

**ENVIRONMENTAL IMPACT  
ASSESSMENT-EIA  
REPORT FOR PROPOSED  
INTEGRATED WASTE MANAGEMENT FACILITY  
UNDER THE NAME  
BY  
M/S CENOT  
INTERNATIONAL**

**MANGA RAIWIND ROAD, VILLAGE ROSA, TEHSIL KOT RADHA KISHAN  
DISTRICT KASUR**

**PROJECT PROPONENT: MR. ALI ASGHAR QAYYUM**

**ENVIRONMENT CONSULTANT: PAK GREEN ENVIRO-ENGINEERING PVT.  
LIMITED**



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## LIST OF ABBREVIATIONS

EPA	Environmental Protection Agency
PEQS	Punjab Environmental Quality Standards
WAPDA	Water And Power Development Authority
EMP	Environmental Management Plan
EMMP	Environmental Management & Monitoring Plan
WWTF	Waste Water Treatment Facility
Pak-EPA	Pakistan Environmental Protection Agency
W.H.O	World Health Organization
SWM	Solid Waste Management
CSR	Corporate Social Responsibility
MSWs	Municipal Solid Wastes
TMA	Town Municipal Authority
KVA	Kilo Volt Ampere
PPEs	Personal protective equipment's
PM	Particulate matter
C&D	Construction & Demolition
STP	Sewage Treatment Plant

# **EXECUTIVE SUMMARY**

## EXECUTIVE SUMMARY

### TITLE AND LOCATION OF THE PROJECT

Proposed project is the establishment of integrated waste management facility including: Waste Metal/Items Recycling, dismantling of de-gassed/de-oiled compress, Recycling of waste cables/ conductor (into metal by removing plastic insulation), Waste Food Items Recycling, Plastic Waste Item Recycling and Other Diverse Industrial Waste by M/s Cenote International located at Manga Raiwind Road, Village Rosa, Tehsil Kot Radha Kishan District Kasur. Proponent intends to get the environmental approval for the proposed project by submission of EIA report for the said project for the compliance of section 12 of Punjab Environmental Protection Act, 1997 (Amended 2012). The current utilization of the site involves the storage of pet animals, which has led to the establishment of small sheds. These sheds are scheduled for demolition to facilitate the implementation of the proposed project.

Project falls under Schedule-II, Category G of Review of IEE/ EIA Regulations, 2022. TORs of the study under clause 5 (f) of policy and procedure for the filing, review and approval of environmental assessment are annexed as **Annexure-A**.

### Location

Project site is located at 51-B, PUEHS Town, Abdul Sattar Edhi Road, Lahore.



Figure 1: Proposed Site

Project Coordinates

31°15'53.8343" N

74°7'40.5532" E

### PROJECT PROPONENT

Proponent Name: Mr. Ali Asghar Qayyum

CNIC #: 35402-1960130-7

Residence: Post office Khaas, Bacheeki, Tehsil & District Nankana Sahib

For further details, Copy of CNIC of the proponent and undertaking mentioning witnesses and other relevant documents are attached as **Annexure-C** with the EIA report.

The google map and layout map of project is attached as **Annexure-B**

### ENVIRONMENTAL CONSULTANT

Pak Green Enviro-Engineering (Pvt.) Ltd, as independent consultants, has been appointed by the proponent to conduct Environmental Impact Assessment Study.

Company office address: 46-M, Gulberg III, Lahore

Contact: 042-35441444, 0303-4442335

For detail company profile see the *Chapter # 1 "Introduction"*

### BRIEF OUTLINE OF THE PROPOSAL

Nature of the project:	Proposed establishment of Integrated Waste Management Facility.
Area:	22 Kanal 7 Marla
Description of the project:	Project includes the following processes; Incineration, Plastic flakes formation, Dismantling & smelting and Disposal services for Ash, Mud & Wastewater.
Features of the project	Project's main features are; Covered area of incinerator, yellow & store room, covered recycling unit, covered shed yard for plastic flakes making machine, labor quarters and admin offices area.

<b>Current status of the project:</b>	Subject project is proposed, construction will be started after getting the environmental approval.
<b>Capital Cost of the project:</b>	Rs. 240 million approx.
<b>Objectives of the project:</b>	<p>The establishment of this facility shall fulfill the following objectives:</p> <ul style="list-style-type: none"> <li>• The primary overall objective is to promote integrated and scientific methods for the disposal and management of waste.</li> <li>• Establishment of business for the proponent as well as to counter the existing ill practices of waste management which severely deteriorate our environment.</li> <li>• Promote recycling/ reuse of the waste material.</li> </ul>
<b>Power Requirement:</b>	Fulfilled by WAPDA/ Standby diesel generator
<b>Labor:</b>	<p>During construction Labor: 10-15</p> <p>No. of People during Operation: 25-30</p>
<b>Water Requirement:</b>	<p>During Construction: 4000-5000 liters per day for constructional and domestic uses.</p> <p>During Operation: water will be required for scrubbing system with stack and for domestic activities at site for which approx. 8000-10000 Liters/day.</p>
<b>Wastewater generation:</b>	60-70% of the used water will be the waste water
<b>Solid waste:</b>	<p>During Construction: construction and domestic waste</p> <p>During operation: domestic waste will be produced mainly consist of recyclable items.</p>

## THE MAJOR IMPACTS:

### Significant Impacts to be determined:

Air emissions i.e., PM, Sox, Nox, CO<sub>2</sub>, CO etc., are significant impacts along with wastewater from scrubbers that should be determined and monitored during life cycle of the project.

Impacts	Mitigation Measures
<b>Project Location</b>	
<ul style="list-style-type: none"> <li>• Acquisition of land</li> <li>• Loss of environmentally sensitive areas</li> <li>• Changes in traffic pattern</li> <li>• Potential conflicts with stakeholders</li> <li>• Resettlement issues</li> </ul>	<ul style="list-style-type: none"> <li>✓ It is recommended for obtaining of approval from other relevant departments.</li> <li>✓ The proposed land is the property of the proponent of M/s Cenot Limited.</li> <li>✓ There is not any sensitive area near the project site.</li> <li>✓ Proponent will achieve the NEQS/ PEQS at the boundary walls of the subject project to avoid the environmental impacts on the nearby industrial unit.</li> <li>✓ There is no need to change the traffic pattern due the development of the subject project because no. of industries has been developed at the same road.</li> <li>✓ It is recommended to settle the issues through scoping and specific group discussions.</li> <li>✓ No resettlement issues</li> </ul>
<b>Project Design</b>	
<ul style="list-style-type: none"> <li>• Structure stability</li> </ul>	<ul style="list-style-type: none"> <li>✓ Structure stability of the project building should be ensured</li> </ul>

<ul style="list-style-type: none"> <li>• Soil structure and soil bearing capacity</li> <li>• Road infrastructure design</li> <li>• Emergency exits</li> <li>• Firefighting system</li> <li>• Wastewater disposal system design</li> <li>• Electricity hazards</li> <li>• Ventilation</li> </ul>	<ul style="list-style-type: none"> <li>✓ Safe road infrastructure design should be provided at the project site.</li> <li>✓ Emergency exist points should be marked within the project building.</li> <li>✓ Firefighting equipment must be maintained at the site in good working condition.</li> <li>✓ Efficient wastewater disposal system should be designed for proper treatment of wastewater</li> <li>✓ Electricity system should be designed safe and sound.</li> <li>✓ Proper ventilation should be ensured in the project building.</li> </ul>
<b>Construction phase</b>	
<b>Land &amp; Soil</b>	
<ul style="list-style-type: none"> <li>• Land or Soil Erosion during the construction phase</li> <li>• Habitat destruction</li> <li>• Scarring of the landscape and aesthetic beauty.</li> <li>• Clearing of native plants will disturb the complexity of the ecosystem of the proposed area.</li> <li>• Leakage of oil from storage area may contaminate soil</li> </ul>	<ul style="list-style-type: none"> <li>✓ Sprinkling of water is recommended</li> <li>✓ After construction phase, the project Proponent will restore the land by plantation.</li> <li>✓ All spoils will be disposed of as desired and the site will be restored back to its original conditions</li> <li>✓ Aesthetic of the area will be maintained.</li> <li>✓ Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or store rooms, which should be safe from rainfall and away from any potential source of fire.</li> </ul>
<b>Air pollution and Dust emission</b>	

<ul style="list-style-type: none"> <li>• The transportation of the machineries and material also may cause dust.</li> <li>• Un-metaled roads may cause dust.</li> <li>• Dust raised on dirt tracks by project-related vehicles.</li> <li>• Dust from drilling of deep holes.</li> <li>• Combustion products from vehicles / construction related activities/ standby generator</li> </ul>	<ul style="list-style-type: none"> <li>✓ Air emissions-controlled devices must be installed to control the air pollution</li> <li>✓ Water the construction site periodically to minimize fugitive dust generation while laying foundation</li> <li>✓ Store all construction materials in a manner to minimize generation of dust and spillage on roads.</li> <li>✓ During excavation works drop heights will be minimized to control the fall of materials reducing dust escape.</li> <li>✓ Sprinkling of water must be done to control the dust or PM</li> <li>✓ Vehicle emissions inspection should be done on regular basis</li> <li>✓ Sprinkling should be done on the unpaved area to avoid dust pollution/ particulate matter.</li> <li>✓ Vehicles/ trucks should be serviced regularly</li> <li>✓ All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke.</li> </ul>
<p><b>Noise</b></p>	
<ul style="list-style-type: none"> <li>• The major sources of the noise are construction related machinery/ activities.</li> <li>• High noise level cause hearing loss, deafness, high blood pressure, headache, depression and mentally disturbance.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Personal Protective Equipment PPEs including Ear muffs, Ear plugs and other noise abating equipment will be provided to the workers and other staff of the subject project.</li> <li>✓ Proper maintenance and tuning of the vehicles should be done.</li> </ul>

<ul style="list-style-type: none"> <li>• Noise level will not exceed 75 dB(A) at the distance of 2 km radius.</li> <li>• Noise from construction activities from site preparation, earth works, foundation and plant equipment installation</li> </ul>	<ul style="list-style-type: none"> <li>✓ Sound proof room should be built for generator (if any) to control the noise.</li> <li>✓ A speed restriction of 40 km/h will be imposed on all construction vehicles.</li> </ul>
<b>Wastewater</b>	
<ul style="list-style-type: none"> <li>• Domestic wastewater from the camp</li> <li>• Minor generation of waste water from construction activity.</li> <li>• Water Contamination due to improper storage of construction material,</li> <li>• Water contamination due to improper debris disposal,</li> <li>• Spread of diseases, underground water contamination</li> </ul>	<ul style="list-style-type: none"> <li>✓ Domestic wastewater will be drained out in nearby local drain after treated in septic tanks or can be utilized for sprinkling on dusty tracks after treatment.</li> <li>✓ Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or store rooms, which should be safe from rainfall</li> </ul>
<b>Solid waste</b>	
<ul style="list-style-type: none"> <li>• Solid waste may generate from construction activity, domestic and packing material of project related machineries.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Solid waste generated from the construction activity as sand, stones residues etc. that should be utilized in restoration of the area i.e., for levelling of the surface area whereas solid waste from the domestic sources should be disposed off properly</li> <li>✓ Proper solid waste management system is recommended.</li> </ul>
<b>Health and Safety</b>	

<ul style="list-style-type: none"> <li>• Health and safety issues will be arisen during construction activity, handling of material, machinery and improper practices of work</li> </ul>	<ul style="list-style-type: none"> <li>✓ Use of PPEs should be implemented at workplace.</li> <li>✓ First aid measures/medical facility should be provided to project related employees.</li> <li>✓ Safe drinking water must be provided to workers, staff, and poor people of the area.</li> <li>✓ Safety signs &amp; boards should be placed at during construction activity.</li> <li>✓ Construction site should be fenced properly to avoid any damage to nearby settlements</li> <li>✓ smoking or any drugs should be prohibited during working hours or performing work</li> <li>✓ At the time of earthwork, fencing will be ensured for the area under the exploration</li> </ul>
<b>Operation phase</b>	
<b>Land &amp; Soil</b>	
<ul style="list-style-type: none"> <li>• Land or Soil Erosion during the operation phase</li> <li>• Habitat destruction due to improper waste/ ash dumping</li> <li>• Scarring of the landscape and aesthetic beauty.</li> <li>• Leakage of oil from storage area may contaminate soil.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Sprinkling of water is recommended to prevent the soil erosion</li> <li>✓ The project proponent will restore the land by plantation.</li> <li>✓ Aesthetics of the area will be maintained by planting native trees.</li> <li>✓ Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or store rooms, which</li> </ul>

	<p>should be safe from rainfall and away from any potential source of fire.</p> <p>✓ Ash from incinerator should be disposed off in scientific way i.e., ash pit/ disposed in landfill site.</p>
<b>Air pollution and Dust emission</b>	
<ul style="list-style-type: none"> <li>• The transportation of the waste material also may cause dust due to un-metalled roads by project-related vehicles.</li> <li>• PM from stack of incinerator/ smelting plant.</li> <li>• Combustion products from operation related activities i.e., Incinerator, Smelting / standby generator</li> </ul>	<ul style="list-style-type: none"> <li>✓ Air emissions-controlled devices must be installed to control the air pollution i.e., cyclone, scrubber, bag house filters etc.,</li> <li>✓ Water/ sprinkling on the unpaved site to minimize fugitive dust generation.</li> <li>✓ Vehicle emissions inspection should be done on regular basis</li> <li>✓ Vehicles/ trucks/ generator should be serviced regularly</li> <li>✓ All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke.</li> <li>✓ Regular Monitoring of the stack emissions/ ambient air should be ensured as per PEQS.</li> </ul>
<b>Noise</b>	
<ul style="list-style-type: none"> <li>• The major sources of the noise are operation related machinery/ activities i.e., working of incinerator/ plastic flakes machine/ standby generator etc.,</li> <li>• High noise level cause hearing loss, deafness, high blood</li> </ul>	<ul style="list-style-type: none"> <li>✓ Personal Protective Equipment PPEs including Ear muffs, Ear plugs and other noise abating equipment will be provided to the workers and other staff of the subject project.</li> <li>✓ Proper maintenance and tuning of the machinery should be done.</li> </ul>

<p>pressure, headache, depression and mentally disturbance.</p> <ul style="list-style-type: none"> <li>Noise level will not exceed 75 dB(A) at the boundary.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Sound proof room should be built for generator (if any) to control the noise.</li> <li>✓ Regular monitoring of the noise level at site should be ensured as per PEQS.</li> </ul>
<b>Waste Water</b>	
<ul style="list-style-type: none"> <li>Domestic wastewater.</li> <li>Minor generation of waste water from operation activity i.e., scrubbers.</li> <li>Water Contamination due to improper treatment and disposal.</li> <li>Water contamination due to improper debris disposal,</li> <li>Spread of diseases, underground water contamination</li> </ul>	<ul style="list-style-type: none"> <li>✓ Domestic wastewater will be drained out in nearby local drain after treated in septic tanks</li> <li>✓ Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or store rooms, which should be safe from rainfall.</li> </ul>
<b>Solid waste/Ash</b>	
<ul style="list-style-type: none"> <li>Solid waste may generate from project activity, domestic and packing material of waste.</li> </ul>	<ul style="list-style-type: none"> <li>✓ A solid waste management division should be formulated to deal with the proper disposal of solid waste, supervised by HSE Manager/ SW Manager and other related personnel.</li> <li>✓ Solid waste generated from the incinerator as ash should be disposed off in properly engineered ash pit whereas solid waste from the domestic sources should be disposed off properly</li> <li>✓ Proper solid waste management system is recommended.</li> </ul>
<b>Health and Safety</b>	

<ul style="list-style-type: none"> <li>• <b>Health and safety issues will be arisen during project activity, handling of material, machinery and improper practices of work</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ Use of PPEs should be implemented at workplace.</li> <li>✓ First aid measures/medical facility should be provided to project related employees.</li> <li>✓ Safe drinking water must be provided to workers, staff, and poor people of the area.</li> <li>✓ Safety signs &amp; boards should be placed at during construction activity.</li> <li>✓ Construction site should be bounded properly to avoid any damage to nearby settlements</li> <li>✓ smoking or any drugs should be prohibited during working hours or performing work</li> <li>✓ Proper firefighting measures should be adopted.</li> </ul>
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### PROPOSED ENVIRONMENTAL MONITORING

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

#### Ambient Air

Regular monitoring for Ambient Air should be conducted during construction phase of the project as per PEQS.

#### Noise

Regular monitoring for noise level should be conducted during construction and for generator during operational phase of the project as per PEQS.

**Water quality**

Regular monitoring for water quality should be conducted as per PEQS.

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

**CHAPTER 1:**  
**INTRODUCTION**

## CHAPTER # 1 INTRODUCTION

### PURPOSE OF THE REPORT

Environmental Impact Assessment (EIA) report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab, Lahore in compliance with the legal requirement for Punjab Environment Protection Act-1997 (Amended 2012), Section 12- for obtaining No Objection Certificate (NOC) for the subject project. The other relevant regulations and guidelines considered while preparing this EIA report include:

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

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

### IDENTIFICATION OF THE PROJECT AND PROPONENT

Subject project can be considered under Category G of Schedule II for EIA, of Review of IEE/ EIA Regulations, 2022.

### PROJECT PROPONENT

Name of the Proponent	Mr. Ali Asghar Qayyum
CNIC No.	35402-1960130-7
Residence Address	Post office Khaas, Bacheeki, Tehsil & District Nankana Sahib

For further details, Copy of CNIC of proponent and undertaking including witnesses' details and other relevant documents are attached as **Annexure-C**.

### **DETAILS OF CONSULTANT**

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

Contact: Pak Green Enviro-Engineering (Pvt.) Ltd.

Company office address: 46-M, Gulberg III, Lahore

Contact: 042-35441444, 0303-4442335 Tel: 042-35441444, 03034442335

The current study was carried out by the following professionals:

<b>Sr. #</b>	<b>Designation</b>	<b>Name/Qualification</b>	<b>Experience</b>
1)	Chief Environmentalist/ Lead Environmental Professional	Dr. Imtiaz Hussain PhD Scholar Environmental Management	Ten Years' Experience as Environmentalist
2)	Director/ Senior Environmentalist/ Environmental Professional	Iftikhar Ahmed M.Phil Environmental Sciences	Eight Years' Experience as Environmentalist
3)	Chief Chemist/ Subject Matter Specialist (SMS)	Muhammad Raza ullah M.sc Chemsitry GCU Lahore	Twenty Years' experience
4)	Project Coordinator	Sabeera Tauheed M.phil Environmental Sciences, PU, Lahore	Four Years' Experience

5)	Subject Matter	Qurat-ul-Ain BS Chemistry GCU, Lahore	Five Years' Experience as Environmentalist
6)	Associate Environmental professional	Nageen Qayyum BS Hons. Environmental Sciences PU, Lahore	2 Years' Experience as Environmentalist
7)	Associate Environmental professional	Muhammad Imran BS Environmental Engineering	2-year Experience
8)	Associate Environmental professional	Umair Rasheed BS (Hons) GC University Lahore	Two years' Experience as a Deputy Analyst
9)	Associate Environmental professional/ Author of the report	Sabeera Tauheed M.Phil. Environmental Sciences, PU, Lahore	4 years' Experience as Environmentalist

#### **BRIEF DESCRIPTION OF NATURE, SIZE AND LOCATION OF PROJECT**

##### **Nature:**

Project is the proposed establishment of Integrated Waste Management Facility.

##### **Size:**

Total land area for proposed project is 22 Kanal 07 Marla.

##### **Location**

Land coordinates of the project site are 31°15'53.9031"N, 74°7'40.4484"E:

North: Road Access

South: Building

East: Building

West: Open Land



#### SCOPING:

##### Spatial and temporal boundaries of study:

The Environmental assessment study was done in 5km radius of proposed project site from April to June.

**CHAPTER 2:**  
**CONSIDERATION OF**  
**ALTERNATIVES**

## CHAPTER # 2 CONSIDERATION OF THE ALTERNATIVES SITE ALTERNATIVES, THEIR SELECTION AND REJECTION CRITERIA

### Rejected sites

#### *Rejected site A*



Alternative site that was considered was near to Gujranwala. Alternative site was not suitable because following factors:

- i. Proponent was not owner of this land
- ii. Site was adjacent to populated area

#### *Rejected site B*



Alternative site that was considered was near to Jaranwala. Alternative site was not suitable because following factors:

- i. Available site was rich in nutrients and was best for agricultural purpose.

- ii. Area was not large enough for establishment for the project
- iii. Heavy traffic movement cause major issue of traffic management

### SELECTED SITE

Subject project site is located at Manga Raiwind Road, Village Rosa, Tehsil Kot Radha Kishan District Kasur. The aim of proposed project is to develop a integrated waste management company under the name of Cenot International

#### Reason of selecting existing site:

- Easy access of road, power supply and other basic facilities.
- Economically Feasible
- No vegetation clearance
- Land is plain
- Availability of water is plenty



### DESIGN/TECHNOLOGY ALTERNATIVES, THEIR SELECTION AND REJECTION CRITERIA

The proposed project will consist of Proposed project is the establishment of integrated waste management facility including; Waste Metal/Items Recycling, dismantling of de-gassed/de-oiled compress, Recycling of waste cables/ conductor (into metal by removing plastic

insulation), Waste Food Items Recycling, Plastic Waste Item Recycling and Other Diverse Industrial Waste

### **ENVIRONMENTAL ALTERNATIVES, THEIR SELECTION AND REJECTION CRITERIA**

The project is located in the outskirts of Kasur District. The site is located at an agricultural cum commercial area. Construction of project in this area will have minimal impact on the daily life people living in Kasur. The project proponent is recommended to make sure that emission produced during the project operations are within the PEQS limits.

### **ECONOMIC ALTERNATIVE, THEIR SELECTION AND REJECTION CRITERIA**

The project proponent intends to Construction of Proposed project is the establishment of integrated waste management facility including; Waste Metal/Items Recycling, dismantling of de-gassed/de-oiled compress, Recycling of waste cables/ conductor (into metal by removing plastic insulation), Waste Food Items Recycling, Plastic Waste Item Recycling and Other Diverse Industrial Waste by M/S Cenot International. This project will provide employment 50-60 laborer during construction phase and 30-40 workers and managerial staff at operation phase.

**CHAPTER 3:**

***DESCRIPTION OF THE PROJECT***

## CHAPTER # 3

### DESCRIPTION OF THE PROJECT

#### TYPE AND CATEGORY OF THE PROJECT:

Site proposed for the subject project is situated at Manga Raiwind Road, Village Rosa, Tehsil Kot Radha Kishan District Kasur. Total area of the project is 22 Kanal 07 Marla.

Project can be considered under Schedule-II, Category G of Review of IEE/ EIA Regulations, 2022.

#### OBJECTIVES OF THE PROJECT

The establishment of this facility shall fulfill the following objectives:

- The primary overall objective is to promote integrated and scientific methods for the disposal and management of waste.
- Establishment of business for the proponent as well as to counter the existing ill practices of waste management which severely deteriorate our environment.
- Promote recycling/ reuse of the waste material.

#### ALTERNATIVES CONSIDERED, AND REASONS FOR THEIR REJECTION

##### Location alternative

The site alternative means that different sites would be chosen for a single project. Sites may vary in Topography, geology, seismology, climatic, soil, rainfall, wind, flora, fauna conditions etc. that site is selected which have minimum impacts of the project on environment.

Selected site has been considered the best possible option for the said project as it is at safe distance from nearest settlement, away from hustle bustle of the urban life means it will not contribute to traffic congestion and issues like disturbance to neighborhood.

##### Process / Design alternative

Subject project building will be constructed according to the best engineering designs. All provisions have been incorporated in the design of the building for sustainable development. Keeping these requirements and their feasibility and other basic infrastructural requirements at the site, the present building will be ideally suited for its purposes. Proper pollution control equipment/ systems will be adopted.

## **LOCATION AND SITE LAYOUT OF THE PROJECT SITE:**

### **LAND USE ON SITE**

The current utilization of the site involves the storage of pet animals, which has led to the establishment of small sheds. These sheds are scheduled for demolition to facilitate the implementation of the proposed project. Land ownership documents are attached with this report as **Annexure- C**.

### **VEGETATION FEATURES OF THE PROJECT SITE**

Presently site is completely open and covered with some shrubs/ grass. The site is fairly level. Different grasses and weeds are present; grasses/ weeds will be cleared for the purpose of construction. Further plantation will be done around the premises of the project area for restoration.

### **COST AND MAGNITUDE OF OPERATION:**

Total area for the project is 21 Kanal 02 Marla and initial cost of the project is Rs. 240 million.

### **SCHEDULE OF IMPLEMENTATION**

Necessary legal, administrative and financial formalities are being finalized. Construction will be started after getting the Environmental Approval.

### **DESCRIPTION OF PROCESS(S)**

The Project is an integrated waste management industry for the recycling and management of various industrial waste types. It has the capacity for metal shredding at 7600MT per month, plastic processing at 6500MT per month, the handling of food/organic waste at 8000 tons per month, dismantling of de-gassed, de-oiled compressors 6000MT/month, recycling of waste cables/conductors (into metal by removing plastic insulation) 8000MT per month and sustainable management of other diverse industrial waste types.

#### **Process**

Key project activities will be including

#### **Waste Metal/Items Recycling:**

**Collection:** Scrap metal will be collected from various sources, including manufacturing plants, demolition sites, and consumer discards under agreed contract

**Sorting:** The collected metal will be sorted based on type and size.

**Shredding:** Larger pieces can be shredded into smaller fragments using specialized machinery if required.

**Fabrication:** The recycled item can either be fabricated on-site if deemed suitable or sent to another party for fabrication. Alternatively, it can be sold to clients for their own legal use.

**Manufacturing:** The recycled item can be sold to clients or utilized in the manufacturing of various items for our other customers.

#### **Waste Food Items Recycling:**

**Collection:** Food waste items will collect from warehouse, restaurants, and food processing units and other industries.

**Processing:** The food waste deemed suitable for manufacturing animal feed will be utilized for our own cattle, as an ingredient with other material. In the case of substantial quantities, it will be directed to an animal feed mill for the production of feed intended for commercial sale.

**Composting:** Food waste that is unsuitable for animal feed manufacturing will be sent to a third party for composting, destined for use as fertilizer. Alternatively, it may be directed to another party for anaerobic digestion to produce biogas. These processes will be carried out under contractual agreements.

#### **Plastic Waste Item Recycling:**

**Collection:** Plastic waste will be collected from various sources, including businesses and industries

**Sorting:** Plastics are sorted based on their type and color.

**Process:** The plastic will be shredded for resin/flakes formation by physical process.

#### **Other Diverse Industrial Waste:**

We will gather a variety of industrial waste, encompassing wood, plastics, drums (made of both iron and plastic), metals, non-metal waste and organic waste etc.

**WATER REQUIREMENT:**

During Construction: 4000-5000 liters per day for constructional and domestic uses.

During Operation: water will be required for scrubbing system with stacks, cooling tower, washing process and for domestic activities at site for which approx. 8-10 m<sup>3</sup>/hr.

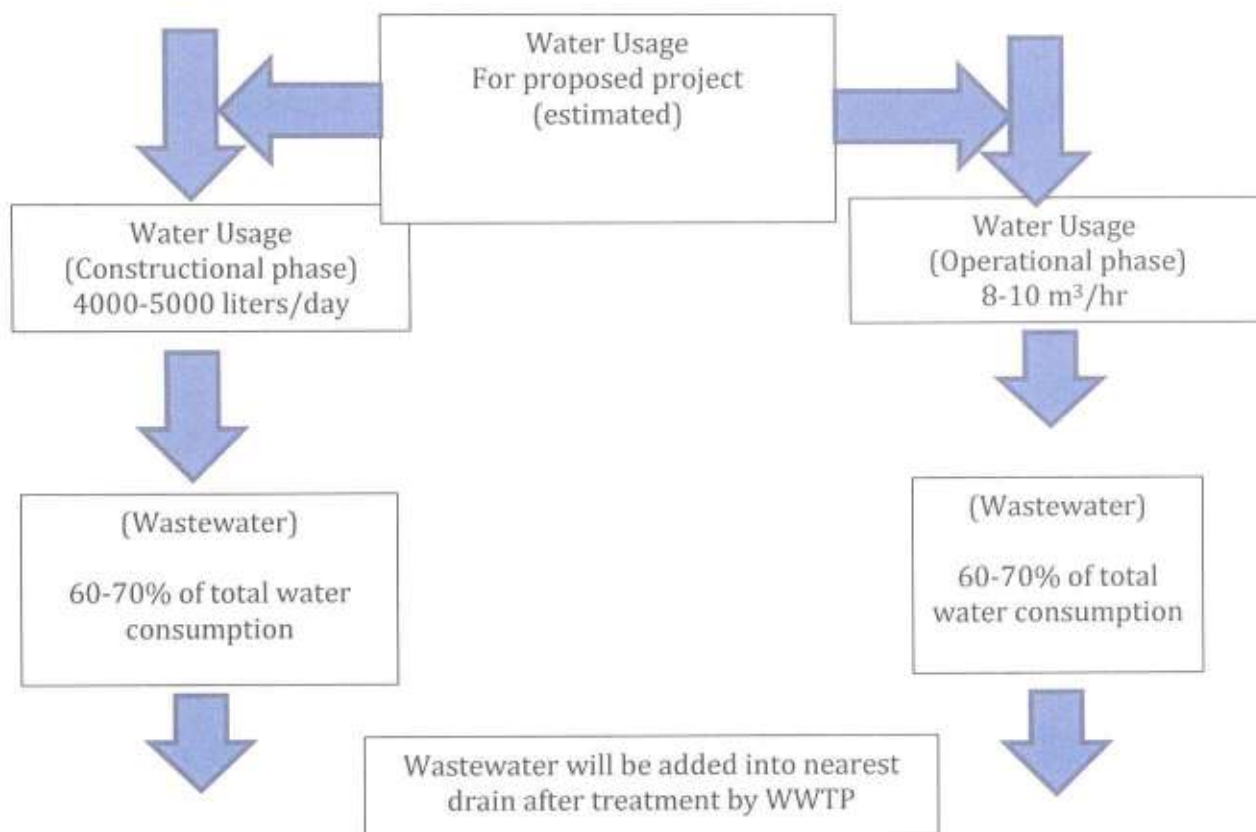
**SOURCE OF WATER**

Ground water.

**WASTEWATER:**

About 60-70% of the used water will be the waste water. Estimated water balance for the subject proposed project is as follows.

**ESTIMATED WATER BALANCE:**



## **SOLID WASTE MANAGEMENT PLAN:**

### **Amount of solid waste generation during the construction and operation phase:**

During Construction: 0.45 kg/person/day domestic waste. Constructional solid waste will be reused for landfilling purposes and remaining will be handed over to the relevant contractors.

During operation: Ash/ slag from incinerator and furnace will be the main solid waste generation also 0.45 kg/person/day domestic waste will be produced. For the handling and management of this domestic waste, sanitary workers will be hired by the proponent during the operation phase of the project; they will mop up and manage the solid waste within the premises of project building. One specific point has been designated within the premises of the project where the solid waste will be collected from where the solid waste will be handed over to the certified contractors.

### **STEPS TO MANAGE THE SOLID WASTE OF THE PROJECT:**

For different types of wastes, following are the steps to manage the solid waste in the proposed project building:

1. Placement of waste bins at all the designated points in the project buildings for collection of domestic waste.
2. Collection of waste from every point on daily basis at one designated point by the sweepers hired by the project manager.
3. Ash/ slag will be regularly removed from the site and disposed off into engineered ash pit/ landfill site following appropriate measures.
4. PPEs will be provided and implemented strictly.

### **ATMOSPHERIC EMISSIONS:**

Dust and particulate matter will be generated during the construction activities. Sprinkling of water will be done on dust tracks, stock piles; raw material will be covered by plastic sheets, loading and unloading of raw material will be done at night etc.

During the operation phase of the project, source of atmospheric emissions will be generators at the project site, incinerator/ smelting stack, project related vehicles etc. For the control of emissions from the project activities PEQS compliance will be ensured.

### **PARKING**

Parking will be provided at the project site for the Cars and Motorcycles. Parking area has been designated and highlighted in layout map.

### **FIRE PROTECTION SYSTEM**

An addressable fire protection system/ firefighting plan would be provided to protect against any fire hazard. Fire extinguishers will be installed at all sensitive places within the building. Complete Firefighting plan has been designed; and indicated on the project layout map.

### **SECURITY**

Project site will be secured by the presence of the security guards round the clock which will improve the security of the project site and also in its vicinity.

### **POWER SOURCES AND TRANSMISSION**

Electricity will be fed by WAPDA. For meeting the power requirements, a transformer of 100 KVA and 1 standby diesel fired generator will be installed in specially constructed rooms for these facilities at the project site.

### **GENERATORS:**

1 standby diesel fired generators of 100 KVA will be installed in the proposed project.

Firstly, for the control of emissions from the generators at the project site PEQS compliance of the generators will be ensured.

Secondly, the generator will be installed in specially constructed room, which will help to avoid noise pollution.

## RESTORATION / REHABILITATION PLAN

The project construction activities will be confined within the project site. Boundary walls will be constructed first. However, on completion of the construction and commissioning phase, the construction contractor will demobilize from site and construction camp will be removed. Temporary infrastructure will be decommissioned and site will be restored. This will involve:

- Removing the temporary construction camp
- Closing all the temporary waste pits
- Removing all waste and leftover construction materials from site
- Leveling and restoration of areas

**CHAPTER .4:**  
**DESCRIPTION OF THE**  
**ENVIRONMENT**

## CHAPTER# 4 DESCRIPTION OF ENVIRONMENT

This section describes the baseline conditions, which cover the existing physical, ecological and socio-economic environment of the project as well as study area. Data was collected by reviewing secondary data and field survey. The project lies at boundary of Lahore and Kasur District and the Environmental, Biological and Social-Economic Features of both the districts are applicable to project site.

### PHYSICAL ENVIRONMENT/ RESOURCES

#### Topography:

The topography of the project area is flat. The general height of the area is approximately 220 meters above the Mean Sea Level (MSL). The district Lahore is divided into two parts. The low-lying alluvial soil is along the Ravi River, and the upland in the east. Upland is a plain slope from north-east to south-west. The lowlands are generally inundated during the monsoon season by Ravi River, flowing in the west of district along its boundary with district Sheikhupura. Below figure is showing the topography of the area.

Topographically speaking, Kasur District lies between the river Sutlej which flows along its boundaries with India and river Ravi which flows its boundary with Sheikhupura District. The district may be divided into two parts, a low lying or riverine area along the two bordering rivers and upland, away from the rivers. The riverine area is generally inundates during monsoon season. The water level in this area is higher than in the upland. The soil is sandy. The upland is flat plains sloping from north-west to south-west. The general height of the area is from 150 to 200 meters above the sea level.



Figure 3-1: Picture showing the topography of the project area

**Soil:**

The soil in the Project Area is cohesion less and is of alluvial type. Various soil layers below the ground level includes: silt, silty clay, silty sand, poorly graded sand with silt, lean clay etc. The soil is different in character and generally inclined to be dry. However, it is rich in potential plant nutrients.

**Climate and metrology:**

Seasonal climatic conditions must be considered for the design and execution of Project. The climate including air, temperature, precipitation, humidity and evaporation is an influencing factor, affecting the structures. However, to determine the overall effect of the climatic stresses, daily and seasonal temperature changes, site altitude, direct solar radiation, and precipitation must be considered. The Project Area has extreme climate: it has hot summer and cold winters. The summer starts from April and lasts till September. May, June, and July are the hottest months. The mean maximum and minimum temperature ranges from 40.4 °C and 27.3 °C respectively for these months.

The winter seasons lasts from November to March. December, January and February are the coldest months. The mean maximum and mean minimum temperature ranges from 19.8°C to 5.9°C in January. Temperatures in the Project Area vary from 5.9 °C to 40.4 °C.

The project area receives rains in all the seasons but monsoon rain is pronounced and constitutes a definite rainy season between the month of July and September. The average rainfall is about 629 millimeters per year. Below figure is showing the temperature, precipitation, and relative humidity trends in the study area.

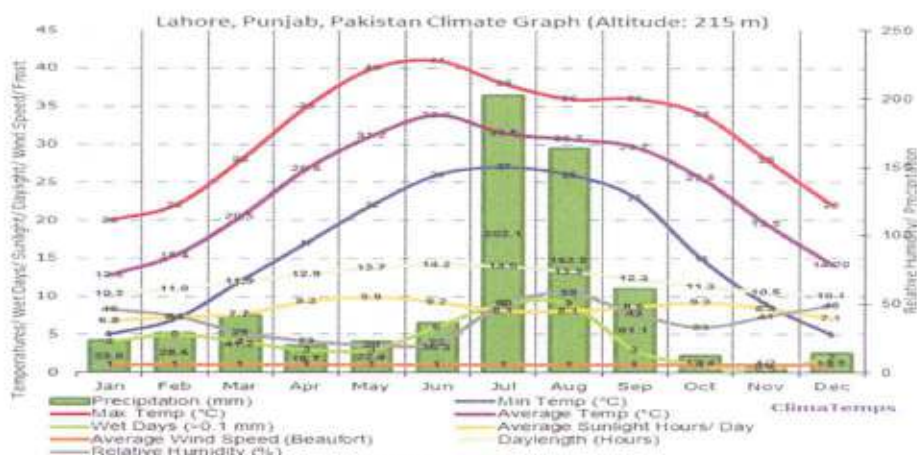


Figure 3-2 Climatic Data of Lahore

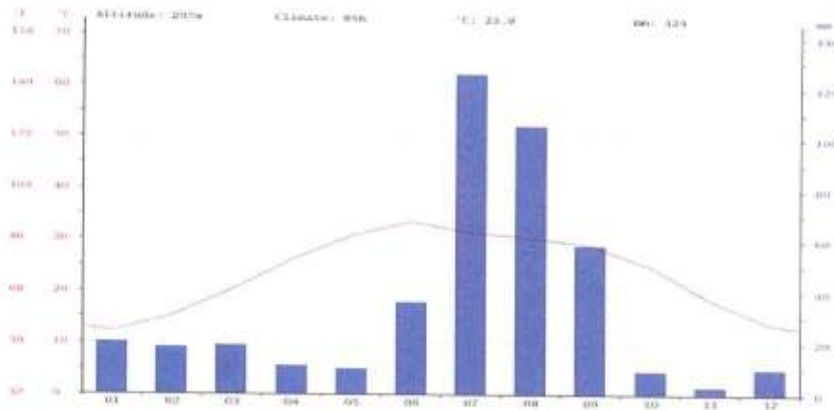


Figure 3-3: Graphical representation of climate of Kasur

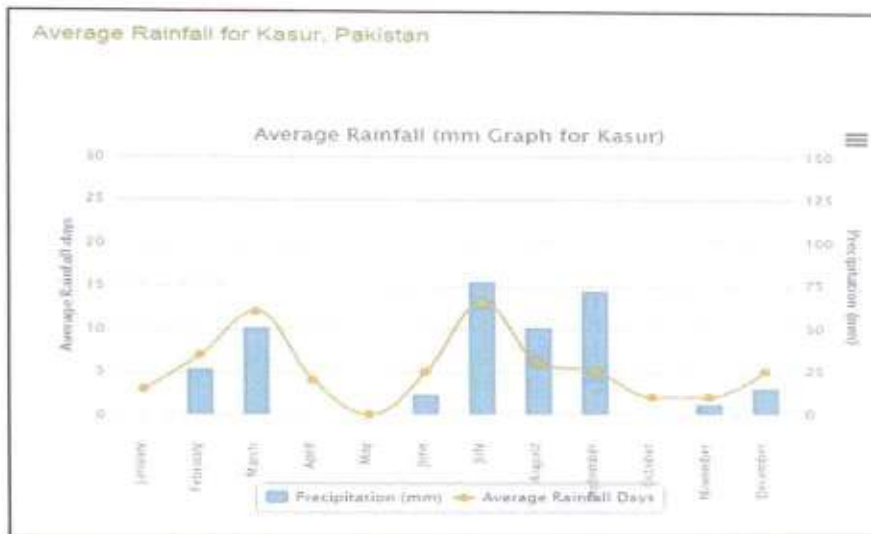


Figure 3-4: precipitation at project site

**Wind:**

**Wind speed in the project area:**

Over the course of the year typical wind speeds vary from 0 m/s to 6 m/s (calm to moderate breeze), rarely exceeding 11 m/s (strong breeze).

The *highest* average wind speed of 3 m/s (light breeze) occurs around June 21, at which time the average daily maximum wind speed is 6 m/s (moderate breeze).

The lowest average wind speed of 1 m/s (light air) occurs around November 21, at which time the average daily maximum wind speed is 3 m/s (light breeze).

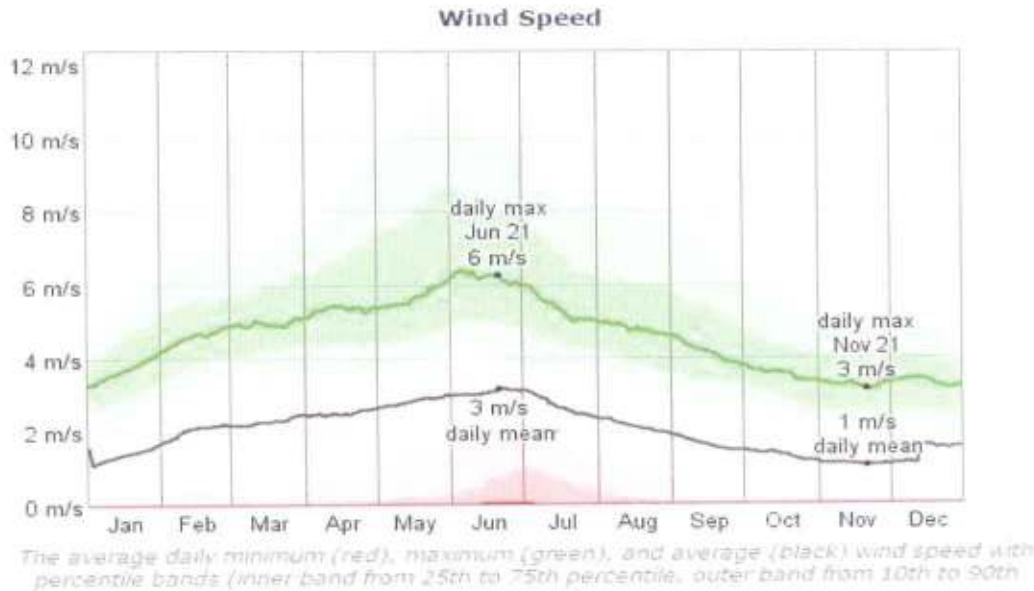


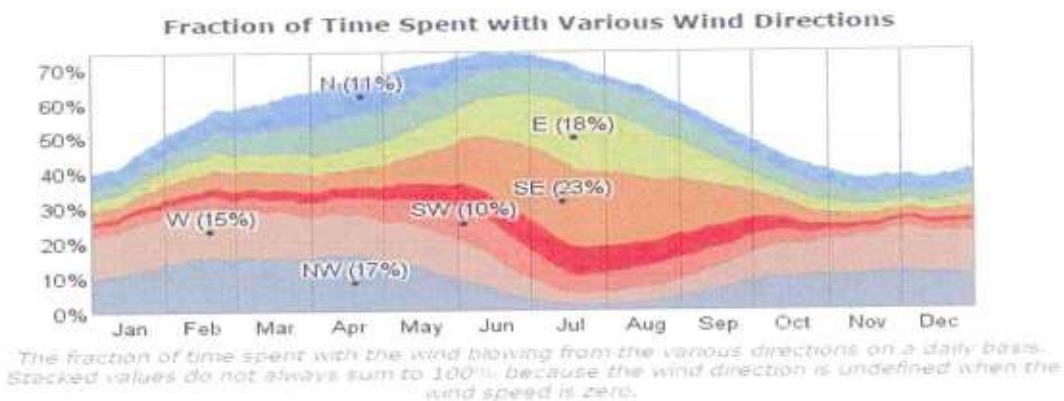
Figure 3-5: Wind speed in the project area

Reference: <https://weatherspark.com/averages/32865/Lahore-Punjab-Pakistan>

#### Wind direction in the project area:

The wind direction is highly variable and is not predominantly from any single direction. The wind is least often out of the south (4% of the time) and south west (5% of the time).

Figure 3-6: Wind direction in the project area



direction in the project area

Reference: <https://weatherspark.com/averages/32865/Lahore-Punjab-Pakistan>

### **Ambient Air Quality:**

Atmospheric pollution, particularly in industrial areas like Lahore- Kasur region has a strong impact on daily life. Project site is located at Lahore-Multan Road. Motor vehicles and the industrial activities are a major source of air pollution in the project area. Ambient Air monitoring was conducted at the project site by using Fine Dust Sampler IPM-FDS 2.5/10 $\mu$  and Ambient Air Analyzer.

To record the baseline ambient air quality of the project area, monitoring was conducted at advised locations to assess the concentration of priority pollutants (Carbon monoxide, Nitrogen dioxide, Sulphur dioxide and PM<sub>10</sub>) in the air. Lab reports of Ambient Air Monitoring are attached as **Annexure-D** with the EIA report.

### **Noise Level Monitoring:**

#### **Basic Environmental conditions:**

During the measurement following conditions were prevailed on workplace:



**Figure 3-7: Noise Monitoring Equipment**

#### **Metrological Conditions:**

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

#### **Monitoring Instrument:**

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

Name: Digital sound level meter  
Model: AR824  
Company: Intel Instruments plus

Frequency Range: 31.5 Hz to 8 kHz

**Methodology adopted:**

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

**Ground water:**

The underground water will be used as a source of water at the project site. Tap water was taken as a sample to test its parameters. Lab results are attached as **Annexure-D**

**ECOLOGICAL RESOURCES**

As climate of Lahore is semi-arid and subtropical, the vegetation of the district falls under scrub, dry, tropical thorn forest type as per Phyto-geographical classification of the area but this vegetation is confined to the graveyards in the Lahore – Kasur area and the project site is free from such type of vegetation.

**Flora:**

There are small grasses and shrubs present at the project site. Some native trees were observed in the surrounding areas. Native trees and plants of 6 feet height will be planted within the premises of the project by the project proponent with the consultation of PHA.

**Fauna:**

Different birds like sparrow and crow etc. were observed at the project site during the site visit. Other than that, no fauna was observed at the site during the site visit.

**SOCIOECONOMIC ENVIRONMENT:**

Socioeconomic environment of district Lahore has been studied through secondary sources and a brief introduction has been given below:

**Demographic Characteristics of the Project Area**

The total population of Lahore District has crossed 11.13 million. The population of Kasur is 382,000 people.

**Religion**

The population of the district is predominantly Muslims i.e., approx. 95 percent, other minorities like Christians, Sikhs and Hindus etc. are approx. 5 percent.

## Education

Basic health & education facilities are available in the rural area of the project site but these health and educational facilities are not sufficient. People have to visit the city Lahore, Chuniyan and Kasur for the proper health and educational facilities.

Lahore is known as Pakistan's education capital, with more colleges and universities than any other city in the country. Lahore is Pakistan's largest producer of professionals in the fields of science, technology, IT, engineering, medicine, nuclear sciences, pharmacology, telecommunication, biotechnology and microelectronics. Most of the reputable universities are public, but in recent years there has also been an upsurge in the number of private universities. The current literacy rate of Lahore is 74%. Lahore hosts some of Pakistan's oldest educational institutes: Government College Lahore (now Government College University), established in 1864; Forman Christian College, a chartered university established in 1864; University of the Punjab, established in 1882; Kinnaird College, established in 1913; and University of Engineering and Technology, Lahore (UET Lahore), established in 1921. UET is also Pakistan's oldest technical degree-awarding institute and its first university in the field of engineering and technology.

Lahore's institutes in the fields of computer science, IT, and engineering include the National University of Computer and Emerging Sciences (NUCES or FAST-NU) and Punjab University College of Information Technology. Notable business schools include the Lahore University of Management Sciences (LUMS), Lahore School of Economics, Forman Christian College, and University of Management and Technology. University of Education, established in 2002, is Pakistan's first specialized university in the field of education.

## Health Facilities

Small clinics and private health centers are available in Kasur along with a couple of Government Hospitals. Majority of people visit Lahore for proper health care.

Ample medical and health facilities are available in the Lahore Metropolitan Corporation area and its suburbs. Shaukat Khanam Hospital is the best medical care facility in Lahore for the most dangerous disease in the country. i.e., Cancer. There are also other hospitals of voluntary organizations which provide health cover to the general public. King Zaid Bin Sultan Hospital is also a very advanced addition in the medical care for Lahore. Among the prominent hospitals are General Hospital, Lady Wellington Hospital, Mayo Hospital, Fatima Jinnah Hospital, The Children Hospital, Services Hospital, and Ganga Ram Hospital etc. Besides, a number of private medical practitioners, Hakims and homeopathic doctors are also practicing in the city.

## **QUALITY OF LIFE VALUES**

The project site lies in an industrial corridor with a number of industries in operation. Most of the people living in this area are associated with these industries as factory workers. Some of the people have developed small business such as grocery shops and mechanic shops.

People lead simple life and activities of women are mostly restricted to home. Beside this people have access of all basic life necessities like clean drinking water, electricity, health facilities and educational institutes.

This project will further increase the living standards of the people living in this area with development of infrastructure such roads, water, power, drainage, street lightening and green belt parks, clubs and other leisure facilities etc. This project will provide job opportunities to approximately 10,000-12,000 people which will further improve the living standards of the local

## **CIVIC AMENITIES**

Civic amenities like potable drinking water, dispensary and rest area are available near the project site.

### **Games:**

Cricket, Football, Badminton, Hockey, Volleyball, Kabaddi and Wrestling are major sports of Lahore and Kasur District.

### **Welfare of Employees**

Management of project is mindful of the fact that the satisfied employees will deliver better output.

### **Aesthetic Values:**

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

### **Archaeological and Historical Treasures:**

No Archaeological and Historical Treasures were observed in the proposed Project area. Therefore, the development of this project does not threaten the sanctity of any archeological site during construction and the later operation phase.

### **SUITABILITY OF THE SITE**

The proposed site for the construction of the Project currently comprises of empty, unutilized land plots. The Project site lies within this zone earmarked for industrial activity along with Multan Road. Several industrial units are operating in the neighborhood. The project does not fall in any environmentally sensitive area

**CHAPTER 5**

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

## CHAPTER # 5

### SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES

The following chapter describes the overall possible impacts of said project on the physical, biological and socioeconomic environment due to the location, Design, during construction phase, during operation phase of the project and mitigation measures to minimize the significance of the possible impacts.

#### ENVIRONMENTAL PARAMETERS:

##### **Project Location:**

Subject project is the proposed project. Project site is situated at Manga Raiwind Road, Lahore. There is not any sensitive area near the project site. So, if the proponent/ Developer fulfills all the HSE conditions and Society development laws and rules that this project will not cause any adverse environmental impacts on the society. Development of this project will increase the living standards and employments for the local people of the district. Overall the impacts of this development due to the location are positive on the local community of District and country with respect to multiple direct and indirect employment opportunities.

**Impact significance:** very Low or may be positive

**Nature of impact:** direct

**Duration:** Long-term

**Timing:** Construction and Operation phase

**Reversibility:** NA

**Likelihood:** Low (unlikely),

**Consequences:** very low or may be positive

##### **Mitigation Measures and Recommendations:**

- Proponent/ Developers should place all the safety and location signs and maps at the specific indemnified place.
- Proper parking arrangements should be maintained during the construction and operational phase of the development.
- Location can be considered as positive impact on the community due to the facilities provided to the community.

### *Project design*

Project's main features are; Covered area of incinerator, yellow & store room, covered recycling unit, covered composting area, covered shed yard for plastic flakes making machine & Cattle feed area, labor quarters and admin offices area. Following are the major Environmental impacts due to the development related to the design:

### **Impacts**

- **Soil structure and soil bearing capacity**

Soil structure and soil bearing capacity may be a major negative impact. If the soil bearing capacity is poor and soil structure is not good for construction of building, it may affect the foundation of building.

- **Road infrastructure design**

Road infrastructure design may be a long-term and major negative impact, which may cause traffic congestion problems and also the noise pollution problem at the project site.

- **Emergency exit points for the emergency situations**

It may be a life-threatening hazard in case of any natural or accidental calamity, if emergency exit points will not be incorporated in design for safe evacuation in case of any emergency.

- **Firefighting system**

Fire may also be a major negative impact and a life-threatening hazard if proper firefighting system will not be incorporated in the design of the building.

- **Wastewater disposal system design**

It may be serious hazard if wastewater system is not designed properly and proper disposal system design is a necessary aspect which must be considered during the designing phase of the project.

- **Rain water harvesting capacity of the drainage system**

If rain water harvesting capacity of the drainage system is not enough, it may be a serious hazard for the building and may cause many problems.

- **Electricity hazards**

It is a major threat for life and may cause the loss of life and property if electricity hazards will not be addressed properly during the designing phase of the project.

**Impact significance:** moderate to high or may be negative

**Nature of impact:** direct

**Duration:** Long-term

**Timing:** Constructional phase & Operation phase

**Reversibility:** NA

**Likelihood:** moderate to high

**Consequences:** moderate to high or may be negative

#### **Mitigation measures and recommendations**

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

- Emergency exit points should be designed during the designing phase and should be kept in proper working condition to use in case of any emergency.
- Road infrastructure should be properly designed and there should be strict application of the laws and regulations, so that traffic congestion problems may not arise.
- Firefighting system will be installed according to laws and regulations for the emergency situations.
- Wastewater disposal system should be designed and managed properly and wastewater treatment facility should be installed within the project area.
- Waste water drainage should be designed vast to bear the rain water capacity of the society.
- Electricity system should be designed safe and sound; electricity wires should be covered by thick plastic/electricity resistant covers.
- All the design should be approved from the local authority to minimize the impacts due to the design of the project.

#### **During the construction phase**

Project is the construction of the commercial building.

#### **Impacts**

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

- **Grubbing and stripping**

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

- **Leveling and compaction of the land**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- **Ground water quality**

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

- **Impacts on Fauna and Flora**

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

- **Security threat**

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

- **Impact on land value**

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

- **Dislocation of the people**

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

- **Loss of public and private infrastructure**

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

**Impact significance:** moderate to high or may be negative

**Nature of impact:** direct

**Duration:** Short Term

**Timing:** Construction phase

**Reversibility:** NA

**Likelihood:** moderate

**Consequences:** moderate

#### *Mitigation Measures and Recommendations*

- Precautionary measures should be adopted to save the environment from the impacts of grubbing, stripping, leveling and compaction and health and safety of workers should be ensured during these construction phases.
- Demarcation of the project building and other facilities should be according to the laws and regulations.
- Sprinkling of water on dusty tracks is recommended to avoid the generation of dust on dusty tracks.
- Vehicles should be properly tuned to reduce the impacts of dust and noise.
- Mitigation measures should be taken to meet the PEQS at the stack of generators.

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

#### **During Operational Phase**

Project is the proposed establishment of Integrated Waste Management Facility. Main environmental issues associated with Project operation are as follows.

- **Traffic congestion**

It may be a major problem if proper traffic management laws will not be implemented.

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

Solid waste generation due to domestic activities will be the impact of the subject project.

- **Waste water due to domestic activities**

Production of wastewater due to domestic/ operation activities is a long term and major impact of the subject project.

- **Fire due to short circuits and other activities**

Fire due to short circuits and other activities is a major hazard, which may cause the loss of property and life.

- **Gaseous emissions from the generators**

Gaseous emissions from the generators may be a negative impact on the environment due to the subject project.

**Impact significance:** moderate to high or may be negative

**Nature of impact:** direct

**Duration:** Long-term

**Timing:** operational phase

**Reversibility:** NA

**Likelihood:** moderate to high

**Consequences:** moderate to high or may be negative

***Mitigation Measures & Recommendations***

- Traffic management system should be ensured.
- Properly tuned vehicles should be used and non-tuned vehicles should be banned.
- A well designed firefighting system should be constructed to cope with fire situations in the area.
- PEQS compliance of generators should be ensured.
- Solid waste bins should be regularly cleaned and solid waste must be handed over to the certified contractors.
- Wastewater treatment facility should be constructed on the reserved place to treat the domestic waste water.
- Proper plan for waste water collection should be devised.

### ***POTENTIAL ENVIRONMENTAL ENHANCEMENT MEASURES***

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

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

### **PURPOSE OF MITIGATION MEASURES**

Purpose of mitigation measures should include:

- **What is the problem i.e. in terms of “major environmental impacts” which may arise by the subject project activity?**

- **When the problem will occur and when it should be addressed?**
- **Where the problem should be addressed?**
- **And how the problem should be addressed?**

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

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

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

## **WAYS OF ACHIEVING MITIGATION MEASURES**

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

Management shall take appropriate measures to provide pollution free and safe environment during the proposed project activity by implementing improved management practices and monitoring techniques suggested in EMP.

Management will adopt such plan that will assure the minimum impact on the environment and health by implementing proper mitigation measures. Design of the project will assure the structure stability and project life in a long run.

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

**CHAPTER 6:**

**ENVIRONMENT MANAGEMENT AND  
MONITORING PROGRAM**

## CHAPTER # 6

### ENVIRONMENTAL MANAGEMENT PLAN & MONITORING PROGRAM

#### PURPOSE AND OBJECTIVES OF THE EMP:

The primary objectives of the EMP are to:

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

#### MANAGEMENT APPROACH:

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

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

#### INSTITUTIONAL CAPACITY

Following functionaries will be involved in the implementation of EMP:

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

#### TRAINING SCHEDULES

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

## **TRAINING OF BUILDING CONTRACTOR**

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

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

1. Handling of Machineries in a safe way
2. Use of PPEs
3. Maintenance of vehicles.
4. Testing of water and wastewater
5. Placement of safety signs/ boards during construction
6. Sprinkling of water on the roads and dusty tracks
7. Maintenance of generator emissions

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

## **RESPONSIBILITY OF EMP**

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

## **SUMMARY OF IMPACTS AND THEIR MITIGATION MEASURES**

Sr#	Environmental Issues/ Impacts	Mitigation Measures
<b>PLANNING, SITE SELECTION AND DESIGN STAGE</b>		
1	Observance of administrative and legal formalities	NOC's from other departments have been obtained.
2	Acquisition of land	The proposed land is the property of the proponent.

3	Loss of environmentally sensitive areas	There is not any sensitive area near the project site however the project proponent will achieve the PEQS at the boundary wall of the subject project to avoid the environmental impacts on the surrounding area
4	Changes in traffic pattern	Prepare suitable in/out traffic plans
5	Potential conflicts with stakeholders	There is not any conflict at the current stage of the project. It is recommended to settle the issues through scoping and specific group discussions.
6	Resettlement issues	No resettlement issues
<b>SITE DEVELOPMENT STAGE</b>		
1	Erosion due to stripping and site clearance	Sprinkling of water on road side
2	Generation of dust	Careful loading and unloading of construction materials is recommended. Sprinkling of water on construction site and surrounding areas is recommended.
3	Generation of noise	Avoid using forbidden horns at the site. Do not throw heavy equipment and construction materials in haphazard manner. PPEs should be provided to workers.
4	Local flooding/ponding	Immediate repair and maintenance of water supply pipes and sewers in case of any defect will be undertaken.

5	Outbreak of fire	Firefighting equipment must be maintained at the site in good working condition.
6	Safety	Safety of the workers and others must be ensured. Privacy of the neighbors must not be disturbed.
7	Labor issues	Employ the local labor as far as possible
<b>CONSTRUCTION STAGE</b>		
1	Minor erosion of land	Add more vegetation, restore the land by more plantation Sprinkling of water on dusty tracks is recommended
2	Contamination of land and water	Essential services like water supply, sewerage disposal and solid waste management must be in working condition.
3	Impacts of dust, noise and smoke on neighbors	Schedule construction timings to cause minimum disturbance to neighbors.
<b>OPERATION STAGE</b>		
1	Fire breakouts	Firefighting equipment must be kept in working condition at specific area
2	Safety/security concerns	Safety of the workers and others must be ensured. Privacy of the neighbors must not be disturbed.
3	Malfunction of utilities	It is proposed to appoint maintenance engineer with technicians like plumber and electrician for smooth operation of utility services.

4	Contamination of land and water sources	Continuous vigilance on maintenance of services is recommended.  Tarpaulin sheets must be placed to avoid leaching of oil into ground.
5	Occupational Health, Safety and Environment	Regular medical check-ups are recommended to improve the working condition and efficiency of workers.  Safety of management, workers and visitors must be ensured.  Observance construction and safety codes must be ensured.
6	Production of Solid Waste	Area for solid waste is reserved within the subject project.  The solid waste must be managed on regular basis.  The domestic waste must be disposed in municipal channel.

#### EQUIPMENT MAINTENANCE DETAILS

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

#### ENVIRONMENTAL BUDGET

The cost which is required to effectively implement the mitigation measures is important for the sustainability of the Project in operational stage of the Project. Company has allocated the Environmental Budget, will be 1 million annually for the training, maintenance and management of Environment that will include filling and maintenance of equipment's, restoration, plantation, and availability of PPEs, strategic planning to cope with any emergency

situation and formulate the disaster management plan to cope with natural disaster. Any equipment or devices failure or replacement will not be included in this budget.

### **ENVIRONMENTAL TECHNICAL ASSISTANCE AND TRAINING PLAN**

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

HSE/Project Manager will provide training to staff and workers about the best environmental management practices at the construction site and affective implementation of the EMP.

The training modules will include air, noise and water pollution monitoring, social awareness, Environmental Laws, Punjab Environmental Quality Standards (PEQS), Usage of personal protection equipment's, and health and safety related issues on the construction site.

The HSE/Project Manager will train all workers & staff in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of Sexually Transmitted Infections (STI) HIV/AIDS and in general health and safety matters, and on the specific hazards of their work.

Training should also consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation.

HSE/Project Manager will arrange Training on monthly or quarterly basis regarding health & safety, hygiene, firefighting and first aid.

Summary of Environmental Impacts and Mitigation measures is present in following table in term of Environmental Management Plan:



### ENVIRONMENTAL MANAGEMENT PLAN FOR PROPOSED FACILITY

Serial No.	Potential Impact	Mitigation measure to be taken:		Responsibility
		During the Construction phase	During the Regular operations	
<b>Physical Environment</b>				
1	<p><b>Traffic related problems</b></p> <p>Since adjacent road is busy so the construction and operational activities of the subject project may cause traffic issues in the project area.</p>	<p>1- To minimize the impacts of construction activities of facility on the project area, vehicles number will be regulated in a way that no stampedes will occur at the project site.</p> <p>2- As far as possible, large size vehicles in very limited number will be allowed to visit the project site during night time so that it may not disturb the routine traffic of the area.</p>	<p>During the regular operations, additional area will be reserved exclusively for parking of cars and motor cycles, which will help to avoid any traffic related issues due to the subject project in the area.</p> <p>Management will ensure that no vehicle or motor cycle will be parked at the front of the road and project site as well. This will minimize the impact of the project on the routine traffic of the area.</p>	Project Manager/ Incharge Administration
2	<p><b>Water supply</b></p>			

<p>The increased withdrawal of groundwater for the project activities may affect the groundwater resources of the project area.</p>	<p>1- It shall be ensured that no activity tempers with the water supply system.</p> <p>2- Project proponent committed to provide safe drinking water to all workers and staff</p>	<p>It shall be ensured that no activity tempers with the water supply system.</p> <p>Project proponent committed to provide safe drinking water to all workers and staff.</p>	<p>Environmental/ Project Manager</p>
<p><b>3</b> Solid wastes Improper disposal of solid waste</p>	<p>1- Solid wastes produced during the construction activities shall be segregated and duly disposed of i.e. Constructional Solid waste will be used for road repairing and maintenance purpose or will be handed over to the relevant contractors.</p>	<p>1- Solid waste bins will be placed at suitable places in the whole building.</p> <p>2- Sludge will be replaced on regular basis.</p> <p>3- Specific area will be allocated in the building for the storage of solid waste; all the waste will be collected at that point.</p> <p>4-ash will be disposed off into ash pits</p>	<p>Environmental/ Project Manager</p>

		Domestic solid waste will be handed over to the certified contractors/ disposed off to local bodies designated site.	4- Sanitary workers will be hired by the management for the waste handling and management within the building.	
4	Waste water	1- Domestic wastewater will be drained into local sewage drain after treatment in onsite septic tank.	The sewage to be generated shall be discharged into sewage system through main local drain. No contaminated effluents will be released into the environment. Septic tank will be constructed to treat domestically generated wastewater.	Environmental/ Project Manager
5	Health & safety	1- Local people will be informed in Advanced when work is about to start in an area. This may result in people keeping pedestrians/ unauthorized persons away from work areas.	Fire Fighting system and emergency exits will be made available in the subject apartment building to cope with any emergency situation.	Environmental/ Project Manager

	<p>2- Safe driving practices will be adopted, particularly while passing through settlements.</p> <p>3- Job opportunity will be provided to local people of the area</p> <p>4- Training will be provided to workers to avoid any accidents/ injuries.</p> <p>5- Basic health facilities will be provided to employees</p>	<p>Basic health facilities will be provided to employees.</p> <p>Security guards will be hired to ensure the security of the employees and the visitors.</p> <p>Job opportunity will be provided to local people of the area.</p> <p>Operators will be hired to operate the lifts and other facilities to ensure the safety of the people and to avoid any accidents.</p>	
6	<p>1- The project construction activities involving loading/ unloading/ heavy machinery work/ site generator can cause noise pollution.</p>	<p>No activity producing extra ordinary levels of noise will be allowed as a policy matter.</p>	<p>Environmental/ Project Manager</p>

		<p>2- In order to avoid noise in the project area, vehicles to carry raw materials, shall be operated during night time as far as possible.</p> <p>3- Ear plugs will be provided &amp; implemented in case of high noise levels.</p> <p>4- Noise level monitoring has been conducted by EPA certified lab &amp; results are attached with the report.</p>	<p>Generator will be installed in a specially constructed room where its noise will be curtailed within the limiting values of the Punjab Environmental Quality Standards.</p> <p>Monitoring will be conducted by EPA Certified lab as per PEQS if required.</p>	
7	Gaseous emissions and particulate matter/dust emissions	<p>1- Water will be sprinkled on all exposed surfaces to suppress emissions of dust.</p>	<p>1 standby diesel fired generator shall cater for emergency situation only. Their exhaust will be emitted through an adequately fabricated stack. Regular maintenance will be ensured.</p>	Environmental/ Project Manager

		<p>2- Dust emission from soil piles and aggregate storage stockpiles will be reduced by keeping the material moist by sprinkling of water at appropriate frequency or erecting windshield walls on three sides of the piles such that the wall project 0.5 m above the pile, or covering the pile, for example with tarpaulin or thick plastic sheets, to prevent emission.</p> <p>3- All equipment, generators, and vehicles used during the constructional activities will be properly tuned and maintained in good working condition in order to minimize exhaust emissions.</p>	<p>Monitoring will be conducted as per PEQS rules.</p> <p>Pollution Control Devices/ equipment should be installed with stack of incinerator etc.,</p>	
8	Soil erosion/ contamination	<p>1- The clearing of vegetation along proposed site will be minimized as far as possible.</p>	<p>Maximum plantation is recommended within at outside the project site to restore the land.</p>	Environmental/ Project Manager

		<p>2- Trees necessary to be removed for the purpose of construction will be removed in a way that their roots will not be separated from the trunk, so that they could be planted somewhere else.</p> <p>3- Open fires will not be allowed anywhere outside the proposed site.</p>	<p>Tarpaulin sheets will be placed under generator (s), and other leaching substances.</p> <p>Land will be restored and rehabilitated by planting indigenous plants. Proper rehabilitation plan will be implemented.</p>	
<b>BIOLOGICAL ENVIRONMENT</b>				
9	Fauna and Flora	<p>1- Proposed site is devoid off any protected species of both fauna &amp; flora</p>	<p>Awareness programs will be planned regarding the protection of fauna &amp; flora.</p> <p>Species of Indigenous plants will be planted at site.</p>	Environmental/ HSE Manager
<b>Others</b>				

10	Enhancement of aesthetic beauty of the building and the area	---	<p>Flower pots containing flowers and plants will be planted within and outside the building to add to the improvement of the environment around.</p> <p>Street lights will be provided on the front side of the building to add beauty to the front site and the environment around.</p> <p>All other necessary measures shall also be taken to maintain standards of cleanliness so that the building may add to the scenic/aesthetic beauty of the area around.</p>	Environmental/ Project Manager
11	Staff for catering the Environmental Management Plan	---	<p>Special staff will be recruited by the management to implement this Environmental Management Plan on regular basis.</p>	Management

**CHAPTER 7:**  
**STAKEHOLDER PARTICIPATION**

## CHAPTER # 7

### STAKEHOLDERS PARTICIPATION

Team of M/s Pak Green. visited the project site, had discussions with stakeholders and consult with the local people to evaluate the project socio-economic impacts. People were providing with massive information about the project and have positive remarks regarding the project development.

#### **METHODOLOGY OF CONSULTATION:**

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

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

Consultations were held with the followings;

#### **PROPONENT**

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

#### **THE RESPONSIBLE AUTHORITY**

Management of the subject project is the responsible authority to take all measures prior to the activity.

#### **OTHER DEPARTMENTS AND AGENCIES**

For the impact analysis detailed meetings were held with the management of the subject project, local community, education institutes, health institutes, hospital and NGOs. Issues were discussed that may affect the environment and also the implementation of proposed

project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

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

### **ENVIRONMENTAL PRACTITIONERS AND EXPERTS**

Team of SDA visited the project site, had discussions with stakeholders and consulted with the local people to evaluate the project socio-economic impacts. People of the area belong to different professions like mostly belong to employment, own businesses, doctors, some in abroad, in Army, teaching, in agriculture, etc. Women were also consulted for their point of view regarding the betterment of the area by this project, some of them communicated but according to social value of the area they mostly hesitate to communicate comfortably and get pictured. People provide the massive information about the project and have positive remarks regarding the project development.

### **AFFECTED & WIDER COMMUNITY**

There is no affected community present in the radius of our study area. SDA team has consulted with the inhabitants of the different villages/ town. They provided positive remarks regarding the subject project.

Sample size of 20 respondents was selected by the Team of consultants for conducting the socioeconomic survey. Women were also consulted for the said survey; while most of them were not willing to give personal information. Stakeholders participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts. List of respondents and socioeconomic questionnaires are attached as **Annexure-E**.

#### **Issues and concerns raised during consultation:**

Air pollution & wastewater and its impacts on agriculture land and nearby community were some important issues raised during consultation.

In view of these concerns, adequate mitigation measures are incorporated in planning of the project.



**CHAPTER 8:**

**CONCLUSION & RECOMMENDATION**

## CHAPTER # 8

### CONCLUSION AND RECOMMENDATIONS

#### CONCLUSIONS

- The EIA study reveals that the project is economically viable, socially acceptable and environment friendly.
- It will generate additional jobs during construction and operation phases.
- Project is environmental friendly and pollution free.
- The proponent has committed to implement the project in the environment friendly manner.
- Project proponent has ensured to install the Waste Water Treatment facility to treat the domestic waste water prior to discharge into drain.
- Project proponent has ensured to adopt the proper solid waste management system.
- Proponent has ensured to adopt all the necessary measures to control any impact if resulting from the project.
- Project proponent has ensured to provide the safe drinking water to all workers and staff.
- Project proponent has prepared and implemented very comprehensive Emergency Preparedness and Response Standard Operating Procedures.
- Project proponent has prepared and implemented very comprehensive Security and Fire Fighting Standards Operating Procedures.

#### RECOMMENDATIONS

- In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.
- Tree plantation in the building premises is recommended.
- A good firefighting system should be installed.
- Proper solid waste management system should be followed according to direction of the Local Government.
- High standards of bio-security and safety should be enforced during operation stage. Safety of the workers should be top priority for the management.
- Management should continue to assist the local communities as a corporate social responsibility.

The present EIA report is enough to meet the administrative and legal framework. Therefore, the environmental approval may be accorded for the present project.

**ANNEXURE-A**  
***TERM OF REFERENCES (TORS)***

**TERM OF REFERENCES (TORS)**

**TO CONDUCT THE ENVIRONMENTAL IMPACT  
ASSESSMENT STUDY FOR  
INTEGRATED WASTE MANAGEMENT FACILITY**

**BY**

**M/S CENOT INTERNATIONAL**

**LOCATED AT**

**MANGA RAIWIND ROAD, VILLAGE ROSA, TEHSIL  
KOT RADHA KISHAN DISTRICT KASUR**

## TERM OF REFERNCES

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

### **INTRODUCTION OF PROJECT:**

The Subject project is the Proposed project is the establishment of integrated waste management facility including; Waste Metal/Items Recycling, dismantling of de-gassed/de-oiled compress, Recycling of waste cables/ conductor (into metal by removing plastic insulation), Waste Food Items Recycling, Plastic Waste Item Recycling and Other Diverse Industrial Waste by M/s Cenote International located at Manga Raiwind Road, Village Rosa, Tehsil Kot Radha Kishan District Kasur. The capacity for metal shredding at 7600MT per month, plastic processing at 6500MT per month, the handling of food/organic waste at 8000 tons per month, dismantling of de-gassed, de-oiled compressors 6000MT/month, recycling of waste cables/conductors (into metal by removing plastic insulation) 8000MT per month and sustainable management of other diverse industrial waste types with the cost of 240 million

### **Name & Address of proponent**

Mr. Ali Asghar Qayyum (Proponent)

Post office Khaas, Bacheki, Tehsil & District Nankana Sahib

**M/S IRFAN ENGINEERING PVT LIMITED** has appointed the Pak Green Enviro-Engineering (Pvt) Ltd as the Consultant for the subject project to conduct the EIA. M/S Pak Green Enviro-Engineering (Pvt) Ltd will be called as "Consultant" **M/S CENOT INTERNATIONAL** as the "Client".

### **Objective of the EIA study**

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

### **Purpose of the EIA**

The key objectives of the EIA are to:

- Document the ecological and socioeconomic baseline conditions of the study area and the affected communities

- Inform and obtain input from stakeholders, (e.g., governmental authorities, the public, and indigenous communities) and capture their relevant issues and concerns
- Assess in detail the environmental, social, and health impacts that would result from the Project
- Identify environmental and social mitigation measures to address the impacts identified
- Develop the EMPs as discussed above, based on the mitigation measures developed in the EIA
- Meet the requirements or recommendations of the applicable national Environmental Laws and Guidelines

#### Scope of Services

1. Review of existing regulatory framework
  - 1.1 Laws and Regulations
  - 1.2 National and International Guidelines and Policy
  - 1.3 Guidelines of Labor & Human Resource Department
  - 1.4 Punjab Local Government Ordinance
2. Methodology for carrying out this study
  - 2.1 Project Description
    - 2.2 Site Selection
    - 2.3 Project Alternatives
  3. Process Description
    - 3.1. Detailed review of the processes
    - 3.2 Design Parameters
    - 3.3 Details related to Plant and Equipment's
4. Environmental profile of the environmental study area
  - 4.1 Climatology
  - 4.2 Geographical features
  - 4.3 Geological and Hydrological features
  - 3.5.4 Historical review
  - 3.5.5 Land Use
  - 3.5.6 Ecology, i.e. Flora and Fauna etc.
  - 3.6 Analysis of EPA required environmental parameters

- 3.6.1 Sampling for Air, Water, and Noise Level
- 3.7 Investigate Socio-Economic and Socio-Environmental aspects and cultural values within and around the operating facility
  - 3.7.2 Cultural and Social Values
  - 3.7.4 Interviews from different groups
- 3.8 Development activities and Waste Management
- 3.9 Identify and evaluate major environmental impacts
- 3.10 Identify mitigation measures and develop Environmental Management and Monitoring plan
- 3.11 Conclusions based on the study conducted for this EIA
- 3.12 1-2 Site Visits for data acquisition
- 3.13 Environmental Monitoring plan
- 3.14 Preparation of Lab Analysis Report
- 3.15 Preparation of Environmental Management Plan EMP
- 3.16 Briefing & Presentation to the Expert Committee in the EPA Punjab.
- 3.17 Reply to technical Environmental Objections/Review
- 3.18 Presentation in the office of DG EPA, Punjab (if required)

## CLIENT RESPONSIBILITY

- Proponent will be responsible to nominate a senior officer as Coordinator who will be responsible for all coordination activities as required by the Consultants and to whom the Consultants will refer for information and assistance. All correspondence between the Consultants and the CLIENT will be routed through the coordinator
- Consultants will require free access to all relevant information available with the Client
- The report developed for the CLIENT shall be the property of the CLIENT and the Consultants shall adhere to confidentiality morally as well as legally.
- Client will provide relevant documents as:
  - Signed application on company letterhead
  - Pay Order in favor of DG EPA as review fee 30,000/-
  - Undertaking on Stamp Paper as per EPA Format
  - Affidavit on Stamp Paper as per EPA Format
  - Copy of CNIC of the proponent
  - Dually filled and Sign Schedule IV
  - Details of firefighting Equipment
  - Layout Maps of the project
  - Other NOCS/Certificates from other concerned departments (if any)
  - Any other relevant documents/details required by the consultant.

Signatures:



Environmental Consultant

Pak Green Enviro-Engineering Pvt. LTD.

Signatures:



Proponent: Ali Asghar Qayyum

M/s Cenote International

**ANNEXURE-B**

**LAYOUT & GOOGLE MAP OF  
PROPOSED SITE**





Mashallah Chicken Sale Center Rosa

Poly Pack Pvt Ltd Unit #2

Govt Elementary School

Manga - Rawina Road

Aslam Electric work shop

Kot Radha Kishan Road

0031"N, 74°7'40.4484"E

100 m



**ANNEXURE-C**

**CNIC & OTHER DOCUMENTS**

**PAKISTAN** National Identity Card  
ISLAMIC REPUBLIC OF PAKISTAN

Name  
Ali Asghar Qayyum

Father Name  
Abdul Jabbar

Gender: M | Country of Stay: Pakistan

Identity Number: 35402-1960130-7 | Date of Birth: 18.06.1969

Date of Issue: 15.09.2016 | Date of Expiry: 15.09.2026

Holder's Signature

Scanned with CamScanner

35402-1960130-7

موجودہ پتہ: ڈاک خانہ خاص، پٹی، تحصیل و ضلع ننکانہ صاحب

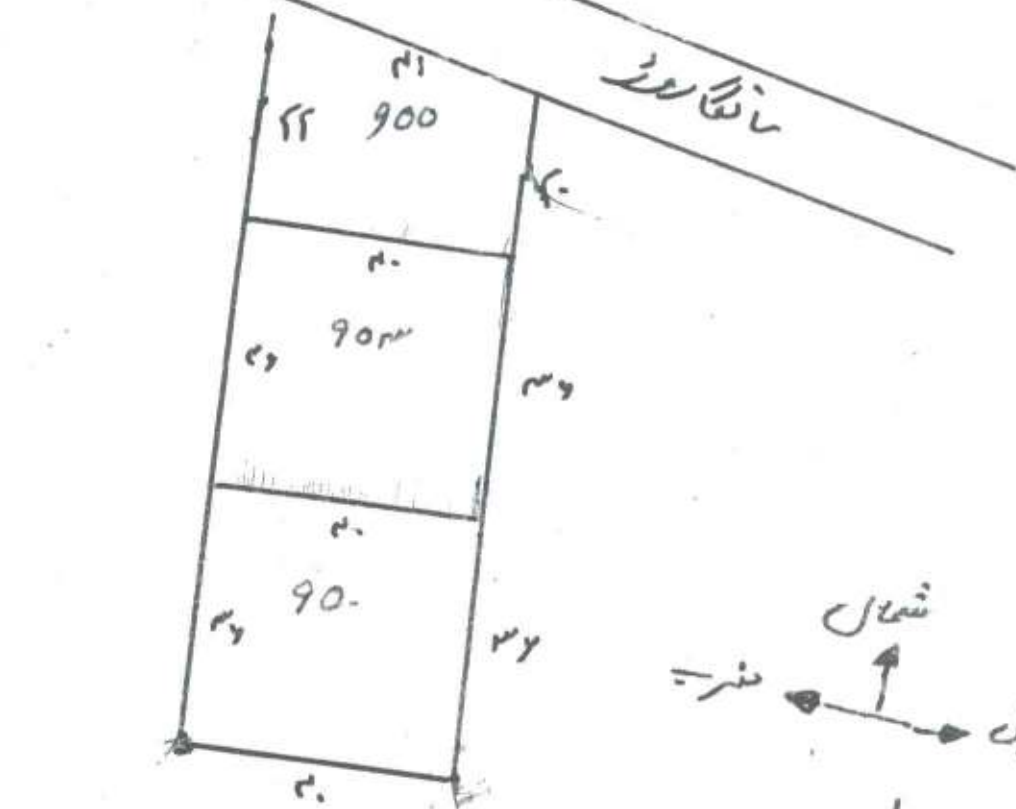
مستقل پتہ: ڈاک خانہ خاص، پٹی، تحصیل و ضلع ننکانہ صاحب

108221207598  
296-89-406840

Usman H. Mohtai  
Registrar General of Pakistan

گمشدہ کارڈ ملنے پر قریبی لیڈ بکس میں ڈال دیں

عکس شماره پلاک و فتح روسه ضمن اکتراکس نوساز  
 میان حساب به ارض نواحی جا در این جا



گواهی می‌دهم که این سند و نقشه منطبق است  
 اجرت حساب در صورت  
 ۰۷/۶/۲۰۲۴



حکومت پنجاب محکمہ آبپاشی  
ایگزیکٹو انجینئر لاہور ڈرینج ڈویژن  
کینال بنک دھرمپورہ لاہور

GOVERNMENT OF THE PUNJAB  
IRRIGATION DEPARTMENT  
OFFICE OF THE EXECUTIVE ENGINEER  
LAHORE DRAINAGE DIVISION LAHORE

☎ 042-99250327 ✉ [xen\\_drainagelahore@irrigation.punjab.gov.pk](mailto:xen_drainagelahore@irrigation.punjab.gov.pk)

To

Mr. Ali Asghar Qayyum,  
Cenote International,  
Manga Raiwind Road,  
Rossa Stop, District Kasur.

No.LDD/2024/ 491 /124-M Dated Lahore, the 25<sup>th</sup> April, 2024

**SUBJECT:- NOC FOR DISPOSAL OF SEWERAGE / EFFLUENT WATER OF CENOTE INTERNATIONAL LOCATED AT MANGA RAIWIND ROAD ROSSA STOP, DISTRICT KASUR INTO NEHLA DRAIN RD.10+000 – 11+000/LEFT**

Reference: - Your office letter No. Nil Dated.06-04-2024

On the recommendations of Sub Divisional Officer, Kasur Drainage Sub Division, Lahore, the conditional No Objection Certificate provisionally is hereby granted with reference to your request quoted under reference for disposing of 0.25 Cs sewerage water of above subject Unit into the Nehla Drain at RD.10+000 – 11+000/Left subject to the fulfillment of following conditions.

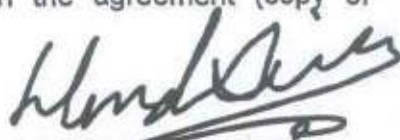
1. The "Management" will get the effluent treated through disposal works / process in order to eliminate passing of injurious substance into the drain. The process will be so designed, constructed and operated by the Management at its own expenses; so that the process eliminates injurious substance and that the resultant quality of the effluent at any time remains within the acceptable limits and is not injurious to human / animal life.
2. The "Management" will design, construct and maintain at its own expenses and to the satisfaction of the Government, such works as effluent channel, cross irrigation / drainage works, outfall structure, bank or other appurtenant works as may be necessary to properly treat and safely discharge the effluent into the "Drain" without causing any obstruction to the main flow of the "Drain". Sponsor should be responsible for getting NOC for Canal Crossing and Road cutting from concerned Authority / Department.
3. The "Management" will at its own cost get the chemical analysis of the effluent done on quarterly basis from the Directorate of Land Reclamation of the Government for review of the later.
4. The "Management" will pay to the Government an amount of Rs.8,750/- each year in the month of July as per received bill,

towards the cost of maintenance of the "Drain". This amount shall be subject to review every year by the Government in order to accommodate the higher maintenance charges on account of escalation / increase in labor costs etc.

5. The "Management" will not change the maximum discharge of the wastewater and its quality without prior approval of the Government so as to control the disposal and bring quality of the effluent within the acceptable limit.
6. The agreement shall remain in force for a period of one year commencing on July, 2023 and shall automatically terminate on 30<sup>th</sup> June, 2024. The agreement may also be renewed every year before the 1<sup>st</sup> July on such terms and conditions as may be agreed upon between the parties.
7. The "Management" shall be responsible to abide by all the laws / rules / policies of the Government of the time being in force for the purpose of controlling pollution of water of natural / artificial streams, nullahs, drains etc.
8. In case the "Management" fails to comply with any term and condition of this Agreement, the agreement shall stand terminated after expiry of 30 days notice given by the Government after such failure and in such an event the "Management" will not be entitled to any compensation or claims damages whatsoever from the Government.
9. This agreement may also be terminated by any party by giving 30 days prior notice in writing to the other.
10. In case, any dispute or difference of opinion in respect of this Agreement or any matter relating thereto arises between the parties, it shall be referred to the Superintending Engineer, Lahore Drainage Circle, Lahore of the Government whose decision thereon shall be binding and final on the parties.
11. The sponsor before start of work they should be bound to provide the design of structure of inlet including levels.

2. You are accordingly requested to collect the bill from the office of the undersigned for payment on the date specified in the agreement (copy of agreement enclosed).

Enclosed: As Above

  
EXECUTIVE ENGINEER  
LAHORE DRAINAGE DIVISION  
LAHORE

CC:

Sub Divisional Officer, Kasur Drainage Sub Division, Lahore.





لواء قصردک کے لیے آئی ایم اے (QR) کو  
تعمیر کریں

تقررہ جسر حقداران زمین (سکس میٹری)

سال 2019-20 تکس نمبر دن نمبر 179 / 3

تعمیر کردہ عمارتیں طبع قصور

عالم روس

10	9	8	7	6	5	3	(1) 3	(2) 3	(3) 3	(الف) 3	2	1
کمیٹی مسد 1- نومبر (کر کوئی)	کمیٹی مسد 2- نومبر	کمیٹی مسد 3- نومبر	کمیٹی مسد 4- نومبر	کمیٹی مسد 5- نومبر	کمیٹی مسد 6- نومبر	کمیٹی مسد 7- نومبر	کمیٹی مسد 8- نومبر	کمیٹی مسد 9- نومبر	کمیٹی مسد 10- نومبر	کمیٹی مسد 11- نومبر	کمیٹی مسد 12- نومبر	کمیٹی مسد 13- نومبر
کمیٹی مسد 14- نومبر	کمیٹی مسد 15- نومبر	کمیٹی مسد 16- نومبر	کمیٹی مسد 17- نومبر	کمیٹی مسد 18- نومبر	کمیٹی مسد 19- نومبر	کمیٹی مسد 20- نومبر	کمیٹی مسد 21- نومبر	کمیٹی مسد 22- نومبر	کمیٹی مسد 23- نومبر	کمیٹی مسد 24- نومبر	کمیٹی مسد 25- نومبر	کمیٹی مسد 26- نومبر
کمیٹی مسد 27- نومبر	کمیٹی مسد 28- نومبر	کمیٹی مسد 29- نومبر	کمیٹی مسد 30- نومبر	کمیٹی مسد 31- نومبر	کمیٹی مسد 32- نومبر	کمیٹی مسد 33- نومبر	کمیٹی مسد 34- نومبر	کمیٹی مسد 35- نومبر	کمیٹی مسد 36- نومبر	کمیٹی مسد 37- نومبر	کمیٹی مسد 38- نومبر	کمیٹی مسد 39- نومبر
کمیٹی مسد 40- نومبر	کمیٹی مسد 41- نومبر	کمیٹی مسد 42- نومبر	کمیٹی مسد 43- نومبر	کمیٹی مسد 44- نومبر	کمیٹی مسد 45- نومبر	کمیٹی مسد 46- نومبر	کمیٹی مسد 47- نومبر	کمیٹی مسد 48- نومبر	کمیٹی مسد 49- نومبر	کمیٹی مسد 50- نومبر	کمیٹی مسد 51- نومبر	کمیٹی مسد 52- نومبر

0-00-090-00-00-0021442451 لوائی آئی ایم اے  
 لواء قصردک کے لیے آئی ایم اے (QR) کو تعمیر کریں  
 11/03/2024 09:55:49  
 11/03/2024 10:07:54  
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قومی حکومت کے لیے جاری ہے (QR) کو  
سکین کریں۔

تفصیلاً رجسٹرڈ صارفین (سیل میٹری)

سال 2019-20 سالہ قسطوں میں حاصل کردہ عائدات کی تفصیلات

10	11	12	13	14	15	16	17	18	19	20				21	22
										(الف)	(ب)	(ج)	(د)		
کیٹیج نمبر 1- پیمنٹ نمبر (اگر کوئی ہے) 2- شرح ٹیکس زمین	برائے آگیا گن کی کاپی مستطیلہ خصوصیات مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	تعمیراتی زمین کی قیمت مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش	مستطیلہ پیمائش مستطیلہ پیمائش مستطیلہ پیمائش
2249 عائدات کی رقم قومی حکومت کو	20/05/2011 تاریخ	121-18-0 تعمیراتی زمین	349 2438 تعمیراتی زمین	17-9-0 تعمیراتی زمین	1000000 تعمیراتی زمین	2249 عائدات کی رقم قومی حکومت کو	20/05/2011 تاریخ	121-18-0 تعمیراتی زمین	349 2438 تعمیراتی زمین	17-9-0 تعمیراتی زمین	1000000 تعمیراتی زمین	2249 عائدات کی رقم قومی حکومت کو	20/05/2011 تاریخ	121-18-0 تعمیراتی زمین	349 2438 تعمیراتی زمین

0-00-00-090-00-00-002142451 قومی آزادی لہجہ لائسنس  
11/03/2024 09:55:49 عائدات کی رقم  
11/03/2024 10:07:54 عائدات کی رقم  
11/03/2024 09:58:24 عائدات کی رقم  
3510288197855 قومی حکومت کو  
3510288197855 قومی حکومت کو









قرآن شریف کے لیے سو اگرتوں سے (QR) کو  
چیک کر لیں۔

نقل: جسٹس طاہر ان زینین (سکس بی عدالتی)

مختصیل کونڈرو ماگشی طبع قصبہ طرف/بجی عداد

سال 2019-20 کتب نمبر

دورق نمبر 07 / 79

عمل دورہ

10	9	8	7	6	5	4	3	2	1
کتاب نمبر 1-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 2-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 3-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 4-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 5-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 6-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 7-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 8-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 9-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی
کتاب نمبر 10-100 (قرآن کریم)	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی	مطلبہ سہ ماہی

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لڑائی تصویر کے لیے موبائل فون سے (QR) کو  
تھمبھیں کریں۔

نقل و سہولت حقداران زمین (سکیم میٹری)

74 / 79 دن نمبر 2019-20 سال

تفصیل کوئی اور عمارتیں

طرف لیج عدد

عمال روس

10	9	8	7	6	5	3	(ع) 3	(د) 3	(ب) 3	(الف) 3	2	1
گیت سہ 1- سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	کلیں سے شہادت سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین	سہ نمبر (اکر کوئی ہے) 2- شرف آباد زمین
نمبر اٹھال 2587 قسم انٹرنیشنل ٹیبلٹ 2016/09/28												51 نمبر 1
نمبر اٹھال 2480 قسم انٹرنیشنل ٹیبلٹ 26/09/2020												

0-00-00-080-00-00-0021442451 (لڑائی) لپیڈی نئی سرکاری سرحد ہے۔

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ذریعہ تصدیق کے لیے اس کو اس (QR) کو  
سجھیں کریں

تفصیلاً رجسٹرڈ فنڈز (مسل میٹائی)

مال دوسرے

مطابق تاریخ عمارت

تفصیلاً رجسٹرڈ فنڈز

مبلغ رقم

سال

79 / 79

79 / 79

10	9	8	7	6	5	3	(ر) 3	(ر) 3	(ر) 3	(ر) 3	(الف) 3	2	1
گنہگار	مطابق سرگرمیوں	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار	گنہگار

رقم	تاریخ	شمارہ پالیسی	شمارہ پالیسی	مبلغ رقم	نمبر گنہگار
گنہگار	گنہگار	240,000	957	52	52
گنہگار	گنہگار	10,000,000	958	52	52
گنہگار	گنہگار	7,500,000	957	52	52
گنہگار	گنہگار	9,500,000	966	84	84

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22,396,577.00  
مبلغ رقم سرگرمیوں



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**ANNEXURE-D**

**LAB REPORTS (AIR, NOISE,  
WATER)**



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



*Validation No. 1074-A - Dated 03-06-2024*

**Validation for Wastewater & Drinking Water**

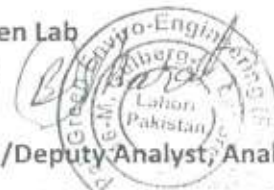
Facility /Project Name & Address Phone	Cenote International		<b>Sampling Point</b> Ground Water					
	Located at Manga Raiwind Road, Village Rosa Tehsil Kot Radha Kishan District Kasur							
Waste Water (WW) Treatment facility Primary    Secondary    Tertiary    NA			Drinking Water (W) Treatment Facility					
Total WW collected Sample ..... NA			Total Collected Drinking water samples.....01					
Sample Tag for testing parameter is assigned on sample container			Yes✓	NO	NA			
Sample is preserved properly for each testing parameter			Yes✓	NO	NA			
Sample size is adequate for testing the target parameters			Yes✓	NO	NA			
Wastewater Flow Measurement performed to ensure sample representativeness			Yes	NO✓	NA			
No. of Waste Water outlets	Waste Water Flow m <sup>3</sup> /hr from each outlet (Optional)	Water intake m <sup>3</sup> /hr (Optional)	Water Mass balance complied during sampling (Optional)		Sample Type			
	NA	NA	Yes	No		Grab✓    Composite		
Parameter	Matrix		Container	Sample Size	Preservation	Yes	NO	NA
	W	WW						
Coliform, Total or Fecal			Sterile Container	100 mL	Refrigerate 6 C			
Coliform, Total or Fecal, Chlorinated Water	✓		Sterile Container	100 mL	0.008% Thiosulphate & cooled 6 C	✓		
Color, Turbidity	✓		P,G	500 mL	Cool 6 C	✓		
Hardness, Total	✓		P,G	500ml	HNO <sub>3</sub> to pH<2	✓		
Nitrogen, Nitrate + Nitrite, Phenolic Compounds, Oil & Grease, COD, NH <sub>3</sub>			P,G	2000 mL	H <sub>2</sub> SO <sub>4</sub> to pH < 2, Cool 6C			
Metals, General			P,G Rinsed 1.1 HNO <sub>3</sub>	500 mL	HNO <sub>3</sub> to pH < 2			
Cyanide, Total			P,G	500 mL	NaOH to pH > 12, Cool 6C			
Pesticides, General			Glass	1 Liter	Cool 6 C			
<b>Field Parameters*</b>								
Field parameter			pH meter, Model Make	Measurement Method	Calibrated in Field	Measured value		
pH			AS 218	APHA 4500 B	Yes✓    NO			
Temp								
Cl								

\* Field testing parameters only be validated by RAs, ROs, DD (Labs)

Remarks for Sample Quality (if Any):-

Research Officer  
Environment Protection  
Punjab Land  
**Signature**  
Name of EPA Officer with office Address  
Inspectors /RAs / ROs or ADs /DDs

**Basharat - Pak Green Lab**  
Dated: 21-05-2024  
**Signature:**  
Name of Assistant /Deputy Analyst; Analyst  
with Name of Private Lab along with Address





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



Validation No. 1074.B. Dated- 03-06-2024

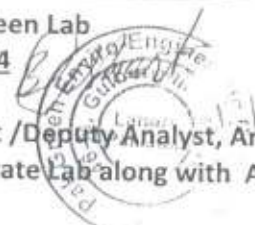
Validation for Stack & Ambient Monitoring / Sampling

Emission Monitoring under CTM-34 or OTM-39			
Facility Name & Address	Cenote International	Ambient Air & Boundary Wall Noise	
Phone	Located at Manga Raiwind Road, Village Rosa Tehsil Kot Radha Kishan District Kasur		
Industry Category	Baseline		
Analyzer Model & Make : <i>Novak model 1 21, DPM</i>			
Average stack emission Values of CO, NOx (in mg/nM3)			
Excess Air / Excess Oxygen (%age):-			
Analyzer exposed for Ramp-Up phase to the sample gas for 5 minutes	Yes	NO	NAV
Analyzer flow rate and EC temperature monitored during calibration and testing	Yes	No	NAV
Test Data Phase of sample gas recorded with 15 second interval	Yes	No	NAV
All key requirements to ensure QA/QC complied for said EPA approved Method	Yes	No	NAV
<b>Particulate Matter (PM) Monitoring / Sampling under USEPA Method 5 / 17</b>			
Model & Make of Iso-kinetic PM Assembly			
The PM sampling train is complete as per Method 5 & 17	Yes	No	NAV
Leak Test performed prior to sampling	Yes	No	NAV
Field data Sheet for PM Sampling filled during PM sampling	Yes	No	NAV
Data for determining of "K" factor & DGM "Y" Factor filled during sampling	Yes	No	NAV
All method key requirements during sampling were compiled to ensure QA/QC	Yes	No	NAV
Filter of Particulate matter is suitable for metal Testing	Yes	No	NAV
<b>SOx sampling as per Method 8 (Thorin Indicator Method)</b>			
The right absorbent solution are available for SOx Sampling	Yes	No	NAV
The equipment is capable to maintain flow rate @ 2.0LPM or as per method 8 requirement	Yes	No	NAV
Sampling for SOx is performed as per method	Yes	No	NAV
<b>Ambient Air Quality Monitoring by Automatic Monitors for CO, O3, SO2, NOx, PM2.5 &amp; PM10</b>			
In case of continuous monitoring at a site, One Point QC Check Single analyzer & Zero/span check is performed every 14 days.	Yes	No	NA
The CE of NOx analyzer is ensured to be maintained within 96% - 104.1%	Yes	No	NA
Zero/span check is performed prior to starting ambient monitoring	Yes	No	NA
All key requirements for Critical & Operational Criteria for ambient air monitoring by automatic monitors were compiled during monitoring	Yes	No	NA
The measuring techniques of monitors comply PEQS	Yes	No	NA
<b>Ambient Air Sampling of SPM, PM10, Pb by High Volume Sampler</b>			
In case of Sampling for SPM through samplers, the flow rate of sampler comply PEQS (1.1m3/min).	Yes	No	NA
Calibration of Sampler performed prior to sampling	Yes	No	NA
<b>Vehicular Emissions &amp; Noise Measurement</b>			
Sampling of Vehicle emissions and noise measurement have been performed as per method and SOPs	Yes	No	NA

Remarks (if Any):-

Signature  
Name of EPA Officer with office Address  
RAs / ROs /DD(Labs)

Basharat - Pak Green Lab  
Dated: 21-05-2024  
Signature  
Name of Assistant /Deputy Analyst, Analyst  
with Name of Private Lab along with Address





# PAK GREEN ENVIRO-ENGINEERING (Pvt.) Ltd.

ISO/IEC 17025:2017 Accredited Testing Lab, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +9242-35441444 Cell: 0303-4442334

PGG/IMS/FF/063

Rev.#02

Rev date: 04-09-23

EPA Certified

## TEST REPORT

Ref #: PGG/LAB/2024-5112/AA

Issue date: 30-May-24

Name of Industry/Client:  
Address of monitoring site:

Cenote International  
Manga Raiwind Road, Village Rosa Tehsil Kot Radha  
Kishan District Kasur

Nature of Monitoring:  
Monitoring Instrument:  
Monitoring Date:

Ambient Air  
AQMS  
21-May-24 to 22-May-24

Validated by EPA Representative:

Muhamunad Nadeem, RO EPA(Lab), Lahore

### Results:

Parameters	CO	NO	NO <sub>2</sub>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ug/m <sup>3</sup>	ug/m <sup>3</sup>
Methodology	Non-Dispersive Infrared Absorption (NDIR)	Reduced Pressure Chemiluminescence (CLD)	Reduced Pressure Chemiluminescence (CLD)	UV fluorescence (UVF)	Integrated Sampling Technique	Integrated Sampling Technique
Results	1.22	19.23	23.39	39.36	147.2	45.6*
PEQS for Ambient Air	05 8-Hrs	40 24-Hrs	80 24-Hrs	120 24-Hrs	150 24-Hrs	35 24-Hrs

End of Report

PEQS: Punjab Environmental Quality Standards

Remarks: Parameters with \* exceeding PEQS Limit.

### Terms & Conditions:

- Analysis was conducted on the request of project proponent for IEE/EIA Baseline study.
- Report cannot be used regarding compliance of any complaint, EPO or any other court case.
- This report should be reproduced pas a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left-over sample (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiations

Field Analyst	Chief Analyst	Laboratory Incharge





# PAK GREEN ENVIRO-ENGINEERING (Pvt.) Ltd.

ISO/IEC 17025:2017 Accredited Testing Lab, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +9242-35441444 Cell: 0303-4442334

EPA Certified

PGG/IMS/FF/063      Rev.#02      Rev date: 04-09-23

## TEST REPORT

Ref #: PGG/LAB/2024-5113/NL

Issue date: 30-May-24

Name of Industry/Client:  
Address of monitoring site:

Cenote International  
Manga Raiwind Road, Village Rosa Tehsil Kot Radha  
Kishan District Kasur

Nature of Monitoring:  
Monitoring Time:  
Monitoring Instrument:  
Monitoring Date:

Noise Level  
Real Time  
Land TEK SL 5868-P  
21-May-24

Validated by EPA Representative:

Muhammad Nadeem, RO EPA(Lab), Lahore

### Results:

Sr. No.	Locations	Equivalent Noise Level dB (A)
1.	Point-01: East Side	63.0
2.	Point-02: West Side	64.7
3.	Point-03: North Side	70.7
4.	Point-04: South Side	67.3
PEQS (Day Time Industrial Area)		75 dB(A)

..... End of Report.....

PEQS: Punjab Environmental Quality Standards

Remarks: Noise level at all points are in compliance with PEQs Limit.

### Terms & Conditions:

- Analysis was conducted on the request of project proponent for IEE/EIA Baseline study.
- Report cannot be used regarding compliance of any complaint, EPO or any other court case.
- This report should be reproduced pas a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left-over sample (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiations.

Field. Analyst	Chief Analyst	Laboratory Incharge





# PAK GREEN ENVIRO-ENGINEERING (Pvt.) Ltd.

ISO/IEC 17025:2017 Accredited Testing Lab, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +9242-35441444 Cell: 0303-4442334

EPA Certified

PGG/IMS/FF/159	Rev.#00	Rev date: 04-09-23
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## TEST REPORT

Ref #: PGL/LAB/2024-5114/GW

Issue date: 30-May-24

Name of Industry/Client: Cenote International  
Address of monitoring site: Manga Raiwind Road, Village Rosa Tehsil Kot Radha  
Kishan District Kasur  
Nature of Sample: Ground Water  
Sampling By: Pak Green Laboratories  
Sample Source: Motor Pump  
Date of sampling: 21-May-24  
Sample Receiving Date: 21-May-24  
Testing Facility: Pak Green Laboratories  
Testing Date: 21-May-24 to 29-May-24  
Validated by EPA Representative: Muhammad Nadeem, RO EPA(Lab), Lahore

### Results:

Sr. No.	Parameters	Unit	WHO	PEQS	Method / Technique	Results
1.	Taste	-	≤ 15	≤ 15	APHA-2160 C	Non-Objectionable
2.	Odor	-	Non-Objectionable / Acceptable	Non-Objectionable / Acceptable	APHA-2150 B	Non-Objectionable
3.	Color	TCU	Non-Objectionable / Acceptable	Non-Objectionable / Acceptable	APHA-2120 C	0.000
4.	Turbidity	NTU	< 5	< 5	APHA-2130 B	0.25
5.	Total Hardness <sup>^</sup>	mg/L	-	<500	APHA-2340 C	32
6.	Total Dissolved Solids <sup>^</sup>	mg/L	< 1000	< 1000	APHA-2540 C	259
7.	pH <sup>^</sup>	-	6.5-8.5	6.5-8.5	APHA-4500-H <sup>+</sup> B	7.724 at 21.2°C
8.	Chloride (Cl <sup>-</sup> ) <sup>^</sup>	mg/L	250	< 250	APHA-4500-Cl <sup>-</sup> B	30
9.	Electrical Conductivity (EC) <sup>^</sup>	μS/cm	-	-	APHA-2510 B	766
10.	Sodium (Na) <sup>^</sup>	mg/L	-	-	APHA-3111 B	96.3732

End of Report.....

PEQS: Punjab Environmental Quality Standards WHO: World Health Organization ^ PNAC Accredited

Remarks: All Parameters are not in compliance with the PEQS Limit.

### Terms & Conditions:

- Analysis was conducted on the request of project proponent for IEE/EIA Baseline study.
- Report cannot be used to comply with any complaint, EPO, or other court case.
- This report should be reproduced as a whole and not in parts.
- The values represent the sample conditions when sampling/monitoring was carried out.
- The Environmental Conditions while performing testing activities are (Temp=22.6-23.8°C) and (RH=52.9-59.9%)
- The Sampling was done as per the sampling and preservation protocol method APHA 1060-B&C
- The responsibility of the ethical use of the results reported in this report lies with the client.
- The leftover sample (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiations.
- Dually calibrated instruments were used during monitoring and testing activities.

Lab. Analyst	Chief Analyst	Laboratory Incharge



**ANNEXURE-E**

**WRITTEN FEEDBACK OF  
SCIOECONOMIC SURVEY**

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name:

علي محمد  
العلي

Residence:

Gender:


M  F

Qualification:

دكتور

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  
Signature of Interviewer

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name:

*Ed. S.  
Kiv*

Residence:

Gender:

M  F

Qualification:

*—*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*[Handwritten Signature]*

**Signature of Interviewer**

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *Sobia  
Raiw ind*

Residence:

Gender:  M  F

Qualification: *-*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Signature of Interviewer**

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *Jahangir  
Raisind*

Residence:

Gender:  M  F

Qualification: *BSc*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*[Signature]*  
Signature of Interviewer

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *Fozia Raiwina*

Residence:

Gender:  M  F

Qualification: *Middle -*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  
Signature of Interviewer

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: J. L. K. L.  
Residence:  
Gender:  M  F  
Qualification: —

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  
Signature of Interviewer

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *121 Julia Kato*  
Residence:  
Gender:  M  F  
Qualification: *-*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature of Interviewer



**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *Zain*  
Residence: *Manga Road*  
Gender:  M  F  
Qualification: *BSc*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  
Signature of Interviewer

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *Muhammad Asghar*  
*Raiwind*  
Residence:  
Gender:  M  F  
Qualification: *Matric*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*[Signature]*  
**Signature of Interviewer**

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *Shaista  
Rawind*

Residence:

Gender:  M  F

Qualification: *MSc*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Signature of Interviewer**

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *Shoaib Raiwind*  
Residence:  
Gender:  M  F  
Qualification: *Bs. Hons.*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  
**Signature of Interviewer**

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: *J. Williams*

Residence: *Wales*

Gender:  M  F

Qualification: *—*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*[Handwritten Signature]*

Signature of Interviewer

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIONAL**

Name: *Ahsan*

Residence: *Manga*

Gender:  M  F

Qualification: *-*

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature of Interviewer

**PUBLIC CONSULTATION/ STAKEHOLDER PARTICIPATION REGARDING EIA OF  
INTEGRATED WASTE MANAGEMENT COMPANY BY CENOT INTERNATIOANL**

Name: M. Tariq  
Residence: Manga Rawind Road  
Gender:  M  F  
Qualification: M. Phil

**REMARKS**

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project increase the importance of the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project help to improve the living standards of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the project affect the environment of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of satisfaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  
Signature of Interviewer

**ANNEXURE-F**

**GLOSSARY**

## GLOSSARY

<b>Words</b>	<b>Dictionary</b>
Discrepancies	A difference between conflicting facts, claims or opinions
Mitigation	The action of lessening in severity or intensity
Evaluated	Estimate or determine the nature, value, quality, ability, extent, or significance
Legislation	law enacted by a legislative body
Aspects	A distinct feature or element in a problem
Compliance	Acting according to certain accepted standards
Flora	All the plant life in a particular region or period
Fauna	All the animal life in a particular region or period
Demarcated	Separate clearly, as if by boundaries
Screening	The display of a motion picture
Substitutions	An event in which one thing is substituted for another
Regulations	An authoritative rule
Stakeholders	A person or organization with an interest or concern in something
Vulnerable	Susceptible to attack
Annunciation	A formal public statement
Rehabilitation	The conversion of wasteland into land suitable for use of habitation or cultivation

**ANNEXURE-G**

**REFERENCES**

## REFERENCES

1. Punjab Environmental Protection Act 1997 (Amended 2012)
2. Pakistan Environmental protection act 1997
3. National Environmental Policy 2005.
4. Labor laws
5. Guideline for the public consultation
6. The Land Acquisition act, 1894
7. The Punjab local Governmental ordinance, 2001.
8. National Environmental Quality Standards (Self-monitoring and reporting by the industry)
9. Meteorological data from meteorological department and website
10. Pakistan Biosafety rules 2005
11. Pakistan Environmental agency (review of IEE/EIA) regulation 2022.
12. Sectorial Guideline for environmental reports, industrial states
13. Pakistan Environmental Protection ordinance (PEPO), 1983
14. Three Year Rolling Plan (2010 – 2013), District Mandi Baha-Ud-Din
15. OSHAS 1800 for health and safety
16. Kazmi, A. H and Rana, R. A, 1982. Tectonic map of Pakistan, at a scale of 1:1200000.  
Geological Survey of Pakistan, Quetta.

**ANNEXURE-H**  
**EIA STUDY TEAM**

The current study was carried out by the following professionals:

Sr. #	Designation	Name/Qualification	Experience
1)	Chief Environmentalist/ Lead Environmental Professional	Dr. Imtiaz Hussain PhD Scholar Environmental Management	Ten Years' Experience as Environmentalist
2)	Director/ Senior Environmentalist/ Environmental Professional	Iftikhar Ahmed M.Phil Environmental Sciences	Eight Years' Experience as Environmentalist
3)	Chief Chemist/ Subject Matter Specialist (SMS)	Muhammad Raza ullah M.sc Chemsitry GCU Lahore	Twenty Years' experience
4)	Project Coordinator	Sabeera Tauheed M.phil Environmental Sciences, PU, Lahore	Four Years' Experience
5)	Subject Matter Specialist	Qurat-ul-Ain BS Chemistry GCU, Lahore	Five Years' Experience as Environmentalist
6)	Associate Environmental professional	Nageen Qayyum BS Hons. Environmental Sciences PU, Lahore	2 Years' Experience as Environmentalist
7)	Associate Environmental professional	Muhammad Imran BS Environmental Engineering	2-year Experience

8)	Associate Environmental professional	Umair Rasheed  BS (Hons) GC University Lahore	Two years' Experience as a Deputy Analyst
9)	Associate Environmental professional/ Author of the report	Sabeera Tauheed  M.Phil. Environmental Sciences, PU, Lahore	4 years' Experience as Environmentalist

**ANNEXURE-I**

**LIST OF ABBREVIATIONS**

## LIST OF ABBREVIATIONS

OSHA	Occupational Safety and Health Administration
EPA Punjab	Environmental Protection Agency, Punjab
EIA	Environmental Impact Assessment
IEE	Initial Environmental Examination
NEQS	National Environmental Quality Standards
PEQS	Punjab Environmental Quality Standards
PEPA	Punjab Environmental Protection Act
ToRs	Term of references
WAPDA	Water And Power Development Authority