reporting of incidents.
- **Employees:** Follow procedures and report unsafe conditions.
- **Contractors:** Comply with site-specific chemical safety requirements.

4. Chemical Handling

- Only trained personnel will handle hazardous chemicals.
- Appropriate PPE (gloves, goggles, face shield, respirator) shall be worn based on the chemical's MSDS.
- Chemicals shall be transferred using mechanical aids (pumps, dispensers) rather than manual pouring where possible.
- No eating, drinking, or smoking near chemical handling areas.

5. Storage



HAZARDOUS CHEMICALS MANAGEMENT PLAN

Suncrop Agritech (Pvt) Ltd

Dated: 07-05-2025

- Chemicals shall be stored in labeled, corrosion-resistant containers in designated chemical storage areas.
- Incompatible chemicals (e.g., acids and bases, oxidizers and organics) must be segregated by physical barriers or distance.
- Flammable substances will be stored in flame-proof cabinets with grounding/bonding as needed.
- Storage areas will be ventilated and equipped with secondary containment to manage leaks.
- Temperature-sensitive chemicals will be stored within specified ranges using monitoring systems.

6. Spill Management

- All spills must be reported immediately to the supervisor or HSE department.
- Spill kits appropriate to the chemical class (acid, base, flammable, etc.) must be available and accessible.
- Small spills will be contained and cleaned by trained personnel using appropriate PPE and neutralizers.
- Large or uncontrolled spills will trigger the facility's emergency response plan, including evacuation if necessary.
- Contaminated cleanup materials will be disposed of as hazardous waste in accordance with regulatory requirements.

7. Fire Safety



HAZARDOUS CHEMICALS MANAGEMENT PLAN

Suncrop Agritech (Pvt) Ltd

Dated: 07-05-2025

- Fire extinguishers (Class B, C, or D as appropriate) shall be positioned near chemical storage and handling areas.
- Fire alarms and suppression systems (e.g., sprinklers, foam systems) will be maintained and inspected regularly.
- Flammable chemicals will be stored away from ignition sources and static discharge will be controlled.
- Firefighting procedures must be practiced through periodic drills and documented in the Emergency Response Plan.

8. First Aid and Medical Management

- First aid kits and chemical-specific antidotes (if applicable) will be available near high-risk areas.
- Emergency eyewash stations and safety showers will be installed and tested weekly.
- In the event of chemical exposure, affected persons shall be removed from the area and provided with first aid per MSDS instructions.
- Medical follow-up shall be conducted as per the severity of exposure or injury.

9. Transportation

- Hazardous chemicals will be transported using certified vehicles and trained drivers.
- Containers must be sealed, labeled with UN numbers, hazard symbols, and documentation (e.g., SDS, transport manifest).
- Emergency spill response equipment must accompany the transport vehicle.



HAZARDOUS CHEMICALS MANAGEMENT PLAN

Suncrop Agritech (Pvt) Ltd

Dated: 07-05-2025

- Routes will be planned to avoid populated or sensitive environmental areas where possible.

10. Accident and Incident Management

- All chemical-related incidents (spills, exposures, leaks, near misses) must be reported and investigated within 24 hours.
- Root cause analysis will be conducted using a recognized methodology (e.g., 5 Whys, Fishbone).
- Corrective and preventive actions (CAPA) will be implemented to avoid recurrence.
- HSE statistics (LTIR, spill rate, near miss frequency) will be maintained and reviewed monthly.

11. HSE Compliance and Monitoring

- MSDSs for all chemicals will be updated and available at all relevant locations.
- HSE audits (internal/external) will be conducted to verify chemical safety compliance.
- Regular training sessions will be conducted on chemical safety, spill response, fire safety, and PPE use.
- Waste disposal will follow local environmental laws and licensing requirements (e.g., NEQS, EPA, ISO 14001).

12. Emergency Contacts and Communication

- Emergency numbers (fire, medical, HSE, maintenance) will be displayed at all key locations.



HAZARDOUS CHEMICALS MANAGEMENT PLAN

Suncrop Agritech (Pvt) Ltd

Dated: 07-05-2025

- A Chemical Emergency Response Team (CERT) shall be established and trained.
- Community right-to-know principles will be followed where required by law (e.g., sharing safety information with local authorities).

13. Documentation and Records

- Maintain records of:
 - Chemical inventories
 - MSDSs
 - Training attendance
 - Spill and incident reports
 - Inspection and audit findings
 - Waste manifests and disposal certificates

ANNEXURE VII

GOOGLE EARTH MAP

Legend

- Feature 1
- Suncrop Agritech (Pvt) Ltd (28°22'24.90"N, 70°11'32.60"E)



Suncrop Agritech (Pvt) Ltd (28°22'24.90"N, 70°11'32.60"E)

Sunrise Plastic Industries (Pvt) Ltd

SPEL Rahimyar Khan

Nacem Pharmaceuticals

SS Paper & Board Mills



1000 ft