



Environmental & Social Management Plan

Urban Rehabilitation and Infrastructure Improvement Project from
Bhatti Gate to Katri Haji Allah Bakhsh (Taveela Shaikhen) Walled
City Lahore

Phase 1. Conservation Activities of Historical Buildings/Monuments
and Development of Car Park Area

(July, 2023)



Project Management Unit (PTEGP)
Planning and Development Board
Government of Punjab

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List of Abbreviations

Acronym	Definition
ARAP	Abbreviated Resettlement Action Plan
BOQs	Bill of Quantities
CESMP	Contractor Environment and Social Management Plan
DG	Director General
DGA	Directorate General of Archaeology
EP	Environmental Protection
EPA	Environmental Protection Agency
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
E&S	Environmental and Social
E&SS	Environmental and Social Screening
BHU	Basic Health Unit
EA	Environmental Assessment
GOP	Government of Pakistan
GOPb	Government of Punjab
L/S	Lump Sum
LWMC	Lahore Waste Management Company
MCL	Metropolitan Corporation Lahore
MSDS	Material Safety Data Sheet
NA	Not Applicable
NOC	No objection certificate
OHS	Occupational Health and Safety
OP	Operational Policy
PCRM	Physical Cultural Resources Management
PDO	Project Development Objective
P&DD	Planning & Development Department
PHA	Parks & Horticulture Authority
PMU	Project Management Unit
PTEGP	Punjab Tourism for Economic Growth Project
RAP	Resettlement Action Plan
RHC	Rural Health Centre
R/I	Rehabilitation/Improvement
RPF	Resettlement Policy Framework
SAA	Same as Above
SDO	Sub-Divisional Officer
TMA	Tehsil Municipal Administration
UNESCO	United Nation, Education, Scientific and Cultural Organization
USD	United States of America, Dollar
WB	World Bank
WCLA	Wall City of Lahore Authority

Executive Summary

The Planning & Development Department, Government of Punjab (GOPb) with the financial assistance of the World Bank (WB) has launched the Punjab Tourism for Economic Growth Project (PTEGP) to increase the contribution of the tourism and related sectors to the local economic development of the province. The objectives of the project are to strengthen institutional capacity, increase private sector participation and improve infrastructure services for the tourism sector growth in the Province of Punjab. The total funding of the Project is 55 Million USD with a World Bank contribution of USD 50 million over the five-year time frame.

The project is being implemented by a dedicated Project Management Unit (PMU) PTEGP since October 2017. The project is financing some low-scale physical interventions to provide improved access, better road conditions and public convenience facilities in selected tourists destinations located throughout the Punjab Province.

The detail of sub-projects to be executed under the PTEGP was not available during the project initiation, so an Environmental and Social Management Framework (ESMF) was prepared for PTEGP in December 2016.

It is proposed to undertake rehabilitation and infrastructure improvement of Lahore wall city area from Bhatti Gate to Katri Haji Allah Bakhsh under PTEG Project. The Bhatti Gate Project proposes conservation of facade, rehabilitation of historic valued buildings, and improvement of infrastructure facilities like water supply, fire hydrant system, domestic sewerage, storm water sewerage, electrical work, illumination work, gas, telecommunication and street surfacing. The infrastructure shall be upgraded / improved to modern standards. The project has been designed for the betterment of the inhabitants and increasing the tourism potential of the area. The proposed work scheme split into two phases. Improvement of infrastructure of the area will be carried out in phase two of the sub-project.

This document forms ESMP report for the phase one of the proposed work scheme i.e. conservation of façade, rehabilitation of historical value buildings, relocation of water supply filter plant and development of car park area just outside of the Bhatti Gate monument. It is envisaged that the sub-project falls under category B project from environmental and social point of view. This is mainly because of carrying out construction activities near the heritage site i.e. historical residential buildings of the area. No land acquisition impacts are anticipated for execution of the phase one of the sub-project as the development of new facilities i.e. car park area, community area etc. will be carried out within state land. However, possible resettlement or livelihood impacts will be addressed through preparation and implementation of ARAP.

This ESMP report is prepared in accordance to the approved ESMF. The data required for this report has been obtained from both primary (field visit/s, laboratory based monitoring/testing, stakeholder/public consultations, project engineering document/s, designs etc.) and secondary sources (literature including relevant reports, papers, dissertations, encyclopedias both available online and in printed format).

Following three World Bank Operational Policies are triggered:

OP 4.01 – Environment Assessment;

OP 4.11 – Physical Cultural Resources; and

OP 4.12 – Involuntary Resettlement.

Local environmental protection acts and rules/regulations including Punjab Environmental Protection Act 1997 (Amendment 2012), Punjab Environmental Quality Standards (PEQS) 2016, Review of IEE & EIA Regulation 2000 etc. will be adhered in this sub-project.

Physical environmental parameters including water and wastewater quality, ambient air quality and noise level were monitored, sampled and tested by the approved laboratory from EPA Punjab for developing baseline conditions of the area. The test results indicate that the water supply (tap water) quality at recommended site office contain biological contamination and it is suggested to

use the tap water for drinking purpose after boiling or suitable filtration. Noise and dust pollution in the area were found elevated from PEQS.

The climate data presented in this report comprised on duration 2000 to 2021 from Lahore meteorological station. The project area lies in the semi-arid climatic zone and has five well-defined seasons, summer, rainy monsoon, autumn, winter and spring. The average minimum monthly temperature varies from 7.6°C and 27.4°C and average maximum monthly temperature varies from 18.0°C and 38.9°C. The extreme maximum temperature recorded in Lahore is 48.3°C in the year 1944. The winters are generally mild and short, last from November till February. The lowest temperature recorded in Lahore is -2.2 °C, recorded on 17 January 1935.

Rainfall is mainly received during the monsoon in late summer and in the winters. The winter rainfall comprises of gentle showers and lasts for a longer period than the summer rainfall, which are usually short and intense and cause urban flooding. The average annual rainfall precipitation in Lahore is 838.8 millimeters.

The sub-project area is comprised on highly populated urban area and no noticeable wildlife exist in the area. Common Flora of the area include Indian Rosewood/ Shisham trees (*Dalbergia sissoo*), Peepul (*Ficus religiosa*), Neem (*Azadirachta indica*), Java Plum/Jaman (*Syzygium cumini*), White mulberry (*Morus alba*) and Safaidda (*Eucalyptus citriodora*) are found in the sub-project area. No protected species were observed.

Social conditions of the area summarized below:

Language: Urdu and Punjabi languages are commonly spoken in the community as mode of communication.

Communication: All the houses are connected to the national grid for electricity supply. Telephone line connection and mobile phone networks are available in the area.

Means of Transport: Sub-project area is located in the congested part of Lahore city and very well connected with other part of the city/country through public and government transport system. Lahore Metro bus station (Bhatti Chowk bus station) is located at approximately five minute walk from the Bhatti Gate monument.

Health Facilities: Mayo Hospital and lady Willington Hospital are main hospitals of the area, in case of any emergency and serious health care needs.

Anticipated adverse environmental & social impacts of the sub-project are related to execution of construction work in the highly populated urban area. Construction related impacts including dust & noise pollution, disturbance of local community day to day activities e.g. hurdle in movement/transportation, traffic congestion, affecting privacy, extra burden on existing welfare facilities etc. Envisaged adverse impacts are localized, temporary and mitigable through the recommended control measures in the ESMP. The contractor will develop Contractor Environmental and Social Management Plan (CESMP) before commencement of work on site. The CESMP will include site specific safeguard plans (traffic management plan, waste management plan, health & safety plan and communication plan etc.) prepared in the light of outlines provided in this ESMP.

No significant adverse environmental or social impact of the sub-project is anticipated. Land acquisition will not require for the phase 1 of the proposed work scheme. Possible On the other hand, the project will accommodate thousands of people visiting the historical part of the Lahore City. In result of the proposed sub-project, the overall archeological values of the area will be enhanced and health & safety conditions of the area for local community and visitors will be improved by converting electric supply and drainage systems to underground or safe conveying system. This will encourage tourism activities in the area and subsequently boost local economy and help in poverty alleviation.

1. Introduction

1.1 Overview

The Government of Pakistan (GOP) development agenda (Vision 2025) stresses the objectives of boosting economic growth, job creation and regional cooperation in addition to bolstering the country's image abroad. Tourism is highlighted as one of the sectors of the economy that could help stimulate economic growth. Cultural and heritage tourism is a large and growing international market that Pakistan could leverage to create more and better jobs¹.

The Planning & Development Department, Government of Punjab (GOPb) with the financial assistance of the World Bank (WB) has launched the Punjab Tourism for Economic Growth Project (PTEGP) to increase the contribution of the tourism and related sectors to the local economic development of the province. The objectives of the project are to strengthen institutional capacity, increase private sector participation and improve infrastructure services for the tourism sector growth in the Province of Punjab². The total funding of the Project is 55 Million USD with a World Bank contribution of USD 50 million over the five-year time frame ³.

The Project consists of four major components⁴:

- Component 1: Policy, Institutions and Governance for Tourism Development
- Component 2: Private Investment and Entrepreneurship Promotion
- Component 3: Public Investment Facility
- Component 4: Project Management, Monitoring and Evaluation

The project is being implemented by a dedicated Project Management Unit (PMU) PTEGP since October 2017. The project is financing some low-scale physical interventions to provide improved access, better road conditions and public convenience facilities in selected tourists destinations located throughout the Punjab Province.

1.2 Project Environmental and Social Management Framework

The detail of sub-projects to be executed under the PTEGP was not available during the project initiation, so an Environmental and Social Management Framework (ESMF) was prepared for PTEGP in December 2016 according to WB Operational Policy (OP) 4.01.

The project ESMF has been approved by the WB and is available on the WB and PTEGP website for public disclosure (refer to footnote no. 4 and 5 for the web link to ESMF available on PTEGP and WB website respectively). The overall project has been assigned Category B, due to the limited environmental and social impacts only during the construction phase. The ESMF concluded that; ⁵

- Environmental and Social Screening (E&SS) shall be carried for each sub-project intervention/s in order out to determine the appropriate Environmental and Social category as per WB Operation Policies.

¹ Combined project information documents / integrated safeguards data sheet (PID/ISDS) concept stage, May 23, 2016. The document is available at <https://documents1.worldbank.org/curated/en/841201468290413656/text/PIDISDS-CON-Print-P158099-05-29-2016-1464517363920.txt>

² Financing Agreement PTEGP between Islamic Republic of Pakistan and International Development Association, dated; August 2, 2017. The document is available at <https://documents1.worldbank.org/curated/en/337281506350830259/pdf/ITK171540-201708251045.pdf>

³ Adapted from https://ptegp.punjab.gov.pk/project_overview

⁴ <https://ptegp.punjab.gov.pk/system/files/ESMF%20Manual.pdf>

⁵ <https://documents1.worldbank.org/curated/en/916261483004112382/pdf/SFG2802-EA-P158099-Box396342B-PUBLIC-Disclosed-12-28-2016.pdf>

- Category-A sub-projects will not be financed under this project. If a Category-A sub-project is identified,

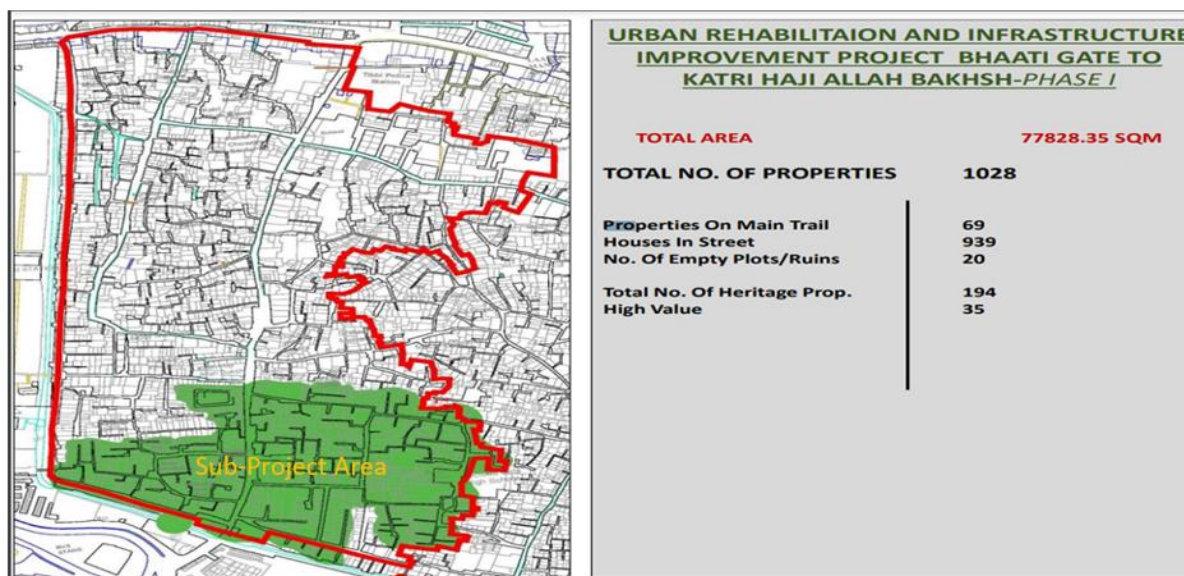
sub-project will be either dropped or replaced with a Category B or C sub-project.

- Environmental and Social Management Plans (ESMPs) will be prepared for category 'B' sub-projects and clearance from WB will be a prerequisite before initiating the sub-project. The guidelines for the preparation of ESMPs are attached as Annex-8 of project ESMF.
- Sub-projects categorized as Category C, no further activity beyond screening would be required.
- PMU PTEGP will obtain necessary NOCs from the relevant departments before commencing works of any sub-project.

1.3 Introduction of Sub-Project

The Government of Punjab with the support of World Bank has decided to undertake initiatives for conservation, beautification & illumination of the Bhatti gate. Walled City of Lahore Authority (WCLA) has submitted a request/PC-I of the proposed sub-project. The sub-project covered area is 77828.35 m² with 1028 number of properties (69 on Main Trail, 939 Houses in Streets, 20 number of empty plots/ruins,) including high value Heritage properties, project area is indicated on Figure 1.

Figure 1: Selected Area for the Sub-Project within Bhatti Gate Area



The proposed work scheme includes conservation of facade, rehabilitation of historic valued buildings, and improvement of infrastructure facilities like water supply, fire hydrant system, domestic sewerage, storm water sewerage, electrical work, illumination work, gas, telecommunication and street surfacing. The infrastructure shall be upgraded / improved to modern standards. The project has been designed for the betterment of the inhabitants and increasing the tourism potential of the area. The sub-project is further divided into two phases:

Phase 1 - Conservation of Historical Buildings/Monuments and Development of Car Park Area

Phase 2 - Infrastructure Development of the Area

This ESMP report only covers Phase 1 of the project. A separate ESMP will be prepared for phase 2 in due course.

1.4 Purpose of this Document

Environmental & Social Screening of the sub-project has been completed and it is envisaged that the proposed sub-project falls under category B project, mainly because of carrying out construction activities (rehabilitation of existing structures, developing car park area etc.) in the highly populated historical urban area. Phase 1 of the project mainly involves rehabilitation/conservation of historic structures, Bhatti Gate Monument and development of car

park on state land. Conservation work comprised on façade improvement of historical buildings. This mainly involve conservation of heritage structures including removing recent repair and painting work which does not match with history of structure. Structure repair work (filling crack, replacing deteriorated brick work etc.) and improving structural stability also included under this item. Car park will be developed on available state land only along the existing drain. Therefore, according to the World Bank's OP4.01 (Environment Assessment) and OP4.11 (Physical Cultural Resource) an Environmental & Social Management Plan (ESMP) and Physical Cultural Resources Management Plan (PCRMP) need to be prepared for the sub-project. This report presents ESMP for the Phase 1 of the sub-project.

The ESMP is prepared according to the approved ESMF for the PTEGP and provides a mechanism to address the anticipated adverse environmental and social impacts during construction and operational phase of the proposed work scheme. Objectives of the ESMP are:

- Identify project's adverse impacts, suggest environmentally friendly and socially acceptable control measures to avoid, eliminate or reduce their adverse impacts;
- Provide environmental management plan and facilitate implementation of control measures;
- Propose the institutional arrangements required to implement the ESMP and define responsibilities of different parties of the project (proponent, contractor and supervision consultant);
- Develop an environmental and social monitoring plan to ensure the mitigation measures are implemented during the sub-project execution and timely corrective actions are taken where required;
- Provide Waste Management Plan for the sub-project;
- Communication Plan for the sub-project;
- Develop training plan for project execution team; and
- Provide Emergency Plan to ensure there is a protocol in place in case of emergency conditions e.g. fire outbreak, collapse in building, accidental spill of chemicals or fuel etc.

1.5 Methodology of ESMP Study

Methodology for environmental and social studies for PTEGP are already defined in the ESMF of the project. While the relevant forms/checklists to be adopted for E&SS and ESMP have been provided in the following sections of the project ESMF;

- Environmental and social screening form has been provided as Annexure-6.
- An involuntary resettlement screening checklist has been provided as Annexure-9.
- Guidelines for an environmental management plan EMP/ESMP has been provided as Annexure-8.
- Chance find procedures has been provided in Annexure-10 of ESMF (as Annexure A in this report i.e. ESMP).

The data required for completing above mentioned forms/checklist has been obtained from both primary (field visit/s, consultations, project engineering document/s, designs etc.) and secondary sources (literature including documents/ reports/ papers/ dissertations/ encyclopedias both available online and in printed format/s etc.).

Stakeholder's consultations have been conducted with relevant persons and organizations during the site surveys and consultation sessions conducted mainly during August, November and December 2022 and February 2023 according to WB and Punjab Environmental Protection Agency (EPA) guidelines. Moreover, relevant applicable legislation and policies have been reviewed according to the scope of the sub-project.

The baseline data was analyzed to identify potential environmental impacts of the project. A risk based methodology was adopted to identify high risk activities and suggest their mitigation measures. Where possible, eliminating the risk by altering the scope of work, method of executing work activities etc. rather than minimizing the risk with control measures. However, where the risk cannot be managed during design phase of the project, environmentally friendly and socially acceptable control measures are proposed to mitigate the adverse impacts of proposed work scheme during construction and operational phase of the project.

1.5 Outcomes of Sub-Project Screening

The initial screening for the whole sub-project (Phase 1 and 2) has been completed and it shows that a site specific Environmental and Social Management Plan need to be developed to execute the proposed work scheme in safe and environmentally friendly way. The ESMP should include outline of safeguard plans (solid waste management plan, traffic management plan, Health and Safety Plan etc.), site specific plans should be developed by the contractor before commence work on onsite. It is vital to keep on board the local community and stakeholders of the project throughout the project cycle i.e. during design, construction and operational phase of the project by conducting meaningful stakeholder and public consultation.

No land acquisition impact envisaged during the sub-project screening process. Other possible social impacts e.g. adverse impact on livelihood, resettlement, obstruction in public movement, extra pressure on existing welfare facilities etc. will be addressed through the implementation of ARAP and ESMP. Most of the anticipated adverse impacts of the sub-project are construction related e.g. dust, noise, waste excavated spoil etc. are localized and temporary nature and mitigable through implementation of ESMP. On the other hand the project will leave significant permanent positive environmental and social impacts in shape of improved drainage system (for foul sewer and storm water), safer electric supply system, improved waste management operation, attract tourist in the area due to beautification and rehabilitation of historical structures and therefore generate small/local business and job opportunities.

2. Applicable Regulatory and Legal Framework

Based on findings of the sub-project screening and stakeholder consultation, applicable national / provincial legislation, regulations, EPA guidelines, World Bank Operational Policies and guidelines are provided in this section.

2.1 National and Provincial Legislative Framework

The 1973 Constitution of Pakistan had included the subject of Environment Pollution and Ecology in the concurrent legislative list. The parliament and provincial governments were empowered to formulate necessary laws under article 142. The Federal Environmental Ministry was established for promulgation of the Environmental Protection Ordinance of Pakistan in 1983. It was the first comprehensive legislation prepared in the country. In March 1992 Pakistan prepared National Conservation Strategy (NCS), which provides a broad framework for addressing environmental concerns in the country. The Pakistan Environmental Protection Act was enacted on 6th December 1997, repealing the Pakistan Environmental Protection Ordinance 1983. The Act stands at the apex of statutory law on environmental issues in Pakistan and takes precedence over all preceding federal and provincial legislations in setting nationwide environmental standards and in laying down policies and procedures under the Pakistan National Conservation Strategy.

In April 2010, National Assembly amended the Constitution of Islamic Republic of Pakistan 1973. Among the changes introduced by the Constitution (Eighteenth Amendment) Act 2010 is one having effect on environmental protection legislation of the country. Under the 18th amendment, the subject of environment and natural ecology is devolved to province government from federal government. Punjab Law Department has issued Gazette notification of the **Punjab Environmental Protection Act 1997 (Amendment) Act, 2012** in result of the 18th Amendment. Consequently, the responsibility to legislate upon and regulate the environment and natural ecology vests in the provinces. Punjab province has enacted the Punjab Environmental Protection (Amendment) Act, 2012, adopting the Pakistan Environment Protection Act, 1997, a Federal legislation, to the framework of the province. This has allowed the Provincial Government to constitute its own Environment Protection Tribunal and appoint its members.

Other Environmental Rules and Regulations

Other environmental Rules & Regulations of Pakistan include:

- Environmental Tribunal Rules, 1999
- Review of IEE & EIA Regulation, 2000
- Certification of Environmental Laboratories Regulation, 2000
- Provincial Sustainable Development Fund Board (Procedure) Rules, 2001
- Environmental Samples Rules, 2001
- NEQS SMART Rules, 2001
- Pollution Charge Rules, 2001
- Environmental Tribunal Rules, 2012
- Punjab Environmental Protection Administrative Penalty Rules, 2013
- Punjab Hospital Waste Management Rules, 2014

2.1.1 Environment Protection Agency

The Pakistan Environmental Protection Council (PEPC) and Provincial Environmental Protection Agencies (EPAs) are the primary organizations responsible for administering the provisions of the Pakistan Environmental Protection Act.

Under the provision of the Act, provincial EPAs are responsible to manage the environmental concerns of their respective provinces, which is in this case is EPA Punjab. The provincial EPAs can frame environmental regulations tailored to the requirements of their provinces, provided these regulations meet or exceed the minimum standards set by EPA. They are also required to review and approve environmental studies of development projects undertaken in their respective provinces, including those projects implemented by federal agencies.

2.1.2 National Environmental Policy 2005

It aims to protect, conserve, and restore the environment in order to improve quality of the life of citizens through sustainable development and resource conservation.

2.1.3 Punjab Environmental Quality Standards (PEQS), 2016

The PEQS, 2016 specify the

- Maximum allowable concentration of pollutants in municipal and liquid industrial effluents discharged into inland waters, sewage treatment facilities, and the sea.
- Maximum allowable concentration of pollutants (16 parameters) in gaseous emissions from industrial sources.
- Maximum allowable concentration of pollutants (two parameters) in gaseous emissions from vehicle exhaust and noise emission from vehicles.
- In addition, PEQS has also been issued for drinking water, ambient air, motor vehicle exhaust and noise, municipal and liquid industrial effluents, noise and treatment of liquid and disposal of solid waste.

2.1.4 Pakistan Penal Code, 1860

This Act defines the penalties for violations concerning pollution of air, water bodies and land.

2.1.5 Motor Vehicle Rules 1969

It defines powers and responsibilities of Motor Vehicle Examiners (MVEs). The establishment of MVE inspection system is one of the regulatory measures that can be taken to tackle the ambient air quality problems associated with the vehicular emissions during operation phase.

2.1.6 Pakistan Labour Policy, 2010

Pakistan's Labour Policy aims at attaining its objectives in a manner best suited to the resources of the country and the present state of economy. Equitable adjustment of rights between workers and employers should be ensured in an atmosphere of harmony, mutually beneficial to workers and the management. It prohibits the use of Child Labour.

2.1.7 The Bonded Labour System (Abolition) ACT 1992

According to this act, forced labour is any type of work or kind of service in which someone engages involuntarily and under implied coercion a manifest threat of a party or oppression measures. The bonded labor can exist in following forms under different situations:

- Bonded labor in exchange of advance/an amount of money given before services are rendered, received by a person or his family.
- Bonded labor as a consequence of some social or customary obligations.
- Bonded labor in exchange of an economic benefit/consideration received by a person or his family,
- Bonded labor of a guarantor in exchange for debtor who was unable to pay off his debt.
- Bonded labor is prevalent in agriculture sector, brick kilns, domestic work and begging.

2.1.8 The Land Acquisition Act, 1894

It is the key legislation that has direct relevance to resettlement and compensation in Pakistan. For the acquisition of land, the above-mentioned Act, rules and regulations are followed whether the acquisition is for Government of Punjab or any other agency. The LAA is, however, limited to a cash compensation policy for the acquisition of land and built-up property, and damage to other assets, such as crops, trees, and infrastructure. The LAA does not consider the rehabilitation and resettlement of disrupted population and the restoration of their livelihoods.

2.1.9 Pakistan Antiquities Act 1975 and Punjab Antiquities Amendment Act 2012

The current Antiquities Act 1975 (amended in 1990), redefined as ancient any object that is at least 75 years old. The Act relates to the protection, preservation and conservation of archaeological/historical sites and monuments. It prohibits construction (or any other damaging) activity within 200 feet of such sites unless prior permission is obtained from the Department of Archaeology and Museums. The Antiquities Act also binds the project proponent to notify the department anything of archaeological value be excavated during project construction.

2.1.10 Walled City of Lahore Act 2012

The Walled City of Lahore Act 2012 provides guideline for the conservation, planning, development, management and regulation of walled city of Lahore.

The walled city of Lahore is under the jurisdiction of Walled City of Lahore Authority (WCLA). WCLA can initiate conservation work as no formal permission is required from any other department. However, WCLA will follow all codal formalities before initiating infrastructure improvement in coordination with TMA, WASA and LESCO for infrastructure improvement.

2.1.11 Employment of Child Act, 1991 and Punjab Restriction of Employment of Children Ordinance, 2016

Article 11(3) of the constitution of Pakistan prohibits employment of children below the age of 14 years in any factory, mine, or any other hazardous employment. In accordance with this article, the ECA 1991 disallows such child labor in the country.

2.2 International Laws/Treaties

Pakistan is signatory to a number of international conventions and protocols relating to the environment. The list of international conventions/protocols signed and ratified by Pakistan is given below:

- Ramsar Convention on Wetlands
- Convention on Migratory Species (CMS)
- Convention on International Trade in Endangered Species (CITES)

- Convention on the Law of Seas
- Vienna Convention on the Protection of Ozone Layer
- Montreal Protocol on Ozone Layer Depleting Substances
- Basel Convention on the Control of Transboundary Movement of Hazardous Waste
- Convention on Biological Diversity (CBD)
- United Nations Convention to Combat Desertification
- United Nations Framework Convention on Climate Change (UNFCCC)
- UNESCO World Heritage Convention
- Kyoto Protocol
- Rotterdam Convention on Prior Informed Consent (PIC) for certain hazardous chemicals and pesticides
- Cartagena Protocol on Biosafety to the CBD
- Stockholm Convention on Persistent Organic Pollutants (POPs)

2.2.1 UNESCO World Heritage Convention

Pakistan is a State Party to the World Heritage Convention. State Parties agree to identify and nominate properties on their national territory to be considered for inscription on the World Heritage List. When a State Party nominates a property, it gives details of how a property is protected and provides a management plan for its upkeep. They are also expected to protect the World Heritage values of the properties inscribed and are encouraged to report periodically on their condition.

2.2.2 World Bank Operational Policies

World Bank Operational Policy 4.01 (Environment Assessment)

The major objective of this policy is to address all activities which may potentially cause negative environmental and social impacts and to suggest safeguard instruments accordingly. Under this policy, projects are categorized as “A, B, C” depending upon their impacts, severity, nature and frequency.

Category “A”: Significant or irreversible impacts

Category “B”: Reversible or moderate impacts that can be mitigated

Category “C”: Minimal impacts

Under PTEG Project, World Bank will not finance any Category A sub-project. If the sub-project classified as category A project then the project will be either dropped or replaced with a Category B or C sub-project.

Environmental and Social Management Plan (ESMP) will be prepared for Category B project and for Category C sub-project no further study E&S study require beyond E&S Screening process.

World Bank Operational Policy 4.11 (Physical Cultural Resources)

World Bank assist countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it financed. This policy addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significant.

World Bank Operational Policy 4.12 (Involuntary Resettlement)

OP 4.12 sets out the Bank’s policies relating to involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas and resettlement of population disrupted by the project. The priority of the policy is the avoidance of displacement of the population; however, if it is unavoidable it should be kept to a minimum. The policy provides guidelines for conducting census surveys, preparing resettlement action plan and reporting

procedures.

Identified adverse environmental and social impacts pertain to the proposed rehabilitation/improvement of historical sites are mild to moderate because the nature of envisaged impacts are temporary, localized, reversible and mitigable. The sub-project is classified as category B. No land acquisition is required for this sub-project. Possible resettlement and livelihood issues which may arise due to the project execution will be addressed through preparation and implementation of ARAP.

3. Project Description

3.1 Introduction

Bhatti Gate is one of the historic thirteen gates of Walled City of Lahore in District Lahore. Its entrance is located on the western wall of the Old City. It is one of the two oldest entry points into the Walled City which controlled the only major north-south thoroughfare during Ghaznavid period. It is named after Great Bhatti Rajput Warriors. When Emperor Akbar expanded the city eastward and divided it into nine districts, Bhatti Gate and its bazar marked the boundary between Mubarak Khan in the east, and Talwar in the west. The approach road leading from the gate line up with a stretch of Shahrah-i-Pakistan, South of Circular Road to Bhatti gate. The gate was rebuilt in the British era.

The famous Data Darbar, mausoleum of Great Sufi Saint, Ali Hajveri is located outside the gate. The area inside the gate is congested and densely populated. The area inside the gate is well known in the city for its traditional food. The area includes many important buildings which have historical and architectural value. These buildings require conservation and rehabilitation to regain their actual picture.

3.2 Proposed Intervention

The whole sub-project area is divided into four sections for smooth execution and effective management of the sub-project are as follow:

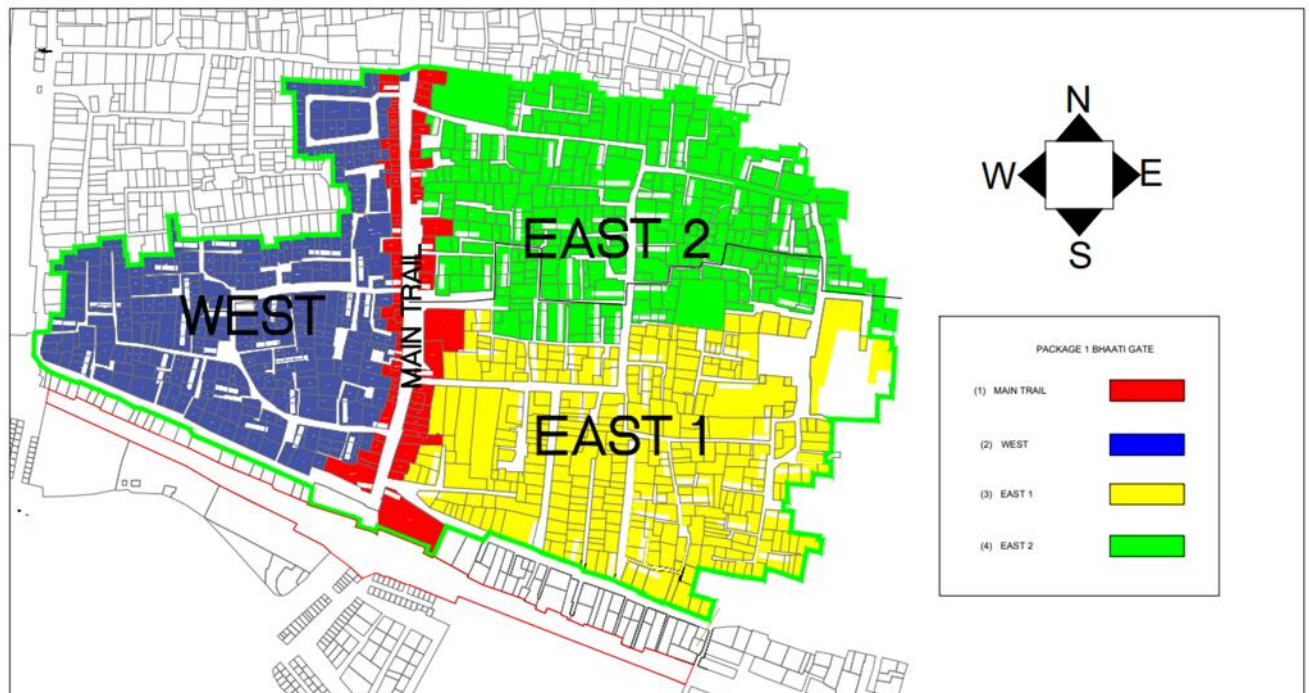
Section 1 – Main Trail

Section 2 – West Part of the Site

Section 3 – South Eastern Part of the Site (East Site 1)

Section 4 – North Eastern Part of the Site (East Site 2)

Figure 2: Distribution of Work Area into four Sections



The scope of work of the sub-project is further divided into two phases, based on proposed physical interventions i.e.

Phase 1 – Conservation of Historical Buildings/Monuments, relocation of water supply filter plant, and Development of Car Park

Phase 2 – Infrastructure Improvement Work in the Project Area

This ESMP only considered physical interventions suggested under phase 1 of the sub-project. A separate ESMP will be prepared for the Phase 2 activities.

3.2.1 Phase 1 Proposed Intervention

Proposed physical interventions are described below in section wise.

Section 1. Main Trail - Conservation of Bhatti Gate Monument, Facade Rehabilitation of Main Trail, Relocation of Water Filtration Plant, Establishment of Site Office Along with Parking Area.

- Conservation of Bhatti gate
 - Consolidation work of main gate – This mainly involves the conservation of Bhatti Gate monument heritage structure including removing recent repair and painting work which does not match with the history of the structure. Structural repair work (filling crack, replacing deteriorated brick work etc.) and improving structural stability also included under this item.
 - Surface rendering – Conservation of the Bhatti Gate monument structure includes but not limited to cleaning and preparing brick surface for *Paca Koli*, *Fresco Lining*, *Ghalib Kari* etc.
 - Electrification & illumination work – the work includes illumination of parking area and area outside Bhatti gate adjacent to it (street light poles with street lights), provision of surveillance of the entrance and area adjacent to gate (CCTV system), Electrical control panels/switch gears and electrical facilities to the room/office above Bhatti gate and police station.
 - Drainage & plumbing of main gate
- Façade Rehabilitation of Main Trail
 - Surface Rendering
 - Woodwork and glasswork
 - Consolidation work – This mainly involve conservation of heritage structures including removing recent repair and painting work which does not match with history of structures. Structural repair work (filling crack, replacing deteriorated brick work etc.) and improving structural stability also included under this item.
 - Drainage & plumbing of façade – Provision of appropriate drainage system for conveying surface run-off of building to the available sewerage system for disposal.
 - Electrification & illumination work – Works included are illumination of area with flood lights, provision of surveillance of the area with CCTV system and electrical facilities to the office(s). Relocation of transformer stations and underground wiring will be conducted under phase II of the project and separate ESMP will be prepared for these works.
- Relocation of Water Filtration Plant – Currently the filter plant located next to the Bhatti Gate monument and recommended to relocate to the new car park area.
- Establish Site Office
- Develop Parking Area using the Available Free State Land (copies of land ownership record (both in local and English language) are attached under Annexure H). There are three small business units located in the proposed parking area including i) waste sorting unit (mainly collect paper waste), ii) birds cages and iii) a hut of tea stall. The area does not use for living, however female worker is identified working at waste sorting unit in the area. The total number of people working on these three business units is 7 (4 at waste sorting unit, 1 person managing birds cages and 2 at tea stall). One woman employed was observed at waste sorting business unit. The affected business unit will be shifted to the available free public land next to the project area. A map showing the possible site for relocation of the affecties is attached under annexure J (further details will be provided in the ARAP). Final ARAP will be implemented before commence work on this site. The waste transfer station located at southwest of the project site and will be shifted from the site to the outskirts of Lahore city as soon as possible (as confirmed in the letter attached under Annexure G).

- Ground preparation
- Consolidation of existing drain – The drain will be covered for developing car park area. Currently, the drain is de-silted by WASA Lahore on weekly basis. Usually, on every Sunday the WASA's dumper and excavator involve in the drain cleaning works. The excavated waste/sludge material mobilize to the dumping sites along the river Ravi in the outskirts of the Lahore city. It will be ensured that the drain is de-silted before covering for the car park development. The drain cover design (material, fixed, movable or partially fixed slabs, screening arrangements for the proposed covered length etc.) will be finalized with concerned authority i.e. WASA Lahore.

Section 2. West Part of the Site – Façade Rehabilitation Work on East Side

- Surface Rendering
- Woodwork and Glasswork
- Consolidation Work
- Drainage & Plumbing of Façade
- Electrification & Illumination Work for highlighting the archeological buildings

Section 3. East Part 1 of the Site – Façade Rehabilitation Work on West Side A

- Surface Rendering
- Woodwork and Glasswork
- Consolidation Work
- Drainage & Plumbing of Façade
- Electrification & Illumination Work for highlighting the archeological building

Section 4. East Part 2 of the Site – Façade Rehabilitation Work on West Side B

- Surface Rendering
- Woodwork and Glasswork
- Consolidation Work
- Drainage & Plumbing of Façade
- Electrification & Illumination Work

3.3 Labour Requirement

It is envisaged that at the peak of the construction activities, up to 200 persons are likely to be employed for the works at site. Approximately 90% of the workforce will be available from the local resources i.e. Lahore city while 10% of labour (particularly skilled labour) may be hired from other part of the country. Contractor will arrange living place for his migrated work force by renting a house near the project area. A suitable available house for the living of sub-project staff is identified and recommended by WCLA near the project area, the contractor will make an agreement with the owner of the house for renting the place. However, if the contractor prefer different house for their migrated site based staff then contractor should assess tap water quality of the house from his own expenses and ensure the tap water meets the required criteria. The project staff must respect local cultural values and privacy of the community. Project worker's code of conduct (provided as an Annexure F) should form a part of the employment contract.

3.4 Water Supply and Sewerage System

Water supply and wastewater drainage system of walled city area is managed by Water and

Sanitation Agency (WASA) Lahore. Underground water supply system is available in the whole sub-project area. However, the foul sewage collection and conveying system within most of the sub-project area is not covered and comprised on open sewerage channels. These open sewer channels (also called “Nali” in local language) are partially covered, particularly at front of main entrance of houses or shops. There is no separate storm water drainage system in the sub-project area.

WASA Lahore was established by Lahore Development Authority during 1976 for the planning, designing, development and maintenance of water supply, sewerage and draining system in Lahore. WASA utilize groundwater source of the area for feeding Lahore water supply system and have installed about 600 groundwater pumping tube wells across the Lahore city. Nearest WASA water supply tube well is located on N5 main road west of the Bhatti Gate area. The pumped groundwater is used to feed the water supply of the surrounding area of the tube well. Similar arrangements are adopted by WASA in other part of the Lahore city. The water extraction depth varies from 700 to 800 feet. Underground sewerage system available at few places in main street (Mail Trial) area only. Sewage conveying channels (Nalis) also collect storm water during rain and eventually falls in the main open drain located just outside Bhatti Gate.

3.5 Sub-Project Surrounding Area

Bhatti Gate is located in the western part of the Lahore city near Data Darbar shrine. Data Darbar, the mausoleum of the sufi saint Ali Hajweri (also known as Data Sahib Ganjbakhsh) and it is the largest Sufi shrine in South Asia. Bhatti gate is known historically as a center for arts and literature in old Lahore. Well reputed food places are located inside the wall city. Restaurants in the area sell good quality of food at bargain price and are very busy particularly during weekends. Well known heritage and tourist sites Lahore Fort and Badshahi Mosque are located at north of the project area at about 1Km.

3.6 Type of Material

Following type of material will be required for the proposed work scheme:

- Different types of bricks (burnt brick, burnt bricks in lime mortar) and floor tiles;
- Pre-cast concrete blocks, cement concrete perforated jail, different types of plasters (cement sand plaster, kankar lime plaster);
- Wooden windows, doors, roofs, balcony and panels (glazed or partially glazed);
- Reinforced concrete (cement, sand, aggregate, steel), crush stone aggregates (sub-base+ base, asphalt and concrete material);
- Sheet rolling shutter, small iron works (gusset plates, knees, bends, stirrups, straps, rings etc.) and steel grated doors;
- Paints (white wash, ordinary distemper, Enamel paint, weather shield) and Turpentine oil;
- Water supply pipes and wastewater conveying pipes (storm water and foul sewer);
- Plane and printed Glass;
- PVC pipes, GRP pipes, HDPE pipe, and cables; and
- Air Coller /Water Tank and exhaust fan.

3.7 Source of Material

The common source of materials required for the civil works is described in below table 1.

Table 1: Source of Raw Materials

Sr. #	Construction Material	Source
1.	Brick, Floor Tile	Available from brick kiln located in the outskirts of Lahore City, number of Floor tiles suppliers available in the city
2.	Coarse Aggregate	Available from quarries at Sargodha

Sr. #	Construction Material	Source
3.	Crush Stone	Available from quarries at Sargodha and Sakhi Sarwar
4.	Sand	Use Lawrencepur sand from Lawrencepur, District Attock.
5.	Water for preparation of concrete and other utilization at site during construction phase	Available water supply can be used with the permission of WASA Lahore or the contractor can install his own tube well with the permission of WASA.
6.	Cement	Portland cement is available from cement factories and from local suppliers e.g. Bestway Cement factory, DG Cement Factory, Maple Leaf Cement factory etc.
7.	Reinforcement steel	Grade 60 / Grade 40 reinforcement steel is available from re-rolling mills at Lahore, Karachi, Faisalabad and Multan or from steel supplier based in Lahore with approval of the Supervision Consultant
8.	Wood, Pipes and Glass	Number of suppliers of these material available locally (based in Lahore), approval will be required from the Supervision Consultant.

3.8 Plant and Equipment

It is envisaged that the following equipment and machinery will be required for the execution of the proposed work scheme:

Table 2: Type of Plant & Equipment

1	Tractors with Water Tankers	10	Concrete Mixers
2	Mini Dump Trucks	11	Diesel Tanks
3	Excavators / Mini Excavator	12	Vehicles
4	Water Bouzers	13	Fence Panels
5	Tractors with Water Tank	14	Scaffolding or working Towers
6	Fork Lifter	15	Cherry Picker
7	Mobile Crane	16	Ladder
8	Generators		
9	Welding Transformers		

3.9 Construction Schedule

From the beginning of the construction to the commissioning of the sub-project (of both phases 1 and 2) is estimated to take approximately 24 months.

3.9 Labour Residence

Approximately 90% of the workforce can be obtained locally from the sub-project area. However, site based office/accommodation will be required for smooth operation and efficient supervision of the work. Contractor will have rented out house(s) for the site office and work supervision staff, rather installation of camps nearby the sub-project site with complete provision of health care facilities especially first aid. All site workers will follow code of conduct (attached as an Annexure F) and ensure site offices or site workers living do not cause any inconvenience to local community.

3.10 Sub-Project Summary

Details of immediate surrounding area of the project site and salient features of the project are provided in table 3.

Table 3. Sub-Project Summary

Name of Sub-Project	Total Area	Physical Co-ordinates	Scope of Work	Total Cost (million)
Urban Rehabilitation and Infrastructure Improvement Project Package – I from Bhatti Gate to Katri Haji Allah Bakhsh (Taveela Shaikhen) Walled City, Lahore	Approx. 77828.35 m ²	East Side: Highly populated residential area West Side: GT Road (N5) and beyond residential structures North Side: Bhatti Gate Residential Area and beyond Badshahi Mosque South Side: Hotels, Restaurants, shops and Data Darbar	Conservation of historical buildings / monuments and development of car park area	PKR. 1658.0 (including both phases 1 and 2)

4. Baseline Conditions

This section provides an overview of the baseline of environmental and social aspects of the sub-project area.

The sub-project area comprised on highly populated Lahore walled city area. The access to the project area is through historical monument of Bhatti Gate structure. The gate is among 6 remaining gates of Lahore city out of 13 which were demolished during British era.

There are about 1028 number of properties within the sub-project area. High value heritage

properties are identified and shown in the figure 3.

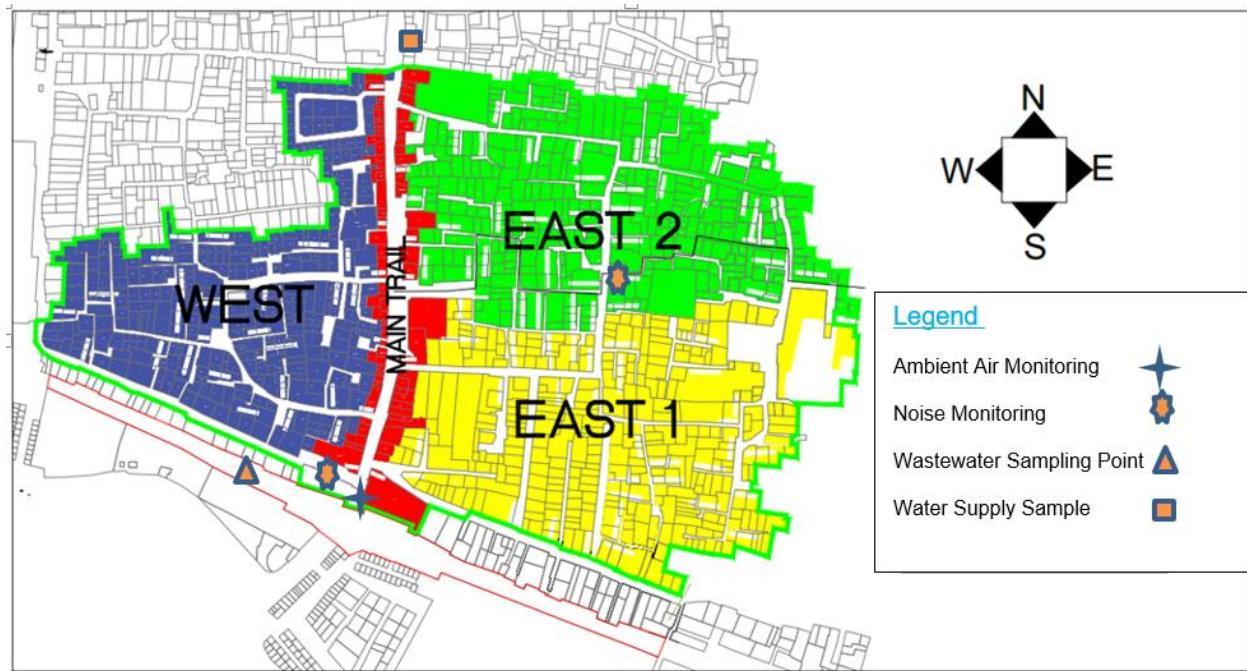
Figure 3. High Value Heritage Sites within the Sub-Project Area



Source: Developed under PCRMP study conducted for this sub-project.

For developing baseline conditions of physical environmental parameters of the area, services of an authorized laboratory from EPA Punjab was hired. Tap water sample was collected from the house recommended for site office/living for site based staff. Wastewater sample was collected from the main open drain running next to the Bhatti Gate monument. Tap water and wastewater samples collected on 21 October 2022. 24 hours ambient air quality and noise level monitoring were conducted between 21 and 22 of October 2022. Ambient air quality was monitored next to the Bhatti Gate monument. Noise level monitoring conducted at two locations within the sub-project area (i) next to the school located close to the Bhatti Gate Monument and (ii) next to the Health Center located in the sub-project Section East 2. Environmental sampling/monitoring locations are shown in figure 4. The environmental map (Figure 5) of the area shows main features of the project area, archeologically high value sites, existing plantation area, potentially available area for new tree plantation, waste dumping sites etc. New plantation can be carried out at available strip of land along the open drain, main road/street and around the new proposed parking area. The approximate length of available strip of land (currently partially planted) for new plantation is 4km (assuming 1m width of the strip of land, the total area is 4000m²). According to Punjab Forest Department, 328 trees can be planted as linear plantation in one kilometer strip of land. Hence the maximum number of trees (exotic (fruit or colorful) or wooden trees) can be planted within or in the immediate surrounding of the project area is 1312 numbers. The type and thickness of new plantation will be finalized with the collaboration of PHA Lahore and other concern departments including WASA Lahore, LESCO, transport agency etc. ensuring the new plantation does not cause any hurdle in delivery other facilities to the community i.e. wastewater drainage, electric supply, traffic movement etc. It is also recommended to plant around 2000 flowers plant around proposed parking and sitting area for the beautification.

Figure 4: Environmental Sampling/Monitoring Locations for Developing Baseline Conditions



4.1 Physical Environment

Water Quality

Test results are presented in table 4 and compared with WHO and PEQS for drinking water standards. Microbial contaminations are detected in the water sample and therefore it is recommended to treat the tap water before utilization as drinking water e.g. boil or filter.

Figure 5: Environmental Study Area Map

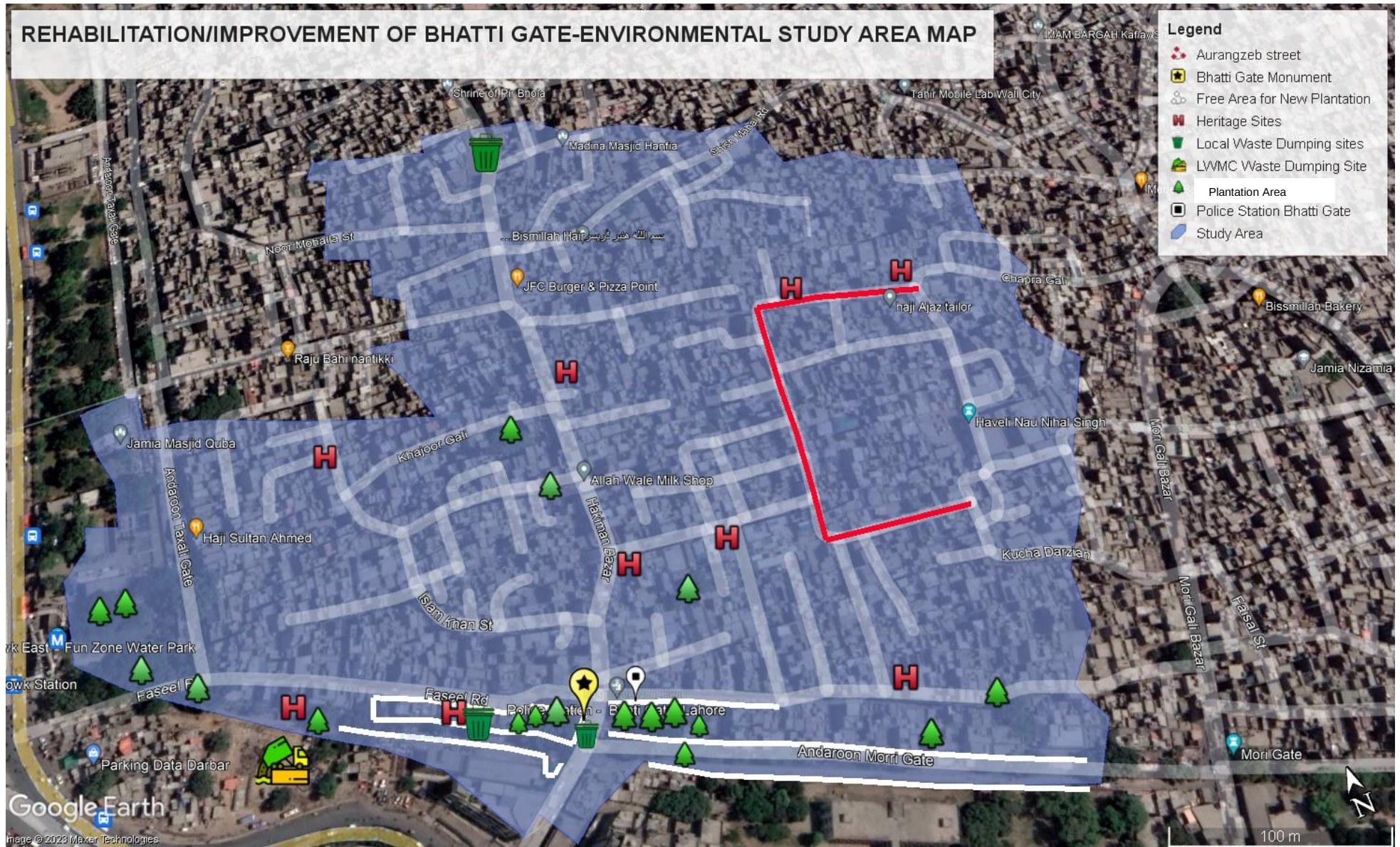


Table 4. Water Quality of Water Supply at Designated Site Office

Sr. No.	Parameters	Unit	WHO	PEQS (Drinking Water Standards)	Results
1.	E Coli	MPN	Must not be detectable in any 100 ml sample	Must not be detectable in any 100 ml sample	5
2.	Total Coli-form	MPN	Must not be detectable in any 100 ml sample	Must not be detectable in any 100 ml sample	8
3.	Fecal Coliform	MPN	Must not be detectable in any 100 ml sample	Must not be detectable in any 100 ml sample	4
4.	Total Hardness	mg/L	-	<500	35.0
5.	Total Dissolved Solids	mg/L	< 1000	< 1000	297
6.	pH	-	6.5-8.5	6.5-8.5	6.8
7.	Arsenic (As)	mg/L	0.01	≤ 0.05	<0.01
8.	Barium (Ba)	mg/L	0.7	0.7	<0.1
9.	Boron (B)	mg/L	0.3	0.3	<0.1
10.	Cadmium (Cd)^	mg/L	0.003	0.01	<0.003
11.	Chloride (Cl ⁻¹)	mg/L	250	< 250	25.99
12.	Chromium (Cr)^	mg/L	0.05	≤ 0.05	<0.01
13.	Copper (Cu)^	mg/L	2	2	<0.5
14.	Fluoride (F)	mg/L	1.5	≤ 1.5	0.8
15.	Lead (Pb)^	mg/L	0.01	≤ 0.05	<0.01
16.	Manganese (Mn)	mg/L	0.5	≤ 0.5	<0.1
17.	Mercury (Hg)	mg/L	0.001	≤ 0.001	<0.001
18.	Nickle	mg/L	0.02	≤ 0.02	<0.01
19.	Nitrate	mg/L	50	≤ 50	3.2
20.	Nitrite	mg/L	3	≤ 3	1
21.	Selenium (Se)	mg/L	0.01	0.01	<0.005
22.	Zinc (Zn)^	mg/L	3	5.0	<0.5
23.	Sodium (Na)	mg/L	200	-	4.5
24.	Potassium (K)	mg/L	200	-	<1.0
25.	Calcium Hardness	mg/L	-	-	23.0
26.	Magnesium Hardness	mg/L	-	-	12.0
27.	Carbonates	mg/L	-	-	0.3
28.	Bicarbonates	mg/L	-	-	5.1
29.	Calcium (Ca)	mg/L	-	-	1.1
30.	Magnesium (Mg)	mg/L	-	-	0.6
31.	Total Suspended Solids (TSS)	mg/L	-	-	67.0
32.	Sulphate (SO ₄ ²⁻)	mg/L	250	-	15.6
33.	Sulphide (S ²⁻)	mg/L	-	-	0.06
34.	Ammonia (NH ₃)	mg/L	-	-	2.5
35.	Alkalinity	mg/L	-	-	7.8
36.	Electric Conductivity	μS/cm	-	-	284
37.	Total Plate Count	CFU	-	-	12
38.	Greases & Oil	mg/L	-	-	Not detected

PEQS: Punjab Environmental Quality Standards WHO: World Health Organization

Wastewater sample was collected from the open drain on Friday the 21st of October 2022. The drain carries wastewater of the area to the WASA's wastewater pumping station. The test results are compared with PEQS for inland water quality standards. Marginally elevated level of

Chemical Oxygen Demand (COD) identified in the wastewater, as shown in table 5.

Table 5. Wastewater Test Results

Sr. No.	Parameters	Unit	Results	PEQS (Inland Water quality Standards)
1.	Temperature	°C		-
2.	pH ^	---	8.8	6-9
3.	Biological Oxygen Demand (BOD ₅ at 20 °C)	mg/L	79.0	80
4.	Chemical Oxygen Demand (COD)	mg/L	160	150
5.	Total Suspended Solids (TSS)	mg/L	116.0	200
6.	Total Dissolved Solids (TDS)	mg/L	554	3500
7.	Greases & Oil	mg/L	8.55	10.0
8.	Phenolic Compound (As Phenol)	mg/L		-
9.	Chloride (as Cl ¹⁻)	mg/L	135.96	1000
10.	Fluoride (F ¹⁻)	mg/L	0.7	10
11.	An Ionic detergent as MBAs	mg/L		-
12.	Sulphate (SO ₄ ²⁻)	mg/L	55.5	600
13.	Sulphide (S ²⁻)	mg/L	0.7	-
14.	Cadmium (Cd)	mg/L	<0.003	0.1
15.	Chromium-Total (Cr)	Mg/L	0.06	1
16.	Copper (Cu)	mg/L	<0.5	1
17.	Lead (Pb)	mg/L	<0.01	-
18.	Mercury (Hg)	mg/L	<0.001	0.01
19.	Nickel (Ni)	mg/L	0.025	1
20.	Ammonia	mg/L	22.2	40
21.	Silver (Ag)	mg/L		1
22.	Zinc (Zn)	mg/L	<0.5	5
23.	Arsenic (As)	mg/L	<0.01	1
24.	Barium (Ba)	mg/L	<0.1	1.5
25.	Iron (Fe)	mg/L		8
26.	Manganese (Mn)	mg/L	0.23	1
27.	Boron (B)	mg/L	<0.1	-
28.	Chlorine (Cl ₂)	mg/L		-
29.	Sodium	mg/L	12.2	-
30.	E-coli	MPN	5	-
31.	Total Coli-form	MPN	5	-
32.	Total Plate Count	CFU	3	-
33.	Calcium Hardness	mg/L	220.2	-
34.	Magnesium Hardness	mg/L	112.0	-
35.	Carbonates	mg/L	0.9	-
36.	Bicarbonates	mg/L	5.5	-
37.	Total Hardness	mg/L	332.2	-
38.	Calcium (Ca)	mg/L	3.5	-
39.	Magnesium (Mg)	mg/L	11.5	-
40.	Potassium (K)	mg/L	1.2	-
41.	Nitrate	mg/L	3.2	-
42.	Nitrite	mg/L	0.5	-
43.	Alkalinity	mg/L	22.5	-
44.	Electric Conductivity	μS/cm	1109	-
45.	Nickel (Ni)	mg/L	0.025	1

Waste Dumping Site

Waste transfer station site identified next to the main drainage channel at south-west of the project

site. Lahore Waste Management Company (LWMC) dump collected domestic waste of the surrounding area at the waste transfer site before it is loaded on heavy dumper and transported to the final disposal sites in the outskirts of Lahore city. The waste transfer site located outside the project area and have access from the main GT Road. However, the waste transfer site cause bad odour in the area and trash vehicles are observed at the site entrance i.e. Bhatti Gate monument. It was informed by LWMC during stakeholder consultation that it is planned to relocate the waste dumping site outside the Lahore city and currently LWMC is working on it. A letter from WCLA to Commissioner Lahore requesting to shift the waste transfer station within 10 days is attached as an Annexure G. The station will be relocated before commencement of works on site.

Ambient Air Quality and Noise Monitoring

No obvious source of ambient air pollution identified within the project area, except the identified waste dumping site near the project site entrance. Traffic emission/noise during busy hours is main source of air and noise pollution inside the project area. Open drain and temporary waste storage site, located next to Bhatti Gate monument cause bad ordour and nuisance in the area. Dust pollution is common during summer due to persistent dry weather conditions and traffic of the area.

24 hours ambient air quality and noise monitoring were conducted next to the Bhatti Gate monument. Additional point of noise monitoring located next to the health center in the residential area of the Bhatti gate, as shown in the environmental baseline monitoring map (Figure 4). Ambient air quality and noise monitoring results are presented in table 5 and 6 respectively. Ambient air quality monitoring indicates that dust pollution and concentration of carbon monoxide in the air are higher than the PEQS levels. Main reasons of these pollution are traffic and dusty environment of the area.

Table 6. Ambient Air Quality Monitoring next to the Bhatti Gate Monument

Sr.#	Time (Hours)	CO ₂ (ppm)	CO (mg/m ³)	NO _x (µg/m ³)	SO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)
1.	11:00 AM	390	4.090	18.5	42.0	211	170	14.8	0.72
2.	12:00 PM	392	4.198	27.2	44.0	217	175	14.8	
3.	01:00 PM	395	5.231	23.9	54.0	215	181	15.9	
4.	02:00 PM	394	5.124	27.9	44.0	226	179	16.0	
5.	03:00 PM	397	6.123	28.3	50.0	231	185	16.4	
6.	04:00 PM	402	8.010	29.9	46.5	236	188	16.2	
7.	05:00 PM	405	9.312	29.7	44.0	241	191	15.0	
8.	06:00 PM	410	10.10	29.5	47.0	237	177	15.2	
9.	07:00 PM	412	10.13	31.9	48.5	245	183	15.9	
10.	08:00 PM	404	9.131	32.2	49.0	247	185	15.4	
11.	09:00 PM	401	7.321	32.1	49.3	252	192	15.5	
12.	10:00 PM	402	8.101	27.5	51.2	247	187	14.6	
13.	11:00 PM	385	7.624	25.1	54.0	245	188	14.1	
14.	12:00 AM	373	7.132	22.0	50.5	234	171	14.0	
15.	01:00 AM	364	4.505	19.8	43.0	226	170	13.9	
16.	02:00 AM	365	3.621	18.8	40.0	219	163	13.6	
17.	03:00 AM	359	3.132	16.5	37.0	212	163	13.5	
18.	04:00 AM	355	3.101	15.2	36.0	211	161	13.4	
19.	05:00 AM	353	2.555	15.1	35.0	214	165	13.3	
20.	06:00 AM	352	2.204	16.4	28.5	206	159	13.2	
21.	07:00 AM	357	2.616	17.5	26.5	209	167	13.1	
22.	08:00 AM	363	3.202	19.6	27.5	211	171	13.4	

23.	09:00 AM	368	3.314	22.2	30.0	215	177	13.3	
24.	10:00 AM	376	3.534	22.4	31.3	226	181	13.9	
Average (24-Hours)		382.3	5.339	23.7	42.0	226	176	14.6	0.72
PEQS		--	5 (8-hours)	120 (24-Hours)	120 (24-Hours)	150 (24-Hours)	35 (24-Hours)	130 (1-Hour)	1.5 (24-Hours)

Table 7. 24 Hours Noise Monitoring Results

Sr. No.	Time	At Bhatti Gate Monument	At residential Area of Bhatti Gate (near local Health Centre)
		dB (A)	dB(A)
1.	11:00 AM	76.9	75.2
2.	12:00 PM	76.2	74.1
3.	1:00 PM	73.8	70.5
4.	2:00 PM	70.4	70.4
5.	3:00 PM	73.7	72.7
6.	4:00 PM	68.0	67.0
7.	5:00 PM	70.9	68.9
8.	6:00 PM	71.8	71.7
9.	7:00 PM	68.6	68.4
10.	8:00 PM	79.8	75.2
11.	9:00 PM	76.1	73.5
12.	10:00 PM	74.4	74.4
13.	11:00 PM	75.1	75.0
14.	12:00 AM	72.5	70.5
15.	1:00 AM	69.1	65.1
16.	2:00 AM	66.5	62.5
17.	3:00 AM	65.2	59.2
18.	4:00 AM	63.3	54.3
19.	5:00 AM	66.1	56.1
20.	6:00 AM	64.2	64.2
21.	7:00 AM	69.3	68.3
22.	8:00 AM	72.5	71.3
23.	9:00 AM	75.5	74.0
24.	10:00 AM	79.1	73.5
Average		71.6	69.0
Lowest Detection Limit		25	25

PEQS for noise pollution for commercial area during day and night times are 75dB and 65dB respectively. 24 hours noise monitoring results in the sub-project area indicate that noise levels within the project area are at higher side mainly because of the traffic and narrow streets and congested living environment.

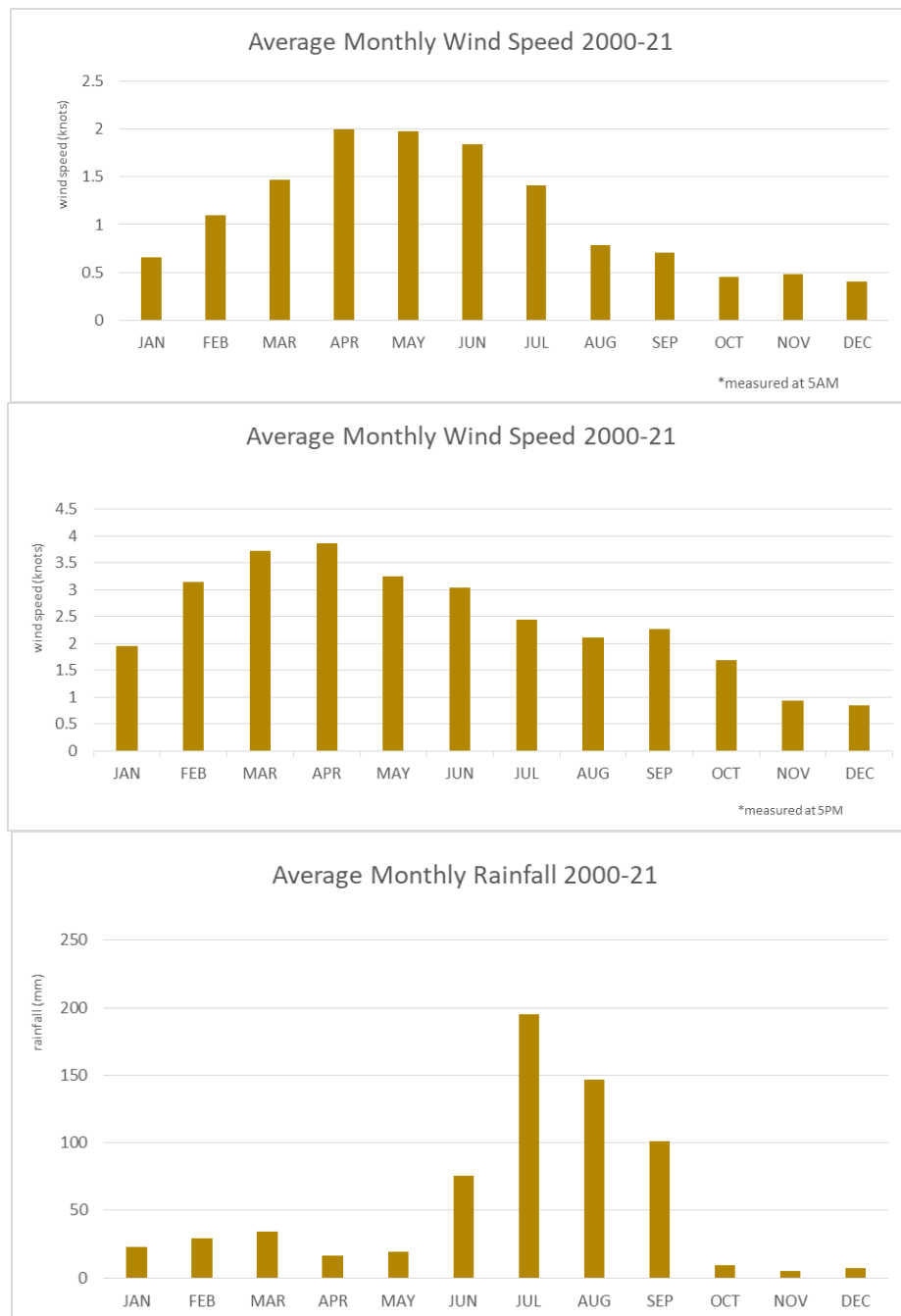
Climate

The climate data presented in this report comprised on duration 2000 to 2021 from Lahore meteorological station. The project area lies in the semi-arid climatic zone and has five well-defined seasons, summer, rainy monsoon, autumn, winter and spring. The average minimum monthly temperature varies from 7.6°C and 27.4°C and average maximum monthly temperature varies from 18.0°C and 38.9°C. The extreme maximum temperature recorded in Lahore is 48.3°C

in the year 1944. The winters are generally mild and short, last from November till February. The lowest temperature recorded in Lahore is -2.2°C , recorded on 17 January 1935.

Rainfall is mainly received during the monsoon in late summer and in the winters. The winter rainfall comprises of gentle showers and lasts for a longer period than the summer rainfall, which are usually short and intense and cause urban flooding. The average annual rainfall precipitation in Lahore is 838.8 millimeters. Recently the issue of *Smog* identified in the city every year during early winter. It is envisaged that smog is a combination of smoke and fog in the area.

The graphical representation of the climate data is presented below.



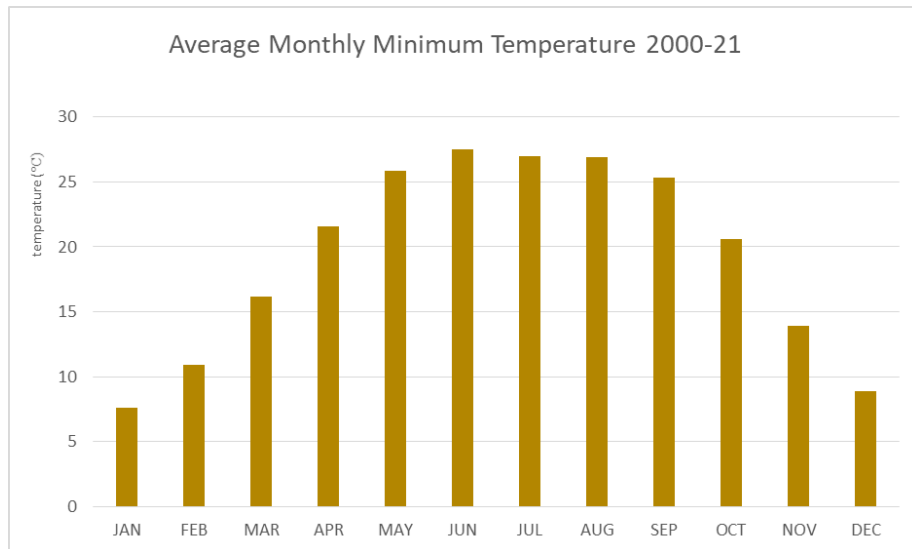
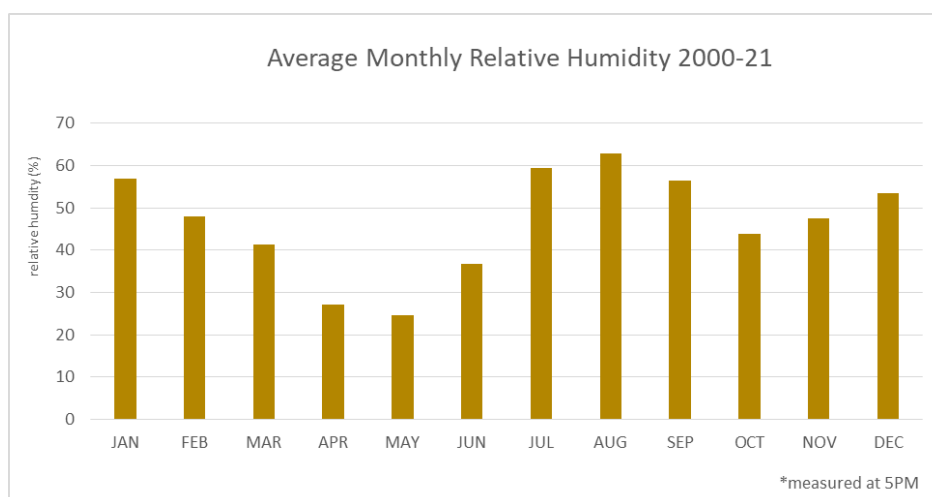


Figure 5 (continue from previous page): Graphical Presentation of Climate Data





4.2 Biological Environment

The sub-project area is comprised on highly populated urban area and no noticeable wildlife exist in the area.

Flora

Plantation is observed mainly at the proposed car park area i.e. police station car park and along the open drain. Isolated mature trees also identified inside the Bhatti Gate living area. Type of flora identified in the project area and its surrounding include:

Indian Rosewood/ Shisham trees (*Dalbergia sissoo*), Peepul (*Ficus religiosa*), Neem (*Azadirachta indica*), Java Plum/Jaman (*Syzygium cumini*), White mulberry (*Morus alba*) and Safaida (*Eucalyptus citriodora*) are found in the sub-project area. No protected species were observed. Tree plantation identified along the open drain and proposed car park area. Isolated trees (mostly Peepul trees) are found in the highly populated area.



Fauna

Because the sub-project area is comprised on highly populated area and human activities, there is little wildlife in the sub-project area. The envisaged wildlife of the area identified during site visits and stakeholder and public consultation are presented in table 8.

Table 8: Fauna of the Sub-Project Area

	Sr.#	Common Name	Scientific Name
Birds	1.	Koel	<i>Eudynamys scolopaceus</i>
	2.	Crow	<i>Corvidae splendens</i>
	3.	sparrow	<i>Passeridae Domesticus</i>
	4.	Parrot	<i>Paleornis torquata</i>
	5.	Bulbul	<i>Pycnonotus jocosus</i>
	6.	Rock Pigeon	<i>Columba livia domestica</i>
	7.	Green Pigeon	<i>Treron vernans</i>
Mammals	8.	Asian House Rat	<i>Rattus tanezumi</i>
	9.	House Mouse	<i>Mus musculus</i>
	10.	Black Rat	<i>Rattus rattus</i>
Amphibian	11.	Frog	<i>Rana Tigrina</i>
	12.	Toad	<i>Bufo bufo</i>
Reptiles	13.	Wall Lizard	<i>Mediodactylus walli</i>

4.3 Social Environment

Language: Urdu and Punjabi languages are commonly spoken in the community as mode of communication.

Communication: All the houses are connected to the national grid for electricity supply. Telephone line connection and mobile phone networks are available in the area.

Means of Transport: Sub-project area is located in the congested part of Lahore city and very well connected with other part of the city/country through public and government transport system. Lahore Metro bus station (Bhatti Chowk bus station) is located at approximately five minute walk from the Bhatti Gate monument.

Health Facilities: Mayo Hospital and lady Willington Hospital are main hospitals of the area, in case of any emergency and serious health care needs. Figure 5 and 6 shows hospital's locations respectively.

Figure 6. Lady Willington Hospital and Project Site Location Map

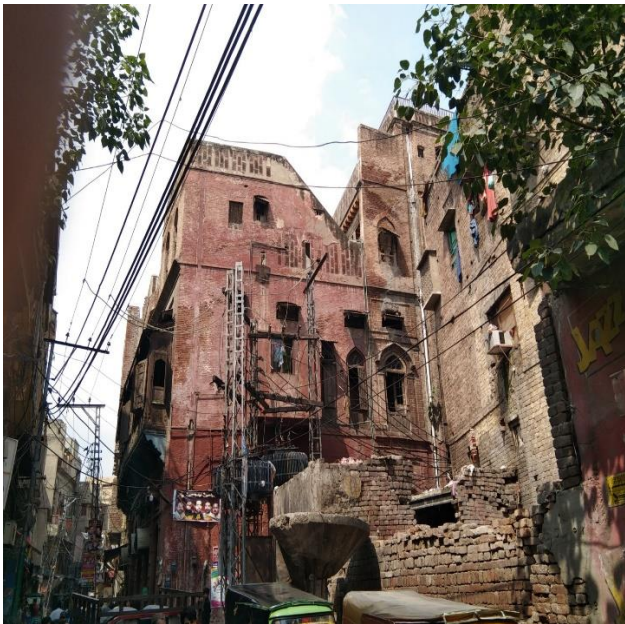


Figure 7. Mayo Hospital and Project Site Location Map



Pictorial View of Project Area

Bhatti Gate Monument (Main Entrance)	Open Drain Carry Wastewater of the area to the disposal pumping station

	
Historical Building located in the Main Trail section (Main street)	
	
Improvement Required in Waste Management Practices in the Area	Partially Covered Wastewater Conveying System

5. Stakeholder Consultations

Timely and broad-based stakeholder involvement is an essential element for an effective environmental assessment, as it is linked with Project planning, appraisal and development in general. Public involvement during Environmental Assessment (EA) has a tendency to improve project design environmental soundness and social acceptability. The public consultation is well illustrated under the heading “Pictorial View of Public Consultation”. Public consultation in addition to the consultations record provided in this section is also presented in the ARAP being prepared for the project, particularly focusing on consultation with women of the area.

5.1 Consultation Process and Technology

Stakeholder & Public Consultation has been conducted during the early stage, reconnaissance survey and during the preparation of ESMP & ARAP Reports. 20 sessions of consultation were conducted for the preparation of ESMP and ARAP, consultation records are provided in table 9 and 9.1. Public consultations conducted for the preparation of ARAP is summarized in table 9.1, including the consultation conducted with labour currently camping at proposed car park area, further details provided in the LARP prepared for the project. Consultation with stakeholders will also be carried out throughout the Project cycle and by different members of the team at different stages of the project (construction and operational phase). Consultation process includes focus group discussion, village meetings and semi-structured interviews and one to one meeting or interviews in the case of government, private and civil society institutions. During the consultation process, the stakeholders were briefed about the project objectives and scope. Their fears and suggestions were recorded.

The consultation process was carried out in accordance with World Bank’s policy and guidelines. The stakeholder consultation record is summarized in table 9 followed by pictorial views of the consultation process.

Table 9. Stakeholder and Public Consultation

Date	Venue	Participants	Discussion	PMU's Response
02/08/2022	Bhatti Gate Site	Asif Nizami Talat Shakir Abdullah sb Ch. Farman Iqbal Qureshi Majeed Anwar Khalid Javed Shahida Parveen Aliya Sarwar Sadiah Atif WCLA Team: Mr. Shehryar- Architect Hamza Shoaib- Civil Engineer Aqdas and Raqib Draft Persons (four sessions on site)	- The Local residents and shop owners were of the view that there is a dire need to improve the outlook of the area not for aesthetics only but also for improving the overall life quality of the community. They also wanted improvement in existing infrastructure, especially drainage, which will help in improving access of visitors to the area and increase economic activity. - Women have expressed their concern about the deteriorated state of their generational homes. A house wife said that all doors and windows of her house are broken	PMU informed the current status of the project informed the realistic start dates of the project i.e. start of work on site during first half of the 2023. It was informed that rehabilitation work of the historical buildings will improve the aesthetic of the area and attract more visitors.

			and she feels unsafe. Other women also expressed similar concerns and requested that the restoration work should be started at the earliest. - The representatives of WCLA elaborated that many buildings are in dilapidated state and require immediate restoration. Some buildings have unique Sikh Architecture. They pointed out that WCLA has already successfully completed restoration of main trail of Delhi Gate and they hope to achieve same results here. - The community has already been sensitized on this project and it is highly anticipated by them.	
23/08/2022	WCLA Office	Najam Us Saqib – Director Conservation Walled City Lahore Authority Hamza Shoib – Assistant Director Walled City Lahore Authority	- Scope of work was discussed with WCL team. Limitation of determining the scope of infrastructure work at early stage of the project was explained by the WCLA team. It was informed that the scope of infrastructure work depends on different factors including electricity load requirement for particular street, current conditions and presence of sewage system, street and building structural conditions etc. - WCLA's team shared their previous experience of similar kind of work they have conducted in past. - Comments from World Bank on initial submission of ESS was shared and discussed with WCLA. - WCLA informed about the available suitable	PMU highlight the importance of robust and effective safe system of work need to be emplace for managing the construction activities on site as this project site includes residential area, which is different to other previous projects completed by WCLA (comprising on commercial area). It was agreed that all site workers will follow the project specific code of conduct to minimize risk of causing any inconvenience to local community

			building near work area for setting up the project site office.	due to the presence of the staff or execution of project activities in the area. PMU informed that work timings will be scheduled with consultation of local community in order to minimize social disturbance from work activities.
25/08/2022	LESCO Office Data Darbar, Lahore	Jamshaid Zaman – Xen LESCO Azam Mahmood – Technical Expert Electricity System Installation	- The proposed work scheme was very much appreciated by the participants. - Similar kind of work has been conducted in other parts of the wall city. - The work will be handled by a specified team of LESCO for the project, which would have the experience of similar kind of work. - Requirement of Comprehensive H&S plan was highlighted.	PMU responded that Site Specific Health & Safety Plan will be prepared and implemented during construction phase of the project.
25/08/2022	WASA Office Data Darbar, Lahore	Hafiz Raheel – Director Ravi Town WASA Ghulam Mustafa – SDO City WASA Umair Musood – SDO Drainage WASA	- The proposal of converting open sewerage channels into underground sewerage pipeline in the area was very much appreciated. - Covering open drain with fixed concrete slab may cause problem for maintaining and periodic de-silting the drain. - Open drain located just outside the Bhatti Gate can be covered but it should be moveable cover for cleaning and maintenance purpose.	PMU informed that open drain cover design will be finalised with the collaboration of WASA. Open drain will be dredged before covering the drain for developing car park area. The dredged material should be dispose-off in the outskirts of Lahore city with other dredged material from drains located in Lahore city.
25/08/2022	Faker Khana Local Museum	Zain Faker – Director Museum	The project scope of work was briefed to the museum's owner. The sub-project was very	PMU informed that other areas of Bhatti Gate will be considered in

			much appreciated. - It was suggested to increase the project area. The museum is located outside the project area. - The museum run by the owner's family from hundreds of years and is free for public, as long as the visitor book their visit on museum's web site. - Valuable monuments from Mughal empires and Ranjit Singh were displayed in the museum.	next package of development.
21/08/2022	Faker Khana Local Mseum	Faker Saeed Safudin – Owner of Museum	- Scope of work of the sub-project was briefed to the participant. - Faker family is running the museum from last seven generation. - Waste management (solid and wastewater) is the major issue of the area. The poor management system boost rat and mouse population in the area.	PMU informed that solid waste management will be implemented during construction phase of the project.
22/02/2023	Proposed Parking Area site	Occupants of Proposed Parking Area Site 1. M. Imran (he is doing birds selling business and have semi-solid bird's cages) 2. Sifarish Ali (he is doing waste sorting business and mainly collect paper waste from local waste stream. About 4 more persons help Sifarish to run his business) 3. Jahagir Khan (He is running a small tea	- The occupants were of the view that they are sitting on public land and will accept if similar setup develop for them at available state land adjacent to the project area. - Affected persons are using the area for running their small businesses and not for living area. - All three affected persons responded that they are government employee as shown in the attached questionnaires completed in the survey conducted by WCLA. (copies attached as Annexure L).	PMU and WCLA staff assured that all arrangements including development of similar or better structure will be made at available free public land for the affected persons before commence work activities on site. The possible site for relocating the affected persons are shown on map attached as an Annexure J, the site will be mutually agreed upon by the concerned department and executing agency (WCLA). WCLA will provide support in

		stall. Jahagir has one helper to run his tea stall)		relocating of any personal belongings if needed.
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Table 9.1: Consultation with Local Community

Sr. No	Participant	Date	Observation/Feedback	Remarks by PMU-Team
1	House owner and Business owner	30-12-2022	There is no proper parking which results in traffic jam for long hours and the digging process will also affect our mobility. We need alternate routes to reach our houses and work places.	PMU team briefed the participants that a dedicated parking area will be developed under the proposed project. It was assured that the construction and digging process will be carried out after negotiating schedule with the local community and the contractor will be bound to provide the alternate routes, and diversions with proper signage under an elaborate management plan(ESMP)
2	Business owner		The consultant person informed that as my work is related to production of wires. The long hours of non-availability of Electric supply will affect my business.	The PMU Team briefed that community will continue getting electricity supply during the proposed activities (Phase-I). However, in case power supply is interrupted for short hours , locals will be notified beforehand to make appropriate arrangements
3	Secretary Union Council		1) There are no street lights in the area . 2) The open drains are dangerous for the people in terms of health ,due to open drainage rat population is also increasing.	1) Point noted regarding the street light issue. Illumination of the area is included in the proposed project. 2) Underground drainage is the part of the project and it will cover all the problems.
4	Business owners		In monsoon season this area become a mess as the rain water is not properly drained and the open	PMU explained that the project will improve the drainage system

			drains also ooze out which result in standing water on roads for many days , this thing is not only effecting the mobility of residents but the business of the local businessman .As nobody wants to come to such places .	which will end the long standing issue of over flow of drains after rains in this area.
5	House owner		The process of construction will result in a lot of garbage and waste material in the area.	The contractor will be responsible for clearing the construction waste. WCLA, Supervisory consultant firm will stay in touch with waste management authorities to manage it and ensure the on time removal and dumping of the waste in appropriate manner.
6	Business owners		Construction in the major areas will affect the business activities as we outsource the raw material for business from different areas.	The contractor will intimate before the construction via notices and public announcements so raw material can be stored in sufficient quantity also a traffic management plan will be prepared. Furthermore, there is alternate access to Bhaati area through Taxali area which can also be utilized for transportation of raw material.
7	School principal		1) Construction will result in noise and dust pollution. 2) School activities will be disturbed. 3) Mobility and safety of kids.	1) The project work will be done mostly through manual labour as heavy machinery cannot be used inside the streets and alleys of the project area. 2) All noise producing activities will be conducted during day time near residential area. If sensitive receptor identified near the work area i.e. school, health centre etc. than additional precautions will be taken to minimize the noise pollution e.g. use

				noise barrier, adjust working hours etc 3) Alternate routes and safety plans will be incorporated in the ESMP of the project. It will bind the contractor to take all safety measures such as placing safety barriers, and cordoning off the area.
8	Business owner		Is it possible to carry out the project activities after business timings?	The project will initiate work from dead end alleys away from the commercial center. Once the work is started near business activities the contractor will negotiate timings and alternate routes with local business owners.
9	House owner Business owner		If there is conflict between the on the ground labour force and the local residents or business community who will look after that matter.	Site supervisor will be present to deal with such conflicts. If the community is dissatisfied with the onsite conflict resolution, They can register their grievance through the Grievance Redress Mechanism (GRM). The information regarding GRM will be displayed in the project area.
10	House owner		What if the water supply line is disrupted during the digging process in construction?	The PMU Team briefed that community will continue getting water supply during the proposed activities (Phase-I). However, in case water supply is interrupted for short hours , locals will be notified beforehand so they can store water.

5.2 Public & Stakeholder Group Consultation

A group consultation session with stakeholder and public members was held near the project site

at Lahore Fort on 10th November 2022. Member of civil society and representative of different departments including Local Government, LWMC, politician, local school owner, AKCSP, WCLA and PTEGP attended the session. Proposed work scheme and their potential benefits and challenges of executing the work scheme were discussed in the meeting. The meeting minutes of the session and list of attendees are attached as an Annexure B. A synopsis of the concerns raised in the meeting and their replies by PTEGP and WCLA are provided in below table:

Table 9.2: Synopsis of Stakeholder Group Meeting

Discussion/Concerns	PTEGP and WCLA Replies
The proposed scheme was very well appreciated by the participants. It was recognized that the livelihood of local community and business owners will be improved as a result of the proposed work scheme and living standards of the locals will be improved.	
It was raised that execution of construction activities in the highly populated area will have a real challenge. It was suggested that concern departments should be on board and part of the work execution team.	PTEGP staff responded that Contractor ESMP and health & safety plan will be implemented on site during execution of the work. A communication plan will be prepared and implement during construction phase of the project and an integrated approach will be adopted in execution of the work on site in safe and environmentally friendly and socially acceptable manner. Concerned WCLA informed that the infrastructure improvement work design will be finalized with the collaboration of concern department.
Community awareness program should run in the area and literate local community about the historic and heritage values of the area/buildings.	Community awareness program will run in the area and cost allocated for these programs in the ESMP and ARAP.

5.3 Pictorial View of Stakeholder & Public Consultation



Consultation with WCLA



Consultation with Local WASA Office

	
Consultation with Local LESCO Office	Consultation with Owner of Local Museum Faker Khana
	
Public Consultation with shop owners and representative of local community	Taking View of local residence

6. Environmental & Social Screening

Environmental & Social Screening (E&SS) for the proposed work scheme was completed during October 2022. Scope of work of the sub-project were designed such that there are no land acquisition impact of the sub-project. Possible adverse impacts related to resettlement and livelihood will be addressed through implementation of ARAP and ESMP. Other construction related adverse impacts of the project are localized, temporary nature and mitigable. As per findings of the site visit, desk study and discussion held with stakeholder and public members, following World Bank operational policies are triggered in phase 1 of the proposed project:

OP 4.01 Environmental Assessment;

OP 4.11 Physical Cultural Resources; and

OP 4.12 Involuntary Resettlement.

No permanent or significant adverse environmental or social impact anticipated pertain to this sub-project. Envisaged adverse environmental impacts are related to the construction activities and they are localize and temporary nature. Environmental and social checklists completed for

the sub-project is provided as an Annexure C.

6.1 Findings of E&SS

Following are findings of the E&SS study;

- World Bank's operational policies OP 4.01 (Environment Assessment), OP 4.11 (Physical Cultural Resources) and OP 4.12 (Involuntary Resettlement) are triggered for phase 1 of the proposed sub-project. No land acquisition require for the phase 1 of the project activities. However, rehabilitation of privately own properties will require permission and access to the part of the properties. The anticipated social impacts of the project should be mitigated through preparation and implementation of ARAP before commence work on site. A robust Grievances Redress Mechanism (GRM) process should be explained to the project staff and local community. A complain register should maintain on site and available for inspection anytime on site.
- Anticipated adverse environmental impacts of the sub-project are associated with construction work activities carrying out in the highly populated urban area and at some places close to the historical buildings. However, the identified adverse impacts are localized, temporary nature and mitigable. Comprehensive H&S work plan need to be developed and implement by the contractor during construction phase of the project. Environmental friendly, socially acceptable and financially feasible control measures should be derived and presented in the ESMP. The ESMP should implement on site by the contractor and supervised by supervision consultant with additional supervision by PTEGP. On the basis of E&SS study it can be concluded that the proposed sub-project will have localized and mitigable environmental and social (E&S) impacts and can be classified as category B project.
- The execution of the sub-project will not involve any tree cutting. New plantation should be carried out in the project vicinity.
- The sub-project could benefit greatly from the experiences of the Social Mobilization team, WCLA to gain support of the local community and maintaining GRM.

7. Mitigation Measures and Implementation Plan

This section outlines the potential environmental impacts and their associated mitigation measures of the proposed sub-project. It also assigns the responsibilities for implementation, supervision and frequency of suggested mitigation measures. Ensuring that there are no unacceptable adverse impact on the heritage sites of the area during construction phase of the project, additional control measures are presented in Annexure L.

The contractor will be responsible for the implementation of ESMP in the field. The contractor will ensure that ESMP is implemented fully and is integrated into the project implementation. In case the contractor fails to implement any part of EMP, PMU, PTEGP will reserve the right to get it done at the cost of the contractor. The cost of any such work will be determined by the Construction Supervision Consultants, and will be adjusted from amount due to the contractor. The contractor will also be responsible for communicating with and training of project staff in the environmental and social aspects and implementation of the ESMP. The contractor will develop the Health, Safety, and Environment (HSE) Plan and ensure he has suitable site team to

implement the ESMP and HSE plan on site in their true spirit. .

The Construction Supervision Consultants will review and approve site specific safeguard plans as per the requirement of the ESMP e.g. Traffic Management Plan, Waste Management Plan, HSE Plan etc. by the contractor before the commencement of the physical works at the site. The supervision consultant will also supervise implementation of ESMP plan on site. Supervision Consultant will appoint dedicated, qualified environmental and social team. The contractor and Construction Supervision Consultant team will respond to the E&S Team of PTEGP, PMU and WCLA. Recommended organizational structure for managing environmental and social aspects of the project during construction phase is presented below:

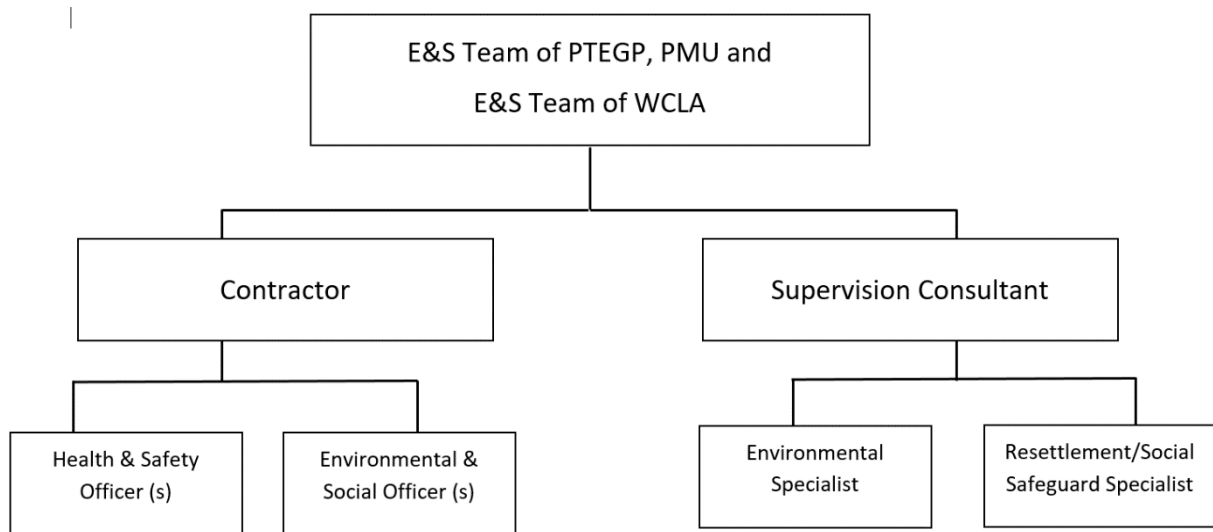


Table 10: Environmental Management and Monitoring Plan

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
1	Obstruction in natural drainage due to project execution and unauthorized dumping of spoil or construction waste at site. Soil erosion	1.1 Avoid unnecessary land clearance/excavation. Contractor will get approval of land clearance and excavation (area and depth) from the supervision consultant before commence work on site.	Contractor	Supervision Consultant PTEGP WCLA	Clear marking of land on site which need to be cleared or excavated. Documentation record of approval from supervision consultant.	Once before start of clearing land or excavation
		1.2 Maintain good housekeeping and send the spoil of site to the authorized dumping station as soon as possible	Contractor	Supervision Consultant PTEGP WCLA	Maintain good housekeeping, arrange frequent collection of spoil/demolition debries for disposal	Daily during construction phase
		1.3 Contractor will ensure that the surface drainage arrangements are in place to control the surface run off, particularly during raining season	Contractor	Supervision Consultant PTEGP WCLA	Drains are clear and solid waste not dumped in the drains	Check once a week during construction phase
		1.4 All work areas should be fenced and separated from the public area/paths/roads. Ensure safety reflective signage are displayed and local community are formally informed about the work activities through consultation. The work should be planned in light of the local community opinions/suggestions. Ensure that the movement of earth moving machinery (dumper, mini excavator, if used) is limited to the work area	Contractor	Supervision Consultant PTEGP WCLA	Working areas are marked/fenced	Daily
		1.5 Contractor will ensure that erosion protection measures are taken, such as retaining wall (if required), avoidance of steep and deep excavation etc.	Contractor	Supervision Consultant PTEGP WCLA	Visible signs of any soil erosion Soil exposed to the flash flooding during heavy rain	Weekly and Once after rain

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		1.6 Contractor will backfill the excavated area and level the working area as far as possible and as per the satisfaction of the people living or running business next to the work area. Contractor should prepare working area restoration plan and get its approval from the Supervision Consultant.	Contractor	Supervision Consultant PTEGP WCLA	Restoration plan prepared by the contractor, Site inspection record of restored area.	During construction phase and area restoration process
		1.7 Contractor will maintain the complete documentation for the excavated areas or demolition waste i.e. volume excavated/demolition waste, date of excavation/waste produced, leveling or sending waste of site date after completion of work	Contractor	Supervision Consultant PTEGP WCLA	Site Records	During construction phase
2	Soil and water contamination; obstruction of community paths; and aesthetic problem	2.1 Hazardous material e.g. fuel, chemicals etc. should be avoided to store on site by arranging periodic deliveries. If the hazardous material need to be kept on site than it should be stored in the bunded area with additional suitable catchment container in case of leakage or accidental spill of the material.	Contractor	Supervision Consultant PTEGP WCLA	Site Record	At the start of work and during construction
		2.2 Waste produces from the project activities should be collected in the suitable waste bins and arrange collection of waste from the site with local authority on regular basis.	Contractor	Supervision Consultant PTEGP WCLA	Compliance with Waste Management Plan	Once before start and weekly during construction phase
		2.3 Contractor will ensure that all trucks used for the transportation of waste or construction material are covered (if required) and waste/material should not escape to the environment during transportation.	Contractor	Supervision Consultant PTEGP WCLA	System in Place	Weekly during construction phase

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		2.4 Supervision Consultant will ensure that the Contractor's fulfill contractor's obligations regarding disposal of construction waste material including waste concrete, spoil, empty drums, packing material etc. Contractor will provide separate bins for construction waste and recyclable domestic waste on site. The contractor will ensure the waste carries in appropriate trash vehicles for transporting the waste from the site.	Supervision Consultant	PTEGP WCLA	Compliance with Waste Management Plan	Daily during construction
		2.5 Hazardous material (fuel, cement etc.) should be kept away from the water body (drain, groundwater source (tube-well, hand pump etc.)	Contractor	Supervision Consultant PTEGP WCLA	Site Set up Plan	Daily When required
		2.6 Contractor will ensure that surface drainage is not blocked due to the piling of the raw material	Contractor	Supervision Consultant PTEGP WCLA	Site Inspection Record	Daily Once a month After each rain
		2.7 Contractor will maintain leak / spill record for each incident of spill or damaged vehicles. Damaged / defective vehicles will not be operated unless repaired	Contractor	Supervision Consultant PTEGP WCLA	Maintain Site Incident Record	Daily When required
		2.8 Contractor will ensure that the material is stock piled at the designated area only.	Contractor	Supervision Consultant PTEGP ECLA	Compliance with agreed site setup plan; photographs	Weekly site inspection during construction Phase
		2.9 Ensure work activities do not block public path or access to the local facilities e.g. religious place, shop, washroom, entrance/exit etc.	Contractor	Supervision Consultant PTEGP WCLA	Site Inspection record, Compliance with Site set up plan agreed with client and consultant Public consultation record	Daily during construction

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		2.10 If temporary latrine/washroom provided on site than it must be at least 50m away from the residential structure and groundwater source (hand pump, tube well).	Contractor	Supervision Consultant PTEGP WCLA	Site record, site setup plan	Before start work and during construction phase,
3	Safety hazard for communities; road accidents; damage to public infrastructure; Dust Emission	3.1. The Contractor will prepare and implement Traffic Management Plan and obtain approval from the supervision consultant before commencement of work on site. Work area should be segregated with solid fence from public area or path/road. Safety reflective signage should be displayed and the local community should be formally informed through consultation process. The work should be planned in light of the local community opinion/suggestions.	Contractor	Supervision Consultant PTEGP WCLA	Traffic management Plan is prepared and implemented on site	Before construction phase and monthly during construction phase
		3.2 All the local roads under the use of the contractor will be restored immediately in case of any damage occur due to the project traffic.	Contractor	Supervision Consultant PTEGP WCLA	Site inspection; Public Consultation; photographs	At completion of works and after de-mobilised of the contractor.
		3.3 All sections of the road/paths including access tracks that are prone to dust emission should be damped with water sprinkling during construction phase of the project.	Contractor	Supervision Consultant PTEGP WCLA	Public Consultation; visual inspection;	Water sprinkling should be done on daily basis during persistent dry weather or when require basis.
		3.3 Ensure adherence of speed limit of 20 km/hr by project's and public traffic in the vicinity of work area, unless different limit specified by the project management.	Contractor	Supervision Consultant PTEGP WCLA	Site inspection record Compliance with traffic management plan and training plan (specified training to the drivers are delivered etc.).	The 20 km/hr speed limit need to be obeyed at all time on site. Monitoring will be conducted randomly during construction phase of the project.
		3.4 Ensure that vegetation clearing will be minimized and no tree will be uprooted without prior consent of the Supervision Consultant. It is recommended to plant 10 new trees for every one tree uprooted on site within the project vicinity. Do not	Contractor	Supervision Consultant PTEGP WCLA	Site record; Site Inspection record	Once a week or When required basis

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		introduce invasive or exotic species through new plantation.				
		3.5 Contractor will ensure that the disposal of cleared vegetation or temporary storage of demolition waste on site is not in a manner that may affect the blockage of natural drainage or public paths	Contractor	Supervision Consultant PTEGP WCLA	Site Inspections; Implementation of Waste Disposal Plan	Daily Once a month
4	Air Pollution; water pollution; soil pollution; noise pollution; damage to natural vegetation, habitat and wildlife	4.1 Vehicle and plant maintenance work should not be conducted at work's site except light maintenance i.e. changing wheel etc. Vehicle washing should be avoided at site.	Contractor	Supervision Consultant PTEGP WCLA	Compliance System in place	Daily As and When required
		4.2 Material Safety Data Sheets (MSDS) or Control of Substances Hazardous to Health (COSHH) sheets should be available at site.	Contractor	Supervision Consultant PTEGP WCLA	MSDS or COSHH sheets available on site	Once every 15-days
		4.3 Ensure that all equipment, generators and vehicles used during the construction are properly tuned and maintained in good working condition in order to minimize the emissions.	Contractor	Supervision Consultant PTEGP WCLA	Maintain inspection record of periodic plant and equipment inspection	Daily When required
		4.4 Ear plugs and other protective devices will be provided to the workers working at noise prone area by the Contractor.	Contractor	Supervision Consultant PTEGP WCLA	PPE Issue record Site Inspections	Daily When required
		4.5 Carry out noise monitoring at 5m distance from machine or work activities which likely to produce noise pollution.	Contractor	Supervision Consultant PTEGP WCLA	Environmental monitoring record	Once a day for every noise producing activity
		4.6 Use appropriate machinery in good working condition in order to keeping noise levels within NEQS/PEQS.	Contractor	Supervision Consultant PTEGP	Plant & Equipment Inspection record	When required
		4.7 All noise producing activities should be conducted during day time near	Contractor	Supervision Consultant	Compliance with site rules	When required Once a

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		residential area. If sensitive receptor identified near the work area i.e. school, health center etc. than additional precautions should be taken to minimize the noise pollution e.g. use noise barrier, adjust working hours etc. Carry out regular noise monitoring as per the requirement of Environmental Monitoring Plan.		PTEGP WCLA	Implementation of Environmental Monitoring Plan	month
5	Public grievances related to environmental and social aspects e.g. unavailability of drinking water, loss of public property, loss of livelihood.	5.1 Maintain a complaint register at site office.	Contractor	Supervision Consultant PTEGP WCLA	Maintain Compliant Register on site	Monthly during construction
		5.2 A GRM system is developed by PTEGP to address the community complains in systematic way. E&S team, PMU will arrange training sessions for contractors on GRM. During public consultations, local community will be made aware of how to register grievances. Complaint registers will be maintained on site and GRM related information material will be displayed on web site and at visible places within the project area.	PTEGP		Public Consultation Record	
		5.3 Inform and coordinate the local residents regarding construction time schedule. Conduct meaningful public consultation during all stages of the project execution.	Contractor	Supervision Consultant PTEGP WCLA		
		5.4 Identify and appropriately respond to impacts on directly affected persons to ensure legal compliance and meet moral/ethical obligation.	Supervision Consultant PTEGP	Supervision Consultant PTEGP WCLA		
		5.5 workers will be trained to address privacy issue and behave ethically.	Contractor	Supervision Consultant		

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		5.6 Labour would be instructed to respect privacy of local population especially woman and children.	Contractor	PTEGP Supervision Consultant PTEGP WCLA		
		5.7 ARAP will be prepared and implement before commence construction phase of the project for compensating the affected persons in accordance to WB OP4.12 and national laws. 5.8 No livelihood or private land likely to be adversely affected due to the project execution. 5.9 Job priority will be given to the local area inhabitants for unskilled and where possible skilled labor for the project execution.	PTEGP Supervision Consultant	PMU PTEGP WCLA	ARAP implementation record	Before commence construction activities
6	Archeological or religious remains (such as graves etc.) may find during the construction activities of the project, particularly during preparation of ground and earthwork activities carry out for developing car park area	6.1 All earthwork activities must be supervised by a competent person on site. Vibrating roller should be avoided near building(s)/historical structures, if require prior approval will be required from the consultant. 6.2 In case of findings of archeological or religious site during execution of work on site, the work should be stop and immediately inform archeological department and PMU.	Contractor	Supervision Consultant PTEGP WCLA	Site Inspection record	When required basis during construction phase

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		6.3 Implement Chance Find Procedure (provided as Annexure A) in case of uncovering of ancient site or artefacts during construction phase of the project. 6.4 Explain Chance Find Procedure to the site workers by delivering toolbox talk on this topic during construction phase of the project on site. 6.5 In case of unavoidable interference require in public places i.e. mosque, schools, graveyard etc. prior notification will be issued to the supervision consultant and consultant needs to be done to reach consensus on procedure or other options.	Contractor Contractor Contractor Supervision Consultant	Supervision Consultant PTEGP WCLA PTEGP WCLA PTEGP WCLA	Site diaries Site training record	Before and during construction phase
7	Blocking of road may hamper public mobility due to increase in number of vehicles and causing road safety	7.1 The Contractor will prepare and implement Traffic Management Plan and gets its approval from the supervision consultant for implementation at site 7.2 Enforce the maximum speed limit for site traffic to 20 km/hour or otherwise specified different limits by the supervision consultant. 7.3 Any damage to public roads/property due to the project traffic should be rectify ASAP by the contractor. 7.4 Appropriate plant and equipment should be utilized by the contractor for execution of project activities in narrow and congested urban area e.g. se mini excavator instead of 13 tonner, mini dumper etc.	Contractor	Supervision Consultant PTEGP WCLA	Implementation of Approved Traffic Management Plan.	Weekly during construction phase

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		7.5 Movement of vehicle carrying construction material should be restricted during off peak day time only to reduce traffic load and inconvenience to the local residence. 7.6 Indicators, signboards regarding traffic diversion should be provided at proper distance.				
8	Contractor's site offices and camp site for the site workers are the important locations that may have noticeable impacts such as health and safety hazards, extra burden on local welfare facilities and infrastructure of the area. There will be a potential for diseases to be transmitted including malaria, exacerbated by inadequate health and safety practices. Child labour and school drop out Occupational Health & Safety attributes	8.1 Contractor will have rented out house(s) for the workers rather installation of camps nearby the sub-project site. 8.2 Provide adequate health care facilities close to the construction site. 8.3 Provide first aid facility round the clock at site workers living place (rented house). 8.4 Maintain stock of medicines in the facility and appoint fulltime designated first aider or nurse. 8.5 Ensuring that children and minors are not employed directly or indirectly on the sub- project. 8.6 Deal children of less than 14 years of age and pregnant women or women who delivered a child within 8 preceding weeks, in accordance with the Pakistani Labour Laws and Employment of Child Act (1977). 8.7 Carry pout environmental monitoring as per requirement of the Monitoring Plan. 8.8 Provide personal protection equipment (PPE) for workers, such as safety boots, helmets, masks, gloves,	Contractor	Supervision Consultant PTEGP WCLA	Site inspection record First Aid Box available at camp site PPE issuing record Implementation of Environmental Monitoring Plan	Weekly during construction

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		protective clothing, safety goggles etc. (as per the requirement of risk assessment)				
9	Uncontrolled releases of hazardous materials may result from small cumulative events, or from more significant equipment failure associated with events such as manual or mechanical transfer between storage systems or process equipment.	9.1 Control measures for fire prevention and fire fighting plan should be included in the Contractor's Health & Safety (H&S) Plan and implement on site by the contractor. 9.2 Indicators on site (for example, heavy rainfall) that will prompt the shutdown of specified areas of work should be provided in the H&S Plan. 9.3 An Emergency Plan should be provided by the contractor including but not limited to a procedure for shutdown of site, including transfer of plant, materials and personnel to safe areas (for example in the event of a flood). 9.4 Emergency evacuation procedure for staff and members of the public likely to be impacted by an emergency event on site (for example: fire or blast). 9.5 Where practicable, avoiding or minimizing the use of hazardous materials. 9.6 Emergency lighting of adequate intensity should be installed and automatically activated upon failure of the principal artificial light source to ensure safe shut-down, evacuation etc. 9.7 The contractor will prepare emergency shutdown procedures and evacuations to cover all staffs and affected members of the public in the	Contractor	Supervision Consultant PTEGP WCLA	Training Record Compliance with ESMP MSDD Emergency Plan is in place	Monthly during construction phase

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		event of any emergency incident (such as traffic accident and fire). 9.8 The contractor will ensure emergency access routes are well-known and have appropriate signage. Identification of locations of hazardous materials and associated activities on an emergency plan. 9.9 Training should incorporate information from Material Safety Data Sheets for hazardous materials being handled. 9.10 MSDSs should be readily accessible to employees in their local language.				
10	Adverse impacts on social environment of the area due to the project execution activities including health hazard for local population and project staff and Local disagreement associated with influx of workers from other parts of the country	10.1 Health, Safety and Environment (HSE) plan will be developed and implemented by the contractor. 10.2 A proper medical screening of labour should be done at the time of recruitment. 10.3 Contractor will ensure that a risk assessment of the spread of communicable diseases e.g. COVID 19, HIV/AIDS, Hepatitis etc. are completed before commence work activities on site. 10.4 The contractor will provide potable water supply for drinking and shadow rest area for site workers. 10.5 Contractor will deploy maximum employment from the local resources,	Contractor	Supervision Consultant PTEGP WCLA	HSE Plan is developed and implemented Periodic health check record of the project staff Health check record of the site workers before deployed to the site Environmental monitoring record (related to the water source periodic checks) Employment record of the project	

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring	Frequency
			Executor	Monitor		
		particularly the unskilled labour. 10.6 At the completion of the work all sites which were under the use of the contractor will be restored to minimum original level or better condition. This should be verified with the photographic record before acquiring the site and after restoration of the site by the contractor.				

8. Waste Management Plan

8.1 Solid Waste Management

The Waste Management Plan (WMP) addresses the management of all solid and liquid refuse, including hazardous and non-hazardous waste, produced during the construction phase of this sub-project. The WMP aims to provide guidelines on waste reduction, segregation, collection, and disposal practices in accordance with international best practices, to avoid deterioration of the natural environment and negative impacts on the health and safety of communities in the Project Area. The waste hierarchy presents waste management stages commencing with the most preferable option to the least preferable option. Waste prevention is the most preferred option, followed by reuse, recycling, and recovery including energy recovery, and the last option is safe disposal, as shown in Figure 8.

Figure 8: Hierarchy of Waste Management



This section describes the waste disposal plan for the waste produce from project activities during the construction phase of the sub-project. Envisaged main types of waste to be generated from the project activities include:

- Domestic waste;
- Construction waste;
- Fuel, oils, and chemicals;
- Packing waste; and
- Used or damaged batteries.

Domestic waste and construction waste will be the main type of waste generated from the site office and construction activities. Domestic waste contains high percentage of readily degradable hydrocarbon which gives bad smell on decomposition, especially in hot and humid environment. Construction waste classified as inert waste which could be problematic to dispose of. It is recommended to collect the domestic waste and construction waste separately. The Contractor should adopt 3 Rs (reduce, reuse and recycle) approach in waste management process for the sub-project.

Domestic Waste

- All the waste generated at site office(s) should be collected and bagged. Periodic waste collection should be arranged with the local authority for disposal.
- Contractor can send bagged domestic waste to the waste transfer station located at southwest of the project site. The waste transfer station belongs to Lahore Waste Management Company (LWMC) and only receive domestic waste. LWMC transfer the collected domestic to the final disposal location outside the Lahore city.
- Burning of waste at site is strictly prohibited.
- Biodegradable bags should be provided at site for waste collection and disposal.
- Separate bins should be provided at site for collection recyclable waste (paper, glass, cans, plastic bottles etc.), green waste (compostable, kitchen or garden waste) and other domestic waste.

Other Non-Hazardous Waste

- It is recommended to conduct façade scraping with care and recover any material which can be re-used in the local construction industry e.g. wall tiles, steel windows, doors etc.
- Excavated spoil or demolition waste (pieces of brick/tile or concrete pieces etc.) can be used as fill material provided it meets required engineering criteria. But if it needs to be disposed of then ensure it is transported to the designated dumping site safely.
- The construction waste dumping site should be agreed with the supervision consultant, preferably in the outskirts of Lahore city. The Contractor and supervision consultant will ensure that the waste disposal site or temporary waste storage area on site will not affect natural drainage of the area and cause water ponding, flooding etc.
- Extra material (aggregate, brick, cement etc.) should be sent back to the supplier as soon as possible.
- No waste should be buried at site.
- Packing waste can be recycled, if it comprises cardboard or other recyclable material, if not then send it to the agreed waste dumping site.
- Recyclable waste e.g. pieces of steel, brick etc. can be collected by the recycling contractor. Waste containing sharp pieces of glass or nails should not be used as fill material on site, as it could damage the newly installed pipe work etc.

Special Waste

- Waste fresh concrete, empty chemical/fuel container, used batteries, medical waste or excavated contaminated soil can be classified as special waste.
- Special waste should be handled as hazardous waste and collected in suitable container/bags, kept within the purpose-built temporary storage area and sent off-site to authorized disposal site.
- Site-specific risk assessment for handling and disposal of special waste should be completed by the contractor and approved by the supervision consultant.
- All site workers handling special waste should have necessary training(s) and use appropriate PPE according to the risk assessment or health & safety plan of the project.
- Special waste should be carried in suitable carrier vehicles to the disposal site.

8.2 Liquid Waste Management

Wastewater generated from the contractor's camp and work area during construction phase of the project can be disposed of by connecting the local existing wastewater disposal system with the approval of concern authority i.e. WASA Lahore. If require, wastewater testing should be conducted as per the requirement of WASA.

Liquid material, fuel etc. should be kept in the designated bunded (impermeable with raised boundaries) area only. The bunded area should be designed, constructed and maintained by the competent person during construction phase of the project.

Spill Kit (sand bags, absorbing pads, shovels and plastic bags/container for carrying contaminated soil or liquid) should be provided at the fuel or liquid material storage area, in case of accidental spills or leakage. Loading and unloading of the material at site should be managed by a trained banksman. Material Safety Data Sheets (MSDS) or Control of Substances Hazardous to Health (COSHH) sheets should be available on site.

9. Training Plan

The environmental and social training will help to ensure that the requirement of the ESMP are clearly understood and followed by all project personnel. The primary responsibility of providing these training to all project personnel will be that of the contractor and Supervision Consultants. The training will be given to the site workers, working at different level (manager, supervisor, labour etc.) and stages of the project i.e. construction and operation stage. Tentative training plan of 20 sessions which will be finalized before the commencement of the project by the supervision consultant is given below:

Table 11. Proposed Training Plan

Trainee	Trainer	Contents	Schedule
All Site Workers	Contractor's Site/Project Manager	Site Inductions – All site workers should be inducted for the site. The sensitive areas i.e. designated heritage sites should be informed to the trainees. Chance Finds Procedure should be briefed to the trainees. Site rules e.g. speed limit, break timing, rest area, waste handling practice etc. should be explained to the site workers. Only inducted person(s) should allow to work on site.	Before the trainee work on site (4 session each session contain no more than 50 person)
- Contractor's: Managerial or supervising staff - Consultants: Managerial staff and Engineers	Environment Specialist PTEGP, Environment Specialist of supervision constlant	Environmental and social aspects of the area, key finding of the EA; Mitigation measures; key elements of ESMP and its implementation on site. Using Fire Extinguisher correctly (type of fire extinguisher for different types of fire, how to inspect and use it).	Before the trainee commence supervising work on site (2 session)
Drivers	Environmental Manger of	HSE Plan, Road Safety, Road Restrictions, Vehicle	During construction

Trainee	Trainer	Contents	Schedule
	Contractor, Environment Specialist of Supervision Consultant	Restrictions, Defensive Driving, Vehicle Reversing Rules, Social and Cultural Values of the area (no loud music, avoid horn near school, hospital etc.).	stage (4 session)
Capacity Building of Local Community	Environmental Specialist from PTEGP with collaboration of LWMC	Waste Management Practices	During construction stage (4 sessions)
Capacity Building of Local Community	Social Safeguard & Gender Specialist from PTEGP, Social Mobilization Wing and WCLA	Community development including women skills training	During construction stage (6 sessions)

10. Environmental Monitoring Plan

Environmental monitoring will be carried out to ensure that all construction activities comply and adhere to environmental provisions and standard specifications and suggested mitigation measures are implemented on site.

Table 12: Environmental Monitoring Plan

No.	Description	Monitoring Location	Monitoring Parameters	Frequency of Measurement
1	Ambient air quality	1. During construction phase near Bhatti Gate monument next to the school. 2. During execution of construction work near the sensitive receptor i.e. health center, school, residence of vulnerable person (sick or old person etc.), final location will be agreed with environment specialist of supervision consultant.	NOx, SOx, CO and Particulate matter (PM10).	Laboratory based (approved laboratory from EPA Punjab) on quarterly basis during construction phase considering 24 months of construction phase total number of monitoring tests during construction phase are 16No.
2	Water Supply quality	From the water supply of site Office(s)	Physical-chemical parameters, biological contamination, heavy metals and toxic organic compounds, as per requirement of PEQS Drinking Water and/or WHO standards	Laboratory based (approved laboratory from EPA Punjab) testing on quarterly basis during construction phase of the project. (8 No.)
3	Dust pollution, emission of smoke and potential air	Construction sites, access roads	Dust, smoke, gases	Visual inspection Throughout

	pollutants from the construction machinery and/or earth works activities.			construction phase
4	Visual check for exhaust emissions from the vehicles.	Construction sites, access roads	Visible emissions.	During routine monitoring.
5	Visual check for vegetation loss	Construction site, project office, access roads	Type and number of tree species uprooted	At the beginning and during construction activities.
6	Noise	Construction site, access roads, communities centers (mosque, schools, health center etc.) within 50m of construction site	Noise measurement	Once a week throughout the construction activities. Or as per requested by the supervision consultant.
7	Solid Waste Generation	At Construction site and contractor's site office/residence	Any sign of soil or water contamination; Any un-authorized waste dumping	Daily during whole construction phase.
10	Oil wastes /spills	Oil storage area, vehicle washing lines; any other potential area which may be affected from spill (accidentally or illegally)	Facilities to control the accidental oil spill according to control measures; any sign of soil or water contamination	Daily during construction phase
11	Socioeconomic issues	Throughout project area	Local people recruited for all manual labour and other jobs for which local skill are available; grievances and conflicts with communities;	During construction phase

11. Illustrated Traffic Management Plan

Execution of rehabilitation of existing historical buildings work may require partial or full closure of the road/street during construction. Therefore, traffic management would be required during such time periods spanning long hours in a day. It is the Contractor's contractual obligation to prepare and submit a Traffic Management Plan, and get its approval from the supervision consultant, traffic police, PTEGP and WCLA and implement on site. The plan should be available for public in local library and at the project site office. The plan should also be disclosed in local newspaper. The suggestions made in this section should be incorporated by the Contractor in preparation of the Traffic Management Plan.

The purpose of traffic management plan is to cope with traffic distribution that call for coordinated actions from several services responsible for road/traffic management on a given road or network.

If part of the road/street needs to be used to undertake the work activities then following measures should be taken (but not limited) during execution of the construction activities:

- The working area should be clearly marked with separating fence. No unauthorized person should be allowed to enter the working area;
- If possible, temporary alternative route should be provided for the affected traffic, if alternative route is not available then ensure the provided free road/street for the traffic is adequate for the load and type of traffic;

- The temporary route or available part of the road/street should be adequate for the existing traffic plus the project traffic. Temporary route should be designed and built by a specialized Contractor.
- Provide temporary traffic signal or control traffic manually by provision of trained traffic controller, if require;
- Construct Speed breaker(s), if require.
- Sign posts about the new traffic light, speed breaker and/or proposed new road layout should be placed at least one km from affected length of the road/street. Sign boards about the expected delay in traffic and queue build up should be placed at main roads or at start of the affected road/street etc.
- It is the Contractor's contractual obligation to use the roads and paths carefully and in case of any damage, repair the damaged roads or paths immediately.
- Arrange all delivery or heavy vehicle access to the area during off-peak time i.e. 10 to 12 morning and 2 to 4 afternoon (depends local school or office timing) in order to minimize traffic congestion.
- Supervision consultant should review the submitted traffic management plan by the contractor and ensured that the plan is tailored according to the environment of the area and nature of work need to be conducted.

12. Communication Plan

Communication and documentation is the essential part of the ESMP. The key features of such mechanism are:

Data Recording and Maintenance

All Forms to be used for recording information during the environmental monitoring. A standard format will be followed to correspond all the gathered data. Check boxes will be used as much as possible to facilitate data entry. Checklist forms provided as Annexure D.

Storage of Information

The database to be maintained may include the following information

- Training programs;
- Staff deployment;
- Non-compliances;
- Corrective actions
- Environmental data listed below:
 - Soil and land pollution
 - Disposal of excavated silt and earth
 - Disposal of waste
- Water resource
 - Quality
 - Quantity
- Fuel oil and chemical spills
- Vegetation/ tree record
- Noise pollution
- Air and dust pollution

- Socio-economic data
- Complaint register
- Site accidents

Meetings

The following environmental meetings during the construction phase of the project will be arranged

- Primary meeting for setting out the regular meetings framework
- Scheduled meetings between Contractor and Supervising Consultant
- Environmental Progress Review Meeting (EPRM) among E&S Team of PTEGP, WCLA, Environmental Specialist of the supervision consultant and Environmental and Health & Safety Officer(s) of the contractor

The purpose of meetings will be to discuss the conduct of the operation, non – compliances noted by the consultant's environmental team and measures for their remedy.

Reports

The Environmental Specialist of the Supervision Consultant shall produce periodic reports (according to the plan provided in below table 13) as well as inspection notes based upon the visits to the Project site. This information shall make a basis for E&S team of PTEGP for their further reporting or conducting additional site visit(s). The PTEGP team will visit the site on regular basis for monitoring the implementation of ESMP on site. All reports shall be location and activity specific. The reports shall especially identify areas of contractor's non-compliances with the ESMP and provide guiding remarks on actions to be taken. The significance of the non-compliances shall also be noted. Copies of these reports shall be sent to the Resident Engineer (RE) who shall forward them to the Project Director, PTEGP and the Contractor for their action(s). The reports will be prepared, reviewed and distributed according to reporting mechanism provided in Table 13..

Table 13: Environmental and Social Reporting Mechanism

Report	To be Prepared by	To be Reviewed by	Distribution
Daily	-Contractor's Health & Safety officer(s)	-Contractor Environmental Officer -Consultant's Environmental Specialists	-Resident Engineer
Monthly	-Environmental Officer and Archaeologist of the Contractor	-Consultant's Environmental Specialists	- Resident Engineer -PTEGP -World Bank
Quarterly	-Environmental team of the Construction Supervision Consultants	-PTEGP	-Resident Engineer -World Bank -WCLA - EPA Punjab (if requested)
Final	-Environmental team of the Construction Supervision Consultants	-PTEGP	-Resident Engineer -World Bank -EPA Punjab (if require) - WCLA

13. Illustrated Health & Safety Plan

It is the Contractor's obligations to provide and implement the site specific Health, Safety & Environment (HSE) Plan for the project and get its approval from the supervision consultant before commencement of work on site.

The contractor should consider this illustrated HSE Plan in developing a site specific HSE Plan. The HSE plan should identify health & safety impacts of the project and provide a mechanism for a better management of health, safety and environment (HSE) issues relating to the project. A detailed HSE Plan will be submitted by the Contractor to The Engineer (supervision consultant) and Client (PTEGP) for approval.

Objectives: The HSE objectives include but are not limited to the following:

- To anticipate and avoid all possible injuries or fatalities during the execution of the project.
- To ensure all personnel employed on the Project are competent to carry out their designated safety tasks
- To develop positive health, safety and environmental protection attitude and perceptions at all levels of the project organization and create safety and environmental awareness in general
- Implement training programs that support the achievement of the Contractor's staff and personnel's competency in relation to health, safety and environment
- Complete the project without incurring any significant property damage to the adjacent permanent structures or temporary facilities
- Complete the project without causing unnecessary risks and damage to the surrounding environment
- Implement a hierarchy of communication forums that ensure that HSE concerns are raised and addressed at all levels of the organization
- Introduce methodology of motivating "good" safety and environmental performance
- Continuous monitoring and improve HSE performance

Site HSE Rules: The following HSE rules must be strictly followed:

- Task specific HSE orientation sessions before starting work
- Wearing of personal protective equipment
- Follow the message and instructions displayed on HSE notice boards at site
- Be aware of emergency assembly points and escape routes
- Promptly report all accidents to the concerned authority
- Maintain appropriate barricades as required
- Never temper with electrical cables and appliances
- All temporary structures should be designed, construct and supervise during construction phase of the project by an competent person (qualified and have relevant experience) e.g. scaffolding, temporary access path to the shops/houses, installing safety net for catching accidental drop of worker, material, tools etc) or arrangements at working at height (using ladder or working tower or cherry picker)
- The construction site should be designated as "NO SMOKING" area
- Vehicles must be driven at designated routes and drivers must have driving license for the class of vehicle they are operating
- Vehicles shall only be parked in designated parking areas

Emergency Response Plan: One purpose of HSE Plan is to describe responsibilities in preparation for response to and recovery from and reasonably foreseeable incident.

In the event of any emergency the In-charge Site HSE/Environment Officer or a member of the HSE team shall take the following actions:

- Shall attend site of incident; assess the situation and issue directions to the concerned parties and to the Fire Fighting Team in case of fire

- Ensure that message about the incident have been communicated to Site Manager / Environment Manager of the Contractor
- Evaluate the scale of the incident and decide whether additional resources are required to deal with it adequately
- Liaise with site supervision staff for withdrawing any working permits
- Liaise with site supervision staff for the mobilization of any plants and equipment necessary for dealing with the emergency
- Limit access to the area with barriers, or other means to prevent unauthorized access
- Co-ordinate the re-instatement measures following stabilization of incident
- Maintain the records of the incident/ accident and prepare a full report of the event
- Take prompt and appropriate actions for defined events such as serious illness/injury, fatality etc.

Health, Safety and Hygiene: The measures should include:

- Initial medical examination of all employees of the Contractor to verify their fitness for work
- Provide a group insurance cover to the workers and labour on site or in the camp, against accidents, mishaps or loss of life on duty
- Monthly talks on occupational health
- Provision of qualified medical personnel and adequate medical facilities to the staff
- First Aid trainings
- Provision of hygienic food to the employees
- Provision of drainage, sewerage and running cold and hot water in office buildings and camp areas
- Good housekeeping practices should be ensured at site office(s), construction sites and other contractor facilities (material or plant & equipment yard etc.)

Security: Security measures should include:

- Provision of Identity Card to the employees/site workers
- Regular attendance and a controlled time keeping of all employees
- Proper checking of visitors
- 24 hours security at site office(s), site workers living area and working area.
- Restriction of un-authorized persons to the residential/offices and work areas
- Restriction of carrying weapons or illegal objects, drugs etc.
- Provision of boundary walls / fences with proper exits to office and residential areas

14. Emergency Plan

In case of any emergency e.g. building collapse, fire, terrorist activity, road accident or any of the results of the environmental monitoring/sampling exceeds from baseline condition levels of the monitored parameters, the appropriate actions will be undertaken to prevent hazard to human life, property and minimize any immediate risks of pollution of the environment, ensure the immediate initiation of necessary investigation and management actions to identify, mitigate and remedy the cause of the accident. Initiate training and periodic testing/checking when necessary.

An outline of risk management plan is provided below, detailed and more precise risk management plan will be prepared and implement by the contractor as a part of the Health & Safety Plan for the project. Preliminary risk management plan identifies the possible hazards

associated with the project activities, consequences of the occurrence, probability of the occurrence and action to reduce the risk to acceptable level i.e. low to medium.

Hazards	Consequences of Occurrence (Severity- L,M,H)	Probability of Occurrence (L, M, H)	Risk (L, M, H)	Action to Manage the Risk	Residual Risk
Building Collapse	Fatality or serious injury (H)	M	H	-Structural stability and integrity of building should be assessed by a competent person before commence any rehabilitation work of the building. -Rehabilitate existing building without changing their structural component i.e. foundation, columns, load bearing walls etc. -Rehabilitate façade of the buildings only using appropriate plant and equipment. -work should be designed and supervised on site by an experienced civil engineer. -Provide required PPE to the site workers as per the requirement of their task/H&S Plan. - Fall arrest arrangements should be provided when working at height e.g. catching net, safety harness etc. the arrangements should be assessed and approved by supervision consultant before commence the work. If sing safety harness, than ensure it is hocked (anchored) at safe point. - Continuous monitoring of integrity/stability of buildings should be conducted during execution of rehabilitation/conservation work and in case unusual cracks develop or enlarge existing cracks than work should be stop and immediately inform site manager. Site Emergency plan should be implemented by the designated person of the contractor, if require.	M

Hazards	Consequences of Occurrence (Severity- L,M,H)	Probability of Occurrence (L, M, H)	Risk (L, M, H)	Action to Manage the Risk	Residual Risk
Event of Fire	Fatality or Serious Injury (H)	M	H	-Minimise hot work activities on site e.g. welding, steel cutting etc. by delivering prefabricated sections on site. -Waste burning on site should be strictly prohibited - Avoid storing flammable material e.g. fuel, gas cylinder etc. on site by arranging periodic deliveries of these material instead of storing on site. - Provide suitable fire extinguisher and appropriate trainings to the site workers. -Smoking should not allowed in enclosed area and provide designated smoking area away from the combustible material etc. -Provide suitable PPE to the site workers.	L
Terrorist Activities	Fatality or serious injury or damage to the infrastructure (H)	M	H	-only authorised persons should allowed inside the working area. -Contractor should deliver Site induction to every site worker and a working card should be issued to the workers.	M
Failure in Plant and Equipment e.g. lifting gears etc.	Fatality or serious injury (H)	M	H	-Inspect all the equipment including lifting chains and ropes at the start of the work -A competent person should manage the work on site -Use appropriate PPEs	L
Oil, Chemical Spills	Contaminate land and water resources (M)	M	M	-Select the location of material storage yard away from the water bodies -Store material on bunded area with impermeable layer -Good housekeeping -Loading and unloading of material should be managed by a competent person -Spill kit should be available to deal with small spills	L
Road Accidents due to Construction Work Activities	Casualty, serious injury, damage to infrastructure (H)	M	H	-Prepare and implement Site Specific Traffic Management Plan and implement on site with the collaboration of relevant authorities	L

Risk of accident such as building collapse, event of fire, road accidents after the proposed control measures are low to medium because the proposed work scheme only involves the rehabilitation of existing buildings and developing new car park. However, because the project site located in

the highly populated area and overall environmental emergency response method will be used to develop site specific Emergency Plan:

- Obtain an early warning of the emergency conditions so as to avoid/minimize adverse impacts on human health and the environment of the area.
- Safeguard personnel to prevent injuries or loss of life
- Minimize the impact of such event on the environment by mitigating the potential for escalation and containing of the hazards
- Site In-charge should have permanent mode of contact (e.g. mobile phone or walkie talkie) with the HSE officer.
- Contact name and number of HSE officer should be available in site office and displayed on site office notice board.

It is the responsibility of the Contractor to provide at least one First Aider during working hours on site to handle emergency conditions and accidents. The Contractor will also get a hospital on panel for critically injured persons. The First Aid provider at working area will perform the following duties.

- i. Keep all necessary first aid medicines and bandages in the first aid box at every time
- ii. Replace the medicines before their expiry dates
- iii. Provide first aid to the injured in the event of accident
- iv. Report any accident / incident to the Health & Safety Manager or environmental manager immediately for necessary action
- v. Call ambulance in case of any serious emergency
- vi. Emergency siren should be installed at the work area and at site offices/residence to inform the site worker about any emergency situation. The operation of the siren will be controlled by the HSE officer or his nominated person. The designated assembly area should also be marked and informed to site worker.

15. ESMP Implementation Cost

Total allocated cost for implementation of ESMP on site is 2% of the project cost. ARAP cost is not included in the cost of ESMP. It is contractor's contractual obligation to implement ESMP on site during construction phase of the project. Cost of ESMP activities will be included in the Contractor Budget and Bill of Quantities (BoQs) through in accordance to the procurement procedures. The estimated cost details for the implementation of ESMP details are provided in the table 14 below. Estimated unit rates are taken from the previous study and addition of 10% inflation.

Table 14: Estimated ESMP Implementation Cost

Name of item	Quantity	Unit	Unit Rate (PKR)	Total Amount (PKR)
Estimated PPE Cost (taken from previous study +10% inflation or otherwise specified)				
Dust masks	52,800 (considering average 100 persons working over 24 months)	Each	10 (market rate)	528,000
Safety Shoes	400	Each	2040	816,000

Name of item	Quantity	Unit	Unit Rate (PKR)	Total Amount (PKR)
Estimated PPE Cost (taken from previous study +10% inflation or otherwise specified)				
Gloves	800	Each	700	560,000
First Aid Box	10	Each	5000	50,000
Ear Plugs	800	Each	130	104,000
Safety Helmets	400	Each	500	200,000
Safety Jackets/Hi-Viz	800	Each	1120	896,000
Sanitizer	240	Each	500	120,000
Safety Harness	10	Each	10,000	100,000
Safety Goggles	400	Each	500 (estimate price)	200,000
SUB TOTAL (1)				3,574,000
Environmental Analysis During Construction				
Ambient Air Quality Analysis (SO _x , NO _x , CO, PM _{2.5} , O ₃ ,)	16	Each	70,000 (market rate)	1,120,000
Noise Level Monitoring	4No. Noise meter	Each	100,000 (market rate)	400,000
Water Analysis (water supply and wastewater)	16	Each	30,000 (market rate)	480,000
SUB TOTAL (2)				2,000,000
Others				
Reflective Tape Role	300	Each	500	150,000
Sign boards (3x2 feet)	10	Each	25,000 (market rate)	250,000
Water sprinkling	Once a day during summer and when require basis during winter	L/S	1,000,000	1,000,000
Implementing Waste Management Plan	Provision of Colour coded Bin, rubbish bags and disposal of special waste	L/S	5,000,000	5,000,000
Delivering Training Plan	20 sessions	Each	50,000	1,000,000
Implementation of Traffic Management Plan	Controlling traffic of the area by implementing purposed	L/S		5,000,000

Name of item	Quantity	Unit	Unit Rate (PKR)	Total Amount (PKR)
Estimated PPE Cost (taken from previous study +10% inflation or otherwise specified)				
	mitigation measures e.g. separating cones, temporary signal, speed breaker etc. (construction of new road(s) or street is not included in this cost)			
Tree Plantation/beautification of the area with plantation in the available within or in the immediate surrounding of project area. The new plantation will be finalized with the collaboration of concern authorities (WASA, LESCO, PHA and TEPA). Approximate 1312 trees and 2000 flowers and decorating plants will be planted. Beautification of the area also included in this item e.g. provision of sitting area, symbol of arts etc.			8,290,000	8,290,000
SUB TOTAL (3)				20,690,000
Total				26,264,000

16. Social Impact Management Plan

The sub-project area comprised on highly populated urban area. Construction activities need to be carefully executed and supervised by competent persons. This section provides socially acceptable and economically feasible mitigation measures for anticipated adverse impacts on social environment of the area due to the project execution. Table 15 provides Social Impacts Management Plan (SIMP).

Table 15: Social Impacts Management Plan

Sr. No.	Impacts	Mitigation Measures	Responsibility		Parameters for Monitoring
			Executor	Monitor	
1	Infrastructure Losses i.e. damage to structures/Properties, etc.	During rehabilitation of the properties, the civil work will be restricted to the façade only. It will be mostly masonry work. In case, there is damage to structures such as steps, doors, windows etc. it will not be left unattended, and compensation will be paid in kind. SOPs will be prepared for countering such scenarios and made part of the civil work contract. A GRM prepared for the project (details provided under section 17) will be emplace for people to record any concerns or grievances that may arise.	Contractor WCLA	Supervision Consultant Firm/ SS&GS, PMU/ WCLA	Site Records/ Grievance Records
2	Economic/Livelihood Losses	Most of the project area is mainly residential. Shops are only on the main trail, where, as per WCLA, the ROW is already clear. There are semi-commercial buildings in the main trail which will be open for business with some disturbance as scaffolding would be present there. The passage of heavy vehicle will be disrupted and the owners of semi-commercial buildings will be given prior notice to have sufficient reserve material so that heavy traffic is not required to pass during execution of civil work. Pedestrian traffic will not be disturbed and civil works in semi-commercial areas will be started in off peak time or after the closure of the shops so that loss to business could be avoided. The work plan (timing, sequence of execution etc.) will be shared thorough consultations with the local community and finalized the plan on the basis of the community's feedback.	Contractor WCLA	Supervision Consultant Firm/ SS&GS, PMU/ WCLA	Site Records/ Grievance Record/visual inspections
3	Privacy Issues	Scaffoldings will be placed during rehabilitation work. The rehabilitation will be done phase, area and street wise with prior intimation to the households to give them time to make arrangements. PMU will train the contractor on privacy issues. Site workers Code of Conduct will be a part of the employment contract. The code should be briefed to the worker before he/she commence work on site. GRM will be operationalized to address relevant concerns.	Contractor	Supervision Consultant Firm/ SS&GS, PMU/ WCLA	Grievance Records

4	Obstruction in public access	Contractor will be required to negotiate construction work timings with the community and provide diversions with proper signage. Construction work will be conducted phase wise to mitigate impacts on the community. The Portion where work activities are being carried out should be cordoned off	Contractor	Supervision Consultant Firm/ E&S Team, PMU/ WCLA	Visual inspection/Grievance record
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17. Grievance Redress Mechanism

A site-based Grievance Redress Mechanism (GRM) for the project will be operational during the entire sub-project cycle. Grievance Redress will be convened as per the World Bank OP 4.12 which requires an appropriate and accessible grievance redress mechanism for affected persons, including displaced persons and host communities.

A multi-tier GRM has been proposed in the ESMF. At the PMU level, the Social Safeguard and Gender Specialist will be the focal person for PTEGP. Project director will chair the GRC. At the district level the Grievance Redress Officers (GROs) are already nominated. For the proposed sub-projects, Dy. Director Development, Lahore will act as GRO. He has already received training on GRM.

In addition a focal person will be appointed from the Walled City Authority Lahore (WCLA). PMU will conduct a training on GRM to sensitize the social mobilization wing of WCLA. This wing will provide additional support in dissemination of information in the community regarding grievance redressal processes.

GRM will provide an easy to access forum for stakeholders the public to officially launch any complaint (through complaint boxes, by post, via mail, in person etc.) against any project related activities or issues whereby, their complaints will be heard, registered and addressed by the project. The proposed GRM has time bound activities with clearly defined roles and responsibilities. All complaints received in writing or received verbally will be properly recorded and documented.

An online GRM is already exists operational and can be accessed at:
<https://ptegp.punjab.gov.pk/GRM>

18. Conclusion

The project will not have any significant adverse impact on the existing environment of the area. Identified adverse impacts are temporary nature, localized, construction related and mitigable. Rehabilitation of historical buildings and carrying out construction activities within highly populated urban area need to be well planned to avoid any accidental damages and health and safety issues e.g. noise & dust pollution, traffic issues, obstruction in movement of local community, extra burden on existing welfare facilities etc. Land acquisition will not be required for this phase of the sub-project. Possible adverse impacts related to resettlement and/or livelihood can be managed through implementation of ESMP and ARAP.

On the other hand, improvement in local environment and rehabilitation of historical buildings from archeological point of view will boost the tourism industry and subsequently flourish the local economy of the area by creating new small business and job opportunities. This will improve micro economy of the area and help to alleviate poverty.

ANNEXURES

Annexure A : Chance Find Procedure

Chance Find Procedures

Project may involve deep excavations. Therefore, the possibility of chance find is not ignorable. In case of any chance find, the contractor will immediately report through Supervision Consultant to DG Directorate General of Archaeology, Punjab, to take further suitable action to preserve those antique or sensitive remains. Representative of the Director will visit the site and observe the significance of the antique, artefact and Cultural (religious) properties and significance of the project. The report will be prepared by representative and will be given to the Director. The documentation will be completed and if required suitable action will be taken to preserve those antiques and sensitive remains.

In case any artefact, antiques and sensitive remains are discovered, chance find procedures should be adopted by contractor workers as follows:

- Stop the construction activities in the areas of chance find.
 - After stopping work, the contractor must immediately report the discovery to the Supervision Consultant.
 - The Director decides to take over the antiquity for purposes of custody, preservation and protection, the person discovering or finding it shall hand it over to the Director or a person authorized by him in writing.
 - Delineate the discovered site or area.
 - Consult with the local community and provincial Archaeological Department.
 - The Director shall, constitute a team of archaeologists for undertaking preliminary investigation and will decide about further course of action in light of findings of the team.
 - The suggestion of the local communities and the concerned authorities will be suitably incorporated during taking the preventive measures to conserve the antique, artefact and cultural (religious) properties; and
 - Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remain, a night guard shall be arranged until the responsible local authorities take over.
 - Avoid the use of heavy construction machinery during the excavation process; and
- The Contractor staff must have relevant qualification and experience of similar projects.

Annexure B: Meeting Minutes of Group Stakeholder Consultation



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MINUTES OF MEETING

THE WALLED CITY OF LAHORE

Urban rehabilitation and infrastructure improvement

Bhatti Gate to Katri Hajji Allah Baksh Lahore Consultative Stakeholder Seminar

Consultative stakeholder seminar for the project titled **urban rehabilitation and infrastructure improvement Bhatti Gate to Katri Hajji Allah Baksh**, Lahore was held on 10th November, 2022 in Barood Khana, Lahore fort.

It was chaired by Director C&P Mr. Najamus Saqib on behalf of DG, WCLA in which stakeholders participated which include officers from different departments, intellectuals and members from civil society participated.

Name of participants are as followed.

• Mr. Shahid Latif	DS (development)	LGCD
• Mr. Faqir Saifuddin	Director	Faqeer Khana Museum
• Mr. Waqas Malik	Project Director,	PTEGP
• Mr. Ahsan Bela	Environmental Specialist	PTEGP
• Ms. Tajwar Saeed	Social Specialist	PTEGP
• Mr. Haider Abbas	Coordinator	PTEGP
• Dr. M.M. Aslam	Chairman	P.E.C. (Private Schools)
• Mr. Ali Anan	Managing Director	LWMC
• Prince Chohan		LWMC
• Mr. Zain Hamayun		LWMC
• Mr. Wajahat Ali	Manager/ Architect	AKCSP
• Ms. Naheed Iftikhar	Senior Architect	AKCSP

Representative from civil society

• Mr. Mian Salman	Social worker	politician
• Mr. Waheed	Social worker	
• Mr. Syed Shazal Shah		
• Dr. Ashfaq A Malik	Shopkeeper	
• Mr. Naveed Ahmad	Shopkeeper	
• Mr. M Hanif	shopkeeper	
• Mr. Fareed Bhatti	Shopkeeper	
• Ms. Kausar Bibi		
• Ms. Rubina Bibi		

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WCLA

• Mr. Najamussaqib	Director C&P	WCLA
• Mr. Azeem Dad	Senior Architect	WCLA
• Ms. Nausheen Zaidi	DD SMT	WCLA
• Mr. Ayzed Abrar	AD F&M	WCLA
• Mr. Ahsan Khalid	In charge Lahore Fort	WCLA
• Mr. Hamza Shoaib	AD Engineering	WCLA
• Mr. Faseeh	AD Architect	WCLA
• Mr. Waqar Ahmad	Assistant Architect	WCLA

The meeting started with the recitation of Holy Quran.

The Director (Conservation), WCLA welcomed all the participants on behalf of Director General, WCLA Mr. Kamran Lashari.

Director C&P gave a detail presentation on the project which includes cost timeline sponsors and scope of work, and how WCLA will initiate the project and benefits for local residents.

Second presentation was given by Mr. Saifuddin, in which he gave introduction on Bhatti area and discuss way forward. He appreciated the efforts of WCLA and DG WCLA.

Mr. Salman also appreciated DG WCLA and his team for taking up this project. He assured that local community will stand with WCLA where ever required.

Suggestions and comments by participants.

Sr. No.	Name	Dept./ Profession	Suggestions and reviews	Contribution/ skills
1	Naheed Iftikhar	Senior Architect AKCSP-P		Contribution of AKCSP was already is in this project and if you want more technical aspects we are ready to contribute.
2	Nosheen Zaidi	DD(SM) WCLA		Community mobilization and facilitation for infrastructure, and façade rehabilitation.
3	Tajwar Saeed	PTEGP/ social and gender specialist	An excellent initiative for the revival of the cultural and historical hub of Lahore	

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			Please consider socio-economic/ livelihood aspects during and after civil work.	
4	Mian Salman Shoaib	Ticket holder MPA 146 Ex-advisor Governor Punjab	Drainage system, sewerage plan, dumping plan, collection of waste, traffic plan, awareness campaign, enforcement plan, tourism safety, and CBO.	As a political activist I will support this project.
5	Mohsin Javed	Water and sanitation agency	During the execution of this project, I humbly requested to you please close the liaison department.	In case of any emergency regarding water and sewerage issues please contact us.
6	Syed Shozab Shamsi	Govt/ A humble servant of Pakistan.	Children of Lahore and especially the Walled city of Lahore should have knowledge about notable persons. In schools, we should introduce special theater classes so that they can get familiar with these famous personalities and historic sites.	With my physical efforts.
7	Ashfaq Ahmad Malik	Ophthalmologist President of NGO, "Karsaz Eye Welfare Foundation"	This ancient city has been the abode of knowledge and literature, arts and crafts, and eminent personalities. Civilizational and historical heritage not only recognize the greatness of nations, but their preservation is a great source of training for future generations no doubt walled city of	So to appreciate their work, I would like to offer them my services for any possible help in my expertise

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			Lahore authority is playing a vital role in this concern.	
8	WAJAHAT ALI	AKCSP (Agha khan cultural services Pakistan)	Introduce the local community for the day first as they will be the ultimate beneficences and key to sustainability, authorities related to economic upbringing should be a key component of the project	AKCSP would be available for this relevant experience always available

Concern regarding sewerage design was raised by Mr. Saifudin that there are major issue of rat presence in Bhaati gate area. In Reply to this, Ms. Naheed Iftikhar and Ms. Nousheen Zaidi that WCLA has designed sewerage, keeping in view THE ISSUES OF RAT as WCLA and AKCSP already faced and resolved the same issue in Package-I (Delhi Gate and Royal Trail Project).



Meeting ended with the vote of Thanks.

[Handwritten signatures]

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Annexure C: Environment and Social Checklist Completed during the Sub-Project Screening Process

S/N	Screening Criteria	Yes	No	Explanation
ENVIRONMENT				
1.	- Is the subproject in an eco-sensitive area or adjoining an eco-sensitive area or monument? (Yes/No) - If Yes, which is the area? Elaborate impact accordingly.		No	The sub-project site is not an eco-sensitive area, however the WCLA has identified 194 heritage properties inside the Bhatti gate. Identified heritage sites will be rehabilitated under this project. The rehabilitation work will be designed and executed under the supervision of qualified archeologist of WCLA, ensuring their heritage values are not compromised. The proposed work will not only improve the life but in fact will help to preserve out built heritage which consequently will be a tool to improve tourism and economic regeneration of the area and subsequently help in poverty alleviation in the area.
2.	Will the subproject create significant/moderate/limited/no environmental impacts during the construction stage?	Yes		The proposed work scheme involve rehabilitation/improvement of existing structures and infrastructure of the area. Therefore no significant environmental or social impact anticipated. However, because the site situated in the densely populated area and have high heritage value, it is crucial to efficiently manage environmental, social and health & safety impacts of the project mainly related with construction phase of the project. Anticipated adverse E&S impacts can be mitigated by developing and implementing sustainable, socially acceptable and environmentally friendly mitigation measures. Keeping the factors of local stakeholders/residents, diversion and alternative routes and movement of community in and out will be insured along with health & safety measures. Furthermore, the alternate/temporary system for sewerage, water supply, electricity or gas supply etc. will be provided, if require, for maintaining the availability of above facilities as routine for the local community. It will be insured that there is zero disturbances which means all the imminent services including electricity, gas, water and sewerage will remain functional during construction phase of the project. Once

S/N	Screening Criteria	Yes	No	Explanation
				the new system is properly laid the old system will be transferred to the new system without any interruption or delay. On the other hand the project will have significant permanent positive social and environmental impacts. Rehabilitation/improvement of infrastructure and heritage buildings will help to improve in living standards of the community, attract tourism and improve health & safety conditions for the local community.
3.	Clearance of vegetation/tree-cover/other		No	The sub-project area is comprised of densely populated of Lahore city devoid of natural vegetation or habitat. No adverse impact on vegetation or trees is anticipated.
4.	Direct discharge of construction run-off, improper storage, and disposal of excavation spoils wastes and other construction materials adversely affecting water quality and flow regimes.	Yes		Current drainage system comprised combination of open drains and conventional underground sewerage system laid by WASA Lahore. Wastewater generated from the construction site (Construction run-off) can be disposed of into the existing available sewerage system of the area provided the wastewater is tested and results are shared with WASA, Lahore for their approval to discharge the wastewater into the local sewerage system. Construction material and construction waste should be kept/temporary store away from the water bodies. Liquid material should be kept within bunded area with additional arrangement of catching any accidental spill or leaks. Wastewater produced from the project activities (watering fresh concrete, cleaning surface area of buildings for rehabilitation work etc.) can be released to the existing sewerage system with the approval of concern authority i.e. WASA, Lahore. The wastewater should be tested by the contractor before it release into the existing sewerage system and the test results should be shared with WASA, Lahore. Further details will be provided in the ESMP as an Environmental Monitoring Plan. Under this project, it is proposed to replace existing drainage system with modern UPVC pipes for sewerage water and GRP for rain water disposal. Separate system of collection and disposal of storm water will be installed.

S/N	Screening Criteria	Yes	No	Explanation
				Wastewater of Bhatti Gate area collected through a network of partially covered sewage pipelines and convey to the disposal station located just outside the Bhatti Gate walled area. From the disposal station the wastewater pumped to the open area in the outskirts of Lahore city. Mitigation measures, as per guidelines of the ESMF, to control run-off, and other waste material affecting water quality will be followed by the contractor and supervised by the supervision consultant. The contractor will conduct Water quality testing during construction and post execution and submit reports to PMU. Testing will be part of BOQs.
5.	Flooding of adjacent areas.		No	The project area comprised on urban area of Lahore City. River Ravi flows in the outskirts of north-western side of Lahore, however the city is protected with river training embankments and the risk of river flooding in the project area is very low. The project area may be flooded for short period during heavy rain of monsoon. The contractor should identify low line areas within the project area which likely to be flooded for short time during rain and plan his work activities and site setup accordingly.
6.	Improper storage and handling of substances leading to contamination of soil and water.	Yes		Poor housekeeping and inappropriate management of material loading/unloading and storage on site could lead to accidental spill or release of hazardous material to the environment. All material handling and storage should be carried out by a competent person. Material should be stored in the purposed built area and maintained and supervised on regular basis during the construction phase. Further detailed control measures will be provided in the ESMP. The contractor and Supervisory consultant firm will be responsible for ensuring proper storage of construction material. Heavy machinery cannot enter the sub-project area therefore contractor will remain in close liaison with LWMC and TMA for timely removal of materials from site.

S/N	Screening Criteria	Yes	No	Explanation
				PMU will monitor the activities quarterly.
7.	Elevated noise and dust emission.	Yes		Rehabilitation and conservation of the existing buildings and structures (Bhatti gate) are planned to be conducted manually instead of using heavy machinery or plant, therefore, risk of noise and dust pollution in the area is low to medium. Ground excavation and scrapping street surface for infrastructure development work will be conducted manually. Noise and dust pollution will be controlled by implementing environmentally friendly and socially acceptable control measures e.g. planning work out of peak time, water sprinkling on a regular basis, monitoring noise and dust pollution etc. Sensitive receptor e.g. school, hospital will be identified and ensure the noise and dust level are controlled through mitigation measures to an acceptable level (more details will be provided in the ESMP). Noise level near the sensitive receptors will be monitored and ensured that it is within Punjab Environmental Quality Standards (PEQS). The work should be arranged so that there is no or minimum adverse impact of project activities on local community e.g. carry out work activities after school timing near schools etc. Similarly, water sprinkling should be carried out on regular basis to control dust pollution of the area. (further details of control measures will be provided in the ESMP). Where necessary contractor must provide all specified PPE according to H&S Plan to the site workers. A qualified designated health and safety supervisor should be included in the contractor's and supervision consultant site teams.
8.	Disruption to traffic and visitor's movements.	Yes		The sub-project is located in a densely populated area of old part of Lahore City. Most of the streets are quite narrow and the contractor will require to plan his work activities carefully e.g. construction waste collection, segregating work area from public path/road, avoid working during busy hours particularly near school, provision of traffic diversion, information sign boards etc. such that the project execution have minimum impact on local community. (more details will be provided in the ESMP).

S/N	Screening Criteria	Yes	No	Explanation
				A site specific GRM will be a part of the ESMP for community for the community and the project's staff. Contractor will also be required to negotiate construction work plan with the community and ensure Grievances Redress Mechanism (GRM) is in place for catering to any public enquires and for registering complaints The whole project activities are divided into five packages. Infrastructure improvement package five (alteration in electricity supply system, installing underground sewerage collection and disposal system etc.) will commence in second phase of the project. Building rehabilitation and conservation work on packages 1-4 will be executed simultaneously in first phase of the project.
9.	Damage to existing infrastructure, public utilities, and amenities.	Yes		Unplanned or poorly managed Rehabilitation/Improvement work of old buildings may lead to accidental damage of infrastructure or public facilities. All work activities should be properly planned and supervised full time by competent persons. In second phase of the project, existing electrical overhead wires including HT&LT wires, Transformers, electrical line connections will be replaced with approved LESCO design for underground HT/LT, location of DB's with ABC cables along with connectors with individual house connections in proper systematic manner. Once this proposed system is laid out properly, it will be made functional and thereafter the previous system which include overhead dangling wires will be removed and will be handed over with inventory to LESCO. The sub-project involves improvement of the existing infrastructure, such as electrical system will be made underground or run through insulated pipes (as per recommendation of LESCO), covering of open storm water drain, and sewerage system etc.
10.	Failure to restore temporary construction sites.	Yes		All sites temporarily possessed (site offices, material yard etc.) by the contractors will be restored to minimum original level at completion of the work. The Supervision consultant will ensure the required site restoration is carry out accordingly. Further details will be provided regarding restoration of the area used by the contractor during

S/N	Screening Criteria	Yes	No	Explanation
				construction phase of the project.
11.	Possible conflicts with and/or disruption to local community and/or visitors.	Yes		The sub-project area is populated and there is a possibility of conflict. Training of contractors and operationalization of GRM will be ensured.
12.	Health risks due to unhygienic conditions at workers 'camps.	Yes		Contractor will rent the suitable buildings with the permission of supervision consultant for their staff residing near the site. Supervision consultant and PMU staff will monitor contractor's camp and work locations on regular basis and ensure occupational health & safety issues are addressed and compliance with PEQS by the contractor.
13.	Will the subproject create significant/limited/no environmental impacts during the operational stage? (Significant / limited / no impacts) • Flooding of adjacent areas • Impacts to water quality due to effluent discharge • Gas emissions • Safety hazards Other, specify.	Yes		No significant adverse environmental impact is anticipated from the project execution. Most of the adverse impacts pertain to construction work activities in the populated urban area close to the heritage sites. Anticipated adverse impacts are temporary, localized and mitigatable. However, comprehensive health & safety plan need to be developed and implement on site by the contractor in order to control construction work activities. Physical Cultural Resource Management Plan (PCRMP) will be prepared by PTEGP team and ensure that it is implemented while execution of work on site. Anticipated negative environmental and social impacts of the sub-project will be further evaluated and presented in the ESMP. Limited impacts WASA managing water supply and drainage process in the project area. Relevant office of WASA was consulted as a part of stakeholder consultation process. Currently there is no separate drainage system for storm water collection for the area. An open drain located just outside the Bhatti Gate structure convey the domestic and rain water to the disposal pumping station. The effluents will be disposed of to the existing sewerage system under TMA and WASA jurisdiction. Limited Gas emissions as heavy machinery cannot enter the area. Safety hazards can occur during construction activity. First aid kits, PPE, Safety barriers and signage will be part of the BOQs.
14.	Does the subproject involve any prior clearance from Government Departments?	Yes		The proposed work scheme approved by WCL (a letter of the approval attached as

S/N	Screening Criteria	Yes	No	Explanation
	(Yes/No). If yes, which?			Annexure A). The walled city of Lahore is under the jurisdiction of WCLA. They can initiate conservation work as no formal permission is required from any other department. However, WCLA will follow all codal formalities before initiating infrastructure improvement in coordination with TMA, WASA and LESCO for infrastructure improvement.
CULTURAL HERITAGE				
S/N	Screening Criteria	Yes	No	Explanation
1.	Will the subproject create significant/limited/no cultural properties impacts?	Yes		The sub-project involves rehabilitation of façade of 1028 properties which include low to high value properties, based on their architecture, as classified by WCLA. There will be significant impact.
2.	Involve significant excavations, demolition, and movement of earth, flooding, or other major environmental damages.		No	There will be no significant excavation. Shallow excavation will be done for laying of sewerage pipes, electrical wires, gas connections. The electrical, gas and sewerage system will be made underground for main streets. However, all the services except electrical will be shifted underground while DB's and ABC cable will be used for transmission of electricity in smaller streets having limited space. Hazards associated with excavation work will be mitigated through environmentally friendly and socially acceptable control measures including sprinkling water for dust pollution, carry out hand digging to minimize noise pollution, vibration and possible risk of damaging underground services, segregate work area by fencing and provide appropriate path for local community to undertake their day to day work activities etc. more details will be provided in the ESMP.
3.	Is located within or in the vicinity of a recognized cultural property conservation area or heritage site	Yes		The WCLA has classified 194 properties within Bhatti Gate as properties with heritage value.
4.	Is designed to support the management or conservation of a cultural property.	Yes		The sub-project is designed to support the conservation of cultural properties and restore the cultural value of the Bhatti Gate and surrounding area.
5.	Other, specify.		No	
6.	Does the subproject involve any prior clearance from the Archeology	Yes		The executing agency will obtain NOC from Archaeology Department and Higher

S/N	Screening Criteria	Yes	No	Explanation
	Department for either the conservation or management of heritage sites or vicinities? (Yes/ No). If yes, which?			Education Department for conservation of Naunehal Singh Haveli/Victoria Girls High School, which is protected under Antiquity Act, 1975 (Annex-B).
SOCIAL				
S/N	Screening Criteria	Yes	No	Explanation
1.	Will the subproject create significant/limited/no adverse social impacts?	Yes		A) Conservation & Rehabilitation Works B) Rehabilitation of Infrastructure Development Both A & B components of the sub-project will have limited, reversible adverse impacts. For component A wherever any construction/conservation/restoration works shall be carried out it will have bare minimum disturbance during construction activities such as façade rehabilitation. The interior of the houses will not be disturbed, neither there will be any involuntary relocation of the residents. After mutual discussion and consent of the residents, it is planned to conduct rehabilitation work of 4 to 5 properties at a time in each package. For Component B civil work is carried out after providing alternative sources such as electricity connections and gas supply. Temporary impacts such as privacy concerns and hurdles in daily commuting will be addressed in the relevant E&S instrument, which will be part of the bidding document. The executing agency will issue a prior notification to the residents/business owners of the properties before initiating civil work.
2.	Land acquisition resulting in loss of income from agricultural land, plantation, or other existing land.		No	A) Conservation & Rehabilitation Works B) Rehabilitation of Infrastructure Development As per joint survey of PMU and WCLA, land acquisition will unlikely require for both components (Phase 1 & 2). Public utilities such as LESCO transformers are already placed on public land.
3.	Impact on livelihood and economic activity.	Yes		A) Conservation & Rehabilitation Works B) Rehabilitation of Infrastructure Development

S/N	Screening Criteria	Yes	No	Explanation
				Both A&B components of the proposed subproject will have long term positive impacts in terms of livelihood and economic activity. During execution phase, there may be minor inconveniences like daily commuting. Commercial activity is only on the main trail. Traffic load is mainly pedestrians, motorbikes, rickshaws, donkey carts for which diversions will be managed. GRM will be operationalized to address community concerns. The ROW is clear and there will be no monetary or structural losses during works on residential and commercial structures. The properties are already in dilapidated state and in dire need of conservation not just for aesthetics but also for safety of the residents. At the moment open drainage system and dangling wires are not only posing danger to the stability of the heritage structures but are also a health and safety hazard. Improved infrastructure will result in improving living standards of the local residents. It will support regeneration of the area by promotion of tourism, display of art and crafts. This project will also become a tourist corridor starting from Bhatti leading to Taxali, Lahore fort and going through Mariam Zamani mosque leading to Delhi gate.
4.	Land acquisition resulting in relocation of households.		No	
5.	Any displacement or adverse impact on tribal settlement(s)/ minority communities.		No	No existence of tribal settlements along sub-project. Also, there is no recognized minority settlement within the sub-project area.
6.	Adverse impacts to women, including economic and safety concerns.	Yes		Out of 1028 properties in the project area 928 are residential structures. There are 69 buildings on main trail which is a commercial cum residential area. No women headed businesses were identified. There will be no economic impact. However, it is perceived that there may be privacy concerns especially during rehabilitation of facades.

S/N	Screening Criteria	Yes	No	Explanation
				The rehabilitation will be done phase, area and street wise with prior intimation to the households to give them time to make arrangements within the same buildings. As the proposed rehabilitation of buildings only involve rehabilitation of façade and the contractor will require access to the front part of the buildings only. Rear part of buildings will be unaffected from the project activities and therefore residents can make necessary arrangements accordingly during the façade rehabilitation works. Relocation of the residents are not required for the execution of façade rehabilitation work. The privacy concerns will also be addressed in the ESMP. PMU will train the contractor on privacy issues. GRM will be operationalized to address relevant concerns. The social mobilization wing of WCLA will be sensitized on GRM.
7.	Impact on infrastructure (roads, water supply, any other type of infrastructure) Other, specify.	Yes		The infrastructure will be improved. At present the dangling high voltage electricity wires and open drainage pose serious health risks and are a safety hazard as well. The project will overall improve the living standards of the community by rehabilitation of the existing infrastructure.
OVERALL ASSESSMENT				
Subproject is classified as environmental Category B and requires an Environmental and Social Management Plan (ESMP), Abbreviated Resettlement Action Plan (ARAP) and Physical Cultural Resource Management Plan (PCRMP).				B

Annexure D: Environment and Social Monitoring Checklist

Executing Agency: _____

Date of visit: _____

Sr. #	Identified Environmental & Social issues	Mitigation Measure	Means of Monitoring	Status of Mitigation Measure be Adopted		Remarks
				Yes	No	
1.	Noise	Noise level testing should be executed by Contractor.	EPD certified laboratory results			
		Provision for Personal Protective Equipment (PPE's), ear muffs/ear plugs to workers.	Visual Inspection			
		Use of machineries and equipments having less noise.	Visual Inspection			
2.	Dust	Provision for personal protective equipment (PPE's)	Visual Inspection			
		Sprinkling of water	Visual Inspection to ensure water sprinkling is being implemented			
3.	Air Quality	Air quality will be analysed before and during execution of scheme	Results from EPD certified laboratory			
4.	Waste management	Immediate removal of the accumulated construction waste	Visual inspection Local Community			

Sr. #	Identified Environmental & Social issues	Mitigation Measure	Means of Monitoring	Status of Mitigation Measure be Adopted		Remarks
				Yes	No	
5.	Provision of first aid	First aid kit Emergency numbers will be displayed at appropriate places	Visual inspection			
6.	Health, Safety and Environmental needs	Adequate safety precautions such as helmets, safety shoes, gloves, etc. should be provided to the site workers. Appropriate safety signage and segregation of work area with reflective fencing. Safe system of work is in place during construction phase of the project.	Inspection of usage of Personal Protective Equipment during Execution Site specific Health & Safety Plan is prepared by the contractor and approved by supervision consultant			
7.	Public Consultation	Local residents will be consulted during execution phase regarding their views either they are satisfied with the Contractor's activities or not and grievance (if any)	Consultation with local residents			
8.	Vehicles Movement	Provision of alternative routes	Visual inspection			
		signboards for alternate routes Safety barriers				

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Sr. #	Identified Environmental & Social issues	Mitigation Measure	Means of Monitoring	Status of Mitigation Measure be Adopted		Remarks
				Yes	No	
9.	Infrastructure Losses i-e, loss of land, damage to structures, damage to plants etc.	RAP/ARAP	Record of grievance and mode of compensation provided			
10.	Obstruction in public access	Provision of alternate Routes, or segregating fence between the public path/road and work area. Construction should start from middle of the street and later on from either right or left side Rehabilitate only 4 to 5 properties at a time	Visual inspection Record of public grievance			
11.	Privacy Issues	Workers should be trained to address privacy issues and ethically behaved. Workers code of conduct is attached as Annexure F. The Code of Conduct form a part of the job agreement of site workers.	Visual inspection and record of grievance			
12.	Economic Losses	In case of obstruction of passage, shopkeepers/local businesses may affect Public Consultation, alternate routes will be provided. In case of any loss, compensation will be	Record of Public Grievance Visual Inspection			

Sr. #	Identified Environmental & Social issues	Mitigation Measure	Means of Monitoring	Status of Mitigation Measure be Adopted		Remarks
				Yes	No	
		provided by the Contractor				
13.	Any other					

Monitoring Team:

Name and Designation

Signature

Annexure E: COVID-19 SOPs for Construction Sites



Communication & Works Department
Government of the Punjab
Lahore

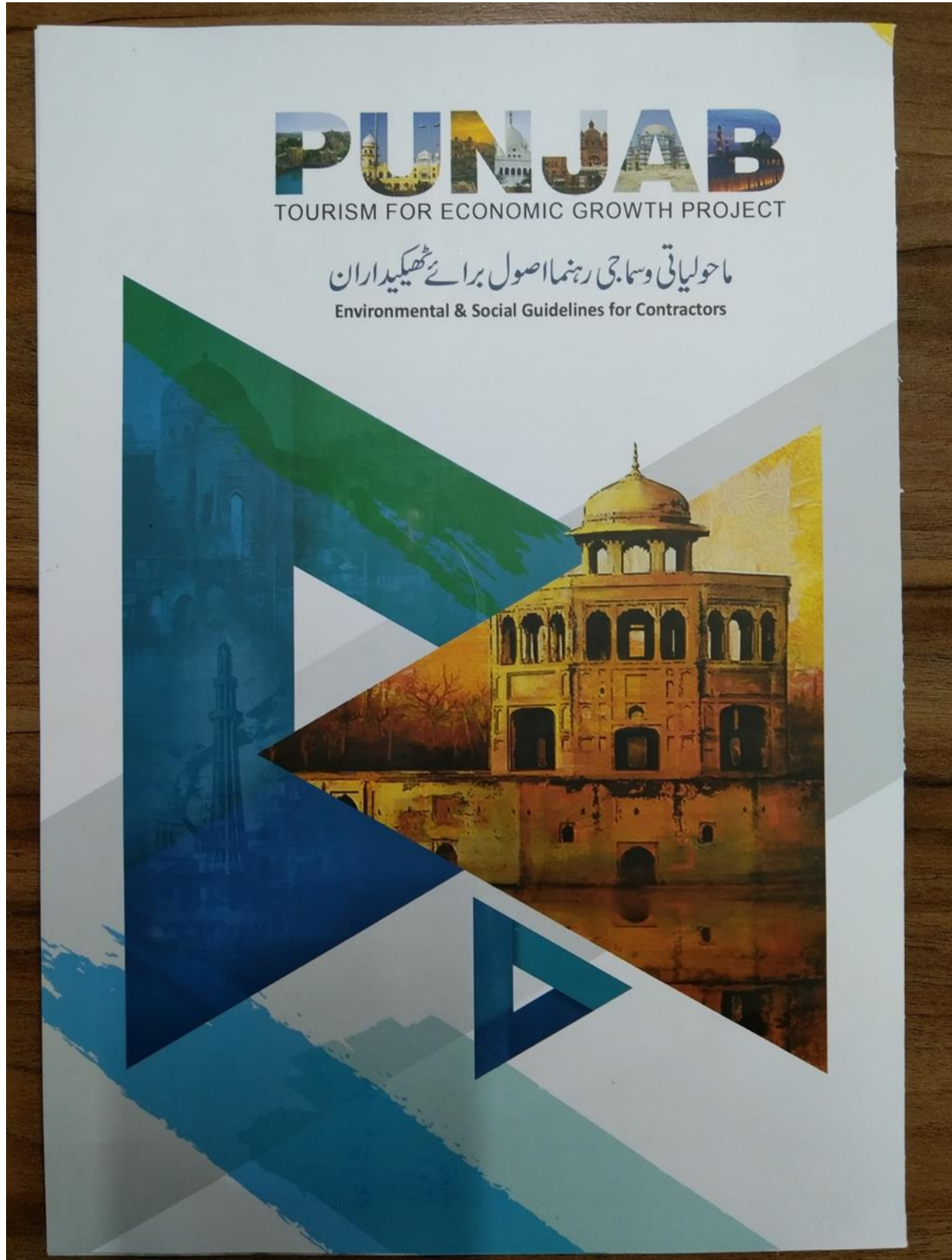
احتیاطی ہدایات برائے (COVID-19) کو روکنا دائرہ کارس انکیشن

یہ احتیاطی ہدایات تمام کنسٹرکشن سائٹس پر نافذ العمل حوالگی اور محکمہ تعمیرات و مواصلات کے کنٹریکٹر زاور سپروائزرز زان پر عمل درآمد کو یقینی بنائیں گے۔

- ۱۔ یہ ہدایات، تمام کنسٹرکشن سائٹس جن پر کام جاری ہے، یہ نمایاں طور پر پینٹر زاور سٹریٹری کی صورت میں آویزاں کی جائیں گی۔
- ۲۔ تمام ٹھیکیداران اپنی کنسٹرکشن سائٹس پر جسمانی درجہ حرارت چیک کرنے کیلئے ٹھیکہ گن کی دستیابی یقینی بنائیں گے
- ۳۔ کنسٹرکشن سائٹس پر کام کرنے والے تمام عملے بشمول مزدور، ٹیکنیکل سٹاف، ڈرائیور، سپروائزرز سٹاف، کالمپریچر روزانہ کام شروع کرنے سے پہلے چیک کیا جائے گا اور ایچ ایچ آر ڈی ریکارڈ رکھا جائے گا۔
- ۴۔ کسی بھی مزدور یا دیگر عملہ میں وائرس کی علامات ظاہر ہونے کی صورت میں فوری طور پر ضلعی انتظامیہ کو مطلع کیا جائے گا۔
- ۵۔ ایسے کسی بھی شخص کو جس میں گلے یا ناک کی بیماری مثلاً زکام، کھانسی، نزلہ وغیرہ ہو کو کام پر آنے کی اجازت نہ ہوگی۔
- ۶۔ کنسٹرکشن سائٹس پر ہاتھ دھونے کے انتظامات بشمول پانی و صابن کی دستیابی متعلقہ ٹھیکیدار کی ذمہ داری ہوگی۔
- ۷۔ ٹھیکیداران اس بات کو یقینی بنائیں گے کہ صبح کام شروع کرنے سے پہلے تمام عملہ صابن سے ہاتھ دھوئے گا۔ اور ہر ایک گھنٹے بعد کام پر موجود ہر فرد اپنے ہاتھ صابن سے دھوئے گا۔
- ۸۔ جس جگہ پر عملہ کام کر رہا ہو وہاں پر گلوہین ملے پانی سے روزانہ سپرے کیا جائے گا تاکہ دو علاقہ جراثیم اور وائرس سے پاک رہے۔
- ۹۔ جہاں تک ممکن ہو اس بات کو یقینی بنایا جائے کہ مزدور اور دیگر عملہ کام ختم ہونے کے بعد گھر جانے سے پہلے صابن سے نہا کر جائے اور کام والے کپڑے و جوتے چھوڑ کر جائے
- ۱۰۔ اگر مزدور یا دیگر عملہ کنسٹرکشن سائٹس پر ہی رہائش پذیر ہے تو ان کی رہائش پر مناسب سماجی فاصلے کو یقینی بنایا جائے۔

کنسٹرکشن سائٹس پر جراثیم کش محلول (Hand Sanitizers / Hand Wash etc) کی دستیابی اور استعمال یقینی بنایا جائے گا۔

Annexure F: Site Workers Code of Conduct





PUNJAB

TOURISM FOR ECONOMIC GROWTH PROJECT

تعارف

پلاننگ اینڈ ڈیولپمنٹ بورڈ گورنمنٹ آف پنجاب نے ورلڈ بینک کے تعاون سے پنجاب سیاحتی اقتصادی منصوبہ شروع کیا ہے۔ جس کی کل لاگت 55 ملین ڈالر ہے۔ اس منصوبے کا مقصد اداروں کی قابلیت کو بڑھانا ہے تاکہ زیادہ سے زیادہ معاشی ترقی، روزگار کے مواقع اور علاقائی تعاون کو فروغ دینے کے ساتھ ساتھ ملک کی تصویر کو بہتر طور پر اجاگر کیا جائے۔

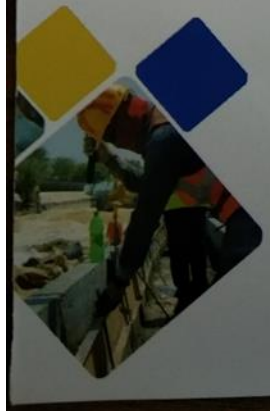
ماحولیاتی اور سماجی مسائل (Environmental & Social Issues)

Punjab Tourism for Economic Growth Project - تھیکسڈ اکر کسی بھی طرح کے ترقیاتی کاموں میں اہم کردار ادا کرتے ہیں۔ **Guidelines** بتائی گئی ہیں۔ تاکہ ترقیاتی کاموں کے دوران پیدا ہونے والے ماحولیاتی اور سماجی مسائل کو مناسب طریقوں سے حل کیا جائے۔ ان کا مقصد تھیکسڈ اکر ان کو نہ صرف آگاہی دینا ہے بلکہ احتیاطی تدابیر اپنا کر ماحول پر پڑنے والے اثرات کو کم بھی کرتا ہے۔

ترقیاتی کاموں میں تھیکسڈ اکر سیاحتی ماحول کے خُسن کو بگاڑنے میں اہم کردار ادا کر سکتی ہے۔ اس سے نہ صرف ماحول متاثر ہوگا بلکہ جانور اور پودے بھی متاثر ہو سکتے ہیں۔ تھیکسڈ اکر ان معلومات کی کمی کی وجہ سے ماحول میں بگاڑ پیدا کرنے کے ذمہ دار ہو سکتے ہیں۔ یہی وجہ ہے کہ ان **Guidelines** کو ترمیم دیا گیا ہے۔ تاکہ ماحول کے اس بگاڑ کو کم سے کم کیا جائے۔

ماحولیاتی اور سماجی مسائل کی مختلف اقسام ہیں

- 1- ہوا کی آلودگی، گرد و غبار (Air/Dust Pollution)
- 2- کوڑے کا جمع ہونا (Garbage Heaps)
- 3- شور و گُل (Noise Pollution)
- 4- مٹی کا اڑنا (Dust Pollution)
- 5- یکمپ سائٹ یا خیمہ کی غیر مناسب جگہ پر موجودگی (Wrong Selection of Camp Site)
- 6- درختوں اور پودوں کا کاٹنا (Cutting of Trees & Plants)
- 7- رہائشیوں کو آنے جانے میں دقت (Public Constraints)
- 8- ٹریفک میں رکاوٹ
- 9- لڑائی جھگڑے (Public Conflicts)
- 10- رہائشی خواتین کے پردے اور پرائیویسی کے مسائل (Women Privacy Issues)
- 11- ملید اور فالتو سامان کھیتوں میں پھینکنا (Illegal Throw of Waste)
- 12- ارد گرد موجود دکانداروں کا راستہ بند ہونے سے معاشی نقصان (Economic Loss)
- 13- ارد گرد سکولوں، کاليجوں اور ہسپتالوں وغیرہ کا راستہ بند ہوجانے کی وجہ سے آنے جانے میں پریشانی (Passage Blockage)



ہدایات برائے ٹھیکیداران

- ٹھیکیداران کو چاہیے کہ ترقیاتی کاموں کو اس طرح سے سرانجام دیں کہ ماحول کو کم سے کم نقصان پہنچے اور اپنے عملے کو بھی ہدایات کریں کہ مندرجہ ذیل باتوں کا خیال رکھیں۔
- 1- تعمیراتی جگہ پر حفاظتی سائن بورڈ لگائیں۔
- 2- تعمیراتی ویسٹ کو بروقت اٹھا کر مناسب جگہ پر منتقل کیا جائے۔
- 3- فرسٹ ایڈ بکس (First Aid Box) اور حفاظتی آلات (PPEs) کی موجودگی کو یقینی بنائیں۔
- 4- پیدا شدہ کوڑے کو قریبی آبی ذخائر میں پھینکنے سے اجتناب کریں۔
- 5- پانی کا باقاعدگی سے چھڑکاؤ کروائیں۔
- 6- ہوا، پانی اور شور کی آلودگی کو جانچنے کے لیے منصوبہ جات کی تعمیر کے شروع ہونے سے پہلے، دوران اور ختم ہونے کے بعد مکملہ تحفظات ماحولیات (EPD) کی منظور شدہ لیبارٹریز سے ٹیسٹ ضرور کروائیں، تاکہ ماحول پر پڑنے والے منفی اثرات کا جائزہ لے کر بروقت تدارک کیا جائے۔
- 7- درختوں کو کاٹنے سے گریز کیا جائے۔
- 8- مقامی لوگوں کی املاک کو کم سے کم نقصان پہنچائیں۔
- 9- خواتین کا احترام کریں اور ان کے آنے جانے میں رکاوٹ نہ ڈالیں۔
- 10- مقامی لوگوں سے نرمی سے بات کریں۔
- 11- تعمیراتی جگہوں پر واقع تاریخی مقامات کو نقصان پہنچانے سے گریز کریں۔
- 12- ٹریفک مینجمنٹ پلان کو تعمیراتی جگہ پر آویزاں کیا جائے۔ مقامی لوگوں کی مشاورت سے تعمیراتی کاموں کے اوقات کا انتخاب کیا جائے۔
- 13- تعمیراتی جگہ پر ٹھیکیدار اور ڈسٹرکٹ آفیسر (District Coordinator Officer) کا فون نمبر آویزاں کیا جائے تاکہ شکایت کی صورت میں رابطہ کیا جاسکے۔
- 14- مزدوری کے لیے مقامی لوگوں کی بھرتی کو ممکن کیا جائے۔ اس سے نہ صرف مقامی لوگوں کو روزگار میسر ہوگا بلکہ مزدوروں کی رہائش کے لیے کم سے کم جگہ اور وسائل استعمال ہوں گے۔
- 15- فالتو سامان، ملہا اور مٹی وغیرہ کو بروقت ٹھکانے لگایا جائے اور اسے قریبی فصلوں میں پھینکنے سے گریز کیا جائے۔





Annexure G: Communication Record Regarding Relocation of

Waste Transfer Station



**OFFICE OF THE DIRECTOR
SOLID WASTE MANAGEMENT
Metropolitan Corporation, Lahore**

No. 442-Dix/SWM 022

Dated. 27-09 / 2022

**Chief Executive Officer,
Lahore Waste Management Company.**

**Subject:- SHIFTING OF BHATTI GATE TRANSFER STATION TO SOME OTHER
SUITABLE SITE.**

The undersigned is directed to refer to the subject and state that Secretary, LG & CD Department, Govt. of the Punjab has observed that Bhatti Gate transfer station is in a congested area and gives very ugly look. Besides, it is also polluting the environment of the locality.

Therefore, the undersigned is directed to request you shift Bhatti Gate transfer station at some other suitable place in the larger public interest.

**Director (SWM),
Metropolitan Corporation
Lahore.**

Copy to:

- ❖ Chief Officer, MCL.
- ❖ PS to Secretary, LG & CD Department.



WALLED CITY OF LAHORE AUTHORITY
Government of the Punjab

Dated: Lahore, the 11th April, 2023

To,

The Commissioner,
Lahore Division, Lahore

Subject: **REQUEST FOR SHIFTING OF TRANSFER STATION OF LWMC TO ANY OTHER SUITABLE PLACE AND REMOVAL OF TEMPORARY STRUCTURES OUTSIDE BHATTI GATE.**

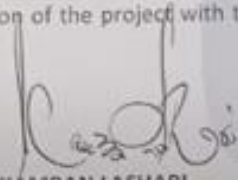
With reference to the subject cited above.

The Walled City of Lahore Authority (WCLA), in collaboration with the PTEGP, has initiated the implementation of the "Urban Rehabilitation and Infrastructure Improvement Project Package-I From Bhatti Gate to Katri Haji Allah Bakhsh (Taveela Shaikhen) Walled City Lahore," a World Bank-funded project. This endeavor aims to restore a balance between residential and commercial interests in the area, with the ultimate goal of reestablishing the Walled City of Lahore as a premier tourist destination.

It is worth mentioning that a fast-track project is scheduled to commence in mid-May 2023. The area outside Bhatti Gate falls under Nazool ownership (Land record & GIS map attached herewith), and WCLA is planning to develop a tourist facilitation center and parking area for the Bhatti Gate trail. This plan is expected to contribute significantly for the promotion of tourism and socioeconomic development in the area.

The transfer station of LWMC is located near project area. It has been noticed the transfer station of LWMC has the potential to cause environmental impacts and disruptions to the project's operations. Therefore, we kindly request your office to consider relocating the said transfer station to a more suitable location. Additionally, we urge the removal of any temporary structures outside Bhatti Gate and the subsequent handover of land to WCLA to ensure the smooth and uninterrupted execution of the project with the utmost commitment.

Thank you.



KAMRAN LASHARI
DIRECTOR GENERAL(WCLA)

C.C:

1. CEO, LWMC
2. Director, Operation & Maintenance, (Gunj Buksh Town), WASA
3. Director (SWM), MCL
4. Director (C&P), WCLA
5. Senior Architect, WCLA
6. Deputy Director (W.S), WCLA

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WALLED CITY OF LAHORE AUTHORITY
Government of the Punjab

NO. DIR (C&P)/WCLA/MCL/2023
Dated: Lahore, the 08th May, 2023

To,

Mr. Ali Bukhari,
The CEO,
MCL, Lahore

Subject:

REQUEST FOR REMOVAL OF TEMPORARY STRUCTURES OUTSIDE BHATTI GATE AND NULLAH IN ORDER TO EXECUTE WORLD BANK FUNDED PROJECT TITLED "URBAN REHABILITATION AND INFRASTRUCTURE IMPROVEMENT PROJECT PACKAGE-I FROM BHATTI GATE TO KATRI HAJI ALLAH BAKHSH (TAVEELA SHAIKHEN) WALLED CITY LAHORE".

With reference to the subject cited above.

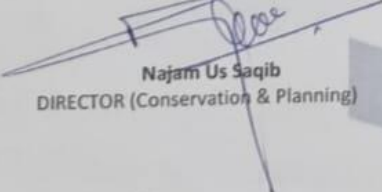
The Walled City of Lahore Authority (WCLA), in collaboration with the PTEGP, has initiated the implementation of the "Urban Rehabilitation and Infrastructure Improvement Project Package-I From Bhatti Gate to Katri Haji Allah Bakhsh (Taveela Shaikhén) Walled City Lahore," a World Bank-funded project. This endeavor aims to restore a balance between residential and commercial interests in the area, with the ultimate goal of reestablishing the Walled City of Lahore as a premier tourist destination.

It is worth mentioning that a fast-track project is scheduled to commence in mid-May 2023. The area outside Bhatti Gate falls under Nazool ownership (Land record attached as Annexure A), and WCLA is planning to develop a tourist facilitation center and parking area for the Bhatti Gate trail. This project is expected to contribute significantly for the promotion of tourism and socioeconomic development in the area.

It has been noticed that various temporary structures present between Bhatti gate and nullah has the potential to cause environmental impacts and disruptions to the project's operations. Therefore, we kindly request your good office for timely removal of all such temporary structures and the subsequent handover of land to WCLA to ensure the smooth and uninterrupted execution of the project with the utmost commitment.

We request your kind office that if this is done within ten days, WCLA will be able to timely execute the project starting from next week.

Thank you.


Najam Us Saqib
DIRECTOR (Conservation & Planning)

C.C:

1. Project Director, PTEGP
2. Director, Operation & Maintenance, (Gunj Buksh Town), WASA
3. Senior Architect, WCLA
4. Deputy Director (W.S), WCLA
5. PSO to DG WCLA

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WCLAauthority



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Annexure H: Land Ownership Record for Proposed Car Park Area

مقامی سرواڑہ تفصیل خمرہ بزنس ملکیت وار ملکیت رکھنے والے راجہ راجہ ملکیت سال 17-1916/1916-17

نمبر شمار	خمرہ	رقبہ تدارین	ملکیت بنام	کیفیت
1	2712	3FT 1034	میوہ پٹی	خمرہ نمبر 2717 سفید ترین قبضہ خود
2	2717	3FT 828	"	خمرہ نمبر 2712 سالم خمرہ پر حیدرین وہاں پر خوش آمد
3	2713	3FT 2265	سرماء وہاں تدار	سالم رقبہ خمرہ جات پر محکمہ پولیس رقبہ
4	2714	3FT 256	(نزد)	
5	2715	3FT 188	زیر قبضہ	
6	2716	3FT 188	محکمہ پولیس	
جسٹس میوہ بزنس خمرہ کی مساوی سال 1907-8 نقل و حرکت چاہیے راجہ راجہ ملکیت سال 17-1916/1916-17 کوتہ اردو ملکیت Right Side of GATE				

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Bhatti Gate: Detail of ownership with Khasra No. as per land record corporation for the year 1916-17

Sr. No.	Khasra No.	Land Area	Ownership	Status
1.	2709	SFT 2058	Lahore Municipality Corporation	Currently in possession of tenant named Allah Baksh s/o Sultan caste Manj
2.	2708	SFT 2032	Government Land (Nazool Land)	(Police Department) possession

The above given Khasra numbers for the year 1907-08 along with photocopies are as per ownership of land Register of Right Series for the year 1916-17,

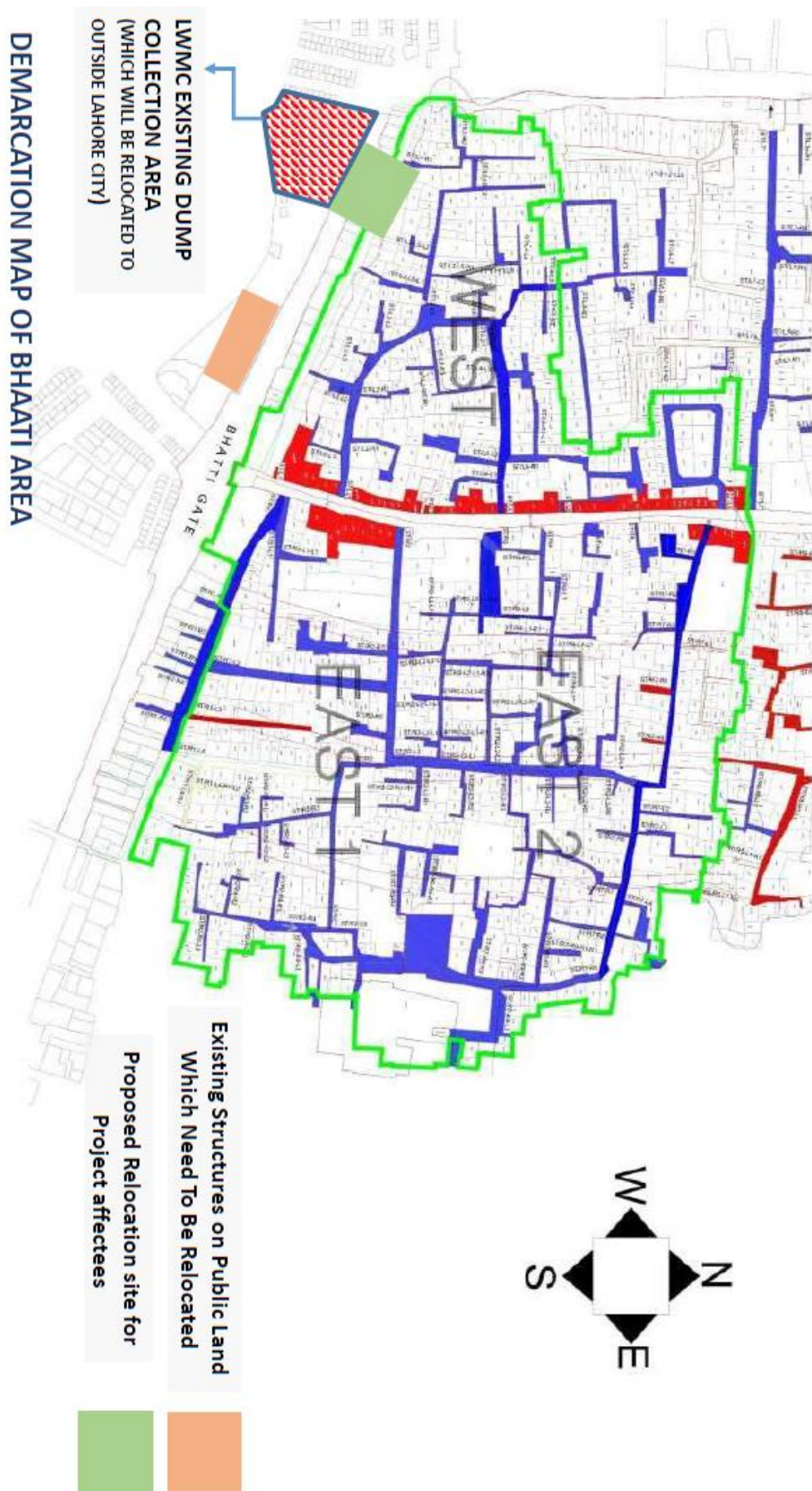
(Left side of Bhatti Gate)

سید حفیظ علی شاہ
Syed. Hafiz. Ali Shah
Patwari (WCLA)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Number of Ward.	Name of Lane and Bazaar	Number of House		Owneres	Name of occupier with Father's Name	Measurement in Feet				Area in Feet.	Description of House	Rent	Remarks	
		Old Khastara	New Khastara			East	West	South	North					Ft.
	Bhatti Gate		2707 Bay	Municipality	Road						Bath			
	"		Jeem	Municipality	Road (police deptment)						Courtyard			
	"		2708	Govt.Land		23	0	24	0	87	0	86	0	3209 sft
	"		2709	Municipality	Allah Bakhsh s/o Sultan caste Manj	10	0	9	6	29	0	28	6	280 sft
	"		Alif	Municipality	Allah Bakhsh s/o Sultan caste Manj	27	0	10	0	54	6	54	0	1097-3 sft
	"		Bay	Municipality	Allah Bakhsh s/o Sultan caste Manj	20	0	18	0	30	0	29	0	560-6 sft
			jeem	Municipality	Allah Bakhsh s/o Sultan caste Manj	18	0	18	0	7	0	6	6	121-6

Handwritten signature in blue ink.

Annexure J: Potential Site for Relocating project Affected Persons



Annexure K: Relevant Part of BOQ Confirming the Provision of Building Access during Execution of Work

Improvement old Buildings Access Structures Including Provision of Temporary Access during Construction Activities.						
1.2	Dismantling of existing brickwork with its surface finishes with care, protecting adjacent surfaces from damage i/c removal and disposal of debris from site to an approved dumping area as per the instructions of Project Manager.	Cu m				Ch. no.4 Sr.no 13
a)	Ground Floor & 1st Floor		1,630	282	459,660	
1.3	Dismantling reinforced cement concrete with care protecting adjoining structures, Separating reinforcement from concrete cleaning and straightening the same i/c removal and disposal of debris from site to an approved dumping area as per the instructions of Project Manager.	Cu m				Ch.#.4 Sr.no 20
a)	Ground Floor & 1st Floor		7,116	34	241,959	
1.4	Dismantling cement concrete (P.C.C.) with care protecting adjoining structures i/c removal and disposal of debris from site to an approved dumping area as per the instructions of Project Manager.	Cu m				Ch.#.4 Sr.no 19-b
a)	Ground Floor & 1st Floor		3,558	14	49,816	
1.7	Dismantling/Removing the metal / wooden door i/c supports (holdfasts) and other fixing material with great care, making inventory, stacking and carriage of the dismantled material to an approved dumping area as per the instructions of project manager.	Eac h				Ch#.#4 Sr.no 32(a
a)	Ground Floor		497	4	1,988	
1.10	Dismantling & Removing the steel Corrugated /Fiber glass/Sheet Shades i/c supports (holdfasts) and other fixing material etc. with great care, making inventory, stacking and carriage of the dismantled material to an approved dumping area as per the instructions of project manager.	Sqm				RA 1.10
a)	Ground Floor & 1st Floor		127	8	1,014	

1.11	Dismantling & Removing G.I shutter i/c supports (holdfasts) and other fixing material etc. with great care, making inventory, stacking and carriage of the dismantled material to an approved dumping area as per the instructions of project manager.	Eac h				RA 1.11
a)	Ground Floor & 1st Floor		1,657	2	3,313	
2.1	Pucca brick work 225mm thick i/c toothing with existing brickwork , preparing surfaces, curing, protecting the existing brickwork, with first class burnt bricks of Size 225mm x 112.5mm x75mm (9"x4.5"x3") using 1:4 cement: sand mortar complete in all respect as per the instructions of Project Manager.	Cu m				Ch#.7 Sr.no5(i)
a)	Ground Floor		13,933	79	1,100,695	
4.2	Cleaning and preparing surface of normal sized bricks 225x112.5x75mm (9" x 4.5" x 3") on building surface including raking out joints and applying Lime pointing flush upto 20' (6.00 m) height including raking joints, in lime, sand mortar 1:2., including curing, protection of adjacent surfaces complete to the satisfaction of project manager.	Sqm				CH#11, sr. No. 14
a)	Ground Floor & 1st Floor		254	90	22,865	
4.3	Cleaning and preparing brick surface including raking out joints and applying 19 mm (3/4") thick (nominal) kankar lime plaster using white lime & kankar lime ratio of 1:3, strengthened with 5% chopped jute fiber, and finished with floating coat including curing, protection of adjacent surfaces complete to the satisfaction of project manager.	Sqm				RA 4.3
a)	Ground Floor & 1st Floor		2,032	33	67,067	
b)	2nd Floor & Above		2,161	15	32,408	
4.4	Providing and laying 2" thick an average kankar lime plaster in layers with base layer 1-1/2" thick 1:2:3/4 (1 fine kankar, 2 coarse kankar, 3/4 white lime) including jute 2 kg for 100 Sft and 1/2" thick finishing layer with 1:3 lime mortar and over plaster of liquied mixture of lime mortar inlcuding scaffolding, putty, curing etc complete in all	Sqm				RA 4.4

	respects					
a)	Ground Floor & 1st Floor		5,089	191	972,093	
b)	2nd Floor & Above		5,751	13	74,765	
5.2	Providing and fixing 1st class solid wood wrought joinery in panelled or panelled and glazed doors and windows of specified thickness with 1" thick solid wood panels with step and 1-1/2"x2-1/2" beadings all around the panels i/c the cost of Tower bolt and handles complete in all respect (Excluding the cost of sliding bolt, lock and chowkats (frame), etc.) as approved and directed by the Engineer Incharge	Sqm				CH#12,S r. No.7 iii
a)	Ground Floor & 1st Floor		25,584	26	665,193	
5.10	Providing and fixing of Wooden Shade roof using 50mmx50mm frame to support 13 mm thick wooden overlapping slits (using deodar wood first class) including 24 SWG GI corrugated sheet roofing and 24 SWG GI sheet flashing embeded at one end into masonry wall with lead wedge @ 300mm c/c i/c all nuts, bolts and glue nails etc. for fixing and making good facade surfaces as per the specifications and designs provided in drawings and as per the instructions of project manager.	Sqm				R.A 5.10
a)	Ground Floor & 1st Floor		25,118	1.2 5	31,398	
7.1	Providing mixing, placing, laying, compacting, finishing and curing reinforced cement concrete 1:2:4 for slabs/beams/lintels/shades i/c screening and washing of aggregate materials with nominal compressive strength of 3000 psi including cost of form work as per drawings and specifications complete in all respects as per the instructions of Project Manager.	Cu m				Ch# 6 Sr.6(a)(i) 3(c)type

a)	Ground Floor & 1st Floor		20,733	14	290,260	
7.2	Providing and fixing in position Deformed Reinforcement bars 60,000 psi yield strength including cost of cleaning, straightening, cutting, bending, binding, wastage, all overlaps whether shown on drawing or not, M.S. Chairs and tying with annealed wire 16 SWG (binding wire) placing in position of cement concrete precast gutti C:S (1:3) in all kinds of RCC works complete in all respect.	Kg				MRS chapter no.6 Sr.12(c)
a)	Ground Floor & 1st Floor		320	322	102,924	
8.0 Painting & Decorative Works						
8.1	Applying three coats of approved quality and shade external paint finish (weather shield) on old and new plastered surfaces including cleaning and preparing surfaces protecting surfaces complete in all respect and up-to the entire satisfaction of project Manager.	Sqm				Ch. no.13 Sr.33 a (i+ii)
a)	Ground Floor & 1st Floor		625	33	20,637	
c)	2nd Floor & Above		663	15	9,943	Added 6% for 2nd & above floor
8.2	Applying three coats Enamel paint of approved quality and shade on wooden and metal old and new surfaces including cleaning, preparing and protecting surfaces etc complete in all respects and upto the entire satisfaction of project Manager.	Sqm				MRS chapter no.13 Sr.32 a (i+ii+ii)
a)	Ground Floor & 1st Floor		257	53	13,618	
9.4	Making and fixing steel grated doors , complete with locking arrangement, angle iron frame 2" x 2" x 3/8" (50x50x10 mm) and 3/4" (20 mm) square bars 4" (100 mm) centre to centre, including painting three coats complete in all respects.	Sqm				Ch. no.25 Sr.30
a)	Ground Floor & 1st Floor		21,580	25	539,510	
9.7	Providing and Fixing awning MS pipe 18swg 2" dia. MS chanal / patti 2 # GI sheet 18swg welding with paint complete in all respects as per given in drawings					RA 9.7
a)	Ground Floor	Sqm	21,346	4	85,383	

9.8	Providing steel folding steps	Sqm		-	-	R.A 9.8
a)	Ground Floor		5,753	4	23,014	
10.7	Providing and fixing of scaffolding around all sides of façade at this building including cost of scaffolding and fixing to the height as per the instruction of site incharge along with provision of green net before commencement of work till completion.	Sft	300	200	60,000	R.A 10.7
	Total of Cafeteria				4,869,522	
	SUB TOTAL				198,493,732	

Annexure K: Questionnaires of Affected Persons

QUESTIONNAIRE
SOCIO ECONOMIC AND RESETTLEMENT SURVEY FOR BHATTI GATE
PROJECT, LAHORE

Respondent's Information:

Name	Imran	Contact#	03219999613
Address		CNIC#	

Demographic Profile

Gender	☒ Male ☐ Female	Relationship with head of household/ Owner of shop or business	☒ Self ☐ Other (-----)
Education	☐ Illiterate ☐ Primary ☐ Middle ☐ Matric ☒ Intermediate ☐ Bachelors ☐ Masters ☐ Another-----	Average Monthly income of the household	
Occupation	☐ Self employed ☐ Business Owner ☐ Shopkeeper ☐ Private employee ☒ Government employee ☐ Farming ☐ Mobile vendor ☐ Any other -----	Average Annual Income of the household	
Size of the household	☐ Family size 6 ☐ Males----- Females-----	Child/ Children below the age of 18	2

Housing Conditions:

Do you have your own house?
☒ Yes _____ 2) No. _____ 3) Tenant _____

Total Area of the house: square ft./ Ma: In **8 marks approx**
 Present Value (Rs) _____

Other Assets: **Business: He is running a small shop at the site. and he has separate living space and he is not present over there after business hours.**

Shop(Sq. ft): L ____ W ____

Khokha: _____

Electric Pump (No.): _____

Hydro Power Generator/ Water Motor (No.): _____

Gas Connection (No.): _____

Other: _____

Access to Social Utility (Tick):

Social Utility	Available	No Access	Satisfactory	Un-Satisfactory
Electricity	☒			
Sui Gas	☒			
Water Supply	☒			
Telephone/PTCL				
Sewerage/Drainage				
Basic Health Unit				
School				
Others				

Perception of Respondents for Action Associated with the Project:

Impacts	Increase	Decrease	Remain Same
Employment opportunities	☒		
Business activity	☒		
Commuting/Mobility			
Tourism	☒		
Any other			

Resettlement Part:

Do you feel any resettlement impact? Yes _____ No ☒

If yes then

Category	Quantity (No.)	Value (Rs.)	Remarks
Cart (Radhi)			
Khokha			
Wooden Bench (Phatta)			
Total			

Affected Residential Structures:

Structure	Types of structure	Area
-----------	--------------------	------

	Katcha	Pucca	Semi Pucca		Value of Structure (Rs.)
House					
Boundary wall					
Other					

Affected commercial structures:

Structure	Types of structure			Area/ size	Value of Structure
	Poor Condition	Good Condition	Not so Good		
Shop					
Khokha					
Mobile vendor					
Other					

Any affected structure owned by women?

Yes _____ No ☒

If yes then provide detail:

Impact on Utility: Yes _____ No ☒

If yes then

Types	Nos. / Area
Electric pole	
Transformer	
Transmission line	
Telephone	
Gas Pipe Line	
Other	
Total:	

Impact on Community Structure:

Name	Yes	No	Value (Rs.)
Schools			
Mosque			

Health Centre			
Others			
Total:			

Preferred Mode of compensation:

Cash compensation _____
Kind ☒ _____
Other _____

Any concern about Bhatti Gate project?

No.

Views / Comments of Interviewers

Name & Signature of Interviewer: Sheryar Zafar

Date: 2-5-2023

Women's Participation:

Women participation in different household activities:

Activities	Participation (%)	Decision Making (%)
Household activities	40%	40%
Child caring		
Sale & Purchase of properties		
Social obligations: marriage,		
Local representation: Political gathering, NGO		
Others:	NIL	NIL

Women issues in the project area

No.

Women views about the project

NIL

Perceptions of Respondents for Action Associated with the Project:

Impacts	Increase	Decrease	Remain Same
Employment opportunities	✓		
Living standard			
Unemployment			
Income generating activities			
Mobility (Access to Resources)			
Quality of drinking water			
Agriculture water			
Other specify (if any):			

General Remarks of the Respondent:

Nullah should be covered.

QUESTIONNAIRE

SOCIO ECONOMIC AND RESETTLEMENT SURVEY FOR BHATTI GATE PROJECT, LAHORE

Respondent's Information:

Name	Jahangir Khan	Contact#	—
Address		CNIC#	

Demographic Profile:

Gender	☒ Male ☐ Female	Relationship with head of household/ Owner of shop or business	☐ Self ☐ Other (—)
Education	☐ Illiterate ☐ Primary ☒ Middle ☐ Matric ☐ Intermediate ☐ Bachelors ☐ Masters ☐ Any other —	Average Monthly income of the household	
Occupation	☐ Self employed ☐ Business Owner ☐ Shopkeeper ☒ Private employee ☐ Government employee ☐ Farming ☐ Mobile vendor ☐ Any other —	Average Annual Income of the household	
Size of the household	☐ Family size 7 ☐ Males — Females —	Child/ Children below the age of 18	3

Housing Conditions:

Do you have your own house?

1) Yes 2) No. ☒ 3) Tenant

Total Area of the house: square ft./ Marla

1 Marla Approx

Present Value (Rs)

Other Assets:

Business : Running a small Tea Stall

Shop(Sq. ft): L ____ W ____
Khokha: _____
Electric Pump (No.): _____
Hydro Power Generator/ Water Motor (No.): _____
Gas Connection (No.): _____
Other: _____
Access to Social Utility (Tick):

Social Utility	Available	No Access	Satisfactory	Un-Satisfactory
Electricity	☒			
Sui Gas				
Water Supply				
Telephone/PTCL				
Sewerage/Drainage				
Basic Health Unit				
School				
Others				

Perception of Respondents for Action Associated with the Project:

Impacts	Increase	Decrease	Remain Same
Employment opportunities			☒
Business activity			
Commuting/Mobility			
Tourism			
Any other			

Resettlement Part:

Do you feel any resettlement impact? Yes _____ No ☒

If yes then

Category	Quantity (No.)	Value (Rs.)	Remarks
Cart (Radhi)			
Khokha			
Wooden Bench (Phatta)			
Total			

Affected Residential Structures:

Structure	Types of structure	Area
-----------	--------------------	------

	Katcha	Pucca	Semi Pucca		Value of Structure (Rs.)
House					
Boundary wall					
Other					

Affected commercial structures:

Structure	Types of structure			Area/ size	Value of Structure
	Poor Condition	Good Condition	Not so Good		
Shop					
Khokha					
Mobile vendor					
Other					

Any affected structure owned by women?

Yes ☐ No ☒

If yes then provide detail:

Impact on Utility: Yes ☐ No ☒

If yes then

Types	Nos. / Area
Electric pole	
Transformer	
Transmission line	
Telephone	
Gas Pipe Line	
Other	
Total:	

Impact on Community Structure:

Name	Yes	No	Value (Rs.)
Schools			
Mosque			

Health Centre			
Others			
Total:			

Preferred Mode of compensation:

Cash compensation ☒
Kind ☐
Other ☐

Any concern about Bhatti Gate project?

NIL

Views / Comments of Interviewers

NIL

Name & Signature of Interviewer:

Shergar Zafar

Date: 2-5-2023

Women's Participation:

Women participation in different household activities:

Activities	Participation (%)	Decision Making (%)
Household activities	<u>30%</u>	<u>30%</u>
Child caring		
Sale & Purchase of properties		
Social obligations: marriage,		
Local representation: Political gathering,		
NGO		
Others:		

Women issues in the project area

NIL

Women views about the project

NIL

Perceptions of Respondents for Action Associated with the Project:

Impacts	Increase	Decrease	Remain Same
Employment opportunities			✓
Living standard			✓
Unemployment			✓
Income generating activities			
Mobility (Access to Resources)			
Quality of drinking water			
Agriculture water			
Other specify (if any):			

General Remarks of the Respondent:

He has concerns about his
business and Nullah.

Note: He is running a small Tea Stall.
No family member is residing
with him.

QUESTIONNAIRE

SOCIO ECONOMIC AND RESETTLEMENT SURVEY FOR BHATTI GATE PROJECT, LAHORE

Respondent's Information:

Name	Sifarish Ali	Contact#	03004926685
Address		CNIC#	

Demographic Profile:

Gender	☒ Male ☐ Female	Relationship with head of household/ Owner of shop or business	☐ Self ☒ Other (Rented)
Education	☒ Illiterate ☐ Primary ☒ Middle ☐ Matric ☐ Intermediate ☐ Bachelors ☐ Masters ☐ Another	Average Monthly income of the household	
Occupation	☐ Self employed ☒ Business Owner ☐ Shopkeeper ☐ Private employee ☒ Government employee ☐ Farming ☐ Mobile vendor ☐ Any other	Average Annual Income of the household	
Size of the household	☐ Family size 5 ☐ Males Females	Child/ Children below the age of 18	2

Housing Conditions:

Do you have your own house?

1) Yes ☒ 2) No ☐ 3) Tenant ☐

Total Area of the house: square ft./ Marla 5 Marla approx

Present Value (Rs)

Other Assets: Business: He is running a small paper waste shop. No family member, family members and kids are residing with him.

Shop(Sq. ft): L ____ W ____

Khokha: _____

Electric Pump (No.): _____

Hydro Power Generator/ Water Motor (No.): _____

Gas Connection (No.): _____

Other: _____

Access to Social Utility (Tick):

Social Utility	Available	No Access	Satisfactory	Un-Satisfactory
Electricity	✓			
Sui Gas	✓			
Water Supply	✓			
Telephone/PTCL				
Sewerage/Drainage				
Basic Health Unit				
School				
Others				

Perception of Respondents for Action Associated with the Project:

Impacts	Increase	Decrease	Remain Same
Employment opportunities			✓
Business activity			✓
Commuting/Mobility			
Tourism	✓		
Any other			

Resettlement Part:

Do you feel any resettlement impact? Yes ☒ No ☐

If yes then

Category	Quantity (No.)	Value (Rs.)	Remarks
Cart (Radhi)			
Khokha			
Wooden Bench (Phatta)			
Total			

Affected Residential Structures:

Structure	Types of structure	Area
-----------	--------------------	------

	Katcha	Pucca	Semi Pucca		Value of Structure (Rs.)
House	☒				
Boundary wall					
Other					

Affected commercial structures:

Structure	Types of structure			Area/ size	Value of Structure
	Poor Condition	Good Condition	Not so Good		
Shop					
Khokha					
Mobile vendor					
Other					

Any affected structure owned by women?

Yes ☐ No ☒

If yes then provide detail:

Impact on Utility: Yes ☐ No ☐

If yes then

Types	Nos. / Area
Electric pole	
Transformer	
Transmission line	
Telephone	
Gas Pipe Line	
Other	
Total:	

Impact on Community Structure:

Name	Yes	No	Value (Rs.)
Schools			
Mosque			

Health Centre			
Others			
Total:			

Preferred Mode of compensation:

Cash compensation ☒
Kind _____
Other _____

Any concern about Bhatti Gate project?

NO

Views / Comments of Interviewers

Name & Signature of Interviewer: Sheryar Zafar Date: 2-5-2023

Women's Participation:

Women participation in different household activities:

Activities	Participation (%)	Decision Making (%)
Household activities		
Child caring		
Sale & Purchase of properties		
Social obligations: marriage,		
Local representation: Political gathering,		
NGO		
Others:		

Women issues in the project area

NIL

Women views about the project

NIL

Perceptions of Respondents for Action Associated with the Project:

Impacts	Increase	Decrease	Remain Same
Employment opportunities	✓		
Living standard			
Unemployment			
Income generating activities			
Mobility (Access to Resources)			
Quality of drinking water			
Agriculture water			
Other specify (if any):			

General Remarks of the Respondent:

He was in favour of Bhatti Project.

Annexure L: SOPs for Conservation Work

- The officer in charge with the execution of conservation work should never forget that the reparation of any remnant of ancient architecture, however humble, is a work to be done with totally different feeling from a new work. It should be kept in mind that the aim is to preserve not to renew them. Therefore, effort should be spared to save as many parts of the original as possible. Broken or half decayed original work is of infinitely more value than the smartest and perfect new work;
- The conservation intervention needs to follow a logical procedure. This starts with visual assessment and compilation of relevant historical data/information available including in recent history & information on any previous conservation interventions. Analytical techniques for investigation may be applied if necessary in order to study other aspects of the object;
- Then a diagnosis as to the state of conservation of the object is required. Is the object sound? Does it suffer from deterioration? If so what are the causes? The result from analysis serves various purposes. The most appropriate method and material need to be determined;
- The Conservation activities shall be carried out by Pre-qualified trained Contractor under supervision of technical staff of supervision consultant and WCLA. The Contractors shall contain team of skilled labors having past experience in similar works;
- Conservation Assistant from the supervision consultant shall watch the operation and provide necessary guidance to worker. Conservation Assistant shall inform WCLA and PTEGP about the progress of work and if any difficulty arises;
- Before execution of conservation work careful inquiries should be made regarding supplies of sand, bricks, stone, lime and other material etc. in the immediate neighborhood. Samples of which shall be checked and approval shall be taken from supervision consultant;
- It is important that an Archaeologist from WCLA must be present whenever excavations are carried out in or around the PCR, in case of discovery of any immovable antiquity during execution of work, he shall take charge and register it to further inform higher ups and Archeological Department. Secure the site to prevent any damage or loss to movable objects. In cases of movable antiquities or sensitive remains, a night guard shall be present until the responsible authorities take over;
- All excavation is to be carried out with great care in order that any old masonry or other remains buried in the earth may not be damaged., any such remain should be left untouched when found and if liable to weather decay, it should be covered;
- The conservation assistant should carefully strut up or support any overhanging pieces of masonry, fractured door or window lintel. Decayed arches should be properly centered up, if in an unstable condition. Any wall or tower which are in a dangerous state, and are liable to fall down, must be properly shored up with raking shores, needles, plates etc. as per instruction of supervision consultant;
- Visitors should not be allowed near those portions of building where work of Preservation is in progress, and in some cases the building should be completely closed to the public, if possible;
- Conservation assistant shall collect every scrap of evidence existing in the building on which they are working, such as broken corbels, string courses, relieving arches, etc. is to be preserved and not in any way obscured by the work of preservation, and that all new evidences brought to light should be reported;

- Any carved stone or bricks or any pieces of tile work that are found lying in the debris on old sites, should be restored. if possible, to their former position, provided that no doubts exist as to what those position were;
- Where it is necessary to introduce new pillar or new masonry in order to support the mass of rock/structural component, the archaeological officer must furnish measured plans and drawing showing the precise position and detail of new pillars or masonry, in all such works care must be taken that the new stone work may match in texture and color and may be dressed in the same ways the face of the rock immediately joining;
- Proper provision is to be made for drainage, especially for taking off flood water after heavy rain. Water must not be allowed to stand about in pools or ditches near an ancient monument;
- For making lime mortar, kankar lime is mixed in a trough according to the requirements of the day, as much as water being added to make it into a stiff paste;
- As a rule, the lime is soaked in water in trough at evening time and is mixed and used on the day following, but if required for immediate use, it should be passed wet through a mortar mill for at least 2 hours before use;
- When dismantling masonry, previous to re-building, it may be necessary to mark or number the old stones so as to readily replace them in original position. The numbering should be made in such a way that it is removable again;
- The restoration of plaster stucco on walls and ceiling is rarely admissible and is to be carried out only under instruction from Archaeological engineer. Broken damaged or lose plaster may be preserved with the help of lime grout or in some cases of plaster of paris injected into the hollow cavities behind the loose plaster and by applying a neat fillet of lime mortar round the broken edges, care being taken that the cavities and edges are washed clean with water;
- The principles applying to the conservation of wooden building must, owing to the nature of their material and the comparatively short duration of their existence necessarily differ from the principles applying to the structure in the brick or stone;
- For the preservation of teak wood, periodic application of crude earth oil or boiled linseed oil is efficacious. For other kinds of wood "Solignum" is generally preferable;
- Woodwork found in wet soil or water should not be exposed to the air, but should be kept in water or wet sand and follow other procedures as per instruction of archaeologist chemist. Before being laid in wet sand or sawdust, painted, carved or inscribed parts should be protected by a layer of cotton wool. These precautions are necessary to prevent shrinkage and distortion of the wood through rapid drying; and
- If the wood work is found infected by insects, the pests may be destroyed by means of carbon di-sulphide or hydrocyanic acid, the wood being afterwards protected against further damaged by the application of suitable preservative.
- Historical buildings must not be used for any unnecessary project activities e.g. using as rest area, keeping material inside the structure for storage purpose etc.
- All work activities must be performed during day light including material delivery etc. in order to avoid any accidental damage of the historical sites.
- The Contractor shall be contractually bound to not to allow or cause discharge spill or dumping on any building, house, graveyard, archaeological site (established or newly found), unstable slopes, un-compacted embankment or leakage of material/waste into the construction area. Any such failure shall be duly noted by Supervision Consultant during site inspections and contractor shall immediately remedy the situation.
- The Contractor shall ensure that his construction machinery is always in first class working order and no spilling of Diesel or any other fluids into the surrounding environment, is caused by the defective machinery of the Contractor.

- The Contractor shall not cause deterioration of air quality by using old or ill maintained machinery which raise excessive dust, produce excessive smoke or cause excessive noise pollution. The Contractor shall follow strict standards of maintenance of machinery, provide qualified and trained drivers and operations for the vehicles. The Contractor shall also sprinkle water on roads to be used for project activities, and sites where the earth is to be dumped for controlling dust pollution. The Contractor shall provide protective masks to his work force.
- The contractor should manage health & safety issues by adopting following additional control measures:
 - Put up temporary but prominent sign boards in all of the project activity area warning people against likely hazards which can be caused due to certain activities.
 - Ensure proper housekeeping and cleanliness conditions are maintained at work area by ensuring proper drainage and suitable disposal of solid waste.
 - Provide PPE specified in the risk assessment or health and safety plan e.g. helmet, field boots, earplugs and others gears at work site as a precaution against any mishap, and interlink various parts of the construction complex with local wireless telephones, which may also be fitted in the vehicles.