PUNJAB
MUNICIPAL DEVELOPMENT FUND
COMPANY



Construction of New Park (Kala Gujran) in Jhelum City

Initial Environmental Examination (IEE)

April 2023

MM Pakistan (Pvt) Ltd.

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MM Pakistan (Pvt.) Limited, Registered in Pakistan No. K-527/9363
Headquarters at Lahore,
Regional Offices at Islamabad, Karachi and Peshawar

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List of Abbreviations

Acronym	Definition
Ahs	Affected Households
BOD	Biological Oxygen Demand
DPO	Deputy Program Officer
CO	Chief Officer
CPMT	Central Program Management Team
CTS	Complaints Tracking System
EHS	Environment Health & Safety
IEE	Initial Environment Examination
EMMP	Environment Management and Monitoring Plan
EPA	Environment Protection Agency
ESFPs	Environment & Social Focal Persons
ESM	Environment & Social Management
ESMF	Environment & Social Management Framework
ESMP	Environment & Social Management Plan
ESMMP	Environment & Social Management and Monitoring Plan
ESSs	Environment & Social Safeguards
GoP	Government of the Punjab
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
HSE	Health Safety & Environment
IEE	Initial Environmental Examination
LG & CDD	Local Government & Community Development Department
MC	Municipal Corporation/ Committee
MO-I	Municipal Officer Infrastructure
MO-P	Municipal Officer Planning
NEQS	National Environmental Quality Standards
NOC	No Objection Certificate
OHS	Occupational Health & Safety
Ops	Operational Polices
PAPs	Project Affected Persons
PC-I	Planning Commission Form-I
PCP	Punjab Cities Program
PCRs	Physical Cultural Resources
PD	Project Director
PDO	Program Development Objectives
PEPA	Punjab Environment Protection Act
PHED	Punjab Health Engineering Department
PMDFC	Punjab Municipal Development Fund Company
PMU	Project Management Unit
PPEs	Personal Protective Equipment
PO	Program Officer
RoW	Right of Way
RPF	Resettlement Policy Framework
SMP	Social Management Plan
SOPs	Standard Operating Procedures
SPO	Senior Program Officer
STIs	Site Transmission Infections
TORs	Term of References
WB	World Bank

GLOSSARY

Alternatives: A possible course of action in place of another that would meet the same purpose and need. An alternative can include other locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The 'without project' alternative provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid negative impacts.

Ecosystem approach: As advocated by the Convention on Biological Diversity (CBD), the ecosystem approach recognizes that people and their environment are part of the broader ecosystems on which they depend. Environmental management should therefore be implemented in an integrated way. Environment: Includes all components of the environment, namely humans, flora, fauna, soil, climate, air, water, landscape, natural sites, material assets, cultural heritage and the interaction among these components.

Environmental assessment: A process that is used to identify, predict and assess the potential positive and negative impacts of a proposed development on the environment and to propose appropriate management actions that will enable the avoidance or minimization of impacts.

Environmental Impact Assessment (EIA): The application of impact assessment to a specific project. Typically, an EIA is carried out on a project that is already defined (i.e. in feasibility stage).

Initial Environmental Examination: means a preliminary environmental review of the reasonably foreseeable qualitative and quantitative impacts on the environment of a proposed project to determine whether it is likely to cause an environmental effect for requiring preparation of an environmental impact assessment.

Environmental Quality Objective: An EQO specifies a target for environmental quality. If EQOs are set by enforceable regulations, they are usually referred to as Environmental Quality Standards.

Irreversible impact: An impact that cannot be reversed in time, it results in the irreplaceable loss of a resource.

Issue: A context-specific question that asks 'what, or how severe, will the impact of some activity/ aspect of the development be on some element of the environment?'

Monitoring: Actions taken to observe, take samples or measure specific variables in order to track changes, measure performance of compliance, and/or detect problems. The objective of monitoring should always be to improve management.

Notification: Notification is the formal process whereby States officially inform other States when they are planning to carry out activities that may cause significant adverse effects upon other

Opportunity cost: The lost opportunities that might result from the implementation of a certain alternative. For example, a pipeline in a national park will likely reduce the tourism potential of the area.

Scoping: Determination of the spatial and temporal boundaries and key issues to be addressed in an EIA. Its main purpose is to focus an EIA on a manageable number of important questions, and to ensure that only key issues and reasonable alternatives are examined.

Screening: A decision-making process to determine whether or not a development proposal requires an EIA, and if so, what level of assessment is appropriate. Screening is usually conducted by an environmental authority or financing institution.

Significance: Determination of severity of an impact taking into account objective or scientific data as well as societal values. Uncertainty: The inherent unpredictability of response of the environment to an impact, the lack of knowledge and/or understanding of cause-effect-impact relationships between the development activity and the environment, and/or gaps in information that do not allow confidence in predictions of impacts.

EXECUTIVE SUMMARY

Punjab Cities Program (PCP) Program-for-Results (PforR) will support participating Municipal Committees (MCs) to improve their urban management and service delivery performance. The operation will provide capacity-building and institutional support to 10 secondary cities in Punjab.

An Environmental and Social Management Framework (ESMF) has been prepared for Punjab Cities Program (PCP). This ESMF will facilitate and technically assist the MCs in better understanding and compliance of social and environmental management processes and procedures as per WB policies, local policies / legal framework. Under ESMF procedures, each Sub-project will be screened for the severity and extent of environmental and social impacts. All the Sub-projects will be screened through an environmental and social screening checklist and those having negligible environmental and or social impacts will require no further assessment.

This Sub project includes Construction of New Park in Jhelum City. The Sub-project has been screened to assess the environment and social anticipated impacts. As per findings of the site visit discussion with officials and stakeholder consultations, the Sub-project area does not fall in any of the wildlife habitat or reserve area/ environmental sensitive areas; therefore, it will not cause any harmful impact directly or indirectly during execution of civil works. Sub-project will have no irreversible environmental and social impacts. Involuntary land acquisition is required, and therefore there will be no physical displacement or impacts on livelihoods. The Sub-project site will create some localized disturbances related to construction activities that produce noise, movement or vibration, traffic, hindrance of movement, and dust. The nuisance and disturbance related to construction activities may be mostly felt by nearby settlements. Sub-project may have temporary social impacts related to community health and safety and accessibility. Therefore, Sub-project is categorized as E-1, S1 and thus as per new IEE/EIA amended 2022 regulations IEE of the project obligatory and NOC certificate required from EPA Punjab.

The IEE has been prepared in accordance with provincial and national legislation, and the World Bank's Core Principles. The number of mitigations included in the IEE is based on the scope of work. Requirements to train the contractor's staff in the implementation of all mitigation measures have also been included in IEE report.

Stakeholders can be defined as those stakeholders who are likely to be directly impacted by the Sub-project and have livelihood restoration measures targeted towards them. Participants of consultation were first briefed about the Sub-project objectives and major interventions associated with the Sub-project implementation. Afterward, people were asked to express their views regarding the proposed Sub-project. In general participants appreciated the Sub-project and offered comments & suggestions to enhance the expected environmental and social benefits and to mitigate the adverse impacts. The community perception of the Sub-project is very good and most of the people wish to implement the Sub-project through sustainable and safety manner.

The mitigation plan, being a key component of IEE report includes measures to mitigate potential negative impacts and enhance its positive impacts during construction phase of the Sub-project. The Contractor is responsible for implementation of EMMP under the supervision of Punjab Municipal Funds Development Company (PMDFC), Construction Supervision Consultant (CSC)

The Contractor will ensure implementation of on-site safety measures to protect community from any mishap/incident or accidents. He will install safety signage to aware public about on-going construction activities (caution, safety, construction work in progress etc.). The Contractor will also provide information about diversion routes (where necessary) with safety cautions/flagmen in addition to provision of personal protective equipment (PPEs) to workers as per nature of their jobs.

The present IEE will be included in the bidding/contract documents and its implementation will be a contractual binding for the Contractors. In addition, the Contractor's guidelines prepared by PMDFC/ safeguards procedures will also be made part of contractual agreement.

The impacts, mitigation measures, monitoring indicators, frequency and responsibility has been discussed in Environmental Management and Monitoring Plan (EMMP). Environmental implementation budget is calculated as 0.753 million PKR.

A comprehensive program will be followed to strengthen the technical and institutional capacities of the executing agency (MC Jhelum), contractors, and laborers. Training program will be scheduled after approval of IEE report from World Bank and Labors will be trained before and during the execution of the Sub-project.

Title and Location of the Project

Construction of New Park in Jhelum City.

The Proponent

Sponsoring	Government of the Punjab (through World Bank Funding)
Client	Punjab Municipal Development Fund Company (PMDFC)
Execution	Municipal Committee, Jhelum
Operation and Maintenance	Municipal Committee, Jhelum
Concerned Provincial Department	Local Government and Community Development Department, Govt. of the Punjab

Name of the organization preparing the report

- MM Pakistan Pvt. Ltd (MMP)
- Office: 2nd Floor CTI Building, 27 Empress Road, Lahore

Outline of the project

According to the Punjab Environmental Protection Act (PEPA) 2012, Section 12 - I "No proponent of a project shall commence construction or operation unless he has filed with the Government Agency or, where the project is likely to cause an adverse environmental effect an environmental impact assessment, and has obtained from the Government Agency approval in respect thereof." It is this legal requirement from the Government of Punjab that this Initial Environmental Examination (IEE) report has been prepared to get Environmental Approval (EA) from the Environmental Protection Agency (EPA), Government of Punjab, Lahore. The project falls under Category "I(5)" of Schedule 1 (Urban Development & Tourism-**Urban Development projects**) of Review of IEE and EIA Regulations, 2000 of Punjab Environmental Protection Act 1997 (Amended December 16, 2022).

This document also complies with the IFC's Performance Standards for Social and Environmental Sustainability. This report provides detailed basic site specific information and facts; including especially among others environmental, economic, social, etc., enabling its assessment and justification that the project will meet the requirements of environmentally sustainable practices; both during construction and regular production stages; as desired under the Punjab Environmental Protection Act, 1997 (amended December 16, 2022), the Punjab Environment Quality Standards and the rules and the regulations thereof.

Major Impacts

In order to identify all the activities associated with the project during construction phase with potential to cause adverse environmental impacts and harm a thorough review has been conducted. Project will not have any major adverse impacts on the nearby community and on environment. Overall the project

will have positive impacts on the local population and country as a whole. Moreover, area for plantation is also reserved for air purification within the project vicinity.

Summary of Environmental Impacts and Mitigation Measures

Pollutant	Constructional phase	Recommended Mitigation Measures
Particulate matter (PM)/dust	Particulate matter will be generated during the constructional and transportation activities at the site Due to raw materials loading/unloading	❖ Sprinkling of water all constructional raw material should be kept covered. ❖ Maintain vehicle speeds Monitoring should be conducted as per EPA NEQS Rules 2001, if required
Noise	Noise will be generated due to construction machinery and vehicles transporting materials	❖ Vehicles to carry raw materials should be operated during night time as far as possible. Ear plugs should be provided in case of heavy noise. ❖ Ear plugs should be provided to workers working in generator area. ❖ Monitoring should be conducted as per EPA NEQS Rules 2001, if required
Solid Waste	Solid waste will be generated due to construction and domestic sources	❖ Constructional waste should be utilized for road filling and maintenance ❖ Domestic waste should be disposed of properly at disposal site allocate by MC Jhelum. Site location added in the report along with coordinates. ❖ Restoration and reclamation of land will be done in case of soil erosion or removal of vegetation.
Waste water	Waste water will be generated from constructional and domestic sources.	Waste water will be collected in septic tanks and then it will be disposed off properly to sewerage lines.

Pollutant	Constructional phase	Recommended Mitigation Measures
Health and safety issues	Health and safety issues will arise due to machinery handling and constructional activities	❖ PPEs should be provided to workers during constructional activities. ❖ Training of workers should be conducted regarding health and safety. ❖ First aid measures should be available ❖ Adequate firefighting system & Equipment should be installed ❖ Proper housekeeping should be ensured. Security guards should be present
Socioeconomic	Disturbance to neighbors by constructional activities	❖ People should be informed in advance when work is about to start at the site. Job opportunity should be provided to local people of the area. ❖ Community wellbeing should be considered and anticipated measures are recommended to preserve the local culture and ecosystem

Proposed Environmental Monitoring

The Environmental Management and Monitoring Plan (EMMP) will be used as a management and monitoring tool for implementation of the mitigation measures identified in the IEE report. The EMMP matrix lists down:

- The required mitigation measures recommended in the IEE report.
- The person/organization directly responsible for adhering to or executing the required mitigation measures and monitoring adherence to the mitigation measures.
- The parameters, which will be monitored to ensure compliance with the mitigation measures.
- The timing at which the mitigation or monitoring has to be carried out.
- Budget allocated for management practices (cost of EMMP).
- Project Proponent will hold primary and overall responsibility for ensuring full implementation of the EMMP.

Proposed Environmental Monitoring Program

Sr. No.	Parameters	Monitoring Schedules During Construction	Monitoring Duration	Responsible party
1	Ambient Air Monitoring	Bi-annual	As per PEQS	Proponent/contractor
2	Noise Level	Bi-annual	As per PEQS	Proponent/contractor
3	Drinking water quality	Bi-annual	Some parameters on site Others in lab	Proponent/contractor

1 SCREENING

Section 12 of Punjab Environmental Protection Act (PEPA), 1997 (Amended 2012) states:

"*No proponent of a project shall commence construction or operation unless he has filed with the Government Agency designated by Federal Environmental Protection Agency or Provincial Environmental Protection Agencies, as the case may be, or, where the project is likely to cause an adverse environmental effect an Environmental Impact Assessment (EIA), and has obtained from the Government Agency approval in respect thereof*."

As per Review of Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) Regulations, 2000 made under Section 12 of Punjab, The project falls under Category "I(5)" of Schedule 1 (Urban Development & Tourism-**Urban Development projects**) of Review of IEE and EIA Regulations, 2000 of Punjab Environmental Protection Act 1997 (Amended December 16, 2022).

1.1 Study Team

The Consultant has mobilized a team comprising of following staff for preparation of this report.

Sr.	Name	Experience	Qualification	Roles Assigned
1.	Ihsan-ul-Haq Qamar	36 Years	Civil Engineering	Team Leader
2.	Azmat Beg	50 Years	M.Sc. Environmental Sciences M. Phil. Water Resources Management M. Sc. Agriculture (Agronomy)	Environmental Specialist
3.	M. Hannan Yousaf	4 Years	BS Hons. Environmental Sciences MPhil Environmental Sciences	Environmentalist
4.	Nasir Altaf	7 Years	MSc Sociology MPhil Gender Studies	Sociologist

2 Introduction

2.1 Purpose of the Report

This report has been prepared to conform the requirements of the World Bank and Punjab Environmental Protection (Amendment) Act 2012 and its later amendments, which states that:

"*No proponent of a project shall commence construction or operation unless he has filed with the Provincial Agency an initial environmental examination or where the project is likely to cause an adverse environmental effect, an environmental impact assessment, and has obtained from the Provincial Agency approval in respect thereof*."

It is of utter importance to examine the environmental impacts, both beneficial and adverse, of the proposed project, and to recommend and propose mitigating measures to prevent, minimize or mitigate such impacts. The environment related studies (ESMP/IEE/EIA) of any project is required to assess the environmental consequences of the extraction at the proposed sites and to suggest appropriate, practical and site-specific mitigation as well as enhancement measures.

The main objectives of this PMDFC Project are to:

- The project's main objective is to convert the unused open spaces into the Parks to provide the local community a recreational space with all the allied facilities.
- To create safe neighborhoods for the peoples.
- To create valuable green spaces.
- To enhances the aesthetic beauty of the city.
- To contribute the health and wellness of the community.
- Ornamental plants, green areas & rain water harvesting structures.

2.2 Identification of the Project and Proponent

2.2.1 Details of the Project

Construction of New Park in Jhelum City.

2.3 Details of the Proponent

The details of the proponent are given below;

The Project will be implemented by Municipal Committee Jhelum through Punjab Municipal Development Funds Company (PMDFC), Lahore

2.4 Details of Consultant

- MM Pakistan Pvt. Ltd (MMP)
- Office: 2nd Floor CTI Building, 27 Empress Road, Lahore

2.5 Brief description, nature, size and location of the project

Table 2-1: Parks, Location and Area

Sr. #	Name of Park	Area of park	Location	
1.	Kala Gujran Park	5 Acres	Latitude: 32.976387	Longitude: 73.696296

3 Description of the Project

3.1 Type and Category of the Project

The project falls under Category "I(5)" of Schedule 1 (Urban Development & Tourism-**Urban Development projects**) of Review of IEE and EIA Regulations, 2000 of Punjab Environmental Protection Act 1997 (Amended December 16, 2022). The project includes the Construction of New Park in Jhelum City city by MC Jhelum and local government and community development department, government of the Punjab.

3.2 Purposes of the project

The sector objectives include:

- Community development through improving basic infrastructure.
- Clean and green environment for better living standards.
- Effective use of land through master planning of urban areas.
- Social uplifting and cohesion through provision of public open spaces and playgrounds.
- Capacity building of Local Governments MCs in municipal service delivery.

3.3 Alternatives considered realistically and reasons for their rejection

This sub project includes construction of existing parks in the Jhelum city for improving the life style of community.

3.4 Component of Proposed Activities

- Construction of Walkway
- Construction of Boundary wall
- Construction of Main Gate
- Construction of Toilet Block
- Construction of Cafeteria
- Construction of Gazebos
- Installation of New Benches
- Installation of New Swings
- Construction of Rain Water Storage Tank
- Construction of Indoor Sports Area
- Construction of Net Cricket
- Construction of Rain Water Shelter

Construction of Jogging Track

3.5 Land use on the site

Exiting land is vacant plot.

3.6 Cost and Magnitude

The proposed project construction of Kala Gujran Park estimated cost is 156.10 million. The IEE implementation cost is **753,000 PKR.**

3.7 Road access

All roads selected for improving the park in Jhelum city and are easily accessible.

3.8 Beneficiary Population

The beneficiary population is 10,000/-

3.9 Vegetation features of the site

The proposed sub-project includes the construction of new park where plantation will be done.

3.10 Restoration and Rehabilitation Plans

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

3.11 Government approvals required by the project

Approval from all concerned departments like Punjab EPA, PTCL, SNGPL, and Irrigation etc. will be obtained by the MC Jhelum before start of the execution of the project.

3.12 Key Facilities:

All facilities and material required to execute the project are locally available.

3.13 Area of Influence (AOI)

The existing Park of the Jhelum city is expected to improve directly and indirectly after completion of the project. Therefore, whole city of Jhelum may be considered as AOI.

As regards project Direct Impacted Area (DIA), during construction phase the Row of park on each road may be considered as (DIA).

3.14 Labour & Community Health & Safety

Contractor will ensure implementation of on-site safety measures to protect community from any mishap/incident or accidents. Contractor will install safety signage to aware public about on-going construction activities (caution, safety, construction work in progress etc.). Contractor will also provide information about diversion routes (where necessary) with safety cautions/flagmen. Contractor will also provide personal protective equipment (PPEs) to workers as per nature of their jobs.

3.15 Rationalization of Sub-project

As cities become more densely populated and concern about the impact of climate change increases, planners, elected officials, and community advocates are committed to rehabilitate the existing storm water lines and their potential to help address critical urban infrastructure and public health issues.

3.16 Temporary Storage Area

As, this Sub-project is of short duration, henceforth, land will be rented with mutual negotiation between owner of the land and the contractor. Contractor will be bound to pay the rent to land title holder for temporary storage of construction material. Contractor will systematically layout his construction material as per scope of work to avoid hindrance in the movement of public and transport.

3.17 Contractor's Camp

Approximately 95% of the workforce will be from the local area whereas skilled labour might be hired from outside of the Sub-project area. Contractor will provide complete health care facilities especially first aid on the Sub-project site. If Contractor will establish any big labor camp; Camp Site Management Plan will be required from the contractor site for approval of the consultant.

Contractor will never stockpile huge quantities of construction material (sand, aggregate, bricks etc.) in the working limits to reduce chaos in the area. Contractor will remove construction waste and will dispose of on immediate basis. Contractor will submit construction waste management plan to DPO-ESSs and PSC for review.

3.18 Traffic Management

The contractor will disseminate information about on-going construction activities by installing safety signage for pedestrians as well as for traffic. Contractor will install diversion routes sign boards on-site (if required). Flagmen will also be deployed to direct traffic and avoid any mishaps/ accidents. Contractor will submit Traffic Management Plan to consultant and DPO-ESSs for approval.

3.19 Machinery & Equipment

The tentative list of machinery required to complete the project is given below

a. Mixer Machine (01)
b. Excavator (JCB) (01)
c. Crane (01)
d. Dumper(01)
e. Tractor trolley (02)

Contractor will use well-tuned machinery to minimize air pollution and noise. Contractor will never park their machinery on the working area to avoid obstacles in the mobility of commuters. Machinery with poor exhaust and making nuisance for community will not be allowed to work on-site.

3.20 Manpower Requirement

It is estimated that on the average manpower of 15-20 persons will be required by the Contractor for the Construction of New Park in Jhelum City. No child labor will be hired and verification will be made through CNIC. Majority of manpower shall be hired locally that will return to their homes on daily basis.

4 Legal Environmental Policy, Legal and Administrative Framework

This section provides an overview of the policy framework and national legislation that applies to the proposed project. The project is expected to comply with all national/provincial legislation regulations, EPA guidelines, World Bank Operational Policies and guidelines which are relevant and applicable to the sub-project.

4.1. Regulations for Environmental Assessment, Punjab EPA

Under Section 12 (and subsequent amendment) of the PEPA (1997), a project falling under any category specified in Schedule I of the IEE/EIA Regulations 2022 requires the proponent of the project to file an IEE with the concerned provincial EPA. Projects falling under any category specified in Schedule II require the proponent to file an EIA with the provincial agency, which is responsible for its review and accordance of approval or request any additional information deemed necessary.

4.2. Regulatory Clearances, Punjab EPA

In accordance with federal regulatory requirements, an IEE/EIA satisfying the requirements of the Punjab Environmental Protection (Amendment) Act will be marked cleared by Punjab-EPA and No Objection Certificate (NOC) will be issued for it.

4.3. Guidelines for Environmental Assessment, Pakistan EPA

The Pak-EPA has published a set of environmental guidelines for conducting environmental assessments and the environmental management of different types of development projects. The guidelines that are relevant to the proposed project are listed below:

• Guidelines for the Preparation and Review of Environmental Reports, Pakistan, EPA 1997;

• Guidelines for Public Consultations; Pakistan EPA May 1997;

4.4. Punjab Environmental Quality Standards (PEQS), 2016

The Punjab Environmental Quality Standards (PEQS), 2016 specify the following standards:

1. Water Quality Analysis Maximum allowable concentration of pollutants (32 parameters) in municipal and liquid industrial effluents discharged to inland waters, sewage treatment facilities, and the sea (three separate sets of numbers);
2. Air Quality Analysis Maximum allowable concentration of pollutants in gaseous emissions from industrial sources;
3. Noise Quality Analysis

These standards apply to the gaseous emissions and liquid effluents discharged by batching plants, campsites and construction machinery. The standards for vehicles will apply during the construction as

well as operation phase of the project. The Air, Noise and Water Quality Analysis is attached as **Annexure B.**

4.5. Other Environment Related Legislations

Table 2: National and Provincial Legislative Framework

Sr. No.	Act	Description	Applicability to sub-project
1.	**Punjab Environment Protection Act, 2012**	The Act establishes the Environmental Protection Agency that deals with the preparation of national environmental policies, prepare & publish national environment report, ensure the enforcement of National Environmental Quality Standards, establishment of ambient air, water and land quality standards, measures to control environmental pollution. Additionally, under this Act, no proponent of a project shall commence construction or operation unless he has filed with the Provincial Agency an initial environmental examination or, where the project is likely to cause an adverse environmental effect, an Environmental Impact Assessment (EIA), and has obtained from the approval in respect thereof.	Section 11,12,13 and 14 of PEPA, 2012 will be applicable during construction and operation phase of this project.
2.	Punjab Environment Protection Review of IEE/EIA Regulations 2022	Provided that the proponent shall file an environmental impact assessment, if the project is likely to cause an adverse environmental impact	• Schedule I and II of these Regulations are not applicable on this project. • According to the Review of IEE and EIA Regulations 2022, current project falls in **I (5) Category of Schedule I** Urban development projects and requires an Initial Environmental

			Examination (IEE) report for its Environmental approval under section 12 of the PEPA Act 1997 (amended 2012).
3.	Delegations of power for Environmental Approvals) Rules 2017	These rules set out: • Application of Approval • Preliminary Scrutiny • Review • Environmental Approval committee • Conditions of approval • Monitoring • Cancellation of approval	• The provision of this notification is applicable for environmental screening of the project, which implies that an Environmental study is required for the proposed project.
4.	Notification No. SOG/EPD/5-86/2019 dated 28th January 2020 Delegation Powers and Functions to the Deputy Commissioners	• Bus and wagons fall in category 'C ' with area up to 8 Kanals	•
5.	Pakistan Penal Code, 1860	The Code deals with the offences where public or private property or human lives are affected due to intentional or accidental misconduct of an individual or organization. The Code also addresses control of noise, noxious emissions and disposal of effluents.	The provisions of the Penal Code, 1860 are applicable to the project in terms of penalties for effecting human lives and public property. It also addresses the control of noise, air emissions and effluent disposal.
6.	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.	This act is applicable to the gaseous emission that will be released from the vehicles in operation phase at machinery used during construction phase of this sub-project.
7.	The Land Acquisition Act, 1894	The Land Acquisition Act, 1894, is a "law for the acquisition of land needed	This Act will not trigger as no land acquisition is required.

		for public purposes and for companies and for determining the amount of compensation to be paid on account of such acquisition".	
8.	The Punjab Land Acquisition Rules, 1983,	It describes the land acquisition procedure for public purposes or for a company.	These Rules will not trigger as no land acquisition is required.
9.	Pakistan Antiquities Act 1975 and Punjab Antiquities Amendment Act 2012	The Punjab Antiquities Amendment Act, 2012 is adopted from the Pakistan Antiquities Act of 1975 with a few minor changes. The Antiquities Act, 1975 (amended in 1990) states the following: • "Ancient" is any object that is at least 75 years old; • All accidental discoveries of artefacts must be reported to the Federal Department of Archaeology; • The Government is the owner of all buried antiquities discovered on any site, whether protected or otherwise; • All new construction within a distance of 200 feet from protected antiquities is forbidden; • No changes or repairs can be made to a protected monument, even if it is owned privately, without approval of the responsible authorities; and The cultural heritage laws of Pakistan are uniformly applicable to all categories of sites regardless of their	The law will be applicable to the project due to its provision that if any accidental archaeological discoveries may occur during the excavation works for the construction of proposed sub-project. Chance Find Procedures are given as Annexure K

		state of preservation and classification as monuments of national or world heritage.	
10.	Punjab Restriction of Employment of Children Act, 2016	According to the sub-section 11(a) of this Act, an occupier who employs or permits a child (person under the age of 15 years) to work in an establishment shall be liable to punishment with imprisonment for a term which may extend to six months, but which shall not be less than seven days, and a mandatory fine between 10,000 and 50,000 rupees.	The relevance of this Act to the project will be to prohibit child employment for construction of the proposed sub-project.
11.	The Punjab Occupational Safety and Health Act, 2019	The Punjab Occupational Safety and Health Act, 2019 (IV of 2019) An Act to provide for occupational safety and health at workplace. It is necessary to make and consolidate the law for the occupational safety and health of the persons at workplace and to protect them against risks arising out of the occupational hazards; to promote safe and healthy working environment catering to the physiological and psychological needs of the employees at workplace and to provide for matters connected therewith or ancillary thereto.	The Punjab Occupational Safety and Health Act, 2019 relevant sections to the proposed projects are: 8. Safety and Health, 10. Consultation 13. Notification and investigation of accidents, dangerous occurrences and occupational illness. Adopting this act, PMDFC has developed SOPs for health and safety of the labor and communities which will be applicable in this sub-project.

4.6. INTERNATIONAL LAWS/TREATIES

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3	International Union for Conservation of Nature and Natural Resources Red List (2000)	It lists sensitive ecological resources that are experiencing various levels of threats internationally.
4	Ramsar Convention on Wetlands of International Importance 1971	The Ramsar Convention is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The convention is an international treaty for the conservation and sustainable utilization of wetlands. It is the only global environmental treaty that deals with a particular ecosystem.
5	Millennium Development Goals (MDGs)	The Millennium Development Goals (MDGs) were adopted in the General Assembly of the United Nations in the year 2000 by all the countries of world and the world's leading developmental institutions. The MGDs are as follows: Eradicate Extreme Hunger and Poverty Achieve Universal Primary Education Promote Gender Equality and Empower Women Reduce Child Mortality Improve Maternal Health Combat HIV/AIDS Malaria and Other Diseases Ensure Environmental Sustainability Develop A Global Partnership for Development
6	Basel Convention	The Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and Their Disposal is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to Less Developed Countries (LDCs). It does not, however, address the movement of radioactive waste. The Convention is also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist 7LDCs in environmentally

		sound management of the hazardous and other wastes they generate.

4.6.1. The World Bank Operational Policies

The World Bank (WB) has approved a series of Operational Policies which define the conduct of WB operations. A summary of the status of those Operational Policies which relate to environmental and social impacts are provided in the following sections.

Table 3: Assessment of Applicable World Bank Operational Policies

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/4.01	Yes	This sub-project has been categorized as 'Category B'. The sub-project activities under Component 3 may potentially cause negative environmental and social impacts. The sub-project is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented.
Physical Cultural Resource OP/4.11	No	The sub-project does not lie in any near any cultural and heritage resource therefore OP 4.11 will not be triggered
Involuntary Resettlement OP/4.12	No	OP 4.12 is not triggered as the sub-project does not require any land acquisition, therefore there be no involuntary resettlement, livelihood impacts. Consequently, there is no need of a Resettlement Action Plan. If this situation changes, the PMDFC will take immediate steps to prepare a RAP.

4.6.2.World Bank Environmental, Health and Social Guidelines

The principal World Bank publications that contain environmental and social guidelines are listed below.

- Environment, Health, and Safety (EHS) Guidelines prepared by International Finance Corporation and World Bank in 2007
- Pollution Prevention and Abatement Handbook 1998: Towards Cleaner Production
- Environmental Assessment Sourcebook, Volume I: Policies, Procedures, and Cross-Sectoral Issues.
- Social Analysis Sourcebook
- WB Committee on disability-inclusive development
- WB guidelines on labor influx
- WB Group Gender Strategy

5 Description of Environment

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

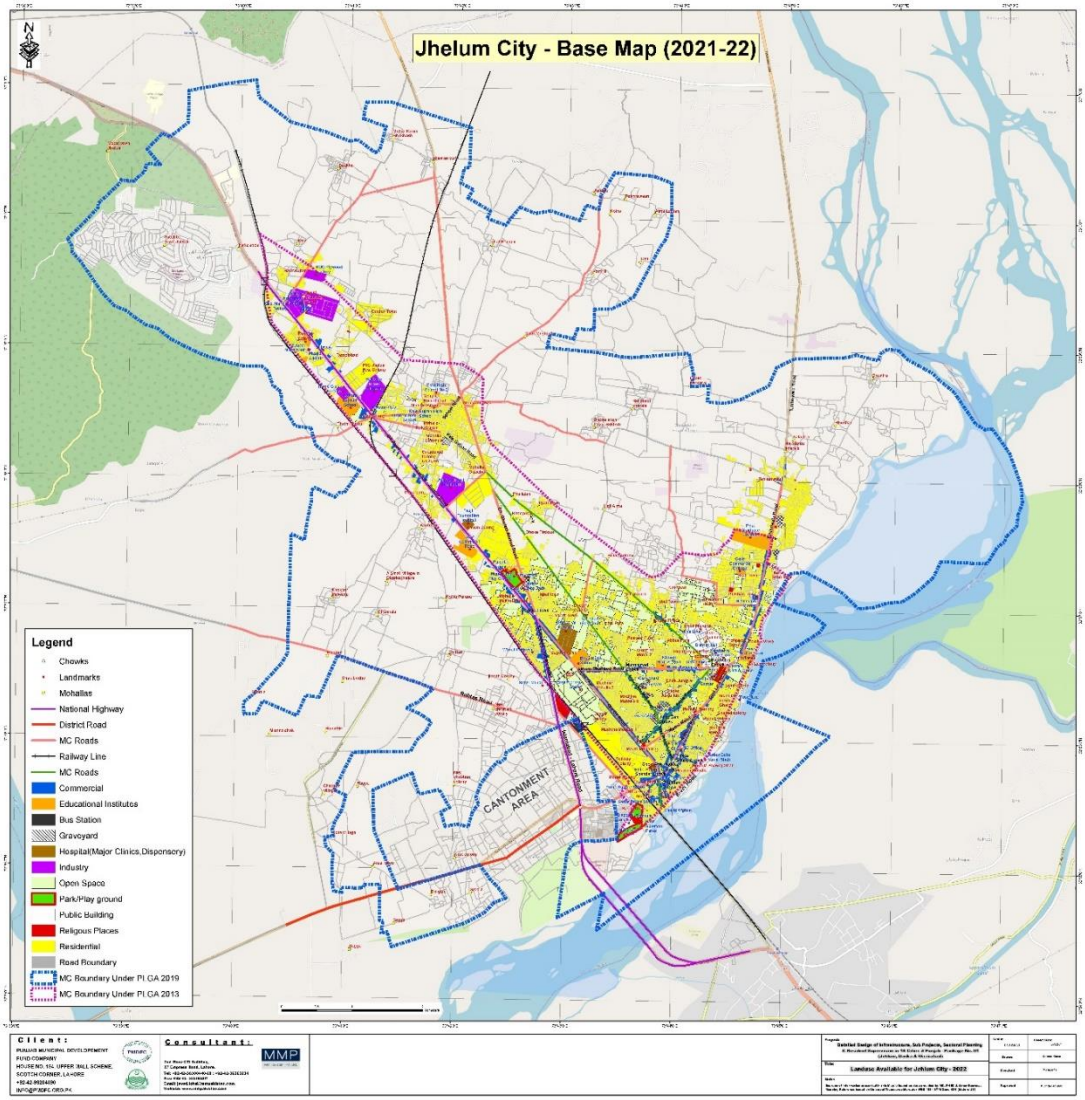
5.1 City profile

Jhelum is a city on the east bank of the Jhelum River, which is located in the district of Jhelum in the north of Punjab province, Pakistan. It is the 44th largest city of Pakistan by population. Functionally Jhelum can be divided into three zones:

- Southern part (Old city)
- Eastern part
- Western part

Old City (or southern Zone) is a high-density zone bound by civil lines road towards south-east. River Jhelum is situated along south-east of the town. Drain is towards the south. The zone is predominantly residential, includes main commercial areas. The major commercial activities are concentrated in the southern part of the town as linear strips along the roads, which are though quiet wide, but due to encroachments and congestion create further chaos. The hub of commercial activities is the Shandar chowk. This chowk lies at the intersection of two main roads of the town i.e. Old GT road and civil lines road. This area has been haphazardly developed duem to the lack of systematic planning and effective development control, resulting in narrow and zigzag streets. The Mohallas that exist in this part of the town are: Mohalla Baig, Mohalla Khawaj Ghan, Mohalla Madni, Mohalla Shumali, Nia Mohalla, Machine Mohala, Dhok Juma, Mohalla Peera Ghaib. The eastern zone is bounded by Civil lines Road and River Jhelum is adjacent to the south eastern part of the town. On the south west of the town the Army Cantonment area is situated, which is mbifurcated to the entire town by a railway line. The North West of the town is sparsely developed and relatively new developments are taking place. There are many vacant pockets in between. The density is lower as compared to old city. In this zone a main hospital, District Health Quarter is situated along Old GT road. The condition of the residential area is relatively better in this zone. However, the construction activity is taking place in a piecemeal fashion, resulting in many vacant parcels of land. This zone has easy access to major public and private services or facilities. Mostly the government offices and public buildings like Tehsil Municipal Administration, Police Station, Government Boys School, Hospital, parks, post office etc. have been constructed. The future expansion of Jhelum is taking place to the North-west of the city. The city's expansion is restricted in the northern side as to the South – East lies the River Jhelum and to the South- West is the Army Cantonment area. Therefore the city is mainly expanding beyond Bilal town, along Tahlianwala road, in north-east direction. Newly constructed houses can be found in this area. Other non-residential uses as educational, commercial, petrol pumps etc are being developed with the passage of time. Some more expansion is taking place to the north, along GT road. This area is sporadically developed. There are a number of vacant plots in this belt which are mainly used for

agricultural purposes, but due to rapid urbanization its use is being converted into residential. There exist two boundaries in the Jhelum city such as MC boundary under PLGA 2019 and MC boundary



under PLGA 2013. The previous MC boundary of year 2013 was extended considering the growth of the city. As informed, the MC boundary of year 2019 is the updated boundary for provision of Municipal services.

5.2 PHYSICAL ENVIRONMENT

This part examines the physical resources such as topography, soil, climate, surface and ground water resources and quality, ambient air quality and geology of not only the project site but also the city as a whole to assess whether the project under assessment can or does have any impacts on any of these parameters. The description of physical environment of the city is presented in the following sub sections.

5.2.1 Topography

The district capital, Jhelum City, is situated on the right and left bank of the Jhelum River, the left side of Jhelum is known as Sarai Alamgir and it also contains the Military College Jhelum (MCJ). The 16th-century Grand Trunk Road passes through the city. Jhelum city is near the site of the Battle of the Hydaspes between the armies of Alexander and Raja Porus This battle took place a few miles downstream from the city center, along the river banks. Lying at 32°56′ North latitude and 73°44′ East longitude, Jhelum is located a 1-hour and 30 minutes drive from the Capital of Pakistan Islamabad, and 3 hours' drive from the heart of Punjab Lahore. Jhelum is linked with these cities through the National Highway N-5. Several cities are within 1 to 2 hours' drive including Gujrat, Gujranwala, Chakwal and Mirpur, Azad Kashmir.

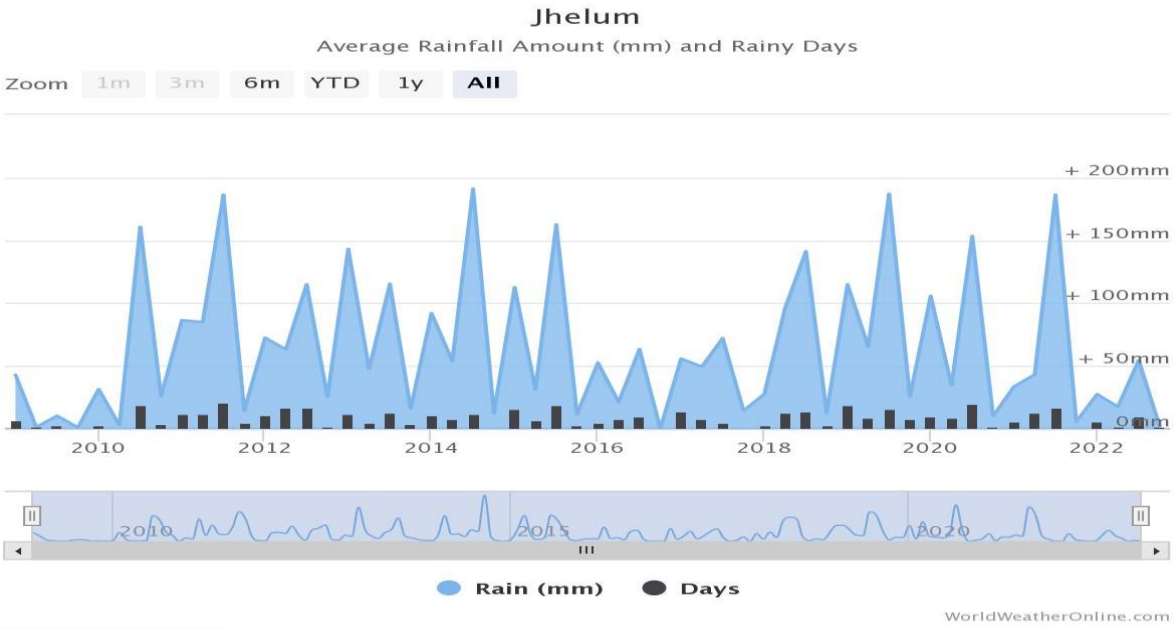
5.2.2 Climate

Lying at 32°56′ North latitude and 73°44′ East longitude, Jhelum is located a 1-hour and 30 minutes' drive from the Capital of Pakistan Islamabad, and 3 hours' drive from the heart of Punjab Lahore. Jhelum is linked with these cities through the National Highway N-5. Several cities are within 1 to 2 hours' drive including Gujrat (home to fan manufacturing), Gujranwala, Chakwal and Mirpur, Azad Kashmir. Jhelum has a monsoon-influenced humid subtropical climate (Köppen climate classification CWA) and is extremely hot and humid in summer, and cold and generally dry in winter. The maximum recorded temperature in the pre-monsoon season of April to June is 49.2 °C (120.6 °F), whereas in winter the minimum temperature recorded is −0.6 °C (30.9 °F). Average annual rainfall is about 850 millimeters (33 in) which is much below the required quantity given the extremely high evaporation levels. Nevertheless, in the rainy season water torrents flow from the north to the Jhelum River very rapidly and cause damage to the crops, bridges, roads. This is responsible for the soil erosion in the district. Over the years, global climate change has affected Jhelum as well as any other place on earth and below comparison charts from Weather base and NOAA show the difference in rainfall between 1990 and 2015. Below table and graphs show historical climate data, averages of Jhelum city/

Climate data for Jhelum, Punjab [hide]													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	26.1 (79.0)	30.7 (87.3)	36.7 (98.1)	43.3 (109.9)	49.2 (120.6)	49.0 (120.2)	47.0 (116.6)	42.2 (108.0)	40.6 (105.1)	37.8 (100.0)	35.0 (95.0)	27.8 (82.0)	49.2 (120.6)
Average high °C (°F)	19.7 (67.5)	21.6 (70.9)	26.6 (79.9)	33.0 (91.4)	38.1 (100.6)	40.5 (104.9)	35.9 (96.6)	34.5 (94.1)	35.0 (95.0)	33.1 (91.6)	27.6 (81.7)	21.5 (70.7)	30.6 (87.1)
Daily mean °C (°F)	12.3 (54.1)	14.7 (58.5)	19.5 (67.1)	25.4 (77.7)	30.1 (86.2)	33.2 (91.8)	30.9 (87.6)	29.9 (85.8)	29.0 (84.2)	24.9 (76.8)	18.7 (65.7)	13.6 (56.5)	23.5 (74.3)
Average low °C (°F)	5.0 (41.0)	7.7 (45.9)	12.5 (54.5)	17.7 (63.9)	22.0 (71.6)	25.8 (78.4)	25.8 (78.4)	25.3 (77.5)	23.0 (73.4)	16.6 (61.9)	9.9 (49.8)	5.7 (42.3)	16.4 (61.5)
Record low °C (°F)	−0.6 (30.9)	0.0 (32.0)	4.0 (39.2)	8.6 (47.5)	13.0 (55.4)	18.0 (64.4)	19.4 (66.9)	19.4 (66.9)	15.0 (59.0)	8.9 (48.0)	1.1 (34.0)	0.0 (32.0)	−0.6 (30.9)
Average rainfall mm (inches)	33.8 (1.33)	50.0 (1.97)	60.5 (2.38)	36.6 (1.44)	31.8 (1.25)	51.9 (2.04)	237.3 (9.34)	221.2 (8.71)	77.7 (3.06)	12.2 (0.48)	9.9 (0.39)	30.4 (1.20)	853.3 (33.59)
Mean monthly sunshine hours	212.8	202.9	225.3	256.8	312.7	284.7	247.0	243.6	257.0	287.5	251.9	215.3	2,997.5

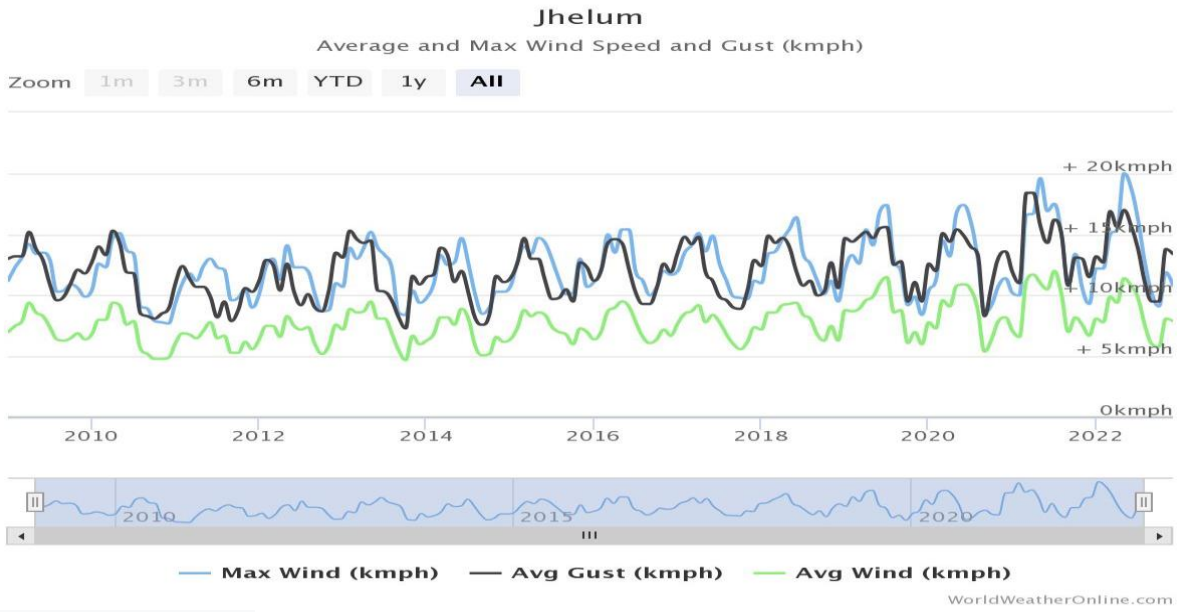
(Source: Weather base 2015)

Figure 1: Climate data of Jhelum city



(Source: Worldweatheronline.com)

Figure 2: Average Rainfall data of Jhelum City



(Source: Worldweatheronline.com)

Figure 3: Average Wind & Dust data of Jhelum City

5.2.3 Soils

Soils form major relation with environment. They influence environment by their special qualities and more so through fertility. Soil should not be taken as a lifeless residual layer but it is a very dynamic element of environment in which very complicated physical, chemical and biological activities are constantly proceeding. In this way it is a dynamically changing and developing body. Soil scientists restrict the word soil or solum merely to the surface material, which has come to have distinct layers or horizon over the extended period of time. The soil of the proposed site is sandy clay in nature. Sandy soil has its good points. It is easy to dig and can be worked earlier in the spring than other soil types. It is not as susceptible to frost heave as clay soils. This is a condition where the soil is lifted up when the water inside the soil freezes, and it can push plants out of the ground. With the addition of some organic matter, the light texture and open structure of sandy soil is good for growing many varieties of vegetables and flowers, and is well suited to annual root crops, especially potatoes (Solanum tuberosum).

5.2.4 Air Quality

The major sources of air pollution in the area are vehicular traffic and surrounding factories. To record the baseline ambient air quality of the project area, three samples were collected at different location to observe the level of CO, SO2, NO2 and Particulate Matter (PM10). The results of the samples are within the PEQS limits.

5.2.5 Ground Water

Jhelum River is flowing at the eastern and southern periphery of the city. Tube wells have been installed at different points in the city to harness the deep underground fresh water. Water from some tube wells is being pumped into overhead reservoirs constructed at different locations of the city wherefrom it is fed to the

distribution system. Three overhead reservoirs are currently non-functional. In these cases the water is directly being supplied into distribution system. Some areas are being supplied with contaminated water. Main source of contamination is old and substandard consumer connections because of rusted and perforated GI service pipe resulting in ex-filtration and infiltration. Substandard PVC or lawn piping used in the consumer connections. Pipes frequently burst and cause water contamination. The city has sweet sub soil water which is fit for human consumption. Ground water quality is fresh (defined as acceptable in terms of its salinity). Raw water abstracted from the deep tube wells is believed to be essentially bacteria free. The water quality in the upper 50 meters zone of subsoil is generally brackish. For city's drinking purposes water is abstracted from groundwater aquifer by means of tube wells located throughout the city. The quality of water is generally adequate for direct consumption. About 83% of city population is consuming groundwater for drinking purposes. Groundwater is available at a depth ranging between 24 to 30m below the natural surface level. Deep groundwater from a depth of about 210m in the vicinity of the Project Area is being extracted for meeting the domestic and commercial water demands in nearby areas.

5.2.6 Surface Water

The river Jhelum is navigable throughout the district, which forms the south-eastern portion of a rugged Himalayan spur, extending between the Indus and Jhelum to the borders of the Sind Sagar Doab. Its scenery is very picturesque, although not of so wild a character as the mountain region of Rawalpindi to the north, and is lighted up in places by smiling patches of cultivated valley. The backbone of the district is formed by the Salt Range, a treble line of parallel hills running in three long forks from east to west throughout its whole breadth.

5.2.7 Sewerage System

The existing sewerage system of Jhelum city encompasses area under jurisdiction of Municipal Committee (MC). The existing sewerage system caters for about 0.13 million people which are about 70% of the MC's present population (188,348 persons, year 2022). At present, the increased population and improved socio-economic conditions have exerted immense pressure on the city sewerage system. A part of the system is outlived and its capacity has decreased due to additional built up area and with little capacity available in sewers due to saturation of population for which it was designed. As a result, sewer chocking causing unhygienic conditions are evident in the city. This situation warrants to improve existing sewerage system as well as to enhance the sewerage coverage in unserved areas. The existing sewerage system in Municipal Area consists of two sewerage zones namely Zone A and Zone B. Zone A mainly comprises main city area and Kala Gujran and is spread over an area of 15 km2. This zone has a combined system collecting domestic, industrial and storm water. The sewerage network comprises trunk, sub main and lateral sewers. This zone comprises areas including Shadab colony, Nia Mohallah, Machine Mohallah 1, Machine Mohallah 2, Machine Mohallah 3, Mestrian Mohalla etc. which spreads over an area of 2 Km^2.

5.2.8 Solid Waste Management

Jhelum city is observing poor state of Solid Waste Management. Open heaps along the road and nullah are common in the city. The reason for this poor condition rests on the inadequate Human Resource and Equipment. Due to insufficient machinery, lifting frequency of containers is usually once a week. This piled up waste causes the nuisance and is a potential health hazard to the community.

5.2.9 Landfill Site Development

Presently, there is a rental open dumping site that is being used by MC Jhelum. It covers 20 kanal of area and is excavated 25 feet deep below NSL. The site is adjacent to Kala gujran village and near to rescue 1122 office and Pakistan Tobacco Company along with the abandoned railway line. This site was rented in April 2021 and is actively being used for open dumping of solid waste under MC. The monthly rent paid is 30,000 PKR per month and is paid by the MC. With the current pace this site is progressing, and solid waste being generated the maximum life of this site will last up to the next 10 years. The road that is used by the vehicles to reach this dumping site is in very poor condition does not function properly, hence the drivers are reluctant to drive this path and there is no alternative route to reach the site. The condition of the road needs complete resurfacing and proper maintenance to be efficiently used by the vehicles for solid waste management. The suitability of the landfill sites will be determined after detailed surveys and design of the Sub-project in compliance with PEPA 2012.

5.3 ECOLOGICAL ENVIRONMENT

Mainly a country's wilderness areas and scenic landscapes with their associated flora and fauna form natural capital of a country. Both collectively and within each level, the range or variety of the resources is referred to as the "Biological Diversity". The contribution of the "Natural capital" is recognized at three distinct levels including genera, species, and community -habitat and ecosystem. Pakistan comprises of a total of nine major ecological zones and the term has relevance for each of Pakistan's administrative units—district, province, and particularly country. The greater the number of genera, species and habitats and ecosystems present within these units, the greater is the Biodiversity. It is in this background that the biodiversity of the area is discussed below. City is enriched with the presence of natural flora and fauna; although with the growing population and development activities, the presence of some has been somewhat affected. There are however no significant or well-shaped trees and shrubs on the project site. There are some trees only along the main roads.

5.3.1 Biodiversity

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

and habitats and ecosystems present within these units, the greater is said to be the Biodiversity. The biodiversity of the area, with this background, is discussed as under. (Source: IEE report Zohan plastics)

5.3.2 Agriculture

Jhelum District has a total area of 858,767 acres (3,475.31 km^2), out of which 316,815 acres (1,282.10 km^2) are cultivated. It has four tehsils; Jhelum, Pind Dadan Khan, Dina and Sohawa. The area is located on the eastern part of Potohar upland along with River Jhelum. Agriculture in the District Jhelum depends mainly on rainfall. The average rainfall of the area varies from 20 to 40 inches (1,000 mm). About three fourth of this precipitation is received in monsoon season and the remaining one fourth is received during the rest of the year. The irrigated area at present is limited but the emphasis on construction of small Dams and Mini Dams is gradually increasing. Wheat remains the main crop. In Tehsil P.D Khan Salt is the predominant feature which is spoiling the rich agricultural land day by day. There is a long strip of very rich and virgin soil along the river which could be made a paradise of citrus plantation by drip irrigation if the local people are motivated and the Government of Punjab expressed some interest in it. (Source: IEE report Zohan plastics)

5.3.3 Flora

Vegetation of the forests of Jhelum Forest Division is dry, deciduous shrub type, phulai, kahu (wild olive) and sanatha are the main species. The stocking on the whole is poor and the forests are open. Vegetation is poor on sandstone and red marl. The southern slopes are often devoid of vegetation while north western slopes carry good forests. The forests of Jhelum Forests Division are burdened with right of grazing, browsing and firewood. Vegetation of the forests of Jhelum Forest Division is dry, deciduous shrub type, phulai, Kahu (wild olive), and sanatha are the main species. The stocking, on the whole, is poor and the forests are open. Vegetation is poor on sandstone and red marl. The southern slopes are often devoid of vegetation while northwestern slopes carry good forests. The forests of Jhelum Forests Division are burdened with the right of grazing, browsing, and firewood. Under settlement out of total area 93,566 acres (378.65 km2) only 5,468 acres (22.13 km2) about (45%) are right free. The remaining 55% are open to grazing. (Source: Wikipedia)

5.3.4 Fauna

No fauna exist on the proposed site. However some scattered birds and buffaloes exists in surrounding of the site.The fauna of the District is mostly indigenous restricted, like the vegetation, but similarly varied and interesting. The rugged and rough terrain, low rainfall, the scantly cover of vegetation and the burning passions of the increasing number of hunters, all have their share in limiting the animal kingdom in the District. The river offers a better environment than elsewhere though the hills support a more interesting wildlife. Urial (an animal from deer family) and chinckara are spot aids while wild bores are found in the Salt Range. Wolves, foxes and wild cats are also found. Hare is fairly common. Chikor grey and black Partridge are also found in the parts of the district. Migratory ducks like Teal Pin tail and mallard and some geese visit during winter. (Source: Wikipedia)

5.3.5 Environmentally Sensitive Receptors

Environmental sensitive areas are more prone towards human disturbance. The river Jhelum is navigable throughout the district, which forms the south-eastern portion of a rugged Himalayan spur, extending between the Indus and Jhelum to the borders of the Sind Sagar Doab. Its scenery is very picturesque, although not of so wild a character as the mountain region of Rawalpindi to the north, and is lighted up in places by smiling patches of the cultivated valley.

5.4 SOCIO-ECONOMIC ENVIRONMENT

Jhelum's population has increased around 29.23% over the past 20 years without any prominent improvement in the facilities, which has resulted in extra burden on available facilities for education, health, infrastructure, and utilities. In Jhelum, 64.1% of the population is between the ages of 15 - 64; that is the most important and dominant segment of population as it is working age group. This group can play a very important role in the economic growth and development of the city/region if proper education and vocational training is provided. Approximately 34.5% of population belongs to dependent age group. Those in the 0-15 age bracket form 33.1% and those above 65 years are 1.4 %. This group will need more playgrounds, schools, and medical care facilities for old age people. Average household size (5.71) and the number of earning members reflect that generally a large-sized family is dependent upon a single earning member, which in turn affects the living condition of the entire family in the long run. The literacy ratio of Jhelum city is 88.27%.

5.4.1 Administrative Setup

Under the PLGO 2021, The Municipal Corporation Jhelum has been converted into District Council, which consists of the Chief Officer, Council Officer, 5 District Officers and other officials of the Local Council Service and officials of the offices delegated to the Municipal Corporation. The Chief Officer is acting as coordinating and administrative officer in-charge of the District Officers.

5.4.2 Economic Drivers of the City

There are a numbers of industries located in and around Jhelum City. Major industries include a Tobacco factory, wood, marble, glass and flour mills. The major crop is wheat, annual average production of which during the period 2017-18 was 144.56 thousand Metric Tons. There are 12 flour mills in district Jhelum. Fruit and vegetables are grown in small quantities which are not sufficient to meet the overall requirement of the district. Therefore, there exists very good potential for cold storage in the district, so that the vegetables/fruit purchased from other district would be preserved for short period to maintain regular supply in the local markets. As per Punjab Development Statistics 2008, there exists good scope for organized dairy farms, cattle/goats/sheep fattening farms, and cattle/poultry feed mills. Leather shoes and leather products unit can be established in the district. District Jhelum is quite rich in minerals, Rock Salt, Brine, gypsum, coal are being excavated in the district. There are already

three cement and one soda ash manufacturing units operating in the district. The existing chip-Board/Ply-Wood Units suggest good prospects for Flush Door /Panels and Furniture Units. (Source: Internet)

5.4.3 Industrial and Commercial Hubs

According to study of available resources it was determined that the following industrial potentials exists in the city that include Pollywood, Glass Works, Tobacco industry, Textile, marble and flour Mill. The Small Industrial Estates also present in Jhelum is the potential (Interior factory, Pet Crushing Flour mills and other small scale industries) along the old G.T. Road and the railway network. Agricultural sector has great prospective for future expansion that can be a booster for the development of the city and its economy. Jhelum's one of the strength is that it is rich in minerals including Rock salt and coal mining. CBD is located along the major road network old G.T. Road which is the major commercial activity corridor. This corridor is hub of commercial activity and catering the need of whole of the city by provisioning of basic facilities i.e. commercial centers or shopping plazas.

5.4.4 Community Structure

According to MMP's socio-economic survey, the main ethnic communities in the Sub-project area are Rajput, Jat, Kyanis. Between the urban and rural population of the Sub-project area there is a marked contrast regarding gender equality, population composition and traditions. In the Sub-project area, majority of the people are Muslims with different cast systems.

5.4.5 Population & Growth Rate

The available population data for MC Jhelum is as per 2017 census for the MC boundary notified in 2013. The population for the study area will be calculated by identifying additional areas added in extended MC boundary notified in 2019 in addition to the previous MC boundary 2013. After calculating the additional area's population, the population for study area will be determined and further analysis will be carried out according to that population. The existing population for the year 2022 will be projected using the 2017's census of the study area. Furthermore, the population projection up to the year 2050 as per project requirement will also be calculated.

5.4.6 Past Population Trend

The population trend for MC Jhelum from 1972 to 2017 have been as given below:

Year	Population
1972	63676
1981	92646
1998	129442
2017	174196

5.4.7 Population Projection up to the year 2050

The population projection is an estimated calculation of the number of people expected to inhabit a particular place at a future date, based on data on the current population size and the expected natural-

growth trends. These trends include births, deaths, fertility rates, occurrences of calamities or natural hazards; political developments, and migration. Population projections are set on a “conditional” future. These projections are a useful tool for policy dialogue and program planning. They help stakeholders plan for the near and distant future and identify potential issues for policy makers. The population growth rate (PGR) is the increase in a region's population during a specified period of time, expressed as a percentage of the population at the start of that period. It reflects the number of births and deaths during the period as well as in- and out-migration figures. The importance of forecasting population growth lies in the need to provide a sound basis for development policy. The growth rate from Population and Housing Census Report of 2017 was 1.57% p.a. for Jhelum MC. This growth rate is used for the population projection up to the year 2030. From the study of the past trends, it is expected to rise in future. Therefore, the growth rate used for the population projection of Jhelum MC up to 2050 is taken as 2.0% p.a. The base year population considered below is taken from 2017 census report as per the Jhelum MC 2013’s boundary to carry out the projection up to the year 2050. This projection will be revised after calculating the current study area’s population.

Year	Growth rate	Population Projection
2017	1.57%	190471
2022	1.57%	188307
2025	1.57%	197316
2030	1.57%	213299
2035	2.0%	235499

5.4.8 Health Facilities

Jhelum has some of the largest hospitals in the area which include the hospital in the cantonment area of the city managed by the Pakistan Army or sub organizations. One such hospital is the Combined Military Hospital Jhelum. (Source: Wikipedia)

5.4.9 Educational Facilities

Jhelum has an average educational infrastructure. The overall literacy rate for Jhelum is 35 percent, somewhat a lower literacy in Punjab province (58 percent). Jhelum has 6 Degree Colleges for Women, 6 Degree Colleges for Men, 6 Co-education Colleges, 6 Commerce Colleges, and one Law College, with numerous higher secondary schools and over 150 high schools. Name of some institutions are as following;

- Punjab University.
- Air Foundation School System Jhelum (Boys & Girls).
- Air Foundation School System Junior Branch (Near Al-Bilal Hotel)
- Army Public School and College Jhelum Cantt.
- FG Intermediat College Jhelum Cantt.
- Fauji Foundation Model School & College, Jhelum Cantt.
- Govt. Postgraduate College, Jhelum.

- Govt. College. G.T. Road, Jhelum.
- Govt. College for Women, Jhelum.
- Govt. College of Commerce, Bilal Town, Jhelum.
- Research Girls College Kala Gujran, Jhelum
- Jinnah Law College Near Kutcheri, Jhelum.
- M.A. Jinnah College of Commerce & Computer Science, Jhelum.
- PICS, Bilal town, Jhelum.
- Jhelum Homeopathic Medical College, GT Road Jada, Jhelum
- SLS College, Jhelum.
- Govt. College of Technology Chak Daulat, Jhelum

(Source: IEE report Zohan plastics)

5.4.10 Sports

Located within the city is a golf course called the River-View Golf Club, where national golf tournaments are held regularly there is also a Cricket + football Stadium Zamir Jaffri Cricket Stadium where District level tournaments are held. In October 2008, Pakistan Cricket Board upgraded this stadium for Regional events. Besides the mainstream sports like football, cricket, hockey, and squash, a lot of other sports are also played in the rural areas around the city. These, which are equally popular, include tent pegging, volleyball, stone-lifting and Kabaddi. Thousands of people flock to these local grand sporting events as keenly as the average sports fan anywhere in the world. These events are usually sponsored by the UK and foreign based Pakistani diaspora. (Source: Wikipedia)

5.4.11 Socially Sensitive Receptors

Jhelum is not only rich in natural resources, industry, and agriculture, but it is also rich in intellectual capital. Throughout the city, a network of academic institutions is in place, ranging from primary education to higher education institutions. According to the Government of Punjab, there are 803 academic institutions.

5.4.12 Important Places

Important Places Include Adventure Park, Altaf Park Jhelum, Jhelum Bridge, Family Park, Rohtas Fort, NMC Glow Park, and Citi Land Theme Park.

5.4.13 Quality of life values

The individuals assessed from the neighboring communities of the project area were involved in small businesses and private jobs. Most of the people have sound earning sources and practice leisure lifestyles in fresh environments provided by the private housing societies in the nearby areas. Most of the people hesitated telling their incomes; however, incomes average in the range of 20000 to as much as 100000 PKR; enough to meet their basic needs. They avail all the basic facilities of healthy living and enjoy human rights and civil liberties. The diseases prevalent in the community were stomach disorders, fatigue, joint pain, diabetes and arthritis. But it was also observed that all these disease are commonly due to improper diet and water contamination. Almost all of the interviewed members were

in favor of the project; rather they commented even more similar projects should be initiated in such areas as to yield lowering of goods prices and controlling inflation when not comprising on quality of the products and the environment.

5.4.14 Mechanism for Resolving Disputes

According to normal social practices in the society, people have various disputes / conflicts on different issues like other parts of the country. During survey, the people in the Sub-project area told that they have two options available for conflict resolution. First is the government judiciary system and second is mutually resolution of dispute (Council of elders) system. The people of Sub-project area are believed to be peaceful but sometimes a dispute between two individuals, from two casts, may generate problems. Usually the individuals go to government Judiciary system if they are not satisfied with their own resolutions. Ordinarily, whenever there is a dispute between two persons /parties, the notables of one side go for reconciliation to the other party and sit together to resolve the issue. Sometimes the dispute is resolved through imposition of penalties in the form of cash, land and kind. In case of serious matters local political influential intervene to settle the dispute. Police and court of law is the last option.

5.4.15 Gender Issues in the Sub-project area

Mostly consulted women are housewives and remain engaged on a full time basis in household chores including food preparation, cleaning / housekeeping, caring and rearing of children and taking care of old and sick members of the family. Some of the women were contributing in household income through both indoor and outdoor activities, such as teaching, dress making and shop keeping. These numbers are likely indicative of the roles women play in the Sub-project area. Women are also engaged in the informal rural economy through the rearing of animals.

Women face difficulties in getting education and are not consulted for most of the decision–making processes. The gender situation is affected by early marriage of girls, restriction on women's mobility and many household chores. Women in Sub-project area have been victim of patriarchy, male chauvinism, social discrimination, resource deprivation and denial of human rights. Despite constitutional and legislative provisions, the customary law often prevails making it difficult for women even to claim their legal rights which are supposedly guaranteed. Although Islamic laws of inheritance provide a share to daughter in father's property but the custom does not allow it. Some of these respondents were involved in decision making process regarding important issues of sale and purchase of property, for schooling and marriages of their children. However, a vast majority of women were of the view that beside all the discussions regarding decision making, final decision power lies with the male head of the family. A small number of respondents had the right of ownership of the property.

5.5 Suitability of the Site

The site does not fall in environmental sensitive area and all commodities are at a suitable distance from project site as they will not have impacted by the construction activities even locals will get more

benefits and job opportunities. No replacement, relocation and rehabilitation are required for the development of proposed project.

6 SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES

6.1 Introduction

Identification of impacts and determining of their significance is one of the main purposes of an ESMP report. Environmental and social impacts of any project are identified taking into account all phases of the project cycle, including planning and construction. The environmental issues and impacts of a project depend upon the nature of the project activities, and the types and extent of interventions involved. It is not easy to predict the future since every impact has a different and multi-dimensional nature, and also because it involves personal and subjective judgment for many attributes. An environmental or social impact can be either beneficial or adverse and is assessed by comparing the quality of the existing environment (Baseline) with the predicted quality of the environment once the project is in place.

The specific purpose of this section is to;

- Identify and assess the range of potential impacts and extent of their severity;
- Explain the ways in which the project might affect the baseline setting;
- Suggest viable mitigation measures for the identified impacts;

6.2 Assessment of Impacts

The environmental and social safeguards screening checklist depicts that:

- The Sub-project will not require any land acquisition;
- The Sub-project will not involve any involuntary resettlement; and
- The sub Sub-project does not fall in any protected area, such as wildlife sanctuary, game reserve, or national park.

The Sub-project involves Rehabilitation of Altaf Park in Jhelum City. However, there may be low to medium adverse environmental and social impacts due to construction activities. Some of environmental and social impacts discussed as under;

6.3 Description of the aspects likely to be significantly affected by the project

The nature and scope of the rehabilitation & construction activities would bring a number of the associated potential environmental and social impacts. The social impacts associated with the hiring of laborers are expected to be recruited largely from local area which will enhance economic opportunity for them. Potential impacts include location and management of work camp and disturbance issues relating to traffic, dust, noise and vibration, construction materials, liquid discharges, sludge waste collection and disposal, and potential hindrance in movement of inhabitants on temporary basis. Construction related impacts are heavily dependent

on Contractor's work. Contractor is liable to ensure Contractor's social obligation. These impacts are of routine nature and easily manageable.

The table below provides examines the possible effects on the environment. This approach provides a comprehensive description of the aspects likely to be affected by the proposed development that have not been identified.

Table 6-1: Significance of Impacts

Area	Impact Assessment
Population & Human Health	No Significant Impacts. During the construction phase, there may be possible short-term nuisances to human beings from noise and dust during construction. Once standard mitigation measures are implemented, in accordance with an agreed Construction Management Plan, it is not anticipated that the construction works would result in significant environmental impacts for the local population and human health. There are no operational impacts associated with this development that would be likely to cause significant effects in terms of population and human health.
Biodiversity	No Significant Impacts. Designated sites will not be impacted upon as set out in the Assessment Screening Checklists.
Land, Soil and Geology	No Significant Impacts. The development will be carried out in accordance with environmentally sensitive construction methods and environmental management systems. There are no operational impacts associated with this development that would be likely to cause significant effects in terms of Land, Soil and Geology.
Water	No Significant Impacts. Standard construction mitigation measures will be employed to reduce the risk of pollution during construction. No anticipated significant effects on the existing ground water arising from the proposed development during the operational phase.
Air, Climate & Noise	No Significant Impacts. Potential short-term low probability impact on air quality and noise due to exhaust and noise emissions caused by construction vehicles and machinery required during construction. This will be managed through best practice measures. No anticipated significant effects on Air, Climate & Noise arising from the proposed development during the operational phase.
Landscape and Visual	No Significant Impacts. Construction may result in temporary negative landscape and visual impacts. No anticipated significant effects on Landscape and Visual arising from the proposed development during the operational phase.
Cultural Heritage	No Significant Impacts. No impact on protected structures or archaeological features.
Material Assets	No Significant Impacts. Potential for temporary minor impacts related to traffic inconvenience in the area during construction. No anticipated significant

	effects on Material Assets arising from the proposed development during the operational phase.

The environmental and social safeguards screening checklist depicts that: (i) the subproject will not require any land acquisition; (ii) the subproject will not involve any involuntary resettlement; and (iii) the sub project does not fall in any protected area, such as wildlife sanctuary, game reserve, or national park. The Sub-project involves replacement of existing chocked sewer-line. However, there may be low to moderate adverse environmental and social impacts due to dismantling of road and excavation for replacement of existing sewer-lines. etc.

6.4 Potential Environmental Impacts and Mitigation Measures – Design Phase

6.4.1. Site Selection

Appropriate site selection is one of the most important factors for constructional purposes. Sub-project physical works will construction of Park.

Potential Impact

Site selection has positive impacts on social life of local people. An improved road may encourage more commutators to use the road.

6.4.2. Dismantling/Demolishing of Existing Road Structure

Potential Impact

- Dust, Noise and vibration issues may arise during dismantling of road posing minor health issues on labor and nearby community.
- Noise pollution due to use of heavy machinery, and air pollution due to machinery emissions and/or dust due to earthing activities.
- Scattered solid waste may affect visual and aesthetic environment and provide breeding place to mosquitoes.
- Heaps of solid waste may cause disturbance in mobility.

Mitigation Measures

- Updated and tuned machinery will be used to control noise.
- Plan to neutralize dust emissions from construction activity, such as watering of sub-project area to settle dust during dismantling. Water sprinkling will be carried out at consecutive intervals.
- Dust masks and ear plugs should be provided to the labor.

- Bitumen waste should be stored in closed containers, placed in a fenced storage area with paved floor, and should be properly disposed off.
- Scattered solid waste should be properly managed in order to avoid contamination
- Availability of bins will be ensured for commonly generated solid waste.

6.4.3. Identification of Site for Construction, Camps, Asphalt and Batching Plant

Potential Impact

- Tree cutting may be needed for the construction of camp site, asphalt and batching plant site.
- Loss of livelihood & resettlement Issues.

Mitigation Measures

- Sub-project is of 1.88 km length, which is not extensive, and civil works will be completed approximately within 6 months' time. Approximately 100% of the workforce will be hired from the sub-project area. In case of hiring of labor who is non-resident of the city, the contractor will be encouraged to rent local homes to house the out-of-station labor 1 km away from the residential area rather than establish labor camps in the populated area.
- In case of installation of batching/asphalt plant, MC owned available encroachment free area will be selected.
- Tree cutting is not involved and in case if it may required, tree plantation will be provided with the ratio of 1:10.

6.5. Potential Environmental Impacts and Mitigation Measures – Construction Phase

A) Physical Parameters

6.5.1. Soil Degradation

Impacts – The construction phase activities may result in degradation of soil. This may be caused due to soil erosion during the construction due to uncontrolled run-off from equipment washing yards, excavation of earth/cutting operations and clearing of vegetation. Unauthorized use of borrow areas and quarries may also cause soil erosion and degradation of landscape. This may limit the future use of land for agricultural purposes.

Mitigation Measures

- Careful use of machinery and equipment should be ensured to prevent leakages which may result in the release of contaminants directly onto the soil.
- Ensure that the machinery should be kept away from exposed soil area and should be repaired on an immediate basis at designated workshops having impermeable floors.
- Removal of vegetation and trees will be avoided to the extent possible.
- Provide impervious platforms in maintenance yards and storage areas with oil and grease traps for collection of spillages during storage of liquid fuel and lubes, and equipment and vehicle maintenance.
- Contractors to follow proper handling and disposal of construction waste and materials in designated site.
- The contractor will ensure prevention of soil erosion and destabilization by applying batched excavation technique.

- Productive land or land adjacent to agricultural/irrigated land may not be used for excavation.

6.5.2. Air Quality

Impacts – The machinery, equipment, diesel generators, operation of batching plant and sub-project vehicles will be used for movement of people and construction activities such as excavation, levelling, filling of earth material etc. Due to these activities release of exhaust emissions, containing carbon monoxide (CO), sulphur dioxide (SO2), oxides of nitrogen (NOX), and particulate matter (PM) is expected, which can temporarily deteriorate the ambient air quality in the sub-project site and access roads.

Mitigation Measures

- All vehicles, machinery, equipment and generators used during construction activities should be kept in good working condition and be properly tuned and maintained to minimize exhaust emissions.
- Open burning of solid waste from the Contractor's camps should be strictly banned
- Stockpiled materials will be covered to avoid dust/particulate emission.
- Adoption of preventive measures against dust such as regular water sprinkling of the site including service roads and excavation sites.
- Near cultivation fields, the speed of the vehicles will be reduced to 15 km/h to avoid excessive dust emissions.
- The exhaust emissions will comply with the PEQS.
- The contractor shall be required to minimize the double handling of material during earthworks operations for the embankment strengthening and channel lining.
- The contractor shall be prohibited from vegetation clearance beyond the ROW.
- Water sprinkling shall be carried out at material stockpiles where dust is generated.
- Materials delivered to sites, such as cement, loose material, sand or aggregates shall be transported in a covered truck. Burning of waste oil should be strictly prohibited.

6.5.3. Noise and Vibrations

Impacts – During construction, use of heavy machinery such as bulldozers, excavators, stabilizers, concrete mixing plant, etc. can result in noise pollution and vibrations, causing discomfort and health hazards to workers and surrounding communities, especially those using the religious and sacred sites.

Mitigation Measures

- Use of modern and well-maintained vehicles and machinery with reduced noise emission levels; Confining excessively noisy work to normal working hours (8am-5pm) in the day.
- Providing construction workers with suitable hearing protection such as earmuffs and train them in their use.
- Locating the concrete mixing, and materials shipment yards at least 500m from residential areas, and religious sites.
- The contractor shall keep in place any acoustic guards, covers, and doors provided on plant, generators, and vehicles and maintain all in accordance with the manufacturer's maintenance procedures to ensure good working order.

- Pressure horns will not be allowed while passing through or near communities in the sub-project area.
- The contractor shall train the operators of construction equipment on potential noise problems and the techniques to minimize noise levels.

6.5.4. Surface and Groundwater

Impacts – No such land erosion and sedimentation will occur during the proposed sub- project construction. The construction residue and debris, if not handled and stored properly may result in groundwater contamination. However, there is no significant surface water at the sub-project site so it is envisaging that the impact on surface water is negligible while the impact on groundwater at the sub-project site may become significant if proper measures are not take. A nullah/sewerage drain is also passing alongside of the sub-project area.

Mitigation Measures

- Ensure that all liquid raw materials such as oil, lubricants, and chemical at all proposed sub-project sites are stored within the storage yard with impermeable floors.
- Proper disposal of solid waste in designated site to sustain the water quality for domestic requirements. Services from MC could be taken for timely management of waste.
- Water required for construction should be obtained in a way so that water availability and supply to nearby communities remains unaffected.
- The contractor will obtain all necessary permits for the Local Authority related to water consumption.
- The contractor will ensure that construction debris does not find its way into the drainage or irrigation canals. Wastes from the construction sites will not be released to nearby water sources, cultivation fields, irrigation channels which may get clogged.
- Prohibit washing of machinery and vehicles in surface waters, provide sealed washing basins and collect wastewater in sedimentation/retention pond.
- Construction work close to water bodies/ channels will be avoided, especially during monsoon period.

6.5.5. Waste Disposal

Impacts – The main types of waste expected to be generated and requiring disposal include:

- Fuel, oils, and chemicals;
- Sewage;
- Campsite waste;
- Medical waste;
- Demolition waste;
- Packing waste; and,
- Excess construction material.

Construction activities can result in the generation of wastewater, oil spillage from machinery, domestic waste from labour camps and construction related solid waste. Improper solid waste disposal can result in increased air pollution through burning of waste, vector borne diseases, and contamination of water sources.

The construction activities are not perceived to result in the production of any hazardous waste. As the sub-project deals with the construction of civic facilities, no blasting is perceived nor is use of hazardous substances anticipated during the construction waste.

Mitigation Measures

- Prepare a detailed Solid Waste Management Plan for the construction site (including adequate placement of waste bins, requirements of sanitary staff, transportation of waste, and identification designated site for final disposal).
- Do not allow siting and location of worker camps, including waste dump sites, in a distance closer than one kilometre to any inhabited areas and religious and historic site
- Plan for placement of waste collection containers throughout the sub-project area
- Disallow the burning of any of type of waste
- Prepare plans for the safe handling, storage and disposal of harmful materials
- Implement resource conservation, and encourage staff (through training) to reduce waste, reuse waste and recycle waste wherever possible
- All COVID-19 waste such as, gloves, face mask, tissue papers shall be disposed-off in already placed separate top covered waste bins in different identified areas as per contractor waste management and disposal plan. These waste bins shall be marked with COVID-19 waste·
- All COVID-19 waste shall be collected with appropriate safety measures and be transported to the burning pit away from construction site and from community.
- Collect all bio-degradable domestic waste and dispose of at the designated area as defined by MC.
- Do not burn materials which may lead to the release of toxic or hazardous substances (see PEQS)
- Sell recyclable waste to local vendors
- Collect non-biodegradable waste separately and dispose of at designated waste disposal area·
- Enforce the use of garbage bins and prevent littering of the site
- No fire is allowed in open.
- Do not burn materials such as plastics and polyethylene which may lead to the release of toxic or hazardous substances.
- Waste will be collected and disposed off in municipal waste dumping points.
- Reduce construction waste by reusing waste as a fill material (prior to testing to confirm the suitability of material)
- Collect construction waste separately to domestic waste·
- Collect and remove all construction waste from the sub-project area.
- Reuse material as fill material or sell to local vendors· Sell or reuse gates removed from structures·
- Treat construction wastes water and dispose of after treatment·
- Do not burn materials which may lead to the release of toxic or hazardous substances
- Request suppliers to minimize packaging where practical·
- Do not burn materials which may lead to the release of toxic or hazardous substances
- All the medical waste shall be disposed off in burial pits.
- The burial site shall be identified away from community residents and sub-project area. The burial site shall be identified on the barren land with due coordination of MC.
- Handover to specialized and certified disposal contractor.

- Effluent from contractor's workshop and equipment washing yards would be passed through gravel/sand beds to remove oil and grease contaminants before discharging it into nearby canal or agricultural land.
- Training of workers will be carried out in the storage and handling of materials and chemicals that can potentially cause soil contamination.
- Proper labelling of containers will be carried out, including the identification and quantity of the contents, hazard contact information etc.
- Emergency Response Plan should be prepared to address the accidental spillage of fuels and hazardous goods at storage areas.

6.5.6. Physical Cultural Resources

Impacts - Due to the location of sub-project close to religious and sacred site, there may be some negative impacts due to air and noise pollution, and vibrations due to movement of heavy vehicles and use of heavy machinery. There is also a chance that excavation work during construction may result in the uncovering of ancient sites or artefacts (Chance Finds).

Mitigation Measures

- The most important single strategy for heritage protection is site avoidance: redirecting activities so that they do not endanger a site by limiting noise and air pollution while working close to the religious and ancient sites. Any development or physical activity should be at least 200 feet away from the heritage sites.
- 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.
- 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.
- Contractor should immediately stop the work and follow the Chance Find Procedures.
- In case of discovery of ancient sites or artefacts during construction, follow the procedure for Chance Finds Procedures.

B) Biological Parameters

6.5.7. Flora

Impacts: Local flora is important to provide shelter for the fauna, offer fruits/or timber/fire wood and protect soil erosion. Damage to flora has a wide range of adverse environment impacts. No tree cutting is involved.

Mitigation Measures

- Planting of ten trees for every tree cut during construction
- Not introduce invasive or exotic species through plantation
- Measures to prevent soil and water contamination will forestall any adverse impact on the faunal diversity of the area.
- Contractor shall prepare a conservation plan to avoid any impact on fauna during construction.

6.5.8. Fauna

Impacts: Sub-project area does not fall in any of the wildlife habitat and does not cause any harmful impacts directly and indirectly. It involves only upgradation of existing road located along agricultural areas rather than construction of new road. There are no wetlands, or any other type of natural habitat to support critical mammal or bird species. There might be a risk to key ground nesting birds which could accidently be harmed during works throughout the nesting season. The birds shall vacate the area before construction machinery approaches.

Mitigation Measures

- On identification of any nest, the contractor will immediately cease works in the area and inform the Supervision Consultant. The contractor will also erect a fence within 50ft of the nest and prohibit any works within this area until approved by the Engineer.
- The contractor's staff will sign a code of conduct prohibiting hunting, poaching or trapping of animals.
- Provide adequate knowledge to the workers regarding protection of fauna, punishments for illegal poaching.
- Planting of ten trees for every tree cut during construction
- Speed limit will be defined for minimal impacts on fauna.

C) Socio-Economic Parameters

6.5.9. Damage to Infrastructure

Impacts - In the proposed scope of work, no public or private infrastructure are getting damage.

Mitigation Measures

The damage to infrastructure will be minimized by relocating them. The infrastructure which cannot be relocated will be compensated in accordance with provision of RPF. However, no relocation of any kind of infrastructure is involved.

6.5.10. Impact on Livelihoods and Economy

Impact - The proposed sub-project will provide temporary, unskilled construction job opportunities for locals for the duration of the civil works, and a better road may provide a better access to the local market and local encourage the business activities in the area. The sub-project development will enhance employment and business opportunities for the locals, and hence the impact on livelihood is assessed to be positive. It is estimated up to 15 laborers will be required for carrying out construction activities. Out of the total, 100% % of laborers will be from local community. During survey, it was observed that one mobile vendor and 3 fruit kiosks would be temporarily relocated on the other side of the road.

Mitigation Measures:

Detail consultation was carried out with the mobile vendor and 03 fruit kiosks and it was mutually agreed that during construction phase they will be shifted to right side of road just opposite to

their current location, during public consultation they were agreed to move. They have to relocate for 1-2 weeks only.

6.5.11. Workers Health and Safety

Impacts - The construction phase will include various activities such as; excavations installation of a batching plant, earthworks, movement of various heavy machines and manual handling. During loading-unloading operation, bad management, improper storage of hazardous materials, (i.e. petrol, admixtures, etc.), could result in adverse effects on the health and safety of staff as well as on the environment and nearby community.

Mitigation Measures

- Train all construction workers in basic sanitation and health care issues (HIV/AIDS, COVID-19).
- Prepare a Worker Health and Safety Plan for the construction phase covering documentation and reporting of occupational accidents, diseases and incidents with complete record for supply of personal protective equipment for all staffs and visitors.
- Identification of potential hazards to workers, particularly those that may be life threatening.
- Ensure health care facilities especially first aid facilities are readily available. Appropriately equipped first-aid stations should be easily accessible throughout the sub-project area.
- Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE.
- Document and report occupational accidents, diseases, and incidents.
- Provide awareness to the construction drivers to strictly follow the driving rules.
- Safe storage facilities for petroleum and other chemicals at sub-project site.
- The contractor should provide drinking water facilities to the construction workers at all the construction sites.
- SOPs regarding COVID-19 for construction site are attached at Annex E.

6.5.12. Public Health and Safety

Impacts – Construction activities and movement of heavy vehicles at construction sites and service roads may result in road-side accidents, particularly with the local community who may not be familiar with the presence of heavy equipment. During execution of sub-project, regular visiting and influx of visitors especially at religious festivals can result in greater inconvenience and disruption for the general public (including the visitors).

Additionally, in order to address the community concerns about the presence of non-local workers, or the risks posed to the community by local workers presence on the sub-project site26, the following good practice should be considered:

Mitigation Measures

- COVID-19 Prevention and Contingency Measures:
- It is estimated up to 15 laborers will be required for carrying out construction activities. Out of the total, 100% of laborers will be local residents and they will be sensitized to avoid any interference with the local residents

- Train drivers operating heavy vehicles in road and pedestrian safety.
- Set appropriate speed limits to avoid accidents.
- Placement of construction signage, particularly at populated area.
- Provision of alternate facilities for use by the public where disrupted.
- Capacity building session on Gender based violence and child abuses for ensuring public safety.
- Effective implementation of GRM for any kind of grievance if may arise related to public safety.
- Periodic meetings with community regarding construction work as well as workers' behavior.

6.6. Potential Environmental Impacts and Mitigation Measures – Construction Phase

During the operation phase of the proposed project, the anticipated impacts on the physical environment, biological environment, and socio-economic aspects related to the proposed project have been studied for operational stage and are discussed as follows:

6.6.1. Wastewater And Solid Waste Management

Only municipal wastewater will be generated. All the wastewater from the park toilet block will be collected in sewer system/septic tank. From there it will be finally discharged to the trunk sewer.

Solid wastes generated during operational phase (occupancy phase) of the project complex will comprise mainly the miscellaneous municipal wastes of domestic, household and marketplace origin. Solid wastes from such a source typically contain paper, glass, empty cans, tin bottles, food packaging, peelings, PET bottles, plastics, toys, and rags. MC Okara will provide proper arrangements for collection and disposal of waste.

6.6.2. Social Environment

When a development project is launched in a community, it helps in boosting up the socio-economic conditions by providing the people different economic opportunities. The construction of park would have a positive impact. The socio-economic impacts like employment, revenue generation for MC and improvement of air quality are the direct benefits during this stage for the people of the Project Area. Local people will be hired for different jobs like housekeeping activities, cafeterias, gardening and beautification etc. These are some of the many examples. Operation of the project will also result in the increase land values. In a similar vein, all the project related job opportunities will ultimately improve per capita income of the population in the area. This is a major positive impact.

This section will highlight positive and negative impact of the project.

6.6.3. Employment Generation

The employment opportunities in the Project Area will be increased due to the development and operation of the proposed project. During development and operation of the proposed project, unskilled workers will be required as labors, sanitary workers and sweepers as well as for the skilled workers will be engaged. In totality, the overall economic conditions of the area will be improved.

6.6.4. Aesthetic Impacts

Tree plantation followed by ornamental plants within or outside the premises will increase the aesthetic value and scenic beauty of the site. The Proponent will also make arrangements for protection and maintenance of these plants and trees.

After adopting all recommended mitigation strategies, the residual impacts shall be low. During operational phase of the project, there would be no significant impact on the surrounding biological environment.

6.7. Potential Environmental Enhancement Measures

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

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

7 Environmental, Social Management and Monitoring Plan

7.1 Objective

The purpose of Environmental and Social Management and Monitoring Plan (ESMMP) for Construction of New Park in Jhelum City is to ensure that all necessary identified measures have been adopted in order to protect the environment and social situations and to comply with country environmental legislation and applicable World Bank Core Principles. After the preparation of IEE report, PMDFC ESM Wing outlined site-specific ESMMP for the Contractors and executing agency. Environmental and social checklist was prepared by MMP and PMDFC ESM Wing with the help of the field teams and was used to assess the potential impacts of Sub-project on the basis of its scale/size, nature and significant negative impacts.

7.2 Description of proposed mitigation actions

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

7.3 Institutional Arrangements

7.3.1 MC Jhelum

Overall responsibility for Environmental Management and Monitoring will rest with the MC Jhelum. ESM Wing of PMDFC will provide support to ESFPs for managing environment and social aspects of the subproject and implementation of the present ESMP. The specific responsibilities of the institutions involved in the ESMP implementation are described below:

7.3.2 PMDFC ESM Wing

MC will be responsible for implementation of ESMP with the technical assistance of ESM Wing PMDFC throughout the Sub-project period. ESM Wing would also support community participation, consultations and other social activities from the Sub-project identification to completion stage.

7.3.3 The Contractor

The Contractor will be responsible for on-field implementation of the ESMP and environmental protection liabilities under the Punjab Environmental Protection Act (Amendment 2012) and World Bank's Environmental and Social Safeguard Policies. He will also be responsible for compliance of ESMP provisions keeping in view his contract with the MC. The Contractor will train his crews in all aspects for implementation of the ESMP.

The ESMP will be an integral part of the contract document. The bid would include a detailed environmental mitigation budget as part of the engineering costs of the respective works. Contractor will also be responsible

for implementation of social and environmental guidelines for Contractors prepared by PMDFC ESM Wing during execution of work. Contractor will engage environmental and social officers to fulfill the above requirements.

7.4 Mitigation Plan

The mitigation plan, being a key component of ESMP includes measures to mitigate potential negative impacts and enhance its positive impacts during construction phase of the Sub-project. The Contractor is responsible for implementation of ESMP with the co-operation of executing and implementing agencies and local community of the Sub-project.

7.5 Monitoring Plan

Monitoring Plan is also associated with mitigation plan during the different stages of the Sub-project. It ensures that mitigation measures are being effectively implemented. The monitoring of the Sub-project is very imperative for implementation of the ESMP. The ESFPs will carry out the monitoring at the field level on a continuous basis. The DPO ESSs will perform periodic monitoring during their site visits.

7.5.1 Monitoring Mechanism

Safeguards implementation monitoring is an essential tool for testing whether the adopted environmental and social management measures are meeting their stated objectives. Two complementary methodology approaches are being applied to monitor the proposed actions under the ESMP:

- **Compliance monitoring;** which checks whether the actions proposed by the ESMMP have been carried out by visual observation, photographic documentation and the use of checklists prepared for the ESMMP;
- **Effects monitoring;** which records the consequences of program activities on the biophysical and social environment; as applicable, these effects are repeatedly measured by applying selected indicators.

The plan also defines the monitoring mechanism and identifies a set of verifiable monitoring parameters to ensure that all proposed mitigation measures laid down in the ESMMP are completely and effectively implemented.

Monitoring will be carried out to ensure that the mitigation plans are regularly and effectively implemented. It will be performed at two levels. At the PMDFC, the environmental team will do ESMP compliance monitoring to ensure that the mitigation plans are being effectively implemented. At Contractor's level, the Environmental monitoring checklist will be filled on weekly basis by their Environmental Manager.

7.6 Reports

The Contractor will submit weekly compliance monitoring checklist and PMDFC ESM Wing will submit quarterly and annual monitoring reports as well as a final report of the Sub-project based on safeguard implementation status. The monitoring reports will also include process and outcome of consultations with the Sub-project Affected Persons if any. The distribution of periodic reports is given below:

Distribution of Periodic Reports Report	Prepared by	Reviewed by	Distribution
Weekly	Contractor	PMDFC DPO ESM	PMDFC ESM team
Quarterly	MC with the support of PMDFC DPO ESM	PMDFC SPO ESM	The World Bank
Annual	MC with the support of PMDFC DPO ESM	PMDFC SPO ESM	The World Bank
Final	MC with the support of PMDFC DPO ESM	PMDFC SPO ESM	The World Bank

7.7 Inclusion of ESMP in Bidding/ Contract Documents

The present ESMP will be included in the bidding/ contract documents and their implementation will be a contractual binding for the Contractors. In addition, the Contractor's guidelines prepared by PMDFC/ safeguards procedures will also be made part of contractual agreement.

7.8 Monitoring of Environmental and Social Non-Compliance

Any environmental and social non- compliance during first half of the reporting month will be considered as a "minor deviation". In case the non- compliance attains the status of "non-mitigation" during the second half of the reporting month, it would be considered a "moderate non- compliance". In case non- compliance continues in the second month, it will fall in the category of "undone" and as such would be considered as a major non-compliance and eventually leading to serious punitive action including the suspension of Contractor's payment or any other penalty as may be considered appropriate with the recommendation of the DPO ESSs/Engineer. No payment will be made to Contractor against non- compliance and no arrears will be paid thereof.

7.9 Environmental and Social Management and Monitoring Plan

The impacts, mitigation measures, monitoring indicators, frequency and responsibility has been discussed in Environmental and Social Management and Monitoring Plan (ESMMP).

7.10 Environmental Technical Assistance and Training Plan

Contractor will ensure in-house training for the project staff, labor and the supervisory staff through the provision of one day basic training and one day advanced training, covering environmental and social aspects of the projects in general and implementation requirements will emphasis on the development project in general, on the roles & responsibilities of the staff and the labor while executing the environmental monitoring plan in particular. In order to raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. HSE/Project Manager should play a key role in this respect and arrange the training programs. HSE/Project Manager will provide training to staff and workers about the best environmental management practices at the construction site and affective implementation of the EMP.

The training modules will include air, noise and water pollution monitoring, social awareness, Environmental Laws, Punjab Environmental Quality Standards (PEQS), Usage of personal protection equipment's, and health and safety related issues on the construction site. The HSE/Project Manager will train all workers & staff in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of Sexually Transmitted Infections (STI) HIV/AIDS and in general health and safety matters, and on the specific hazards of their work. Training should also consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation. HSE/Project Manager will arrange Training on monthly or quarterly basis regarding health & safety, hygiene, firefighting and first aid. The training protocols will include the following aspects:

- Procedures for monitoring the air quality parameters and measures to be adopted for
- Avoiding/minimizing air pollution, particularly from the transportation of raw material and final goods.
- Staff training on environmental monitoring and reporting.
- Safety measures against hazards for workforce and the local communities arising from the construction and installation activities.
- Use of safety gadgets by the workforce.

7.11 Proposed EMP reporting and reviewing procedures

The EMP is intended to be a 'living' document that will be responsive to changes in construction plans, stakeholder priorities and research results. Notwithstanding the evolution of the document in response to an expanding knowledge base, the logic behind the EMP should remain. Amendments to the EMP may require engagement with relevant stakeholder groups. As a minimum, the EMP will need to be reviewed and, if necessary, revised in conjunction with changes to the construction and operation phase. Changes to the construction and/or operation schedule or methods, and recommendations based on the performance monitoring of the control measures, will necessitate changes to the EMP. The performance of the EMP should be audited periodically (annually).

7.11.1 Environmental Monitoring

A schedule of statutory and internal monitoring requirements for the site is to be included. Monitoring is to be carried out in accordance with the Monitoring and Reporting schedule.

7.11.2 Reporting

Various statutory and internal reports will need to be prepared and submitted to assist in monitoring and advising on environmental performance. Examples that are applicable to the operation phase include:

Monthly internal monitoring report

A quarterly report is required. This is to be included with contract administration documentation. This report will include a summary and an analysis of monitoring results collected following the previous month's report along with the third-party monitoring reports. Areas of concern are to be reported together with corrective actions (if required). The report will include provision for the following.

- Environmental Incidents and Corrective Actions
- Environmental Monitoring
- Audits and Regulatory Non-conformances

- Land Management (including clearing and rehabilitation)
- Water Management
- Waste Management
- Stakeholder Engagement
- Community and Safety Monitoring
- Community and Safety Incidents and Corrective Actions
- Licenses and Legislation.

7.11.3 Management review

A management review of the EMP will be carried out annually with third party.

7.12 Proposed Monitoring program

Environmental monitoring is a vital component of the Environmental Management Plan. It is the mechanism through which the effectiveness of the EMP in protecting the environment is measured. The feedback provided by the environmental monitoring is instrumental in identifying any problem or lapse in the system under implementation and planning corrective actions. For domestic activities already constructed facilities will be used. Solid waste disposal will be according to standard practices of area. It should be noted that it is difficult to outline a formal monitoring protocol for specific environmental parameters and key impacts until detailed project design have been completed. A formal monitoring protocol will be included within the revised EMP once the detailed project design has been completed.

Components	Parameter to be Monitored	Frequency	Location	Responsibility
Noise Levels	Noise level on the site and adjacent area on dB(A)scale	Quarterly	8 locations	HSE Officer
Ground Water testing	As per PEQS	Pre-construction and post construction		HSE Officer/environmental manager
Air Quality	As per PEQS	Quarterly	8 locations	HSE Officer/environmental manager
Workers safety	Injuries and accidents	Daily	Onsite	HSE Officer/environmental manager

Sub-project: Construction of New Park in Jhelum City

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
Design/Pre-Construction Phase							
Before Construction: During detailed designing of the sub-project	Lack of integration of ESMP Requirements into Construction bid documents	High	➢ The proposed 'Safeguards unit' that will be developed at the MC/PMDFC will be assigned the task to check that design and bid documents are responsive to key environmental, social, health and safety considerations, and that the proposed method of work reflects the boundaries defined in the ESMP. The bid documents must include the ESMP and its implementation cost must be reflected in the BOQ. ➢ ESMP implementation and monitoring requirements must be part of bidding documents and necessary contractual binding must be agreed by project contractors before award of contract. ➢ Project contractors shall have qualified and experienced environmental and social staff to plan, arrange, implement, monitor and report ESMP requirements.	MC and The Contractor	-	-	◆ ESFPs ◆ DPO ESSs ◆ SPO,ID /PD ◆ MC
Before Construction: During detailed designing of the sub-project	Inadequate Contractor's Environmental Safeguards Capacity	High	➢ E&S team PMDFC shall review the contractor capacity with respect to safeguard management and contracts shall be awarded accordingly.	E&S team PMDFC and MC	-	-	◆ ESFPs ◆ DPO ESSs ◆ SPO,ID /PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
			➢ The Contractor will be required to define an Occupational and Environmental Health and Safety procedure for all work, including but not limited to the work camp operation, management of cement dust, and use of Personal Safety Equipment. These procedures shall be developed and approved by the E&S PMDFC in collaboration with the MC before the Contractor commences any physical works on ground. ➢ E&S team PMDFC shall ensure the project contractors are selected on merit and necessary funds has been allocated in the contract documents for ESMP implementation and monitoring.				◆ MC
Before Construction: During detailed designing of the sub-project	Identification of Locations for Labor Camps and ancillary facilities	Medium	➢ In order to prevent a nuisance, specific locations shall be designated for development of the labor camps. All necessary facilities and amenities shall be provided in these camps such as resting area, drinking water, electricity, supply of water. ➢ Solid and liquid effluent waste disposal facilities shall also be designed to cater waste of administration/office building etc. ➢ The use of proper planning while identifying locations for the labor camps will ensure there is minimal disturbance to all key receptors and the traffic is not	MC	-	-	◆ ESFPs ◆ DPO ESSs ◆ SPO,ID /PD ◆ MC

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
			disrupted by labor camps being set up roadside next to the construction sites				
Construction Phase							
Dismantling, Excavation, and filling operations	**Environmental Issues:** ◆ Dust which may affect visibility ◆ Noise from machineries/ equipment ◆ Soil erosion ◆ Contamination of surface water ◆ Vibration (Shock waves can be produced due to heavy machinery working) ◆ Solid waste/ sludge may be generated due these activities ◆ Safety hazards to labor and nearby resident population. ◆ Worse House Keeping **Social Issues:**	High	➢ Solid waste will be properly disposed off at designated place of MC. ➢ Updated and tuned machinery will be used to control noise. ➢ Water sprinkling will be carried out at consecutive intervals as per instruction ➢ Avoiding construction activities during nights. ➢ Removal of excess matter/ debris/ waste water from the site immediately. ➢ Provide PPEs ➢ Provide appropriate signage near the construction activities to sensitize the community and minimize accidents. ➢ Public must be informed about Sub-project major activities, duration of scheme, time and schedule, anticipated impacts and their proposed Mitigation Measures. The contact Nos. of focal person of Grievance Redress Committee will be displayed at different locations and residents will also be informed about it. ➢ Construction work will be done with in the boundary wall of the area which belongs to MC. In this way the business of the shops keepers will not be affected. Contractor will make sure that labor must	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO,ID /PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
	◆ Solid waste may cause disturbance in mobility ◆ Temporary blockage of road may restrict mobility ◆ Conflict with public and public complaints		not damage the property and structures of the residents. In case of damage compensation will be provided as per entitlements.				
Civil work	**Environmental Issues:** ◆ Earth material ◆ Noise and vibration disturbances to residents and businesses ◆ Road side visibility can be reduced and dusty environment leads to respiratory diseases. ◆ Safety issues ◆ Health problems or immediate risk may take place ◆ Spillage of fuel and oil ◆ Traffic jams and congestion may take place and cause inconvenience to the people where the	Medium	➢ Immediately transport the accumulated construction waste/ waste water to a site identified by the implementing MC ➢ Removal of excess materials or use as construction material with the approval of the Engineer. ➢ Cleaning of sites upon completion of schemes. ➢ Establish schedule and others specific restrictions ➢ Limit work to day light hours as possible ➢ Use of less noise generating equipment ➢ Regular water sprinkling with the help of water bowsers ➢ Cordon off construction area ➢ Contractor will ensure provision of appropriate housing, water supply, and sanitation facilities to construction labor. ➢ PPEs will be provided to workers ➢ Availability of safe drinking water and food for the workers. ➢ This indirect impact of dust and noise can be reduced by sprinkling water and	Contractor	Visual/ Photographic record, Public consultation, Environment Quality Analysis reports, GRM Complaints record	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
	construction of interchanges will take place. ◆ Worse House Keeping **Social Issues:** ◆ Reduced pedestrian access to residences and businesses ◆ Temporary passage way interruption Conflicts. ◆ Dissatisfaction for the Sub-project Scattered construction material may obstruct mobility. ◆ Due to the proposed sub-project activities, houses, mosques and schools existing in and around the sub-project area may get affected indirectly due to noise and dust.		reducing the noisy activities during the prayer timings.				

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
Construction material, storage, handling and use	**Environmental Issues:** ◆ Water may also be contaminated due to the any oil spillages from machinery. ◆ Health risk to workers and local inhabitants. **Social Issues:** ◆ Land acquisition for storage of construction material ◆ Accidents/Injuries expected if neglected ◆ Blockage of passage for pedestrians ◆ Haphazard arrangement of construction material	Medium to negligible	➢ Material will be appropriately secured to ensure safe passage between the destinations during transportation ➢ Loads/ heaps will have appropriate cover to prevent spillage and contractor should be responsible for any clean up resulting from any failure. ➢ Materials will not be loaded to a higher level than the side and tail boards and shall be covered with a good quality tarpaulin; ➢ If land acquired for storage of machinery & materials on temporarily basis: Contractor is liable to compensate the land owner according to agreement/ negotiations/ voluntarily ➢ Contractor will lay/ utilize construction materials as per work requirement from his store. ➢ Contractor will use night vision reflective signboards/ reflective tapes to cordon off the area during construction activities.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Labor Camp (if established by Contractor)	◆ Health impacts due to absence of housing and sanitation facilities in labor camp.	Medium	➢ Contractor will ensure provision of appropriate housing, water supply, and sanitation facilities to construction labor. ➢ Good housekeeping will be ensured inside campsite ➢ Labor will be provided with quality food. ➢ Better heating & cooling facilities will be provided by the Contractor as per season accordingly.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
			➢ Better accommodation will be ensured by the Contractor. ➢ It's better to accommodate labor in Containers Camps/ houses with all amenities.				
Vehicle Movements	◆ Traffic congestion ◆ Conflicts	High	➢ Alternative routes will be provided. ➢ Sign boards and posters will also be displayed at Sub-project site and adjacent areas as well. Inform the residents about timing, schedule and construction work duration. ➢ Work will be done in portions so that the alternate road may be used safely and vehicles movement will not be disturbed. ➢ Contractor will submit Traffic Management Plan and approve from ESFPs before the execution of work.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Safety Issues	◆ Accidents	High	➢ Contractor will ensure site safety using safety cautions (night vision), boards, flagmen, cordon tapes for smooth flow of traffic and pedestrians during the construction phase of the Sub-Project.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Public access	◆ Problems for pedestrians. Normal mode of transport may be disturbed during Sub-project execution.	Medium	➢ Alternate access route will be made sure. ➢ Construction works will be done within the premises of MC facility area. ➢ Cordon off excavated area.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
Drinking water contamination	◆ Health issues. ◆ Public Conflicts with labor.	Medium	➢ Control of waste water with Sucker machines to avoid drinking water contamination. ➢ Contact Nos. of MC help line will be displayed at Sub-project site and public may contact on these Nos. in case of any emergency. ➢ Minor leakage control with tapes. ➢ Disposal of construction waste in environment friendly way.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Occupational Health & Safety	◆ Injuries to workers/LTI	High	➢ Contractor will follow HSE SOPs for all activities on the site. ➢ Workers will be trained and guided to follow SOPs and will be provided with necessary PPEs (Safety Helmets, Safety Shoes, Gloves, Chemical Masks etc.) wherever required. ➢ First aid will be provided immediately to save the life of affected person. ➢ Careful monitoring will also be carried out.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Damage to Public Infrastructure/utilities	◆ Accidents/Incidents/Injuries ◆ Structural loss ◆ Social Conflicts	Low	➢ Contractor will ensure no damage to public utilities or structures. ➢ Contractor will provide compensation for the damages to entitle accordingly.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Sexual Harassment, Labor Influx & Child Labor	◆ Social Conflicts	Low	➢ Contractor will give behavioral training to the workforce. ➢ Contractor will hire local labor for un-skilled works. ➢ Child labor hiring is prohibited	Contractor	Visual/ Pictures/ Reported/ Complains	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
					by public during visit	❖ Once during the construction phase	
COVID-19 SOPs implementation	◆ Spread of Corona among the labor	Low	➢ Contractor will provide face masks to the labor on daily basis to reduce Corona impact. ➢ Contractor will follow COVID-19 guidelines during construction works	The Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Operational Phase							
Restoration of Road	◆ Accidents/Injuries due to haphazard refilling of trenches.	Low	➢ Contractor will do compaction of refilled material into trenches after installation of tube wells.	The Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
Seepage/Spill water	**Environmental issues:** ◆ Increase moisture content in soil which affects the structures / foundation of buildings in nearby areas. Contaminate the water **Social issues:**	Low	➢ Ensure proper technical design to minimize, the seepage and chances of possible failure of the structure. ➢ Ensure proper design, construction and operation of the structure and system to minimize seepage and appropriate implementation techniques. In case of failure of nearby building structures, foundation, monetary compensation shall be provided.	Contractor	Visual/ Pictures	❖ Daily site visit during construction phase ❖ Fortnightly/Weekly ❖ Once during the construction phase	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
	◆ No significant impacts will arise						
After the completion of the construction work	◆ Trees Plantation		➢ Natural vegetation will be considered to the best possible extent during the tree plantation, and native species will be used after completion of the construction phase. ➢ Different vegetation management methods will be considered and used. ➢ The planting plan should include details of all treatments, from initial site preparation to at least three to five years after planting. Following the inspection, the next decision is what trees to plant a single species or a mixture. ➢ Once the species composition is decided, the planting layout must be considered. Depending on how intensively managed the plantation will be, there may be a need for repeated re-entry (for weed control, pruning, pest management, or pre commercial thinning). If trees are planted in straight rows, the alleys must be wide enough to accommodate equipment for these various treatments. If the site is going to be fenced, sufficient room should be left at the ends of the planting rows for equipment to turn around. If trees are spaced randomly, roads or trails may be necessary. ➢ Recruit and train the gardener.	MC		❖ Once in a week	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
			➢ Gardener responsibilities include monitoring the health of all plants and greenspaces, watering and feeding plants, trimming trees and shrubs, fertilizing and mowing lawns, weeding gardens and keeping green spaces and walkways clear of debris and litter. You should know how to use and maintain landscaping equipment, including mowers, trimmers and fertilizers, while following health and safety regulations.				
After the completion of the construction work	◆ Community grievances		➢ Ensures the timely resolution of community grievances after the construction	MC		❖ Once in a week	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
After the completion of the construction work	◆ Worker grievance		➢ Ensures the timely resolution of worker grievances to prevent lost time incidents during the operational stage	MC		❖ Once in a week	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
After the completion of the construction work	◆ Generation of solid waste		➢ Determining sufficient and appropriate dumping areas ➢ Ensuring impermeability on the grounds of storage areas against possible contamination of soil and groundwater, ➢ Sufficient ventilation of the area under conditions where volatile wastes need to be stored, ➢ Establishing a suitable drainage system against leaks,	MC		❖ Once in a week	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
			➢ Restriction of physical access to waste storage areas (through gates, fences, etc.); ensuring that only authorized persons can enter the storage areas, ➢ Placing warning signs and panels with the name and contact number of authorized personnel in storage areas, ➢ In order to response in case of emergency such as spills and fire immediately, keep absorbent materials, fire extinguishing equipment, etc. ready at a close location, ➢ Quick identification of any possible spillages / leaks by periodically performing visual checks in hazardous waste storage areas, ➢ Ensuring that wastes are not spilled out of areas other than those reserved for this purpose and providing all necessary waste management training and periodic repetition of these trainings, ➢ No waste should be disposed of or burned				
After the completion of the construction work	◆ Impact of discharge of wastewater		➢ MC will ensure continuous flow of wastewater into the main sewer lines with safety manners and smooth operation because there is wastewater (sewage) system near the park and its immediate surroundings, wastewater generated will be removed by sewage system.	MC		❖ Once in a week	◆ ESFPs ◆ DPO ESSs ◆ SPO ID/PD
	◆ Operation and maintenance		➢ MC will ensure that all the machinery is in working condition and necessary backup	MC		❖ Once in a week	◆ ESFPs ◆ DPO ESSs

Proposed Sub-project activities	Potential Env./Social Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Responsibility
After the completion of the construction work			material/machinery is available to avoid problems. ➢ Coordinating with the operational staff to monitor environmental compliance during operation; ➢ Instituting good housekeeping and operating practices, including inventory control to reduce the amount of waste resulting from materials that are out-of-date, off-specification, contaminated, damaged, or excess to needs Materials handling and storage areas need to be: ➢ Easily accessible in a safe manner ➢ Well ventilated ➢ Unlikely to be damaged				◆ SPO ID/PD

7.13 Parks Maintenance Plan

Reliable park maintenance is essential regardless of your park's type, size, or location. Follow these basics to preserve this vital community resource. Park maintenance involves keeping parks and other public recreation spaces clean, safe, and functional. This could include activities like mowing, planting, and pruning, as well as cleaning and general repair of park infrastructures such as jogging tracks, toilets, and playgrounds. The presence of a well-maintained park can boost the perceived desirability and value of a neighborhood, especially for families.

7.13.1 Park Maintenance Activities

Landscaping: Most parks have some landscaping and natural areas that need to be maintained. These activities will vary by the season but generally include:

- Mowing
- Watering
- Fertilizing
- Planting, trimming, pruning, and weeding
- Trail maintenance

Cleaning: All public spaces need to be kept clean. Depending on the type of infrastructure at your park, cleaning activities will range from removing garbage and litter to regular bathroom cleanings and restocking supplies.

Removal of graffiti and other signs of vandalism is also a common need in public spaces. Not only does cleaning improve citizens' experience of a park, but it also ensures safety.

General infrastructure maintenance: Most parks have some form of infrastructure in buildings or equipment. Repair of broken amenities such as playground equipment, benches, shelter structures, and other park facilities are major maintenance tasks.

Security: It is crucial for park maintenance activities to enable park security. Aside from ensuring the cleanliness and proper functioning of the park, installation and maintenance of signage and surveillance equipment are also part of regular operating procedures.

In addition, when security issues do arise, park maintenance staff must also collaborate with local authorities.

Common park infrastructure: Most public parks have a set of standard features, and each will require its own maintenance tasks.

Jogging tracks and trails: Ask any jogger about their favorite places to run and parks will inevitably be on their list. Trails and walking paths are some of the most used park features. Common maintenance tasks include:

- Cutting undergrowth or clearing after a storm to keep paths clear
- Maintenance of tracks and other trail signage
- Lighting maintenance on lighted trails, entrances, and exits

Playgrounds: What is a park without a playground? A missed opportunity, that's what Playgrounds are not only used by the littlest and most trusting of our community members, but they are also constantly exposed to the elements, causing wear and tear. Staying on top of playground maintenance helps keep families and their kids safe.

Common maintenance tasks include:

- Sweeping, trash removal, litter collection
- Wiping and disinfection of play equipment

Maintenance equipment: Anyone can't perform all this park maintenance without the appropriate equipment. Mowers, trimmers, and other tools must be maintained in order for you and your team to be able to do your job effectively. Don't forget to dedicate time to maintaining the tools of the trade.

7.13.2 Types of park maintenance jobs

Park maintenance workers are often part of a larger recreation team within the park system. This team is responsible for providing a safe and clean environment in addition to protecting the natural resources of the park. At public parks in Jhelum city, hiring maintenance workers usually falls under the jurisdiction of the MC. So, what kind of maintenance staff can find working in parks and what exactly is in their job description?

Janitors: Janitors handle the cleaning of all amenities in the park buildings, washrooms, and other park facilities. In smaller parks with a smaller workforce, janitorial staff will also handle routine maintenance tasks like the replacement of burnt light bulbs.

Gardeners and landscape professionals: Landscape professionals attend to the park's vegetation. They remove diseased flowers and shrubs, recommend and plant new ones, mow lawns, remove weeds, and clear leaves and debris. As part of their duties, they'll manage irrigation systems and apply fertilizers to plants in addition to maintaining fencing and signages. Since they are responsible for handling fertilizers and pesticides, they are required by national and provincial laws to have a pesticide applicator license.

Maintenance technicians: Maintenance technicians are skilled workers that perform hands-on maintenance for park infrastructure like pump and plumbing systems, electrical fittings. They are often involved with repairing and servicing equipment and tools used by landscape professionals. This includes, but is not limited to, lawnmowers, irrigation sprinklers, and pesticide spraying equipment.

Maintenance supervisors: Maintenance supervisors coordinate and oversee the staff, they plan and schedule park maintenance, organize resources like tools and parts needed for park maintenance, and enforce compliance with park rules and regulations. They are usually actively involved in the hiring and onboarding process for other maintenance workers.

7.13.3 Which Trees are Useful to Plant for new Parks

Due to the recent climate change, the ongoing awareness campaign, some have realized the importance of trees. Many departments are seen collectively trying to plant trees in their city parks. Planting fast-growing trees is the easiest way to be more eco-friendly. As well as cleaning the air, they add soul and structure to the parks.

The climate of Kamalia is mostly dry so trees tolerant to dry climate should be planted here. Among the drought-tolerant and drought-tolerant trees are Berry, Shirin, Sohanjana, Gulmohar, Phalai, Golden Shower and Farash trees. Night-Blooming Jasmine and Frangipani are the best trees for the parks.

If you are planting trees in a park, plant the trees in a row and keep a distance of 10 to 15 feet between them. When planting trees, keep them away from the wall. Bring a plant from the nursery, dig a pit one and a half feet deep in the ground. Bring bhal (made of organic sand-clay) from the nursery and put it in the pit. If the plant is weak, tie a stick with it. Always plant the plant in the morning or evening, do not plant in the afternoon as it dries the plant.

Water it after planting. Keep the pit deep enough to fill it with water. Except for one day in summer and water twice a week in winter. If you see any weeds around the plant, remove them. If the plants start to wither, add homemade fertilizer or urea phosphorus fertilizer but not too much, too much fertilizer can cause the plant to rot. Many trees grow quickly, some take a long time. White, poplar, hyacinth and sheesham grow quickly, white pine and other mountain trees grow late. At Park, try to apply mulberry, Jamun, sahanjana, amlatas, lilac or neem.

7.14 Environmental Implementation Budget

Sub-project: Construction of New Park in Jhelum City

Estimated IEE Implementation Cost Construction of Kala Gujjran Park			
Item	**Quantity**	**Tentative Cost/Item-Rs./-**	**Total Cost**
A-PPEs			
Face Masks (3 PLY) - box	30	300	9000
Safety Hard Helmets	15	3,000	45000
Safety Shoes	15	3,000	45000
Hand Gloves	15	1,000	15000
Ear Plugs	15	500	7500
Reflective Safety Vest	15	1,000	15000
Safety Goggles	15	500	7500
B-Community Health and Safety			0
First Aid Box Complete	1	10,000	10000
Infrared Thermometer (Benetech GM-2200 or equivalent)	1	40,000	40000
Safety Signs	5	15,000	75000
Safety Cones	10	1,000	10000
Safety Tapes	20	1,500	30000
Emergency Portable Lights	2	3,000	6000
Fire Fighting Equipment Purchase and refilling	1	10,000	10000
Pole Hanging Waste Bins	1	12,000	12000
Labor Campsite Management	Lump sum		100,000
Social and Behavior Change Campaign	Lump sum		100,000
C- Environment Quality Testing			
Ambient Air Quality-during and after construction	2	85000	170000
Noise Quality-one sample during & after construction	2	1000	2000
Water Quality-one sample during & after construction	2	22000	44000
Total (PKR)-A+B+C+D			**753,000**

8 Stakeholder Consultation

8.1 Introduction

This Chapter outlines the consultation and participation activities that have been undertaken as part of the impact of Sub-project. Early and ongoing consultation, disclosure and meaningful stakeholder meetings is a key requirement of any development Sub-project. The logic behind the consultation is that a Sub-project proponent has shared with all stakeholders' relevant information on the Sub-project interventions and to get feedback and concerns about the Sub-project. The consultation process consists of initiating dialogues among all the stakeholders. The process covers, starting from awareness campaign to the identification, inclusion and participation of Sub-project affected communities. Stakeholders including institutions and concerned communities are generally able to understand the implications of the Sub-project activities.

The present report has been prepared by consulting with local communities and concerned government departments/ organizations to ensure that their views and concerns about Sub-project have been taken into account in the study.

8.2 Specific Objectives of Consultation Process

The consultation process provides a meaningful understanding of local social issues for the environmental and social impact analyses. The consultation process helps to minimize adverse environmental and social impacts, reduces the expected conflicts, minimizes the risk of Sub-project delays and enables to make the Sub-project more economical and socially acceptable. Moreover, public consultations create a sense of ownership among the stakeholders regarding the Sub-project and ensure the transparency in Sub-project activities. The consultative process for the "Feedback Study" has included not only the institutional stakeholders, but also the local community of the area. Meetings with institutional stakeholders like government departments, and line agencies has been organized and conducted to discuss Sub-project interventions and potential impacts on the local communities and environment. Public consultations has been carried out with the stakeholders keeping in view the overall objective of evolving their participation. The public consultation aimed to achieve following specific objectives.

- Information disclosure to create awareness among various stakeholders about Sub-project development objectives and proposed interventions
- To start interaction process with stakeholders
- To elaborate environmental and social impacts to the stakeholders
- To establish communication and an evolving mechanism for the resolution of social and environmental issues at local and Sub-project level
- To involve Sub-project stakeholders in an inclusive manner at every stage of Sub-project implementation
- To receive feedback from all types of stakeholders on adopting mitigation and enhancement measures for environmental and social impacts

8.3 Proponents Environmental Management Team

Consultation regarding construction of New park in Jhelum City was done with Proponent's Environmental management Team and anticipated impacts were discussed. Concerns of locals, Environmental Practitioners & experts and Government departments were discussed and asked to consider them while construction of above-said project. Locals will be preferred for employment after Mitigations measures mentioned in EMP will be truly implemented.

8.4 The Responsible Authority

Overall responsibility for the implementation of EMP will be that of project proponent. He will appoint environmental manager with relevant qualification. Environmental manager will be responsible to ensure either the contractor will comply all the EMMP conditions & HSE aspects.

8.5 Identification of Stakeholders

8.5.1 Direct Stakeholders

Direct stakeholders can be defined as those stakeholders who are likely to be directly impacted by the Sub-project and have livelihood restoration measures targeted towards them. Direct stakeholders groups are include:

- ✓ Physically and economically impacted people
- ✓ People living in communities close to the Sub-project area
- ✓ Local women's groups
- ✓ Local business owners, such as shop owners,
- ✓ Local governmental bodies related to public welfare, environmental protection and permitting for the Sub-project

8.5.2 Indirect Stakeholders

Indirect stakeholders can be defined as those persons or organisations that may, be interested in or able to influence the outcome of the Sub-project, either because they can contribute knowledge or improve Sub-project design or mitigate social and/or environmental impacts, or because they have political influence in the Sub-project that needs to be considered. All of these stakeholders are considered to be 'interest-based'.

8.6 Public Consultation

Consultations mainly in form of "Focus Group Discussions" (FGD) with Primary Stakeholders in those communities which is near to the Sub-project (construction of New park). It was important to provide meaningful input for the public into the decision-making process through consultation. It was helpful to create a strong foundation for long-lasting and trustful relationships between the Sub-project and the stakeholders. Representatives of the communities, potential vulnerable groups such as women and youth has been consulted to understand their specific issues and concerns. This will enable meaningful participation. The findings and recommendations has been discussed and disclosed in an open and transparent manner with the communities in order to solicit their comments and suggestions in the studies.

Participants were first briefed about the Sub-project objectives and major interventions associated with the Sub-project implementation. Afterward, people were asked to express their views regarding the proposed Sub-project. In general participants appreciated the Sub-project and offered comments & suggestions to enhance the expected environmental and social benefits and to mitigate the adverse impacts. The community perception of the Sub-project is very good but most of the people wish to implement the Sub-project through sustainable and safety manner. The digest of major issues raised by communities during meetings are given below:

The complete settlement wise list of participants and their contact numbers are provided in Annex A.

8.7 Affected and Wider Community

Social survey was conducted to consult with local community. Their concerns were noticed and discussed with proponent and their team. Majority was in favor of project their details are given below in table

Sr. No	Community	Person	City	Occupation	Cell No.
1.	Madni Mohalla	Masood Ahmad	Jhelum	Shopkeeper	0324-8763498
2.	Madni Mohalla	Pervaiz Iqbal		Laborer	0334-9641791
3.	Al-Miraj Colony	Imran Azhar		-	03175771219
4.	Al-Miraj Colony	Mudassar Khan		-	03325173728
5.	Al-Miraj Colony	Shahid Naeem		-	03213763558
6.	Iqbal Town/Madina Town	Raja Munawar		-	0332-5848399
7.	Iqbal Town/Madina Town	M. Mushtaq		-	0321-5325119
8.	Iqbal Town/Madina Town	M.Shehbaz		-	031-4804296
9.	Nawab Colony	M.Khadim		-	0307-5400238
10.	Nawab Colony	Sagir Irfan		-	03068167569
11.	Nawab Colony	Arshad Mehmood		-	0333-5809544
12.	Nawab Colony	Javed Akhtar		-	03015800169
13.	Muhalla Dhok	Raja Pervaiz		-	0321-5417138
14.	Makhdomabad	M. Danish		-	0321-5482947
15.	Al-Miraj Colony	Shakir Ali		-	0308-8965389
16.	Machine Mohalla 3	M Sadiq		-	0300-5416077
17.	Bilal Colony/Behari Colony	Abdul Rasheed		-	-
18.	Bilal Colony/Behari Colony	Nazar Hassan		-	0301-5829286
19.	Bilal Colony/Behari Colony	Mukhtar Hussain		-	0336-8150215
20.	Bilal Colony/Behari Colony	M. Iqbal		-	0347-4982513

Sr. No	Community	Person	City	Occupation	Cell No.
21.	Bilal Colony/Behari Colony	Nabeel Akhtar		-	0335-5807263
22.	Bilal Colony/Behari Colony	M.Toseef		-	0306-0843098
23.	Bilal Colony/Behari Colony	Bilal Ahmad		-	0333-5870626
24.	Bilal Colony/Behari Colony	Jamil Khokhar		-	0316-5351502
25.	Bilal Colony/Behari Colony	Ali Raza		-	0303-5658532

Pictorial View of Public Consultation

8.8 Concerns from the Community and Stakeholders during Consultation

Participants were first briefed about the project objectives, proposed rehabilitation, main design parameters and major interventions associated with the project construction. Afterward, people were asked to express their views regarding the proposed project. In general participants appreciated the project and offered comments & suggestions to enhance the expected environmental and social benefits. The community perception of the project is good and most of the people wish to see immediate implementation of the project, but they are worried of compensation rates of their high valuable land and other properties. They require fairness throughout the whole process. Here are some of their views:

- When people were asked about their satisfaction level on the facilities provided by MC Jhelum, most of the respondents were happy about the facilities provided; however, some of the residents feel that improvements are required.
- The participants requested that concerned authorities should enhance the quality of health and education facilities in the area.
- The residents of kala gujran mentioned that the propose Sub-project will generate employment opportunities for the local community during the construction phase of the Sub-project.
- Concerned authorities who will be familiar the outcomes of the Sub-project and they will ensure to give respect with community's views and concerns.
- Some participants expressed that the relevant Government departments must ensure that their staff is cooperative with the general public and maintain the right attitude and try to facilitate them instead of being confrontational during Sub-project activities.
- The one of the participant requested to raise awareness of pollution and how to mitigate.
- Cleaning and housekeeping of park will be made necessary.
- Sprinkling of water will be necessary during rehabilitation of the project.
- The participants expressed the desire to receive regular updates on the Sub-project development from the relevant government departments.
- One of the educated participant said that there is a need to help mohallas understand, participate in all activities related to this Sub-project and also there is a need to work to increase civic engagement in addressing their concerns and facilitate collaboration among local and regional entities to address their problems.
- "Environmentally friendly Sub-projects like this Sub-project" are necessary for sustainable growth of the green infrastructure in the area.

- No impacts on community health, safety and security were seen however the best practices of information discloser proposes to prevention of risks that need to be managed. Its help to diminish the health, safety and security risks that the construction activities will have on the local community.
- Participants told us that the current Sub-project is good and it is not create huge problem for the residents.
- The all participants agreed that the dust and noise generation during the construction activities will be the major issue for the residents.
- Plantation of native trees is very important during the development of the park.
- The positive impact of the Sub-project will be that urban development will take place due to the Sub-project. This will have overall positive impact on the local environment of the Sub-project area.

8.9 Institutional Consultation

The consultant environmental and social team visited various organizations and offices located in the tehsil and district level for information disclosure and to get feedback. Institutional stakeholder consultations were more formal as they involved government personnel and non-governmental organization, who were consulted. They were briefed on the ESMP process, the proposed Sub-project, proposed interventions and the potential negative and positive impact of the Sub-project on the area's environment.

The public sector representatives of the different line departments expressed their complete support and efforts towards the Sub-project development and mentioned the intent to ensure the Sub-project was completed at the earliest to the highest quality standards. In addition, these officials expressed the commitment to ensuring the support and would adhere to all environmental and social compliance standards with no leniency in this regard to be expected from the relevant Government line departments. The digest of comment and suggestions received is given as under, whereas, complete list of offices visited, official consulted and feedback received is provided below:

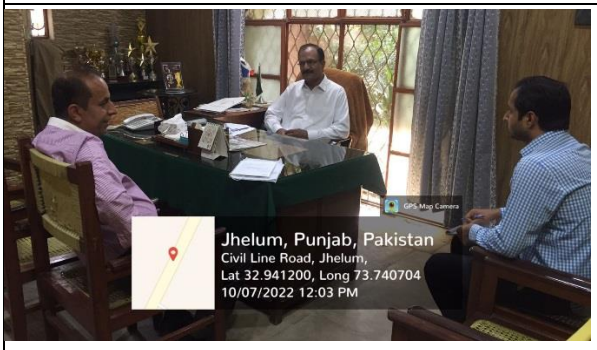
Table 8.1: Consultation with Institutional Stakeholders

Sr. No	Department	Official	Designation	Cell No.
1.	MC Jhelum	Raheel Kayani	MO(S)	0331-6662000
2.		Sardar Zubair	Supervisor (WS)	0313-5579125
3.	Forest Department	Waqas Shah	SDFO	0332-9087620
4.		Mudassar Mehmood	In charge	0345-5703533
5.	Housing & Town Planning Department	Ali Imran	DD	0313-7600626
6.	Public Health Engineering	Muhammad Imran	SDO	-
7.		Saleem Anwar Kasani	Community Dev. officer	-
8.		Mirza Zubair	Water testing counter	0344-6113879
9.	Agriculture Department	Miss.Farwa Nasir	Agriculture Officer	0544-920333
10.	Soil Conservation	Ejaz		0343-4362730
11.	Public Health Engineering	Ghulam Shabir	Sub-Engineer	0300-7934407
12.	EPA Jhelum	M.Habib	Inspector	0322-4388076
13.		Izhar Ul Haq	AD	0332-8009695

Figure 8.1: Pictorial View of Institutional Consultation

Information Discloser and Consultation with MC Jhelum

Information Discloser and Consultation with Official of the Agriculture Department



Information Discloser and Consultation with official of Social Department

Information Discloser and Consultation with official of EPD

Information Discloser and Consultation with official of Forest Department

Information Discloser and Consultation with official of C&W Department

Table 8.2: Feedback and Concerns

Settlement/Village	Feedback and Concerns
Environment Protection Department	❖ Construction of new Park is an environmentally friendly developmental Sub-project in which many sustainable features are added.
	❖ Development of Park Sub-project will yield huge revenue streams to MC. On completion, the Sub-project will create new commercial areas and huge sources

Settlement/Village	Feedback and Concerns
	of revenue for MC. These revenues will be utilized for infrastructural improvement of the city.
	❖ All sensitive areas such as shrines & Masjid present in the area should be preserved and maintained during the construction and operational phase of the Sub-project.
	❖ He said that environmental awareness in Pakistan is very low therefore raising awareness among the general public about the importance of environment is necessary.
Public Health Engineering	❖ Domestic Wastewater from the Park should be transported through trunk sewers to the main sewerage lines.
	❖ Solid waste should be dumped on the MC specified dumping sites and wastewater generated during both construction and operational phase should be treated before releasing in the sewerage line.
Agriculture Department	❖ To make the Sub-project environment friendly, more trees should be planted and whenever possible cut down of trees during the construction phase should be minimized.
	❖ The official said that it is good opportunity for the local people in the surrounding of the proposed Sub-project as this Sub-project will create employment opportunities.
	❖ Communities and decision-makers should access to information about future challenges.
Forest Department	❖ The official suggested that indigenous plants and environment friendly ornamental trees and shrubs should be planted on the proposed parks.
	❖ Moreover, he added that the proposed Sub-project should invest in development of green belts and green areas. Investing in green structures will help in making the Sub-project environment friendly.
	❖ A friendly environment between the residents and the environment is required for the coexistence and preservation of the ecology of the area.
	❖ Artificial birdcages should be installed at different places within the sector with food. Plantation should be carried out in parks with indigenous trees and ornamental plants.
C&W Department	❖ Local people should be given employment during the development of the Sub-project.
	❖ To make the proposed Sub-project more environment friendly eco-friendly bricks should be used which is eco-friendly as well as economically viable.
MC, Jhelum	❖ The official said that the division of responsibilities and its allied work among all stakeholders needs clear definition.
	❖ Occupational health and safety measures should be adopted by the contractor during construction works for the safety of workers.
	❖ The positive impact of the Sub-project will be that urban development will take place due to the Sub-project. This will have overall positive impact on the local economy of the Sub-project area.
Community Development and Social Welfare Department	❖ Such Sub-projects are much needed particularly after the slump in economy caused by COVID-19.
	❖ To reduce the chances of health and safety risks medical kits should be installed at the Sub-project area during the rehabilitation phase.

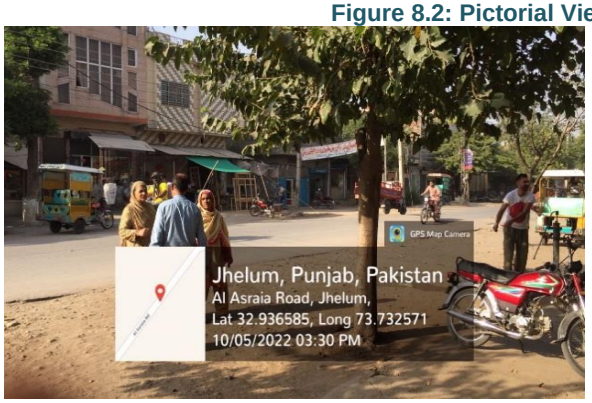
8.10 Women Stakeholders Consultation

Female participants were first briefed about the Sub-project objectives and interventions and then were requested to give their views. Women's main concerns were generally related to the existing hardships they are facing and suggestions, as under:

- ❖ Development of new parks is a great initiative and it should be the game changer for the healthy environment of the area.
- ❖ Physical inactivity is more prevalent among women & children's than men and is related to poor health outcomes. The walk in the park is the best solution for this problem.

- In urban areas, parks constitute an important resource for good health.
- A woman's place is in her home. A woman's place is in the workplace. In the community. On the streets and in public parks. In politics and leadership. In grocery stores, classrooms and on college campuses. A woman's place is everywhere, and in every space, she has the right to feel safe and welcome.
- Open, public spaces can be the heartbeat of communities. But in many cases, those spaces are unsafe for the women.
- Arrangement of pardah in exercise rooms for women's.
- Separate Timings will be allowed for men's in parks and women's.
- Provision of security in parks will be made necessary.
- Participants suggested the bathrooms should be safer for women and girls" in the parks.
- Problems of proper disposal of solid waste and sewage issues.
- Drinking water in the area is contaminated and people have to use this contaminated water.

Figure 8.2: Pictorial View of Gender Consultation



9 CONCLUSION AND RECOMMENDATIONS

9.1 CONCLUSION

The present report presents the Initial Environmental Examination (IEE) of the Construction of New Park in Jhelum City. During the preparation of IEE report for the proposed developmental project, it is observed and established that the negative environmental impacts are temporary and low to moderate nature. No depletion, deterioration or exploitation of local natural resources is expected to be caused by the proposed project activities. It is accordingly recommended that the Environmental Approval for the project may be issued by the Punjab Environmental Protection Agency, subjected to the payment of requisite scrutiny fee by the proponent of the project. The project does not pose any serious negative environmental impacts. Adequate mitigation measures have been proposed to address negative impacts arising from the project.

9.2 RECOMMENDATIONS

The Initial Environmental Examination (IEE) as well as survey results are finally evaluated to recommend the following:

- Adherence to the Environmental Management Plan (EMP) as proposed in this report is mandatory.
- During the construction phase of this project, all the required PPEs should be provided to the workers.
- Proper housekeeping in and around the site must be given consideration.
- The fire safety precautions must be considered to prevent or reduce the likelihood of fire. Placing and maintaining fire extinguishers at easily accessible points is highly recommended.
- Proper indication of exit points must be there for emergency situation.
- Proper safety and information sign boards must be placed at required places.
- Adequate training of workers must be done to deal with the emergency situations

10 REFERENCES

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TERMS OF REFERENCES

Section 7. Terms of Reference

PUNJAB CITIES PROGRAM (PCP)

TERMS OF REFERENCE
FOR

SHORTLISTING OF CONSULTANTS
FOR

"HIRING OF ENGINEERING FIRM FOR DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS, SECTORAL PLANNING AND RESIDENT SUPERVISION IN 16 CITIES OF PUNJAB"

April 2021

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I. Brief Background

- ✓ A Program explained as Punjab Cities Program (PCP), introduced as a Program for Results (P4R), funded by World Bank through soft loan of USD 200.00 million and gestation period of 5 years, is being launched in 16 MCs of Punjab. Each MC will contribute 20% of the total cost of the sub-projects being executed in its jurisdiction. The development objective of the Program is to strengthen the performance of participating Municipal Committees (MCs), focusing on urban management and improvement of municipal services infrastructure for satisfactory service delivery. The operation is financed through a hybrid of Investment Project Financing (IPF) and Program-for-Results (PforR) instruments of the World Bank.
- ✓ The PforR (Window-1) will pilot the Performance Based Grants (PBGs) to the MCs of the 16 selected cities as given below:

Northern Punjab	Central Punjab	Southern Punjab
1- Daska	1- Gojra	1- Bahawalnagar.
2- Hafizabad	2- Jaranwala,	2- Burewala
3- Jhelum	3- Jhang,	3- Khanewal,
4- Kamoke	4- Kamalia	4- Vehari.
5- Muridke	5- Okara	5- Kot Addu
6- Wazirabad		

- ✓ The IPF (Window-2) will support provincial government agencies i.e. Local Government & Community Development Department (LG&CDD), Punjab Local Government Board (PLGB), Punjab Municipal Development Fund Company (PMDFC) and PFC Unit of Finance Department (FD) in Program Management, Release of funds, Capacity building of MCs in municipal service delivery along with developing and implementing gender responsive systems for human resource management, grant management, reporting, audit and MC performance assessment.

II. Objectives of Consultancy Services

The overall objectives of hiring of the Consultancies Services are to;

a) Design in detail the need based, prioritized, and most cost-effective municipal services infrastructure sub-projects in the sectors given in the following sections for benefiting the maximum population with optimal possible investments whereby the cost vs. benefits are considered, after due deliberation and assessments from all stake holders of the MC.

b) Prepare the holistic Sectoral Plans for the sectors given in the following sections in each Program MC to serve as a true development framework in that sector in next 30 years to keep in pace with the growing trends of the cities, for benefiting the maximum population with optimal possible investments whereby the cost vs benefits are considered instead of

adhoc and piece meal development wasting time and financial resources and bringing smaller benefits (as compared to investments) to the growing population of the cities.

c) Resident supervision of the sub-projects during execution for quality control.

d) Develop the list of prioritized, need based and most cost-effective municipal services infrastructure sub-projects in the said sectors, over the planning horizon of the Sectoral Plans with their time frame of execution.

The intention of the process is to develop the municipal infrastructure at a pace and level where satisfactory service delivery level for the entire growing population of the cities in future is attained and the gap between the supply and demand is bridged instead of widening with passage of time.

The Consultancy Services for 16-cities will be divided into 5-Packages in 3 main regions North, Center and South of Punjab with Cities as mentioned below;

Package	Cities
I	Jhelum, Wazirabad & Daska
II	Hafizabad Kamoke & Muridke
III	Jaranwala Gojra, Kamalia & Jhang
IV	Bahawalnagar, Burewala & Vehari
V	Okara, Khanewal & Kot Addu

The responsibility matrix of doing work for design and sectoral planning is given as below:

Sector	Re-verification of Data & Gap analysis & updating of maps	Detailed Design of Priority Sub-Projects	Sectoral plans	Resident Supervision
Parks	PMDFC	Consultants	-	Consultants
Filtration plants	PMDFC	PMDFC	-	Consultants
Solid waste management	PMDFC	PMDFC	Consultants	Consultants
Roads & streetlights	Consultants	Consultants	Consultants	Consultants
Water supply	Consultants	Consultants	Consultants	Consultants
Sewerage & WW Treatment plants	Consultants	Consultants	Consultants	Consultants

Data and infrastructure gap analysis is available for Solid Waste Management (primary /secondary collection equipment & machinery), Parks, and Filtration Plants for each MC. The available data for Solid Waste management will be further updated by PMDFC as per present status of the machinery & equipment and requirement for each MC will be worked out. The available data for

filtration plants will also be updated by PMDFC and further requirement in each city will be determined depending upon the needs, proposed locations, land availability, water quality at each location and its connectivity/approach.

The subprojects for Solid Waste management and Filtration Plants will be designed and prepared by MCs with the assistance of PMDFC and works and goods will be procured by each MC under the provisions of PPRA Rules.

The data and maps for Parks & green spaces will be further updated as per present status and handed over to Consultants who will commence work on the Detailed Design of priority sub-projects in this sub-sector soon after mobilization, and complete detailed design of one priority project in each MC within 2 months.

In parallel, data re-verification and surveys for roads will be completed by the Consultants and detailed design and sectoral plans of roads will be started.

Water supply, roads, sewerage systems, & wastewater treatment plants need extensive data verification and confirmation of availability of land. Sub-projects will therefore be designed after completion of these and respective sectoral plans.

Prioritization of Sectors

a) The Detailed Designs will need to cover the projected population for next 10 years, and will be prepared for the sectors as given below;

1. Water supply
2- Sewerage & storm water drainage
2. Solid waste management
4- Urban roads & streetlight
5. Parks & green spaces

b) Resident supervision will be carried out for the sub-projects designed and executed in the above-mentioned sectors.

c) Sectoral Plans with planning horizon up to the year 2050, will be prepared for all the sectors as given below;

1. Water supply
2- Sewerage & storm water drainage
3. Solid waste management
4- Urban roads & streetlight

d) A priority list of the sub-projects required to be executed in the **first 10 years (2020 to 2030)** for each city will be prepared by MCs with the assistance of the Consultants by assessing the immediate needs and priorities of the city based on the Situation Analysis and Gap Analysis already carried out by PMDFC in 2018, and updated by the consultants for roads & streetlights, water supply, and sewerage & waste water treatment.

e) The priority of the sub-projects in this list will be appraised and identified under the light of following parameters;

- Urgency and severity of the present problems and issues in each sector in the city
- Immediate needs of the city in the next 10 years
- Technical and economic feasibility
- Number and nature of direct and indirect beneficiaries
- Land ownership available with MCs and its suitability for the Sub-Projects.
- Land acquisition and resettlement requirements.
- Inventory of individuals and groups that may be negatively affected.
- Social and environmental impacts & possibility of their mitigation.
- Sustainability of the sub-projects and their dove tailing with or adjustment in the Sectoral Plans being prepared with 30 years of planning horizon.
- Other parameters specific to each city witnessed at site.

The projects in the priority list will be further appraised under the light of below given criteria as per IDAMP Framework published by P&D Department (Prepared under World Bank assisted PCGIP Project including:

i. Identification of the Current Level of Services being delivered by the existing assets/component.

ii. Ascertain the target level of service to meet the service delivery requirements.

iii. Assessment of the gap in the existing level of service and target level of service.

iv. Determine if the existing asset portfolio meets the existing service delivery requirements and is capable to meet the service delivery gap.

v. In case the existing assets/components are not sufficient to meet the target service delivery requirements, asset planning shall be undertaken in respect of rehabilitation of existing assets or creation of new assets as per below given criteria;

- **Rehabilitation/Replacement of Existing Assets**

The consultants shall identify category-wise list of assets for Replacements /Rehabilitation. Existing assets having significant contribution in the service delivery shall be included in the proposed list on following basis:

  - Assets have reached to their replacement year; and/ or
  - Assets have condition rating "poor & failing" and/or
  - Assets have High risk of failure
  - There are regulatory/ statutory directions to replace the asset

- **Creation of New Assets**

The requirement of service delivery enhancement based on the growing needs of population, development intervention and extension in services in extended boundary of city requires planning for the new assets to be integrated with the existing network of assets and system. The new asset shall be planned by the Consultants after considering the needs within the municipal limits of the cities.

f) All stake holders including the concerned MC officials, local public representatives & notables of the city, social activists and community organizations will be consulted before finalization of this priority list.

g) The Projects Priority List will also be approved by MC's Administrator or the Municipal Council if active within one month of the mobilization of Consultants.

I) Proposed prioritized list of sub projects under the Sectoral Plans (2020- 2050)

For identification and prioritization of the sub-projects to be recommended for implementation of the Sectoral Plans the Consultants will take the following steps but not limited to;

i. Assess options for meeting priority needs/forecasting the implementation of the sectoral plans and develop preliminary proposal for the sub-Projects for their execution to meet needs and facilitate implementation of the Sectoral Plan.
ii. Present the Sectoral Plans, possible sub-Projects and options for meeting priority needs to local stake holders and modify as appropriate in response to their suggestions and concerns.
iii. Finalize the sectoral plans and list of priority sub-projects under the discussions in these forums. However, Pre-feasibility Report will be prepared by the Consultants to ensure that the sub-projects are technically feasible.
iv. Liaise with PMDFC and relevant stakeholders to ensure that the Sectoral Plans and priority list sub-projects are formally approved and agreed by relevant MC Council.

In prioritizing sub-projects, preference will be given to city areas which are already fully populated but are either under-served or unserved. Sub-projects for areas that are proposed to be developed under the planning horizon may be taken up in later years, once the existing population of the city has been fully covered.

These sub-projects will be prioritized for execution in the chronological order as per considered needs of the city and the probable timeline of the execution of these sub-projects will be indicated.

The priority list of the sub-projects in each MC will be prepared by the Consultants duly approved by MC Council/Committee and shared with WB according to this latest data, inventories and upgraded maps

III. Terms of Reference

The consultants will be required to carry out their activities as outlined in the objectives as given above.

A. Detailed Design

a) Re verification of the data and maps

A gap analysis and situation analysis have already been carried out by PMDFC in the year 2017-2018. Detailed verification of data and up-dation of the descriptive maps and the data of the components of ***Solid Waste Management, Filtration Plants and Parks*** will be done as per site installations/status by PMDFC and the data for Parks will be provided to the Consultants on their mobilization. This will be done because:

- Degradation of the infrastructure may have taken place in the intervening period because of poor operation & maintenance of the municipal infrastructure by MCs.
- Due to rehabilitation of municipal services infrastructure works carried out by MCs, inventories prepared in the Situation and Gap analysis and the updated maps may have changed.

However, re-verification of data and maps of the following will be done by Consultants:

- ***Water supply systems,***
- ***Sewerage systems including Sewage Treatment and***
- ***Urban road network.***

b) General requirements of detailed design of the Priority Sub-Projects

The consultants will be required to undertake, but not be limited to, the following broadly categorized tasks for detailed design of the sub-projects:

i. Holistic planning of the entire city in the sectors of municipal services given in the detailed scope of work for next 10 years (up to year 2030) and identification of the works needed for ***improvement of the services in the served areas and extension of the services to the presently unserved areas*** of the city.
ii. Prepare feasibility of the sub-projects over the given horizon (up to 2030) and design of sub-projects as per priority established and within the financial envelopes agreed.
iii. Preparation of the project Feasibility Reports, Detailed Design, Rough Cost Estimates, Bid and Detailed Drawings, PC-Is, Detailed Cost Estimates and other Project documents required therein.
iv. Carrying out the Economic and Financial Analysis for determination of EIRR and FIRR as per requirements of the PC-1s.
v. Sensitivity Analysis of the sub-projects and their economic, financial, and social effects.
vi. Presentation of PC-Is to DDSC/Pre-PDWP/PDWP and finalization of PC-1s in the light of comments (if any) from DDSC/PDWP
vii. Preparation of Biding Documents including pre-qualification/post qualification criteria for contractors
viii. Assist MC in preparation of Bid Evaluation Report on duly cleared format by PCP Team of PMDFC

ix. Preparation of Revised PC-1s and detailed cost estimates of the sub-projects if required, their presentation to the competent forum and correction or modification as per requirement of the forum.

x. The Consultants shall supervise the works being executed by the contactors, in all matters concerning quality and quantity of works, safety and care of work and report to MC Project Manager on any problem arising out in construction work during its execution.

xi. The Consultants shall certify that construction material brought at site by the contractor for use in construction is in accordance with the specifications. The Consultants will get any material tested from any approved government laboratory in line with Contract Documents duly approved by the Client (MC).

xii. The Consultants will be responsible for checking the quality of works, goods, machinery & equipment brought or installed by the contractors at site of work and will issue notice to the contactor for their replacement if these do not conform to the laid down specifications.

xiii. The Consultants will verify the quantities of Work carried out by the Contractor by actual measurements at site and will verify IPCs submitted by the contractor with recommendations for payment to the relevant MC.

xiv. Consultant will provide complete SOPs of Contract Implementation particularly, Processing of Variations / deviations in the quantities and specifications of works, Processing of Contractors IPC's, Check Request System, and Laboratory Testing etc. with their inception report and will implement these SOPs during supervision of works and verification of IPC's.

xv. The Consultant will monitor the approved implementation schedule and report delays if any with proper analysis of delays particularly early warning of such events to the Engineer in Charge.

xvi. The Consultant shall submit fortnightly progress report to the concerned Project Manager and to PMDFC on monitoring of works, environmental, social, occupational health and safety management plans, pointing out the deficiencies in the works & plans and suggestions for its remedial measures.

The detailed scope of work to be carried out for each sector has been given in **Annexure A.**

c) **Documents to be prepared by the Consultants**

The following documents will be prepared by the Consultants for detailed design of each sub-project:

1) Inception Report
2) Prefeasibility Report.
3) Feasibility Report.
4) Detailed design of the sub-project

5) Cost Estimates
6) Economic and Financial Analysis
7) Sensitivity Analysis
8) PC-Is
9) Bidding Documents including but not limited to;
    - Instruction to Bidders & Conditions of the Contract (COC)
    - Special Conditions of the Contract
    - Bill of Quantities (BOQ)
    - Contract Data
    - Specifications
    - Form of Agreement and detailed draft contract (general and specific conditions)
    - All other standard format used for execution of a Pakistan Engineering Council based contract
10) Revised PC-Is and detailed cost estimates, whenever required.

B. Sectoral Planning

a) Expected growth of the city

As stated above each Sectoral Plan to be prepared by the Consultants will be based on the approximate expected extent of future growth of each city and the main new and upgraded access routes proposed to provide access to areas expected to be developed in the planning horizon of the Sectoral plan (up to 2050). The plan will be drawn based on projected population of each city, existing and expected commercial, industrial, & residential areas and other main requirements of the city ***based on the city's economic growth potential and the main physical drivers that influence the growth of the city. Population and spatial growth projections will be taken from the Spatial Plan/Master Plan of the city. In case these are not available, or are outdated, the Sectoral Plans will only cover the city within its existing municipal boundary.***

b) Data Collection for Sectoral Planning

The Sectoral Plans will take into account, but not be limited to, the following parameters:

- Existing social and physical municipal infrastructure and quality of municipal services in various areas of the city.
- Connectivity of the city with provincial arterial roads and city arterial roads, railway stations and by pass roads.
- General topography of the city
- Availability of fresh water sources availability of fresh water sources
- Ultimate waste water disposal

- Water bodies passing through the city and their effects or impacts on the city environments
- Location of SWM collection points, transfer stations, and dumping sites/landfill sites
- Location of industrial units adversely affecting the city environment.
- Cantonments, their main approaches, and extent of use of city's municipal services.
- Corridor development on various outgoing or incoming roads adversely affecting existing service provision
- Corridor development on various outgoing or incoming roads adversely affecting existing service provision
- Industrial estates if any
- Agriculture activities in the city

The following communication corridors will be marked on the city plan within the sectoral planning boundary:

- Proposed roads or routes to be established for serving /accessing the areas to be developed within this boundary.
- Arterial roads proposed for connectivity of the expanded city with the existing arterial roads of the city.
- Proposed city roads in the areas to be developed for their connection with national or provincial arterial roads and bypasses.
- Cantonments, their main approaches, and extent of use of city's municipal services.
- Industrial estates if existing in or around the city within the municipal limits and the municipal infrastructure used by the industrial units.

c) Preparation of the Sectoral Plans

- A Sectoral Plan report for each sector will be prepared which will provide the location of the city, climatic conditions & rainfall data, connectivity, important and religious places, economic, cultural, or religious importance of the city, social infrastructure, educational facilities, government offices and administrative structure, commercial and industrial activities, culture and traditions of the area and other type of factors or activities attributed to the city which will impact municipal infrastructure and service delivery. The report for the Plan will reflect the ultimate effects on the city environments and benefits to be accrued to the inhabitants of the city after implementation of the Sectoral Plan.
- Salient features of each sectoral plan to be developed are given in **Annexure-A.** The Consultants will include any other features which can add to the comprehensiveness and value of the Plans which will provide comprehensive data and be helpful for future planning of the sectoral infrastructure.
- Descriptive maps of each sector will be prepared showing the existing municipal infrastructure in the city in that sector and the proposed facilities as per provisions of **Annexure-A** in the planning horizon marked within the planned sectoral boundary.

d) Documents to be prepared by the Consultants for each MC:

1) Sectoral Plan boundary marked on the city map along with access roads and arterial roads.
2) Detailed sectoral planning report of each sector in each MC
3) Detailed Sectoral Plans in the form of descriptive maps shown on the city plans within the sectoral boundary for each sector in each MC
4) Sub-projects which are required to be developed from year 2030 to 2040 to cover the projected population with timeline of execution in chronological order in each MC.
5) Sub-projects which are required to be developed from year 2040 to 2050 to cover the projected population with timeline of execution in chronological order in each MC.
6) Prioritization of the inter sector and intra sector sub-projects with timeline of execution in each MC.
7) Final & Completion Report for each MC.

Sector Wise TORs are attached as **Annexure-A.**

C. Resident Construction Supervision

The Consultants will undertake Resident Supervision of the Sub-Projects per the following:

(a) A Chief Resident Engineer/Team Leader will be appointed against each Package who will have overall control of the package.

(b) One RE will be appointed against each Package who will be responsible to overall supervision duties of the sub-projects.

(c) One Assistant Resident Engineer (Qualified Graduate Engineer Civil in the respective discipline with sufficient experience as given below) and two Inspectors (DAE Civil with experience as given below) will be stationed in each Program MC, and will be responsible for resident supervision of the works & goods and shall perform their duties with due diligence, efficiency and in accordance with the best engineering professional and consulting standards.

(d) Consultants will devise a progress report format and submit to the Client along the inception report for approval.

(e) The Consultants shall supervise the works being executed by the contactors in all matters concerning safety and care of work and report to MC Project Manager on any problem arising out in construction work during its execution.

(f) The Consultants shall certify that construction material brought at site by the contractor for use in construction, in accordance with the specifications and the material should be tested from any approved government laboratory in line with Contract Documents duly approved by the Client (MC).

(g) The Consultants will be responsible for checking the quality of works and machinery & equipment installed by the contractors at site of work and will issue notice to the contactor for their replacement if these do not conform to the laid down specifications. One copy of this notice will be submitted to the Project Manager.

(h) The Consultants will verify the quantities of work carried out by the Contractor at site and recommend payment to the relevant MC.

(i) None of the substandard works, equipment and machinery will be verified for payment to the contractor by the Consultants. Similarly, no excess quantity over and above that actually measured at site by the Consultants, will be verified and paid.

(j) Consultant will provide complete SOPs of Contract Implementation particularly. Processing of Variations / deviations in the quantities and specifications of works. Processing of Contractors IPCs, Check Request System, and Laboratory Testing etc. with their inception report.

(k) IPCs will be verified and certified by the Chief Resident Engineer and concerned field staff. Consultant will ensure that all necessary documents are appended with the IPCs before recommendation to Project Manager under intimation to the Client. One copy of IPC will also be provided to the Client..

(l) The test reports from nearest government laboratory (C&W, NLC, PWD, PCSIR, PHPAC, UET Lahore and UET Taxila or any other Government approved laboratory etc.) will be attached with the contractors' IPCs. .

(m) The Consultant will monitor the approved implementation schedule and report delays if any with proper analysis of delays particularly early warning of such events to MO (I), the Engineer in Charge.

(n) The Consultants shall keep the record of daily inspection reports and hand them over to the concerned Project Manager i.e. MO (I&S) on fortnightly basis. One copy of this record shall be retained by the consultants for record at site offices and the summary of such notes shall become part of Monthly Progress reports to be submitted to the Client. The Consultants will submit progress pictures through an android application attached with a dash board through Google map providing GPS with date and time and progress in % at site.

(o) The Consultant will keep pictorial evidence of each and every stage of work before, during and after completion of the work. This pictorial evidence will be systematically & chronologically arranged and will be submitted to the Client on weekly basis or as required by the Client.

(p) The required decisions shall be made at site by Assistant Resident Engineers. Decisions requiring major change in scope of work liable to change the project cost substantially, will be referred to the Team Leader who will process such cases in line with contract agreement signed between MC and the Contractor and recommend to MO (I), the Engineer for approval.

(q) The Consultant shall submit fortnightly progress report to the concerned Project Manager and the Client on monitoring of works, environmental, social, occupational health and safety management plans, pointing out the deficiencies in the works & plans and suggestions for its remedial measures.

(r) No payment to the Consultant will be made till submission of the certification by its Chief Resident Engineer/Team Leader that the work has been completed in accordance with Contract Documents and approved Drawings for Construction and the quality and quantities of the works have been verified.

(s) Consultant will include MC stationed field office attendance sheet of every month in the Monthly Progress Report duly attested by the Team Leader/Chief Resident Engineer.

(t) Due to various types of variations in quantities and specifications of the actual work required / executed in the filed with those provided in the BOQ /letter of award, the revision in the PC-I and detailed cost may be needed. In such cases the Consultants will prepare Revised Cost Estimates on the format specified by Government of Punjab and PC-Is, present these before the competent forum for Approval and subsequently prepare the detailed cost estimate and drawings for seeking Technical Sanction from the competent authority. The consultants shall be responsible to supervise any other construction work already completed in a PCP sub-project.

(u) One month prior to the expiry of the defect liability period of the work, the Consultant shall carryout a detailed final inspection of the works along with MCs and Contractors concerned authorised staff and submit a report to the concerned Project Manager pointing out the defects if any in the works along with remedial measures mentioning specified time lines with one copy endorsed to the Client.

(v) If subsequently, at any stage after the expiry of the defect liability period and during the service life of the work, the quality of any item of work passed by the consultant is found substandard, defective or its quantity excess over that actual quantity in field, the consultant shall also be liable to pay the compensation to the concerned MC for the

defective work. The liability shall be to the extent of two times the fee charged for consultancy.

Following is the core team of the consultants for design, sectoral planning and construction supervision is given below:

S #	Personnel	Qualifications
1	Team Leader / Chief Resident Engineer (Design, Sectoral Planning, Resident Supervision)	BSc/BE in Civil Engineering from HEC approved University with minimum 20 years' professional experience and 5 years' experience on similar assignments or MSc Civil Engineering/Public Health Engineering/Environmental Engineering with Bachelor in Civil Engineering with minimum 18 years' experience and 5 years' experience on similar assignments on urban planning, designing and construction supervision assignments. He must have served as head of various engineering and planning assignments at least for 10 years.
2	Urban Planner	Urban Planner should hold at least master's degree in Urban/Regional Planning from HEC approved University with 10 years general experience in planning and at least 5 years experiences in leading urban planning projects. He/she have requisite land use knowledge of Master/Structure and spatial planning as well as undertaken key planning and infrastructure planning projects. Requisite GIS and Private Land use Class Fication, Reclassification and Redevelopment Rules knowledge
3	GIS Specialist	Should hold master degree in GIS/Spatial Sciences from HEC approved University with 10 experience of GIS related projects and should had led at least three municipal mapping projects. Should have knowledge of land management systems. Base and land use mapping experience would be an added advantage. Should be able to develop requirements for efficient GIS database with attributes based on best international/national practice
4	GIS Analyst	Should hold master degree in GIS/Spatial Sciences from HEC approved University with 07 experiences of GIS related projects and should had supervised at least three municipal mapping projects. Base and Land use mapping experience would be added advantage. Should be able to analyze requirements for efficient GIS database with attributes based on best international/national practice.
5	Social Safe Guard Specialist	He/She should hold the master degree in environmental management or Sciences/Social Sciences/Engineering/ with 10 years' work experience in related field. Experiences on environmental issues including disaster management. Experiences managing cities environmental issues would be beneficial

6	Environmental Specialist	He/ She should hold the master degree in environmental management or Sciences/engineering/ with 10 years' work experience in related field. Experiences on environmental issues including disaster management. Experiences managing cities environmental issues would be beneficial.
7	Water Supply Specialist (Design)	BSc; Civil Engineer with Masters in Public Health Engineering /Environmental Engineering from HEC approved University and possessing minimum experience of 10 Years for designing water supply systems
8	Sewerage Specialist (Design)	BSc; Civil Engineer with Masters in Public Health Engineering /Environmental Engineering from HEC approved University and possessing minimum experience of 10 Years for designing Sewerage Systems
9	Waste Water Treatment Specialist (Design)	BSc; Civil Engineer with Masters in Public Health Engineering /Environmental Engineering from HEC approved University and possessing minimum experience of 10 Years for designing Waste Water Treatment Plants
10	SWM Specialist (Design)	BSc; Civil Engineer with Masters in Public Health/Environmental Engineering from HEC approved University and possessing minimum experience of 05 Years for designing SWM designs
11	Roads Specialist (Design)	BSc; Civil Engineer from HEC approved University with Masters in Highways/Transportation Engineering and possessing minimum experience of 10 Years for designing highways
12	Procurement & Contract Management Specialist	BS/MS (Social Sciences degree or BSc/B.E Engineering Degree minimum 16 Years of Education with 10 Years' experience in procurement and contract management of various projects
13	Architect	BS: Architect with experience of planning and architectural services for various buildings, land scaping and parks projects of national and international level
14	Resident Engineer	BSc/BE Civil engineering with minimum 12 years' relevant design experience or MSc Engineering/Civil/ Public Health Engineering/Environmental Engineering and 10 years on similar assignments in both cases.
15	Assistant Resident Engineers (03)	Bachelor Degree in Civil engineering with minimum 8 years' experience in site supervision and execution for projects of similar nature.

- Any other related staff will be quoted by the Consultant in line with the methodology submitted

IV. Time Lines

(i) Detailed Designs & Sectoral Plans

Complete Assignment is likely to be completed within 15 Months of the signing of contract agreements. The deliverables as per time line are given below:

V. **Deliverables/KPIs with timeline**

1) **Detailed Design (Roads, SWM, Parks, Water Supply, Sewerage and Sewage Treatment)**

Sr. No.	Description	Proposed Time (Calendar months from contract signing)		Hard Copies	Soft Copies
		Roads, Parks and SWM	Water Supply & Sewerage i/c Sewage Treatment		
		(Months)			
1	Inception reports, All initial works as per scope of work, GIS base maps updating & preparation of subprojects priority lists	1		03	01
2	**Preparation of the Detailed Design**	**Roads, Parks and SWM** Period starts from contract signing **(Months)**	**Water Supply & Sewerage i/c Sewage Treatment** Period starts from contract signing **(Months)**		
a	Feasibility, Design and Drawings	5	9	03	01
b	Engineer's Cost Estimates	6	10	03	01
c	Draft PC I s	8	11	03	01
d	Final PC I	10	12	15	01
e	Detailed Cost estimates	11	13	15	01
f	Draft Bidding Documents Including • BOQ • COC • Detailed Drawings • Specifications (All above documentation is a parallel activity except BOQ)	12	14	02	01
g	Final Bidding Documents including BOQ, COC, Detailed Drawings and Specifications	12	15	10	01
Total time per project		**12**	**15**		

2) Sectoral Planning

Sr. No. 1	Description	Proposed Timeline for document delivery (months)		Hard Copies	Soft Copies
		Roads, Parks and SWM	water supply & sewerage i/c sewage treatment		
		Period starts from zero month			
	Inception report and all initial tasks in each MC as given in TORs	1		03	01
2	**Sectoral boundary, proposed access routes and city roads within this boundary**	2	3	03	01
	Total initial time period	**3**	4		
3	**Sectoral Plans**				
a	Detailed sectoral planning report of each sector in each MC	6	9	03	01
b	Detailed Sectoral Plans in the form of descriptive maps shown on the city structure plans for each sector in each MC	7	10	03	01
c	List of Priority Sub-projects for the year 2030 to 2040 and 2040 to 2050 with time line	7	12	03	01
	Total time period for one sector	7	**12**		

RESIDENT CONSTRUCTION SUPERVISION (MAXIMUM-18 MONTHS)

Sr.No.	Deliverables	Hard Copies	Soft Copies (MS Word/Excel/PDF)
1	Inception Report	03	01
2	Fortnightly Progress Report	03	01
3	Monthly Progress Reports	03	01
4	Mid Term Progress Report	03	01
5	Final Report	03	01
6	Revised PC-I (when required)	14	01

Annexure-A

Detailed scope of work of individual municipal service

The sector wise main features to be included in scope of work for various sectors for the Detailed Design of Projects and Sectoral Planning, has been given herein. The tasks to be performed will not be limited to these parameters and the Consultants may include all other features or parameters required to make the detailed design of projects and Sectoral Plans most cost effective, workable, comprehensive, viable and sustainable.

1) Water Supply Systems

A. Detailed Design of water supply Projects

1) Identification of most suitable and cost-effective fresh water sources for the city by investigation of the water quality of the existing water sources in and around the city and plotting them on a plan for getting true and holistic picture of the water quality of all available fresh water sources.
2) Inventory of the abandoned or closed water sources by MC for the existing water supply system and determination of the causes of failure of these sources.
3) Working out the existing service delivery level in water supply systems in the light of under mentioned parameters;
    - Total present daily water production determined by measurement of actual discharge of the sources and the pumping hours per day.
    - Per capita per day water being supplied by MC at present.
    - Cost of present water production and distribution per 1000 gallons or per cubic meter.
    - Detection of inefficient water sources components in the existing water supply system and recommendation for their future use or closure.
    - Water shortage areas and reasons thereof (plot on the map).
    - Contaminated water supply areas with reasons of water contamination (plot on the map).
    - Approximate percentage of water wastage presently occurring in the city and most probable areas of wastage.
4) Measures to control this water wastage and the expected results out of these methods.
5) Recommended most suitable method for reduction of non-revenue water.
6) Preparation of the design criteria for water supply system.
7) Rehabilitation of the existing water supply infrastructure (if not included in M&R Projects of Year-1) for gaining maximum efficiency and maximum benefits to the consumers involving but not limited to the under mentioned components;
    - Replacement of tube wells if direly needed.
    - Repair of the existing pumping machinery and its replacement if it is not repairable

including repair/replacement of electrical and mechanical parts.

- Repair of water reservoirs, repair/replacement of pumping machinery & civil structures in intermediate pumping stations.
- Replacement of rusted, damaged and leaking pipe lines of the transmission mains and distribution system wherever these are essentially required giving problems caused by these pipelines and reasons for replacement.
- Conducting the surveys and replacement of the underground portion of the substandard/rusted up consumer connections which are leaking in the underground and adding water contamination to the system.
- Repair or replacement of the water disinfection facilities.

8) Extension of water supply facilities to all unserved areas in the city including all water supply components required therein
9) Induction of consumer metering system in existing as well as proposed system.
10) Main water supply pipe lines to be connected subsequently with the water supply system in the areas to be developed in future in the sectoral plan horizon
11) Identification of the gaps and shortcomings in the present user charges levying, billing and recovery system, subsidies being injected and devising the methods for improving billing and recovery system of water revenue.
12) Induction of consumer and bulk water metering system and devise water tariff structure with recovery mechanism.
13) Carryout Environmental and Social Assessments acceptable to World Bank and EPA Punjab and recommend mitigation measures as per requirements along with Environmental and Social Management Plans (E&SMPs) during all phases of projects (Detailed Designing, Construction & Maintenance & Operation)
14) Manpower presently deployed for O&M and total manpower cost effective needs after the completion and commissioning of the proposed water supply system.

B. Sectoral Planning of water supply sector

1) Preparation of the Design Criteria.
2) Per capita requirement of fresh water for the city keeping in view the city living style/culture and the available fresh water sources in or around the city.
3) Total demands of the population in the planning horizon, present water production from the existing sources and the proposed sources of fresh water wherefrom it can be obtained.
4) Possibility of the extension of existing water supply facilities in the areas to be developed in the planning horizon including all water supply components required therein.
5) Skelton water supply system in the areas to be developed in future in the sectoral plan horizon including:
   - Proposed water sources according to the need of Structure Plan including their dovetailing with the existing sources if required.
   - Transmission mains including the resizing of existing mains if required and laying of new mains as per requirement of the proposed water sources and the structure plan.

- City / intermediate pumping stations including the enhancement of ground storage and pumping capacity in the existing pumping stations if required and the new pumping stations to be developed.
- Overhead storage to be constructed to meet the peak hour demand of the inhabitation to be developed under structure plan.
- Main distribution grid keeping in view the requirements of the structure/physical plan developed. This may also include enhancing the capacity of the existing distribution mains by their replacement and their dovetailing with the newly proposed skeleton of main pipe lines.
- Water disinfection facilities required therein.
- An approximate cost estimate of the operation and maintenance of the water supply system in the year, 2030, 2040 and 2050

2) Sewerage Systems

A. Detailed Design of sewerage projects

a) Preparation of the design criteria.
b) Rehabilitation of the existing sewerage infrastructure (If not included in M&R projects in Year-1) for gaining maximum efficiency and maximum benefits to the consumers involving but not limited to the under mentioned components;
   - Repair of the existing pumping machinery and its replacement if it is not repairable including repair/replacement of electrical and other mechanical parts.
   - Repair of civil structures in the disposal/ pumping stations.
   - Repairs or replacement of rusted, damaged and leaking suction or delivery pipes of the pumping machinery along with specials and valves if required
   - Cleaning and de-silting of chocked or semi chocked sewers wherever possible.
   - Replacement of existing sewers (only those which are damaged or which cannot be de-silted) or under capacity sewers.
   - Construction of sewers in case some areas of the cities can be drained of by gravity without pumping.
   - Construction of any link sewers in the present system which can improve the existing system or reduce the O&M charges
   - Repair of the sullage carriers and repair/replacement of force mains
   - Repair or raising of manholes, including provision of base frames and manhole covers
   - Repair or construction of gulley grating chambers.
   - Construction of desilting chambers if needed.
   - Repair or erection of ventilating shafts (not vulnerable to theft)
   - Provision of sewer de-silting and cleaning equipment /machinery
   - Repair of generators

- Provision of sewer safety equipment (if not available with MC)

c) Extension of the sewerage system to unserved areas of the city with projected growth of next 10 years including all required components like sewers, disposal stations, sullage carriers or force mains and intermediate pumping stations (if unavoidable).
d) Main sewers to be extended in the areas to be developed in future in the Sectoral Plan horizon including main and branch sewers.
e) Design of most suitable and appropriate waste water treatment plants including the existing waste water outflow keeping in view the most cost-effective solutions after comparing various options.
f) Ultimate disposal arrangements of treated water including force mains or sullage carriers required therein.
g) Carryout Environmental and Social Assessments acceptable to World Bank and EPA Punjab and recommend mitigation measures as per requirements along with Environmental and Social Management Plans (E&SMPs) for all phases of subproject (Detailed Designing, Construction and O&M)
h) Manpower presently deployed for O&M and total cost-effective manpower needs after the completion and commissioning of the proposed sewerage system.
i) Waste water tariff structure (if levied), present billing & recovery system, subsidies being injected and proposed improvements in tariff structure and billing & recovery system to reduce the subsidies.

B. Sectoral Planning of sewerage sector

a) Total waste water production in the planning horizon, quantity of waste water presently being disposed-off at various points and in various water bodies and methods of its treatment.
b) Total remaining waste water quantity to be disposed-off in future in the planning horizon of the city, the methods and point of its disposal.
c) Extension of the existing sewerage system, if possible, to the proposed inhabitation under Sectoral Plan including all required components like sewers, disposal stations, sullage carriers or force mains and intermediate pumping stations (if unavoidable) along with their proposed location.
d) Location, capacity and sizes of skeleton sewerage system in the areas to be developed in future in the Sectoral Plan horizon including main, branch and outfall sewers, intermediate pumping stations (if required), outfall disposal stations and force mains /sullage carriers and other structure required therein.
e) Capacity and proposed location of waste water treatment plants and ultimate disposal arrangements of treated water including force mains or sullage carriers or any other structures required therein for the presently disposed-off untreated water and the waste water from the proposed systems.

f) Storm water drainage on the existing main roads and the areas to be planned for future and its ultimate disposal preferably by gravity. Separate storm water drainage should be planned only in the form of larger sized drains. It should be assumed that the present drainage or sewerage system will take some of the storm water from streets and narrow roads and remaining will flow in the form of surface runoff to be taken by larger drains to be planned and constructed.

g) An approximate cost estimate of the operation and maintenance of the sewerage and drainage system in the year, 2030, 2040 and 2050.

3) Urban Road & Street Light

A. Detailed Design of Road Projects

a) Detailed survey and field investigations for roads which should include but not limited to collection of all available data about the existing roads including traffic loads and intensity.

b) Details of existing utilities or services on the roads

c) Details of existing road longitudinal and cross drainage

d) Preparation of detailed design of the roads to be improved or new roads to be constructed in the presently populated areas or the areas proposed to be developed in the design horizon of the Project which should include:

- Design Criteria for roads
- Geometric design of roads
- Road structures design
- Road longitudinal profile and cross sections at required locations
- Road longitudinal and cross drainage profiles and plans
- Any other parameter required for detailed design and construction of roads.

e) Possible extension of the roads so designed to the areas to be developed in the Sectoral Plan horizon.

f) Design of the quality monitoring system of road works.

B. Sectoral Planning of Road Network

a) Road network required to be planned for serving the population growth proposed under the Sectoral Planning horizon, will be as follows but not limited to this;

- Access roads for the proposed inhabited areas to be linked with the present road network of the city.
- Main arterial city roads to be linked with the Provincial or National arterial network.
- Roads leading to the industrial areas and commercial hubs
- All other roads required to serve the existing or proposed settlements/colonies and social infrastructure in the planning horizon.
- All outgoing and incoming roads.
- Any other roads as per future needs of the city.

b) The length and number of lanes of each proposed road or roads to be rehabilitated, will be determined depending upon estimated future traffic intensity and loads.
c) The location, capacity, width and number of lanes of road interchanges, bypasses, flyovers, underpasses and other required structures in the existing inhabited areas and that proposed in future.
d) Bridges and culverts required over the water bodies in the presently inhabited areas or areas to be developed in future.
e) Longitudinal and cross storm water road drainage and its ultimate disposal preferably by gravity.

C. Detailed Design of street light Projects

a) Inventory of the under mentioned types of existing street light including transformers, service cables, poles, arms, brackets and type & wattage of luminaries, LT Panels, energy meters and switch on & switch off devices with their functional status. The damaged, dormant & non-functional components will be listed down for their repairs or replacements during rehabilitation.

- Installed on Power Distribution Company's poles including the MC owned conductor
- Installed on MC poles
- Installed in secondary and tertiary streets with or without poles or mounted on walls

b) Plotting the existing street light on city plan mentioning all above given three types in different colours
c) Rehabilitation of the above-mentioned street light in all respects as mentioned below;
    - Lights on Power Distribution Company's poles on main roads will be converted in to standard form of street light by erection of new light masts with underground cables, brackets and other allied electrical items of work. The transformers, service cables, LT panels or any other old component if usable should be utilized.
    - The dormant, damaged or non-functional components of the lights installed on MC poles including the control panels and transformers on main roads will be repaired or replaced in such a way that all street light goes functional.
    - The lights installed in secondary and tertiary streets without poles, or mounted on certain type of poles and walls but operated through MC conductors, will be renovated or rehabilitated in such a way that the installations become a permanent infrastructure to stay for ever.
    - For this purpose, poles, brackets, bracket arms, wires, cables, cross arms, anchors, stays, ordinary clamps or PG clamps or any other kind of fastenings may be used to make the installations stable and permanent. Old transformers, service cables, LT

panels and energy meters will be utilized if found usable.

- Care should be taken not to use bare conductor in such streets where it can cause damage to the public. Bare conductor should be used only in wider streets which can accommodate the LT line mounted on poles which should be erected at safe distance from the building line.

d) Design of new street light on the roads finalized by the Client for such installations including all components, transformers and LT panels.
e) Longitudinal Plans of such roads will be prepared showing the details of the existing features such as Power Company's high tension, 11-KV & LT lines & poles, telephone poles, water supply and sewer pipe lines, telephone underground ducts and other utilities for location of the proposed light masts and underground cables at appropriate routes.
f) The transformers, LT panels, energy meters and switch on & off devices should be installed at safe locations not vulnerable to traffic or pedestrians and not in reach of the children. All of these installations will be placed in fenced & locked enclosures to stay away from the reach of the common man.
g) Sensor switches will be provided with each control panel for automatic operation of the lights.
h) The elevating platforms, folding ladders and other equipment or tools & plants considered appropriate for operation & maintenance of the street light, will be provided in the project cost along with their specifications.
i) Efforts should be made to operate converging, diverging or connecting roads street lights from common points to reduce the number of transformers and control points.
j) LED luminaries of 120 watts manufactured by some approved company will be used in the street light.
k) The poles used in the street light will be telescopic tubular, GI pipe poles not prone to rusting. Similarly, the bracket arms and brackets will be manufactured with GI piping and sheets having zinc coating of specified thickness.
l) Carryout Environmental and social Impact assessments acceptable to World Bank and EPA Punjab after implementation of the sectoral Plan and recommended mitigation measures as per requirements along with Environmental and social Management plan.

d. Sectoral Planning of street light sector

a) A comprehensive plan will be prepared showing;
   - The provision of new street light in the left over existing main roads and the access roads to various residential inhabitations, industrial areas and commercial hubs.
   - The provision of street light on the proposed main roads in the areas under planning horizon.

   All shown as a line diagram with location of control panels and switching devices.

b) Inventory showing type of poles, height of poles, pole structure, type and wattage of

luminaries, distances between the poles for single light poles on each single road and double light poles on each dual carriage way to light the roads as per national illumination standards along with other required parameter to give complete information about the installations.

c) Common control panels to be provided on diverging or converging roads.
d) Energy saving plan to be made effective in all these street lights on all roads of the city with automatic switching.
e) Street lights to be provided on all fly overs, interchanges, bridges, underpasses, bypass road junctions and important cross roads.
f) Maintenance equipment to be part of the Plan.
g) Rudimentary Operation and maintenance cost of the street light system in the year 2030, 2040 and 2050.

4. Solid waste Management System

A. Sectoral Planning of street light sector

a) Assessment of the existing system of solid waste management including the primary, and secondary waste collection, road sweeping, and transportation of waste, waste dumping, waste compaction and provision of earth covers.
b) Areas of the city which are completely served, partially served and not served by the existing system including plotting them on the city updated map.
c) Composition of solid waste
d) Overall waste generation, efficiency of waste collection and disposal in the city.
e) Total present annual expenditure on the waste management on different O&M heads in the previous three years, cost per ton of the waste and per capita annual expenditure.
f) Equipment and machinery deployed, its functional status and condition.
g) Present efficiency of the existing waste collection and transportation machinery & equipment and its comparison with the modern efficient machinery showing total annual financial losses to MC due to use of the existing inefficient machinery and equipment.
h) Hazards associated with the existing system of waste collection and disposal and their proposed solutions
i) Carryout all necessary investigations essentially required in line with the best engineering practices
j) Design of most economical, feasible and viable solid waste management system while incorporating the existing facilities available with MCs in cost effective manner.
k) Assessment of requirement of most cost effective and efficient machinery & equipment for efficient operation of SWM System.
l) Assessment of the area and depth of the landfill required for next 10 years for the city.
m) Design of transfer stations in the city if the waste is to be carried to some regional landfill provided /constructed by provincial government.
n) Methods for reduction of the waste to be dumped in landfills, quantity and cost of possible recyclables and quantity of waste which can be used for “Waste to Energy process”

o) Planning and design of the vehicle parking area in the city on the site to be provided by MCs.
p) Working out the annual operation and maintenance cost of the proposed system.
q) Assessment of the total manpower requirement for proposed waste management system including the additional manpower required to be employed.
r) Carryout Environmental and Social Assessments acceptable to World Bank and EPA Punjab and recommend mitigation measures as per requirements along with Environmental and Social Management Plans (E&SMPs) for all phases of subproject (Detailed Designing, Construction and O&M).

B. Sectoral Planning of Solid waste management sector

a) Total quantity of present waste generation, quantity of waste collected and disposed and adverse impacts of low efficiency of waste collection.
b) Total expected quantity of waste generation in the planning horizon, waste collection and disposal catered for in the Project up to the year 2030 and collection and disposal of the remaining quantity of waste in the planning horizon.
c) Effective, efficient, economical, feasible and viable system of waste collection and disposal including the quantity and number of equipment and machinery required to collect and dispose-off the entire waste generated up to the year 2050 with intervals of 5 years.
d) Location of present waste dumping points and their effects on city environments.
e) Location and areas of landfills already constructed and maintained by MCs, their expected life and year of expiry.
f) Area of the landfills required from 2030 to 2050 with 5 years interval.
g) Proposed landfills to cater the planning horizon including their location, areas, capacity and year of expiry.
h) Regional landfills proposed or under development by Provincial Government if any, transfer stations required to be built in the existing or proposed inhabitations to transfer this waste to regional landfills.
i) Possibility of reduction of waste and its percentage to be disposed-off in landfills up to the year 2050 with 5 years intervals;
   - Sale to energy consuming industries and income expected to MCs.
   - Recovery of recyclables and its cost effectiveness.
   - Waste compositing, its sale prospects and its cost effectiveness.
   - Generation of energy from waste, estimate wattage which can be generated and its cost effectiveness.
j) An approximate cost estimate of the solid waste management system from the year 2030 to 2050 with 5 years interval.

5. Detailed Design of Parks & Green Spaces Projects

a) Complete topographic survey including spot levelling of the existing and proposed park site including the boundary wall

b) Inventory of existing facilities in the park including their condition and possibility of future use after repairs.
c) Location of the open spaces in the existing populated areas and the area to be developed in future proposed for construction of parks at present and in future.
d) Design of rehabilitation of existing parks including repair or replacement of the existing components and provision of new components and facilities for improved public recreation and possible leasing out of facilities for generation of funds for O&M.
e) Construction of new parks at feasible sites proposed by MCs.
f) Design of the parks will include but not limited to the under mentioned components;

- Preparation of site profile and design of landscaping in cut and fill
- Pathways, boundary wall, podium, entrance gates.
- Jogging track and allied services.
- Water source for lawn watering and for water supply systems for toilets, cafeteria and for drinking purposes.
- Toilets as per actual requirement of the visitors.
- Lighting system including high mast lights and ornamental lights on the pathways along with LT control panel and external electrification.
- Cafeteria (feasible for larger area parks only) including water supply, drainage and approach path.
- Children outdoor games including swings and slides and other children playing facilities to be erected on a separate and specified area in the parks.
- Apron for the electrically operated games along with provision of three phase electric connection points for renting the area to vendors
- Benches & other sitting facilities, pergolas and other ornamental structures most suiting to the topography and location of the parks
- Suggesting the most suitable plants according to the soil classifications and climatic conditions.

g) Design should be suggested in keeping with the storm season wherein it should not create long water stagnation periods.
h) In case of parks on depressed sites, park storm water drainage should be accompanied with aquifer recharging facilities.
i) Any other important and necessary item of work required to make the park most useful and provide a source of income to the MC for meeting the O&M charges.
j) Carryout Environmental and Social Impact assessment acceptable to world bank and EPA Punjab after implementation of the sectoral Plan and recommend mitigation measures as per requirement alongwith Environmental and Social Management Plan.

Annexure-C

Package wise number of Projects, Sectoral Plans and Resident Supervision Projects

Package-I					
No of cities			3		
Name of Cities			Jhelum, Wazirabad & Daska		
Projects and Plans			Sectoral Plans	Detailed Design	Resident Supervision
1	Water supply		3	3	3
2	Sewerage & Sanitation, Storm water drainage & waste water treatment plants		3	3	3
3	Solid waste management	Machinery & Equipment	3	0	3
		Land Fill		3	0
4	Roads, allied structures & street lights		3	3	3
5	Parks & green spaces		0	3	3
Total			12	15	15

Annexure A: List of Participants Consulted

Sr. No	Community	Person	City	Occupation	Cell No.
1.	Madni Mohalla	Masood Ahmad	Jhelum	Shopkeeper	0324-8763498
2.	Madni Mohalla	Pervaiz Iqbal		Laborer	0334-9641791
3.	Al-Miraj Colony	Imran Azhar		-	03175771219
4.	Al-Miraj Colony	Mudassar Khan		-	03325173728
5.	Al-Miraj Colony	Shahid Naeem		-	03213763558
6.	Iqbal Town/Madina Town	Raja Munawar		-	0332-5848399
7.	Iqbal Town/Madina Town	M. Mushtaq		-	0321-5325119
8.	Iqbal Town/Madina Town	M.Shehbaz		-	031-4804296
9.	Nawab Colony	M.Khadim		-	0307-5400238
10.	Nawab Colony	Sagir Irfan		-	03068167569
11.	Nawab Colony	Arshad Mehmood		-	0333-5809544
12.	Nawab Colony	Javed Akhtar		-	03015800169
13.	Muhalla Dhok	Raja Pervaiz		-	0321-5417138
14.	Makhdomabad	M. Danish		-	0321-5482947
15.	Al-Miraj Colony	Shakir Ali		-	0308-8965389
16.	Machine Mohalla 3	M Sadiq		-	0300-5416077
17.	Bilal Colony/Behari Colony	Abdul Rasheed		-	-
18.	Bilal Colony/Behari Colony	Nazar Hassan		-	0301-5829286
19.	Bilal Colony/Behari Colony	Mukhtar Hussain		-	0336-8150215
20.	Bilal Colony/Behari Colony	M. Iqbal		-	0347-4982513
21.	Bilal Colony/Behari Colony	Nabeel Akhtar		-	0335-5807263
22.	Bilal Colony/Behari Colony	M.Toseef		-	0306-0843098
23.	Bilal Colony/Behari Colony	Bilal Ahmad		-	0333-5870626
24.	Bilal Colony/Behari Colony	Jamil Khokhar		-	0316-5351502
25.	Bilal Colony/Behari Colony	Ali Raza		-	0303-5658532

Sr. No	Department	Official	Designation	Cell No.
1.	MC Jhelum	Raheel Kayani	MO(S)	0331-6662000
2.		Sardar Zubair	Supervisor (WS)	0313-5579125
3.	Forest Department	Waqas Shah	SDFO	0332-9087620
4.		Mudassar Mehmood	In charge	0345-5703533

Sr. No	Department	Official	Designation	Cell No.
5.	Housing & Town Planning Department	Ali Imran	DD	0313-7600626
6.	Public Health Engineering	Muhammad Imran	SDO	-
7.		Saleem Anwar Kasani	Community Dev. officer	-
8.		Mirza Zubair	Water testing counter	0344-6113879
9.	Agriculture Department	Miss.Farwa Nasir	Agriculture Officer	0544-920333
10.	Soil Conservation	Ejaz		0343-4362730
11.	Public Health Engineering	Ghulam Shabir	Sub-Engineer	0300-7934407
12.	EPA Jhelum	M.Habib	Inspector	0322-4388076
13.		Izhar Ul Haq	AD	0332-8009695

Annexure B: Environmental and Social Screening Checklists of the Sub-Project

Environmental and Social Screening Checklists of the Sub-Project

Construction of new Park in Jhelum City Environmental & Social Screening Checklist

Instructions:

Environmental and Social Focal Persons (ESFPs)[1] nominated by the MCs for PCP environmental and social management, will use this checklist in field for environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document[2] of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

The purpose of this E&S Screening Checklists is to identify potential "Negative" impacts of environmental and social attributes or to enhance the existing environmental & social benefits. Use the "remarks" section to discuss any anticipated mitigation measures.

Name of ESFP:

Muhammad Ahmad MOI&S/ Muhammad Dawood MOP

Name of MC:
Jhelum

Sub-Project Sector:
parks

Sub-Project Title:
Construction of New Kala Gujran Park in Jhelum 5 acre

Sub- Project Categorization:
E-1 & S-2

Date of Screening:

10-09-2022

Anticipated Project Activities

Build A Jogging Track And Pathway, Supply Of Ornamental Plants And Benches, Construct A Rainwater Recharge Structure And Well, Build A Cafeteria And Toilets, Installation Of Swings,

[1] In all MCs, ESFPs are to be notified by Local Government; MO (I&S) are focal persons for environmental sector and MO (P) are focal persons for social sectors.

[2] It is

Installation LED Lights And Poles, Construction Of Gazebos, Development Of Parking Outside The Park With Tuff Pavers, Fountain Development And Roundabout Sitting, Construction Of Main Gate, Rehabilitation Of Existing Benches, Construction Of Boundary Wall, Construction Of Indoor Sports Area, Construction Of Net Cricket. It may be concluded that the subproject would have moderate environmental impacts so subproject is categorized as **environmental category E1** therefore Initial Environmental Examination (IEE) will be required. However, sub-project do not involve any human displacement or resettlement but it may cause temporary disturbance and localized impacts on the local communities so it is characterized as **social category S2.** Moreover, the subproject will require construction labor/ workers for the execution therefore Environment, Health and Safety SOPs developed by PMDFC, will be applicable and followed by the contractor. The cost for the implementation of Initial Environmental Examination (IEE) including Environment, Health and Safety SOPs for labor will be 0.7.53 million PKR to be borne by the contractor as mentioned in the bidding document for the subproject.

Estimated Cost of Subprojects	**151.76 Million PKR**	
Tentative Completion Time/Duration	**6 months**	
Estimated Labor for Subproject	**20**	

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Sub-Project area adjacent to or within any of the following:			
Environmentally sensitive areas?			
Legally protected Area		✓	Legally protected area not recorded nearby to the city.
Any surface water body (river, canal, stream, lake, wetland) within 250 meter of the proposed road		✓	Not observed
Estuarine		✓	Not applicable
Special area for protecting biodiversity		✓	Biodiversity protected area not recorded nearby to the city.
Buffer zone of protected area		✓	Not applicable
Mangroves Forest		✓	Not applicable
Man-made forest /game reserve, orchid /crops or any other area of environmental importance		✓	Not observed
Socially sensitive /important areas/communities/ people?			
Physical Cultural Resources (PCRs) and or any site of cultural/religious importance (Graveyard, Shrine, Mosque, Church, *Gordwarah*, Temple, Fort, archeological/historical site) within 100 m of the proposed subproject	✓		One shrine observed
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub project[3]	✓		3 school observed
Any graveyard of local community (Muslims or Christians)		✓	Not applicable
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments[4] of the society and women or children)?		✓	Not applicable
Already existing infrastructure [5](including public amenities) which may be required to dismantle or may be affected temporarily by any means?		✓	Not applicable
B. Potential Environmental Impacts Will the Sub-Project cause…			
1. Disturbance to habitats/biodiversity of environmentally sensitive or protected areas?		✓	Not applicable
2. Cutting of trees?		✓	Not applicable
3. Disruption to habitats/biodiversity of surrounding ecosystem/environment?		✓	Not applicable
4. Generation of wastewater during construction or operation?	✓		The domestic wastewater collected from the septic camp of labor camp will be disposal in the nearby sewerage lines.
5. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?	✓		Domestic waste water will be produced during construction but the waste will be collected in septic tanks.

[3] Ibid.

Screening Questions	Yes	No	Remarks
6. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/rivers or due to increased soil erosion at construction site?		✓	No such activity is foreseen
7. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No deterioration in surface water quality is anticipated
8. Over pumping of ground water, leading to salinization and ground subsidence?		✓	Pumping of groundwater is expected on small scale only for construction purpose
9. Serious contamination of soil due to construction works?		✓	No serious contamination of soil is foreseen
10. Aggravation of solid waste problems in the area?	✓		Construction waste generated during road improvement will be collected and disposed of at designated place to avoid solid waste problem in the project area
11. Generation of hazardous waste?	✓		Solid waste will be generated during dismantling of existing infrastructures which will be disposed of to a designated place approved by the MC
12. Increased air pollution due to sub-project construction and operation?	✓		Increased air pollution due to smoke and dust generated by the movement of vehicles and construction machinery at project site is expected. The mitigation measures include control on speed limit of project vehicles and use of construction machinery in good working condition and regular sprinkling of water at dust prone roads/site.
13. Noise and vibration due to sub-project construction or operation?	✓		The noise pollution during construction phase because of project vehicles and construction machinery is expected. The mitigation includes use of tuned vehicles and machinery will be ensured. Vibration abating devices will be used. Use PPEs by labor will be ensured. The working hours will be scheduled and restricted in school, colleges and prayers timings in daytime only.

[4]due to caste, creed, religion or gender e.g. transgender

[5]Sewerage /Drainage system, Water supply lines, tube-wells, WAPDA/Telephone transmission lines/electric poles, Railway tracks, Gas pipelines, Roads, Shops/Plazas, Banks, Industry, Disposal stations etc.

Screening Questions	Yes	No	Remarks
14. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?	✓		The stagnant water in construction areas may create temporary breeding habitat for mosquitoes and resulting in dengue issue. Proper housekeeping and tidy conditions will avoid the creation of breeding habitats. Use of anti-mosquito spray will be ensured
15. Use of chemicals during construction?		✓	Not applicable
C: Potential Social Impacts Will the Sub-Project cause…			
1. Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to Physical Cultural Resources (PCRs)?		✓	Not applicable
2. Displacement or involuntary resettlement of people? (physical displacement and/or economic displacement) (If "Yes", please also fill Involuntary Resettlement Screening Checklist)		✓	Not applicable
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups (mentioned above)?		✓	Not applicable
4. Temporary impediments in movements of people/transport and animals?	✓		The movement of people may put some impediments during dismantling of existing drain and construction of new drains. Traffic management Training will be provided to drivers. Alternative routes will be provided to community.
5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	The proposed intervention of construction of storm water drains requires 20 working staff at a time and thus largescale population influx is not foreseen. The contractor to establish construction camp at appropriate place at open place sufficiently away from the populated area.
6. Social conflicts if workers from other areas are hired?		✓	In IEE, the contractor will be bound to prefer local labor to avoid social conflicts.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Binding of contractor to take care of H&S aspects. Supervision consultants to monitor the OHS aspects.
8. Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		During construction phase only. Contractor staff to be trained for waste management.

Screening Questions	Yes	No	Remarks
9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		Contractor staff to be trained w.r.t H&S issues. Liaison with local emergency services and hospitals.
10. Any impact on sensitive receptors (mentioned above)		✓	Not applicable
11. Any impact of negative nature on already existing infrastructure including public amenities		✓	Not applicable

Prepared By:	Reviewed By:	Endorsed By:
Name: Muhammad Hannan Yousaf Designation: Env Specialist Signature	Name: Tehmina Kiran Designation: PO ESM-PMDFC Signature	Name: Muhmmad Ahmad Designation: MOI&S Signature

Involuntary Resettlement Screening Checklist

Name of City/MC/LG: Jehlum
ESFP: Muhammad Dawood MOP

Sub-Project Sector: Parks

Sub-Project Title: Construction of New Kala Gujran Park in Jhelum 5 acre

Sub- Project Categorization:S-2

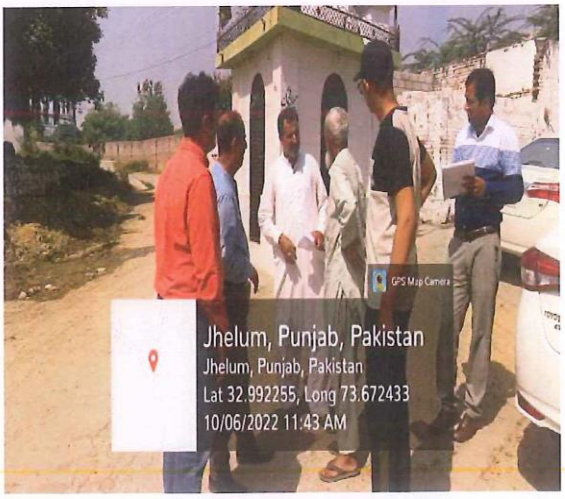
Date of Screening: 10-9-2022

Screening Questions	Yes	No	Expected	Remarks
Does the project require land acquisition? Yes/No		✓		MC onwed land
If yes, then describe the type of land being acquired from the categories below:		✓		Not applicable
Has any AED been conducted at the proposed location by the government1? Yes/No		✓		No AED has been conducted at the propsoed site.
Land (Quantify and describe types of land being acquired in "remarks column".		✓		Not applicable
Government and LG owned land free of occupation (agriculture or settlement)		✓		Not applicable
Government or state-owned land (other than LG) free of occupation (agriculture or settlement)		✓		Not applicable
Private land		✓		Not applicable
Residential		✓		Not applicable
Commercial		✓		Not applicable
Agricultural		✓		Not applicable
Communal		✓		Not applicable
Others (specify in "remarks").		✓		Not applicable
Name of owner/owners and type of ownership document if available.		✓		Not applicable
If land is being acquired, describe any structures constructed on it		✓		Not applicable
Land-based assets:		✓		Not applicable
Residential structures		✓		Not applicable
Commercial structures (specify in "remarks")		✓		Not applicable
Community structures (specify in "remarks")		✓		Not applicable
Agriculture structures (specify in "remarks")		✓		Not applicable
Public utilities (specify in "remarks")		✓		Not applicable
Others (specify in "remarks")		✓		Not applicable
If agricultural land is being acquired, specify the following:		✓		Not applicable
Agriculture related impacts		✓		Not applicable
Crops and vegetables (specify types and cropping area in "remarks).		✓		Not applicable

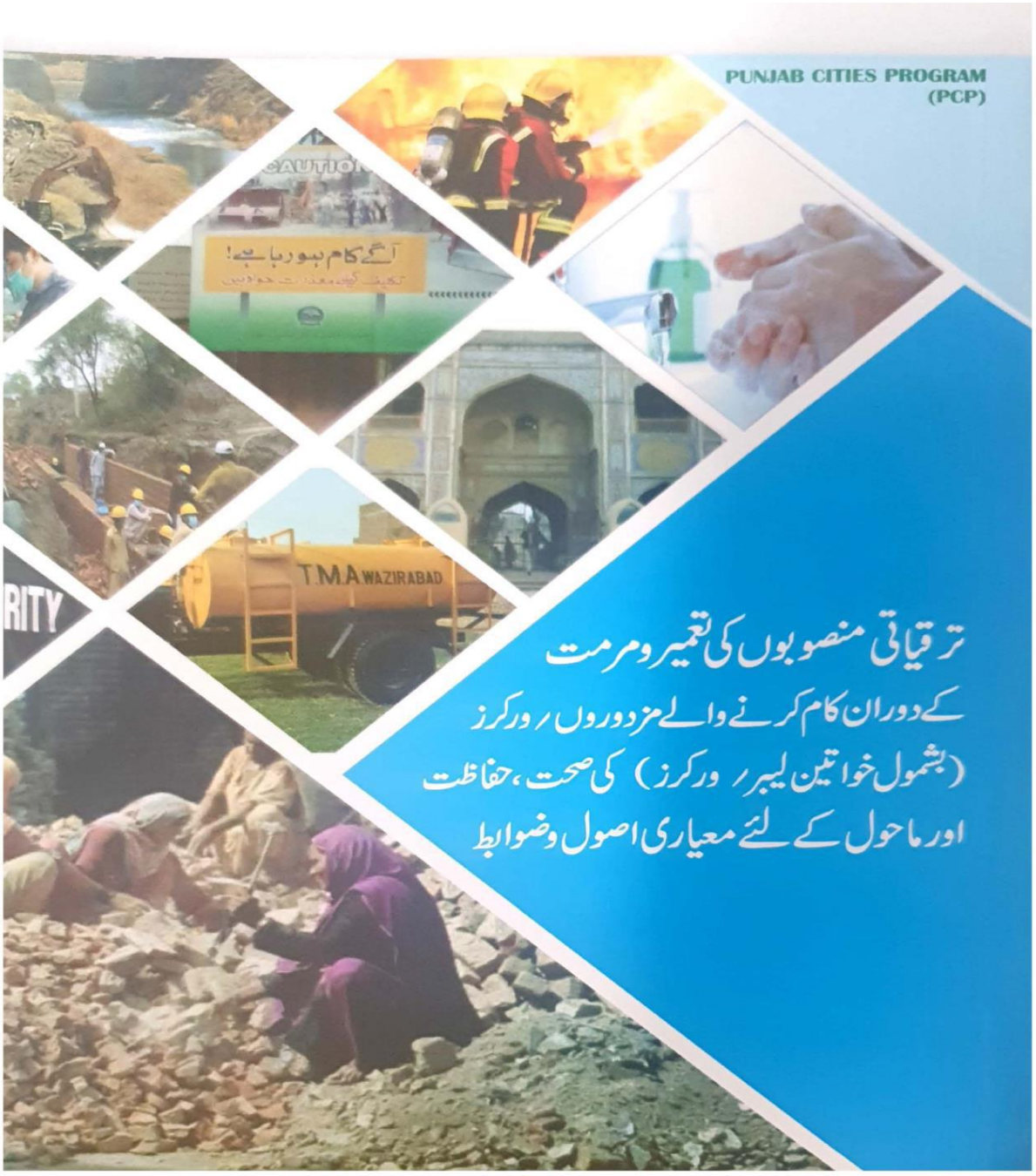
Trees (specify number and types in “remarks”).		✓		Not applicable
Others (specify in “remarks”).		✓		Not applicable
Affected Persons (APs)		✓		Not applicable
Will any people be displaced from the land when acquired? Yes/No		✓		Not applicable
Number of APs		✓		Not applicable
Males		✓		Not applicable
Females		✓		Not applicable
Titled landowners		✓		Not applicable
Tenants and sharecroppers		✓		Not applicable
Leaseholders		✓		Not applicable
Agriculture wage laborers		✓		Not applicable
Encroachers and squatters (specify in remarks column)		✓		Not applicable
Vulnerable APs (e.g. women headed households, minors and aged, orphans, disabled persons, and those below the poverty line). Specify the number and vulnerability in “remarks”.		✓		Not applicable
Others (specify in “remarks”)		✓		Not applicable
How will people be affected?		✓		Not applicable

Prepared By:	Reviewed By:	Endorsed By:
Name: Nasir Altaf Designation:Social Safeguards Specialist Signature	Name: Tehmina Kiran Designation:PO ESM-PMDFC Signature	Name: Muhmmad Dawood Designation: MOP Signature

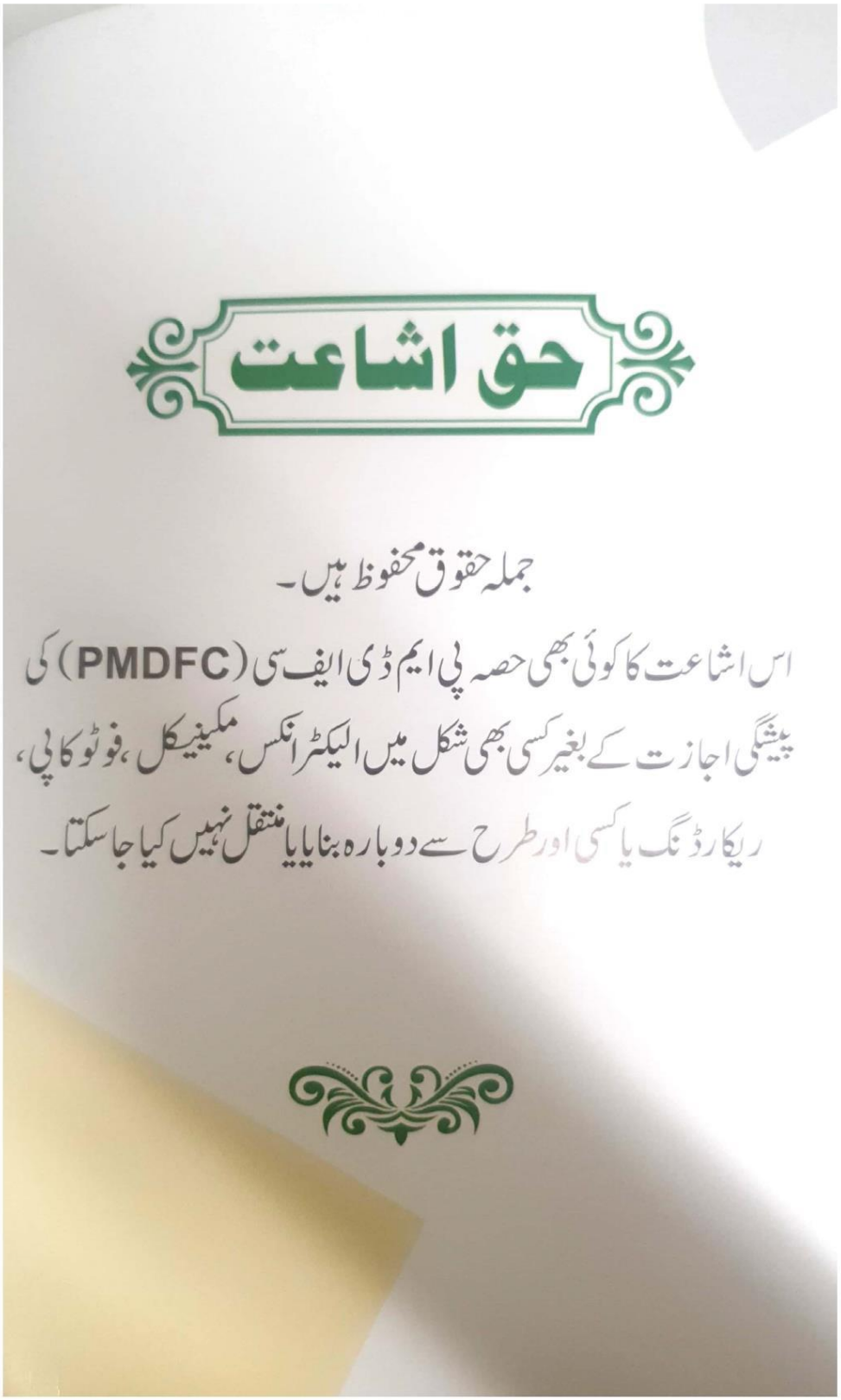
Pictures of Peer Azmat kala Gujran park Jhelum Field Visit



Annexure C: EHS SOPS for Labors/Workers (Including Women Labor/worker) for Construction of Development Project, (URDU)



Scanned with CamScanner



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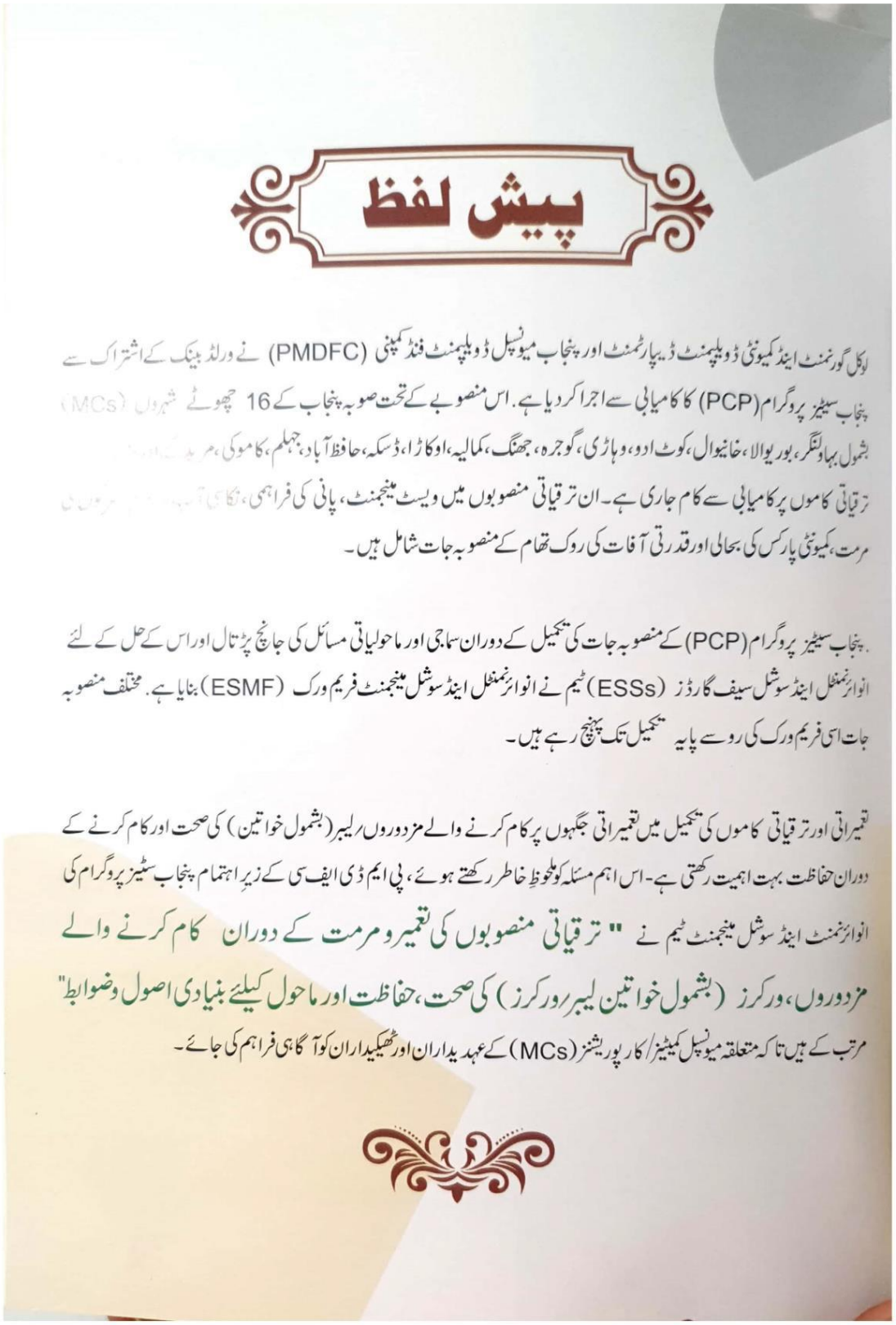
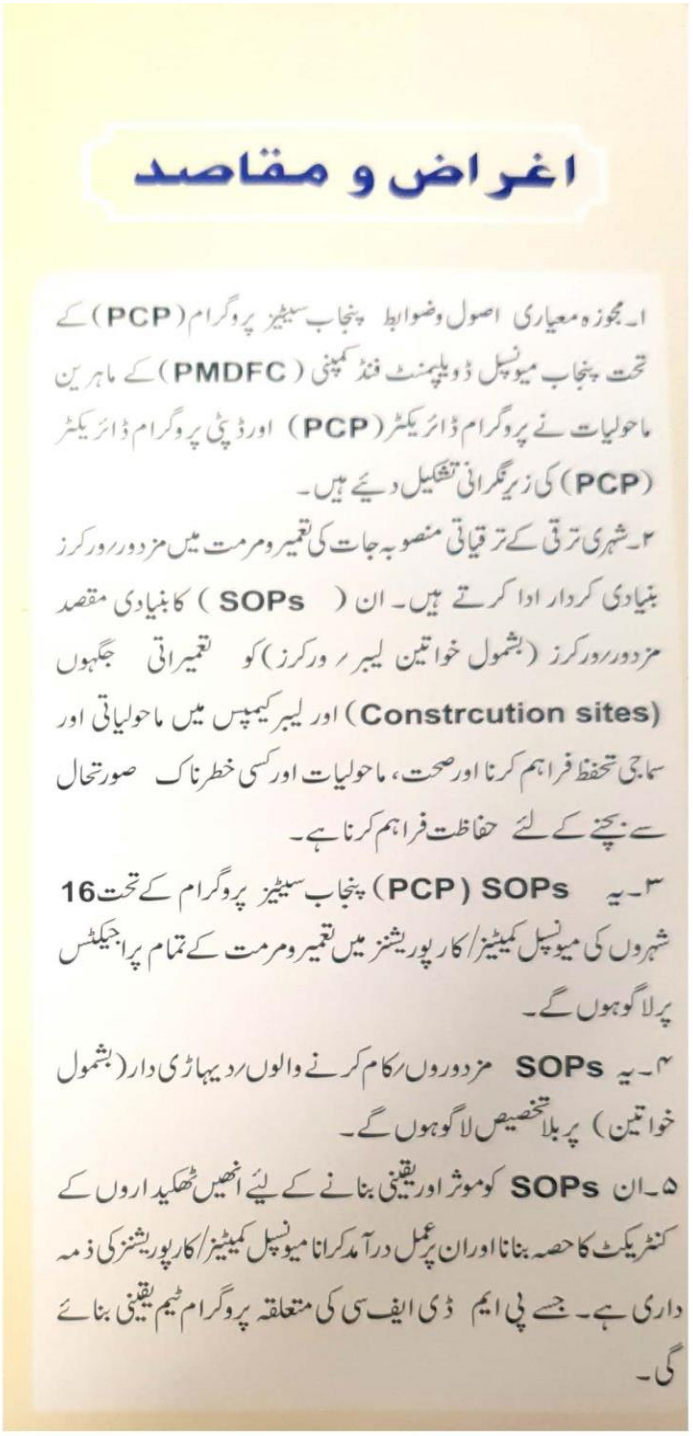


پیش لفظ

لوکل گورنمنٹ اینڈ کمیونٹی ڈویلپمنٹ ڈیپارٹمنٹ اور پنجاب میونسپل ڈویلپمنٹ فنڈ کمپنی (PMDFC) نے ورلڈ بینک کے اشتراک سے پنجاب سیٹیز پروگرام (PCP) کا کامیابی سے اجرا کر دیا ہے. اس منصوبے کے تحت صوبہ پنجاب کے 16 چھوٹے شہروں (MCs) بشمول بہاولنگر، بوریوالا، خانیوال، کوٹ ادو، وہاڑی، گوجرہ، جھنگ، کمالیہ، اوکاڑا، ڈسکہ، حافظ آباد، جہلم، کاموکی، مرمت، کمیونٹی پارکس کی بحالی اور قدرتی آفات کی روک تھام کے منصوبہ جات شامل ہیں۔

پنجاب سیٹیز پروگرام (PCP) کے منصوبہ جات کی تکمیل کے دوران سماجی اور ماحولیاتی مسائل کی جانچ پڑتال اور اس کے حل کے لئے انوائرنمنٹل اینڈ سوشل سیف گارڈز (ESSs) ٹیم نے انوائرنمنٹل اینڈ سوشل مینجمنٹ فریم ورک (ESMF) بنایا ہے. مختلف منصوبہ جات اسی فریم ورک کی رو سے پایہ تکمیل تک پہنچ رہے ہیں۔

تعمیراتی اور ترقیاتی کاموں کی تکمیل میں تعمیراتی جگہوں پر کام کرنے والے مزدوروں/لیبر (بشمول خواتین) کی صحت اور کام کرنے کے دوران حفاظت بہت اہمیت رکھتی ہے۔ اس اہم مسئلہ کو ملحوظِ خاطر رکھتے ہوئے، پی ایم ڈی ایف سی کے زیرِ اہتمام پنجاب سٹیز پروگرام کی انوائرنمنٹ اینڈ سوشل مینجمنٹ ٹیم نے **"ترقیاتی منصوبوں کی تعمیر و مرمت کے دوران کام کرنے والے مزدوروں، ورکرز (بشمول خواتین لیبر رورکرز) کی صحت، حفاظت اور ماحول کیلئے بنیادی اصول وضوابط"** مرتب کے ہیں تاکہ متعلقہ میونسپل کمیٹیز/کارپوریشنز (MCs) کے عہدیداران اور ٹھیکیداران کو آگاہی فراہم کی جائے۔



اغراض و مقاصد

۱۔ مجوزہ معیاری اصول وضوابط پنجاب سیٹیز پروگرام (PCP) کے تحت پنجاب میونسپل ڈویلپمنٹ فنڈ کمپنی (PMDFC) کے ماہرین ماحولیات نے پروگرام ڈائریکٹر (PCP) اور ڈپٹی پروگرام ڈائریکٹر (PCP) کی زیرنگرانی تشکیل دیئے ہیں۔

۲۔ شہری ترقی کے ترقیاتی منصوبہ جات کی تعمیر ومرمت میں مزدور/ورکرز بنیادی کردار ادا کرتے ہیں۔ ان (SOPs) کا بنیادی مقصد مزدور/ورکرز (بشمول خواتین لیبر/ورکرز) کو تعمیراتی جگہوں (Constrcution sites) اور لیبر کیمپس میں ماحولیاتی اور سماجی تحفظ فراہم کرنا اور صحت، ماحولیات اور کسی خطرناک صورتحال سے بچنے کے لئے حفاظت فراہم کرنا ہے۔

۳۔ یہ SOPs (PCP) پنجاب سیٹیز پروگرام کے تحت 16 شہروں کی میونسپل کمیٹیز/کارپوریشنز میں تعمیر ومرمت کے تمام پراجیکٹس پر لاگو ہوں گے۔

۴۔ یہ SOPs مزدوروں/کام کرنے والوں/دیہاڑی دار (بشمول خواتین) پر بلاتخصیص لاگو ہوں گے۔

۵۔ ان SOPs کو موثر اور یقینی بنانے کے لئے انھیں ٹھیکیداروں کے کنٹریکٹ کا حصہ بنانا اور ان پر عمل درآمد کرانا میونسپل کمیٹیز/کارپوریشنز کی ذمہ داری ہے۔ جسے پی ایم ڈی ایف سی کی متعلقہ پروگرام ٹیم یقینی بنائے گی۔

پیغام

پاکستان کی ترقی میں تعمیراتی کاموں کے دوران کام کرنے والا مزدور طبقہ نہایت اہمیت کا حامل ہے اور انکے صحت وتندرستی سے متعلق مسائل کا مؤثر حل انتہائی ضروری ہے۔ "ترقیاتی منصوبوں کی تعمیر و مرمت کے دوران کام کرنے والے مزدوروں/ورکرز (بشمول خواتین لیبر/ورکرز) کی صحت، حفاظت اور ماحول کیلئے بنیادی اصول وضوابط" کی اشاعت و ترویج اوران پر بروقت عمل درآمد بے حد ضروری ہے جس سے اس طبقے کے بنیادی حقوق کا تحفظ یقینی بنایا جا سکے گا اور اس طرح اس طبقے کی کارکردگی میں بھی بہتری نظر آئے گی۔ ان اصولوں کے تحت ہر ٹھیکیدار کو ورکرز کی صحت اور حفاظت کی ذمہ داری دی گئی ہے۔ مزدور تعمیراتی کاموں کے دوران خطرات کے مطابق ذاتی حفاظتی سامان بھی استعمال کریں گے جس سے دوران کام حادثات میں بھی نمایاں کمی نظر آئے گی۔ ماحولیات اور صحت کے اصولوں کو مدنظر رکھتے ہوئے ہر سطح پر ہم اس بات کو یقینی بنانے کی کوشش کریں گے کہ ہماری پالیسیاں اور طرز عمل فعال ہوں۔ ماحولیات، صحت اور حفاظت (EHS) کے اصولوں کو اپنانے میں کسی بھی قسم کا سمجھوتہ نہیں کیا جائے گا۔ میں امید کرتا ہوں کہ ان اصول وضوابط کی روشنی میں مزدور/ورکرز (بشمول خواتین لیبر) کے حقوق کی پاسداری کو ایک نیا رخ ملے گا اور حکومتی عہدیداران اور ٹھیکیداران بھی اپنی ذمہ داریوں کا احساس کریں گے۔ اوراس سلسلے میں پی ایم ڈی ایف سی اور پنجاب سیٹیز پروگرام کی انوائرنمنٹ اینڈ سوشل سیف گارڈز (ESSs) ٹیم بلاشبہ مبارکباد کی مستحق ہے اور یہ توقع کی جا سکتی ہے کہ وہ مستقبل میں ان قواعد وضوابط کی نگرانی کے لئے بھرپور اقدامات کریں گے۔

محمد عامر نذیر
پروگرام ڈائریکٹر
پنجاب سیٹیز پروگرام (PCP)

(۱) لیبر کیمپس کے لئے معیاری اصول و ضوابط

سرگرمیاں

۱. مزدور / لیبر کیلئے عارضی کیمپ / رہائش گاہ کے انتظام و قیام کے لئے جگہ کا انتخاب

مسائل

- مقامی آبادی کے وسائل پر اضافی بوجھ
- مقامی آبادی سے تنازعات کا خدشہ
- سماجی، مذہبی، اور سکیورٹی کے مسائل۔

حفاظتی اقدامات

ٹھیکیدار لیبر کیمپس کے قیام کے وقت مندرجہ ذیل باتوں کا خیال رکھے گا:

- کیمپس ایسی جگہوں پر لگائے جائیں جو ماحولیاتی، مذہبی، سماجی اور ثقافتی نقطہ نظر سے قابل قبول ہوں۔
- مقامی آبادی کے ساتھ کسی تنازعہ سے بچنے کے لیئے آبادی سے دور جگہ کا انتخاب کیا جائے
- لیبر کیمپ کی جگہ اور سہولیات سے متعلق ایک تفصیلی نقشہ تیار کر کے متعلقہ میونسپل کمیٹی / کارپوریشن میں جمع کرایا جائے۔
- دیگر مقامی ادارے جیسے صحت، سکیورٹی وغیرہ کو لیبر کیمپ کے مقام اور مدت کے بارے مطلع کیا جائے تا کہ کسی ناگہانی صورتحال سے بچا جا سکے۔
- لیبر کیمپس کے قیام کیلیئے عارضی جگہ / زمین کا حصول زمین کے مالک کی مرضی، طے کردہ کرایہ اور باقاعدہ تحریری معاہدے کی صورت میں کیا جائے۔
- لیبر کیمپس سے ملحقہ بنیادی سہولتوں جیسے پینے کا پانی اور نکاسی آب کے انتظامات سے ماحولیاتی آلودگی میں اضافہ نہ ہو

سرگرمیاں

۲۔لیبر کیمپ میں مہیا کی جانے والی سہولیات

مسائل

- مناسب انفراسٹرکچر کی کمی
- بنیادی ضروریات اور سہولیات جیسے پانی اور بجلی کی فراہمی، صفائی ستھرائی کی سہولیات اور نکاسی آب کی فراہمی

حفاظتی اقدامات

ٹھیکیدار کیمپ سائٹس پر درج ذیل باتوں کا خیال رکھے گا:

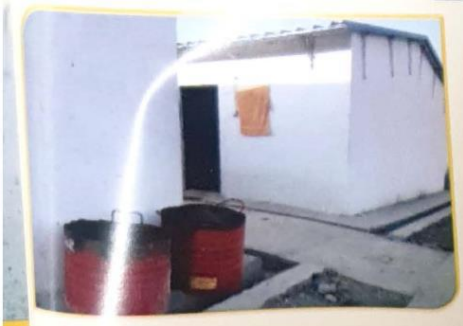
- ہوادار اور صاف ستھری رہائش گاہ
- عارضی کمروں کیلئے ایسے میٹریل کا استعمال جو جلد آگ نہ پکڑیں۔
- نہانے، دھونے اور پانی پینے کیلئے صاف اور مناسب پانی کی فراہمی۔
- تمام مزدوروں کیلئے مناسب جگہ کی موجودگی اور محفوظ ماحولیاتی معیار۔
- صاف ستھرے واش رومز اور نکاسی آب کا مناسب انتظام۔
- خواتین لیبر کیلئے پردے اور پرائیویسی کا انتظام اور الگ کمروں کا قیام مزید براں خواتین لیبر کی موجودگی کی صورت میں اُنکے لیے علیحدہ ٹوائلٹس رواش رومز کا انتظام۔
- بین الاقوامی معیار کے مطابق ہر دس افراد کیلئے مطلوبہ ٹوائلٹ کی سہولت کی تعداد ایک ہے۔
- اگر لیبر کیمپ طویل مدت کیلئے لگایا جانا ہو تو بارشوں رسیلاب کے پانی سے بچنے کیلئے مناسب انتظامات کا ہونا اور نکاسی آب کی فراہمی بے حد ضروری ہے۔
- ٹوائلٹس اور عارضی رہائش گاہوں میں بجلی کی فراہمی کو یقینی بنایا جائے۔

سرگرمیاں

۳۔ لیبر کیمپ سے پیدا ہونے والا سالڈ اور لیکوئڈ ویسٹ

مسائل

- تعفن اور بدبو
- صحت کے لئے نقصان
- ماحولیات کے لئے نقصان
- مقامی آبادی کے لئے نقصان
- بیماریاں پیدا کرنے والے بیکٹیریا اور مچھروں کا ذریعہ



حفاظتی اقدامات

- روزمرہ پیدا ہونے والے کوڑا کرکٹ اور کچن کے کوڑا کرکٹ کے لیے الگ الگ کوڑا دانوں کا انتظام
- میونسپل کمیٹی رکارپوریشن کی جانب سے منتخب کردہ جگہ پر روزانہ کی بنیاد پر کوڑے کو اٹھانے اور تلف کرنے کا مناسب انتظام۔
- عارضی ٹوائلٹس سے پیدا شدہ فضلے اور لیکوئیڈ ویسٹ کو حفظان صحت کے اصولوں کے مطابق ٹھکانے لگانے کا انتظام۔
- فضلے کو ٹھکانے لگانے کے لیئے رہائش گاہ سے کم از کم 500 میٹر دور جگہ کا انتخاب کیا جائے جس کے اردگرد لوگوں کی رہائش نہ ہو۔
- عارضی ٹوائلٹس سے پیدا شدہ فضلے کو ٹھکانے لگانے کے لیئے منتخب کردہ جگہ کے اردگرد باڑ لگائی جائے یا درخت لگا دیے جائیں تا کہ بچے اور دیگر رہائشی داخل نہ ہوں اور مچھر اور بدبو بھی پیدا نہ ہو۔

سرگرمیاں

٤۔ کھانا پکانے کے لئیے ایندھن کی فراہمی

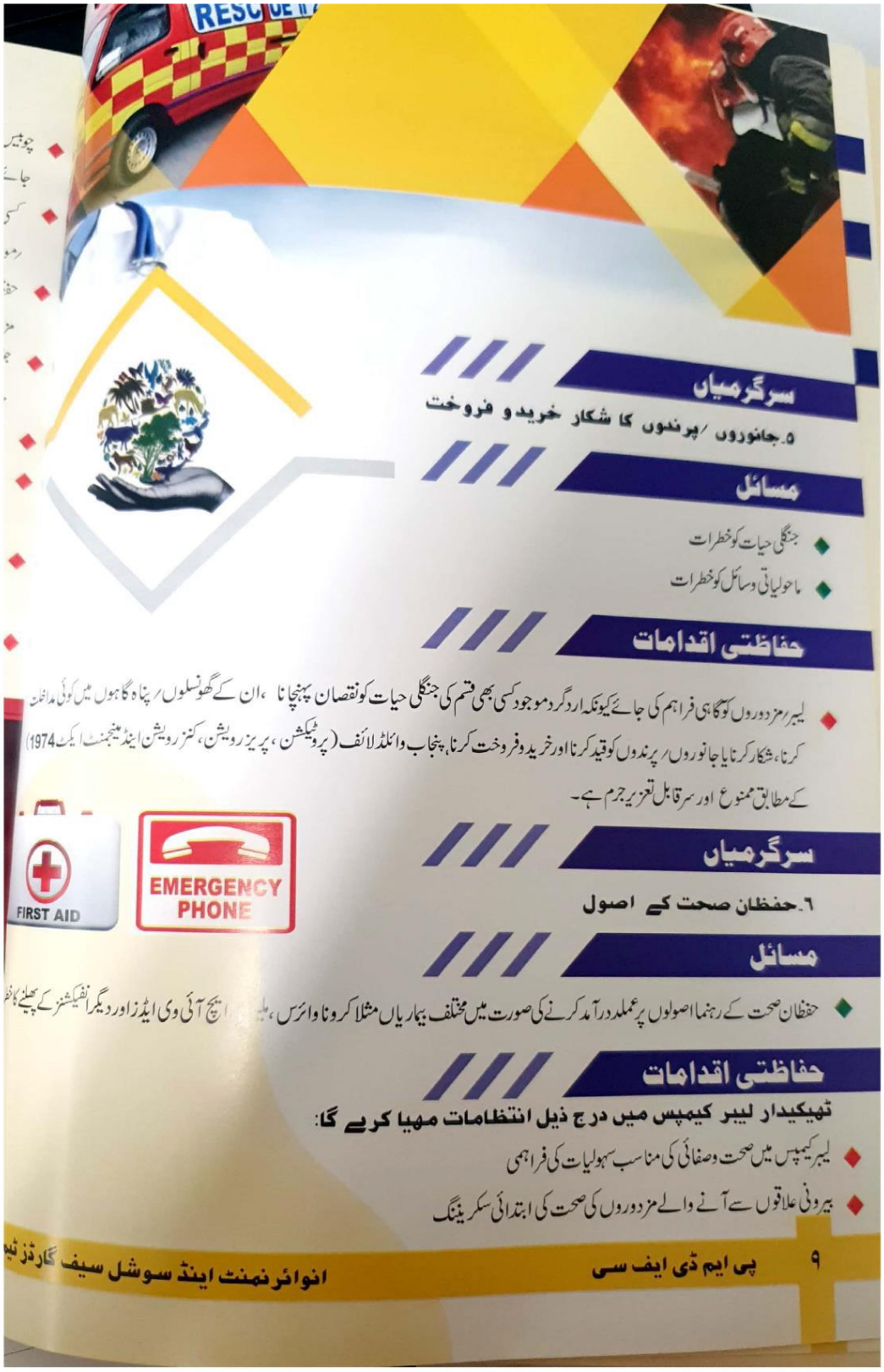
مسائل

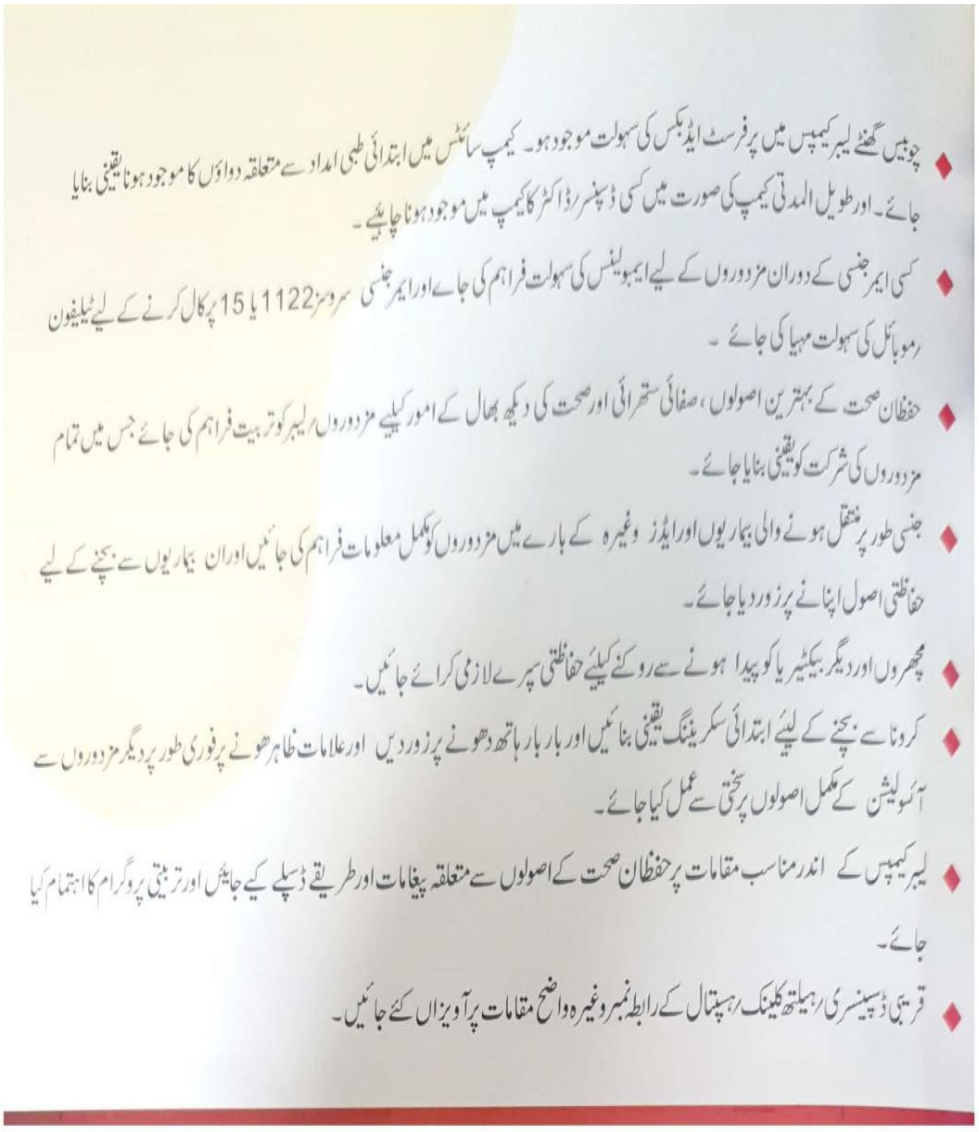
- گیس اور دیگر ایندھن سے چلنے والے چولہوں کے پھٹنے کا اندیشہ
- ایندھن کے لیئے لکڑی کے حصول کے لیے درختوں کی کٹائی

حفاظتی اقدامات

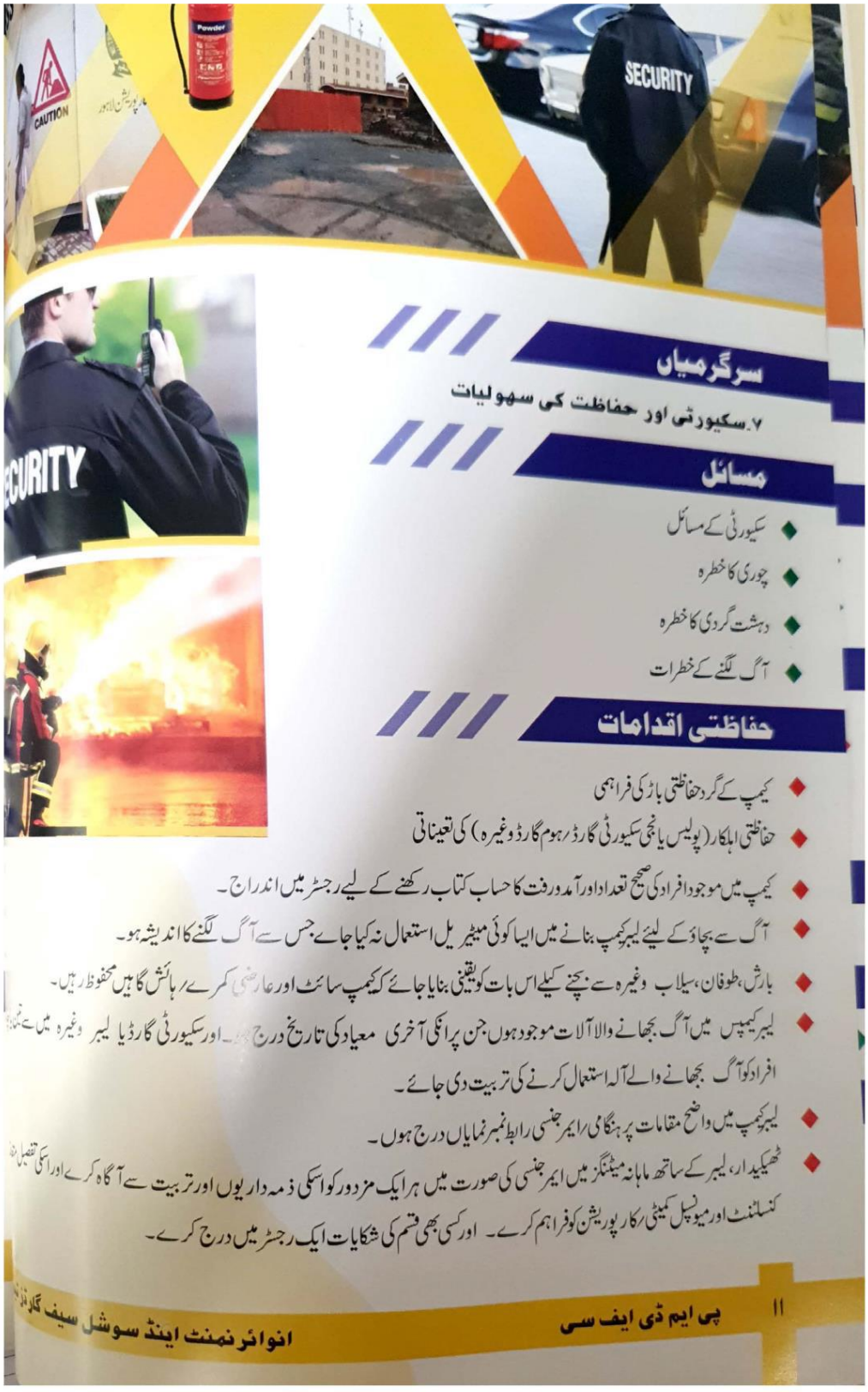
ٹھیکیدار کیمپ سائٹس پر درج ذیل سہولیات مہیا کرے گا۔

- لیبر کیمپس میں کھانا پکانے، کمروں کو گرم رکھنے نیز سردیوں میں نہانے اور دھونے کے لیے گرم پانی کے لیے ایندھن کی لکڑی یا دیگر بائیو گیس استعمال کرنے کی حوصلہ شکنی کریں اور ایندھن کیلیے درختوں کی کٹائی نہ کریں۔
- درختوں اور اردگرد جنگلات کی حفاظت کیلیے مزدوروں رلیبر کو آگاہی دی جائے۔
- کھانا پکانے کے لیئے قدرتی گیس یا مٹی کے تیل کے محفوظ چولہے استعمال کیے جائیں۔





- چوبیس گھنٹے لیبر کیمپس میں پر فرسٹ ایڈ بکس کی سہولت موجود ہو۔ کیمپ سائٹس میں ابتدائی طبی امداد سے متعلقہ دواؤں کا موجود ہونا یقینی بنایا جائے۔ اور طویل المدتی کیمپ کی صورت میں کسی ڈسپنسر/ڈاکٹر کا کیمپ میں موجود ہونا چاہیئے۔
- کسی ایمرجنسی کے دوران مزدوروں کے لیے ایمبولینس کی سہولت فراہم کی جائے اور ایمرجنسی سروسز 1122 یا 15 پر کال کرنے کے لیے ٹیلیفون /موبائل کی سہولت مہیا کی جائے ۔
- حفظان صحت کے بہترین اصولوں، صفائی ستھرائی اور صحت کی دیکھ بھال کے امور کیلیے مزدوروں/لیبر کو تربیت فراہم کی جائے جس میں تمام مزدوروں کی شرکت کو یقینی بنایا جائے۔
- جنسی طور پر منتقل ہونے والی بیماریوں اور ایڈز وغیرہ کے بارے میں مزدوروں کو مکمل معلومات فراہم کی جائیں اور ان بیماریوں سے بچنے کے لیے حفاظتی اصول اپنانے پر زور دیا جائے۔
- مچھروں اور دیگر بیکٹیریا کو پیدا ہونے سے روکنے کیلئے حفاظتی سپرے لازمی کرائے جائیں۔
- کرونا سے بچنے کے لیئے ابتدائی سکریننگ یقینی بنائیں اور بار بار ہاتھ دھونے پر زور دیں اور علامات ظاہر ہونے پر فوری طور پر دیگر مزدوروں سے آئسولیشن کے مکمل اصولوں پر سختی سے عمل کیا جائے۔
- لیبر کیمپس کے اندر مناسب مقامات پر حفظان صحت کے اصولوں سے متعلقہ پیغامات اور طریقے ڈسپلے کیے جائیں اور تربیتی پروگرام کا اہتمام کیا جائے۔
- قریبی ڈسپنسری/ہیلتھ کلینک/ہسپتال کے رابطہ نمبر وغیرہ واضح مقامات پر آویزاں کئے جائیں۔



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سرگرمیاں

۸۔ حفظان صحت کے اصولوں پر مبنی خوراک (Food Safety)

مسائل

- فوڈ پوائزننگ کا خدشہ
- بیماری کا ڈر

حفاظتی اقدامات

- مزدوروں کو صاف ستھرے اور تازہ کھانے کی فراہمی کو یقینی بنایا جائے۔

سرگرمیاں

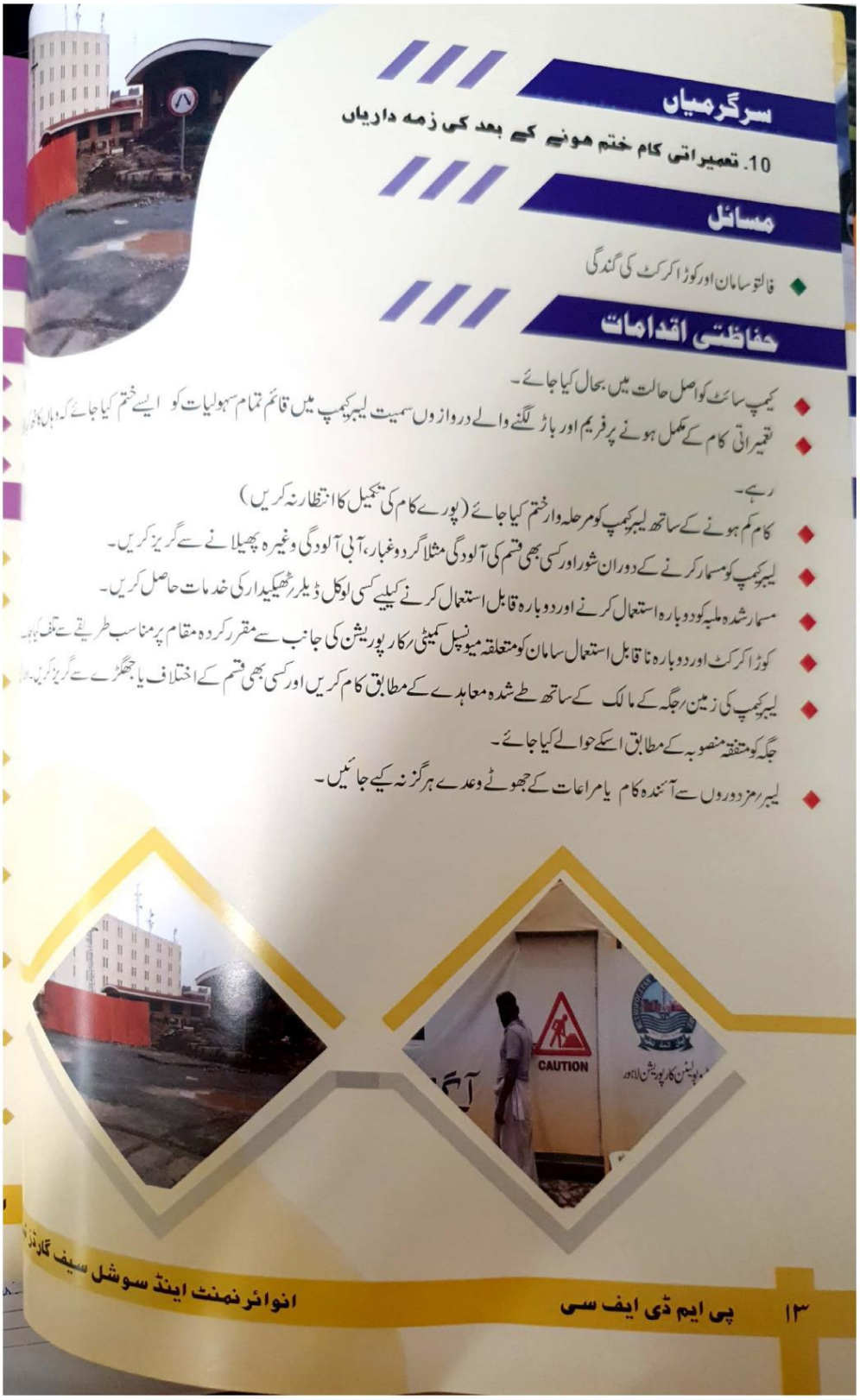
۹۔ مذہبی و سماجی میل جول

مسائل

- مذہبی عبادات میں رکاوٹ
- سماجی تعلقات میں دشواری
- سماجی، ثقافتی اور مذہبی خیالات میں شدت پسندی یا لڑائی جھگڑا وغیرہ

حفاظتی اقدامات

- مزدوروں/لیبر کو ان کے مذہب اور فرقے کے مطابق مذہبی عبادات کی سہولیات فراہم کرنا۔
- خواتین لیبر کی موجودگی کی صورت میں ان کے لیے علیحدہ وضو، نماز اور پردے کا اہتمام کیا جائے۔
- تمام مزدوروں کی مذہبی، ثقافتی یا فرقے کی وابستگی سے قطع نظر غیر متعصّبانہ اور برابری کا سلوک کیا جائے۔
- مزدوروں کو تعمیراتی کام کے دوران نماز میں شرکت کرنے یا دیگر عبادات کی اجازت دی جائے اور اس سلسلے میں مذہبی اور سکیورٹی امور کے ذمہ دار مقامی حکام کو تعمیراتی کاموں کے آغاز سے پہلے باضابطہ طور پر آگاہ کیا جائے تاکہ صحت عامہ، معاشرتی اور حفاظتی امور پر موثر نگرانی برقرار رہ سکے۔



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سرگرمیاں

۱۔تمام قسم کے تعمیراتی سرگرمیاں اور کام

مسائل

- انجریز اور چوٹیں وغیرہ
- نامناسب دیکھ بھال اور بروقت امداد نہ ملنے کے باعث ہلاکت
- دہشت گردی اور سکیورٹی سے متعلق خطرات

حفاظتی اقدامات

- تمام مزدوروں/لیبر سے مقامی/بین الاقوامی معیار کے مطابق مناسب حفاظتی اور قانونی ضوابط کی پیروی کروائی جائے۔
- کام کی جگہ پر اردگرد کے علاقوں میں موجود دہشت گردی اور سکیورٹی کے خطرات کے مطابق حکمت عملی کی بروقت تیاری اور ایک محفوظ و صحت مند ماحول مہیا کیا جائے۔
- مزدوروں/لیبر کیلیے ذاتی حفاظت کے سامان (PPEs) کی فراہمی مثلاً حفاظتی جوتے، ہیلمٹ، ماسک، دستانے، حفاظتی لباس، چشمے، چہرے اور کان کی حفاظت کے سامان وغیرہ کی فراہمی
- تمام مزدوروں/لیبر کو ذاتی حفاظت کے ساز و سامان کے بارے میں مکمل آگاہی اور استعمال کے طریقے کار کے بارے تربیت کا انتظام۔
- اگر تعمیراتی کام ایک ماہ سے زائد عرصہ کیلئے جاری رہنا ہو تو تمام مدت کے لیئے صحت، صفائی اور تربیت یافتہ ماحولیات کی تعیناتی کی جائے جو مزدوروں کی صحت، صفائی اور ماحولیات کے امور کی نگرانی کرے اور انھیں تربیت و آگاہی فراہم کرے۔
- تعمیراتی کاموں کے دوران کسی چوٹ لگنے/انجریز کی صورت میں مزدور/لیبر کے علاج معالجے کی سہولت مہیا کرنا اور بروقت ہسپتال/ڈسپنسری و غیرہ پہچانا ٹھیکیدار کی ذمہ داری ہے۔
- مزید برآں دوران تعمیر تعمیراتی کام کی وجہ سے لگنے والی چوٹ/انجریز کے نتیجے میں ہلاکت ہو جانے کی وجہ سے مزدور/لیبر کی انشورنس اور اس کی بروقت ادائیگی کو یقینی بنایا جائے۔
- ایمرجنسی رابطہ نمبر مثلاً ریسکیو 1122 یا 15 اور دیگر قریبی ہسپتالوں/ڈسپنسری وغیرہ کے نمبر تعمیراتی جگہوں پر واضح درج ہونے چاہیں اور کال کی سہولت فراہم کی جائے۔
- شہری ترقی کے تعمیراتی منصوبہ جات کے اغاز سے قبل صحت، مذہبی امور اور شہری تحفظ/سکیورٹی فراہم کرنے والے مقامی اداروں کو آگاہ رکھا جائے اور اس سلسلے میں متعلقہ میونسپل کمیٹی/کارپوریشن کے تعاون سے موثر حکمت عملی تشکیل دی جائے۔

انوائرنمنٹ اینڈ سوشل سیف گارڈز ٹیم — پی ایم ڈی ایف سی ۴

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سرگرمیاں

۲۔تمام قسم کی تعمیراتی سرگرمیاں اور کنسٹرکشن کے کام

مسائل

- 15 سال سے کم عمر بچوں کی صحت اور تعلیم کا نقصان
- 18 سال اور اس سے کم عمر بچوں کی صحت کا نقصان
- حاملہ مزدور عورتوں کی صحت سے متعلقہ خطرات

حفاظتی اقدامات

- دی پنجاب رسٹرکشن آن ایمپلائمنٹ آف چلڈرن ایکٹ 2016 کے مطابق 15 سال سے کم عمر بچوں کو مزدوری یا کسی سرگرمی کے لیئے کام پر نہیں رکھا جاسکتا۔
- ویسٹ پاکستان میٹرنٹی بینیفٹ آرڈیننس 1958 کے مطابق حاملہ خواتین یا ایسی خواتین جنہوں نے چھ ہفتے قبل بچے کو جنم دیا ہو، کو مزدوری یا کسی سرگرمی کے لیئے کام پر نہیں رکھا جاسکتا۔
- دی پنجاب رسٹرکشن آن ایمپلائمنٹ آف چلڈرن ایکٹ 2016 کے مطابق 18 سال اور اس سے کم عمر کے بچوں کہ محنت مزدوری کے ایسے کام کے لیے نہیں رکھا جاسکتا جن میں صحت کو نقصان پہنچنے یا چوٹ لگنے یا کسی کیمیائی زہریلے مادے سے نقصان پہنچنے یا جہاں ہڈی ٹوٹنے کا اندیشہ ہو۔



سرگرمیاں

۳۔دوران تعمیر حادثات کا پیش آنا

مسائل

- فوری طبی امداد کی کمی
- اردگرد کے علاقوں میں ابتدائی طبی سہولیات اور صحت عامہ کا فقدان

حفاظتی اقدامات

- تعمیراتی جگہ پر فرسٹ ایڈ باکس کی موجودگی کہ یقینی بنایا جائے اور فرسٹ ایڈ باکس میں تمام ضروری ادویات اور طبی امداد کا ضروری سامان موجود ہو۔
- تعمیراتی کاموں کے دوران پیش آنے والے حادثات بیماریوں اور واقعات کا مکمل ریکارڈ رکھا جائے۔اسی طرح حادثات کی نوعیت و وجوہات کا مکمل ریکارڈ موجود ہو۔
- مزدوروں کی صحت و سکیورٹی سے متعلق ممکنہ خطرات کی بروقت نشاندہی کی جائے خاص کر وہ خطرات جو جان لیوا ثابت ہو سکتے ہیں۔اور ضروری حفاظتی اقدامات بروقت کئے جائیں۔
- تعمیراتی کاموں سے متعلق مشینری چلانے والے ڈرائیوروں کو دوران ڈرائیونگ قواعد وضوابط پر سختی سے عملدرآمد کرانے کے لئے آگاہی فراہم کی جائے۔
- تعمیراتی علاقوں اور سڑکوں کے ساتھ ساتھ روشنی کا معقول انتظام ہو۔

انوائرنمنٹ اینڈ سوشل سیف گارڈز ٹیم

پی ایم ڈی ایف سی ۱۶

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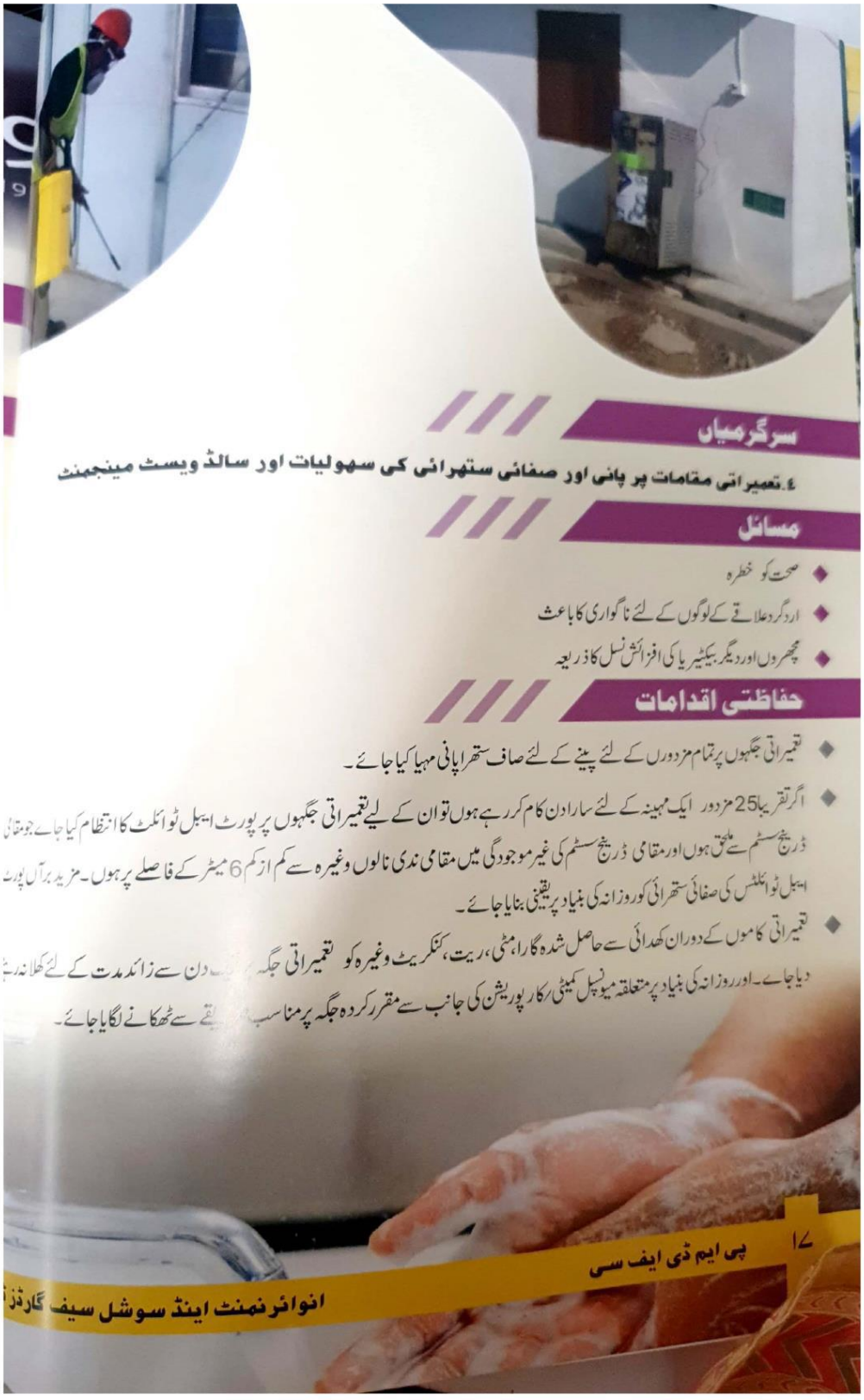


سرگرمیاں

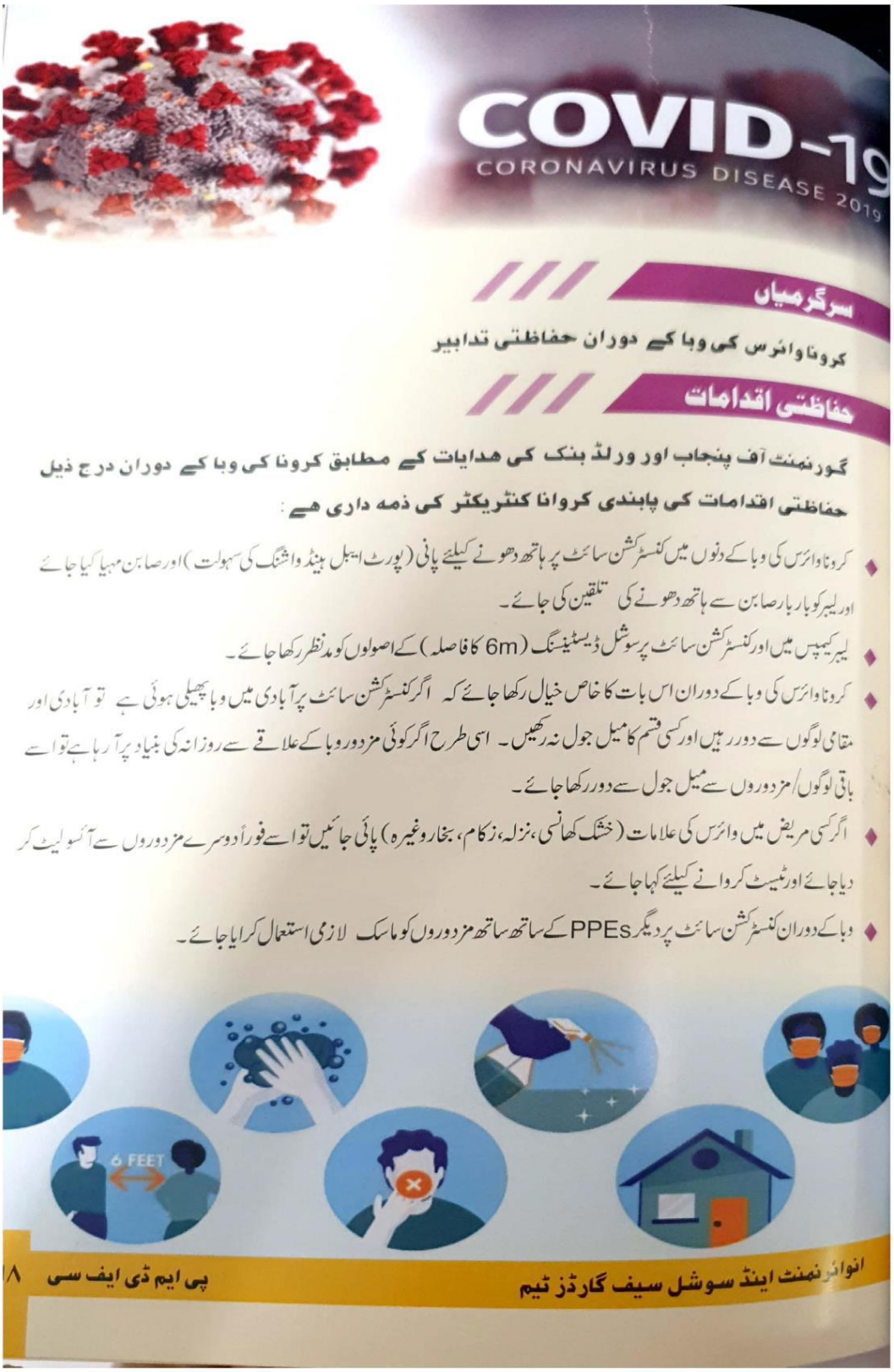
٤.تعمیراتی مقامات پر پانی اور صفائی ستھرائی کی سہولیات اور سالڈ ویسٹ مینجمنٹ

مسائل

- صحت کو خطرہ
- اردگرد علاقے کے لوگوں کے لئے ناگواری کا باعث
- مچھروں اور دیگر بیکٹیریا کی افزائش نسل کا ذریعہ

حفاظتی اقدامات

- تعمیراتی جگہوں پر تمام مزدوروں کے لئے پینے کے لئے صاف ستھرا پانی مہیا کیا جائے۔
- اگر تقریباً 25 مزدور ایک مہینہ کے لئے سارا دن کام کر رہے ہوں تو ان کے لیے تعمیراتی جگہوں پر پورٹ ایبل ٹوائلٹ کا انتظام کیا جائے جو مقامی ڈرینج سسٹم سے ملحق ہوں اور مقامی ڈرینج سسٹم کی غیر موجودگی میں مقامی ندی نالوں وغیرہ سے کم از کم 6 میٹر کے فاصلے پر ہوں۔ مزید برآں پورٹ ایبل ٹوائلٹس کی صفائی ستھرائی کو روزانہ کی بنیاد پر یقینی بنایا جائے۔
- تعمیراتی کاموں کے دوران کھدائی سے حاصل شدہ گارا، مٹی، ریت، کنکریٹ وغیرہ کو تعمیراتی جگہ [illegible] دن سے زائد مدت کے لئے کھلا نہ رہنے دیا جائے۔ اور روزانہ کی بنیاد پر متعلقہ میونسپل کمیٹی/کارپوریشن کی جانب سے مقرر کردہ جگہ پر مناسب [illegible] ذریعے سے ٹھکانے لگایا جائے۔



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تعمیراتی کاموں کے دوران خطرات/حادثات سے بچنے کیلئے سامان برائے ذاتی حفاظت کا خلاصہ

مقصد	تعمیراتی کام	تجویز کردہ سامان برائے ذاتی حفاظت	تصویریں
آنکھوں اور چہرے کی حفاظت/ تحفظ	اڑنے والے ذرات کا استعمال جیسے پگھلی ہوئی دھات مائع کیمیکل، گیسیں، اور بخارات، روشنی کی شعاعیں۔	حفاظتی عینکیں	
سر کی حفاظت/ تحفظ	ایسے تمام کام جن میں گرنے کا خطرہ ہو، بلندی پر کام کرنا، تعمیراتی کام کو سنبھالنے اور دوسری جگہ پر منتقل کرنے والے کام۔	اوپر اور اطراف سے نقصان سے بچاؤ کیلئے پلاسٹک کے ہیلمٹ	
سماعت کی حفاظت/ تحفظ	کھدائی/شور پیدا کرنے والے کام یا بھاری مشینری استعمال کرنے کی وجہ سے شور۔	سماعت کی حفاظت کے آلہ جات جیسے کن پوش یا ایئر پلگ	
پاؤں کی حفاظت/ تحفظ	تمام تعمیراتی کام جن میں چیزوں کا گرنا یا گھمانا، نوکیلی اشیا شامل ہوں۔ گلانے والا یا گرم مائع، کچرے کے ڈھیر سے کچرا اٹھانا۔	ملنے اور گرنے والی اشیاء، مائعات اور کیمیائی مواد سے بچاؤ کیلئے حفاظتی جوتے یا بوٹ	
ہاتھوں کی حفاظت/ تحفظ	جسمانی صحت کیلئے نقصان دہ سامان جیسے کچرے کو سنبھالنا، ایسے کام جس میں کاٹ یا گہرے زخم لگنے کا اندیشہ ہو، ارتعاش، بہت زیادہ درجہ حرارت۔	ربڑ یا مصنوعی مواد (نیوروپین)، چمڑا، سٹیل، غیر موصل مواد سے بنے گلوز	
تحفظ تنفس	دھول، دھند، شعلے، گیسیں، دھواں، بخارات	ایک جگہ سے دوسری جگہ لے جانے والے یا ایک ہی جگہ پڑے مواد کی فراہمی تعمیراتی جگہ پر بچاؤ کا سامان	
	آکسیجن کی کمی	چہرے کے ماسک جن میں دھول ہٹانے اور ہوا کو صاف رکھنے کیلئے (کیمیائی مواد، دھند، بخارات اور گیسوں سے) مناسب فلٹر لگے ہوں	
جسم / ٹانگوں کی حفاظت/ تحفظ	تمام کام جن میں شدید درجہ حرارت، نقصان دہ مواد، حیاتیاتی ایجنٹ، چھوٹے یا گہرے زخم لگنے کا اندیشہ ہو	مناسب میٹریل سے بنے غیر موصل کپڑے، ایپرن وغیرہ	
اونچائی پر کام کرتے ہوئے حفاظت	تمام تعمیراتی کام جو 4 فٹ یا اس سے زیادہ کی اونچائی پر کے جانے ہوں بشمول سٹریٹ لائٹس وغیرہ	ہیلمٹ، حفاظتی عینکیں، کے گلوز اور ربڑ کے بوٹ	
اونچائی پر کام کرتے ہوئے حفاظت	تمام تعمیراتی کام جو 4 فٹ یا اس سے زائد اونچائی پر مسلسل ایک دن کیلئے کیے جانے ہوں	اینکر، بیلٹ، رسی، کنیکٹر، ہ جگہ اور ایک ساتھی فرد	

Summary of Recommended Personal Protective Equipment According to Hazard

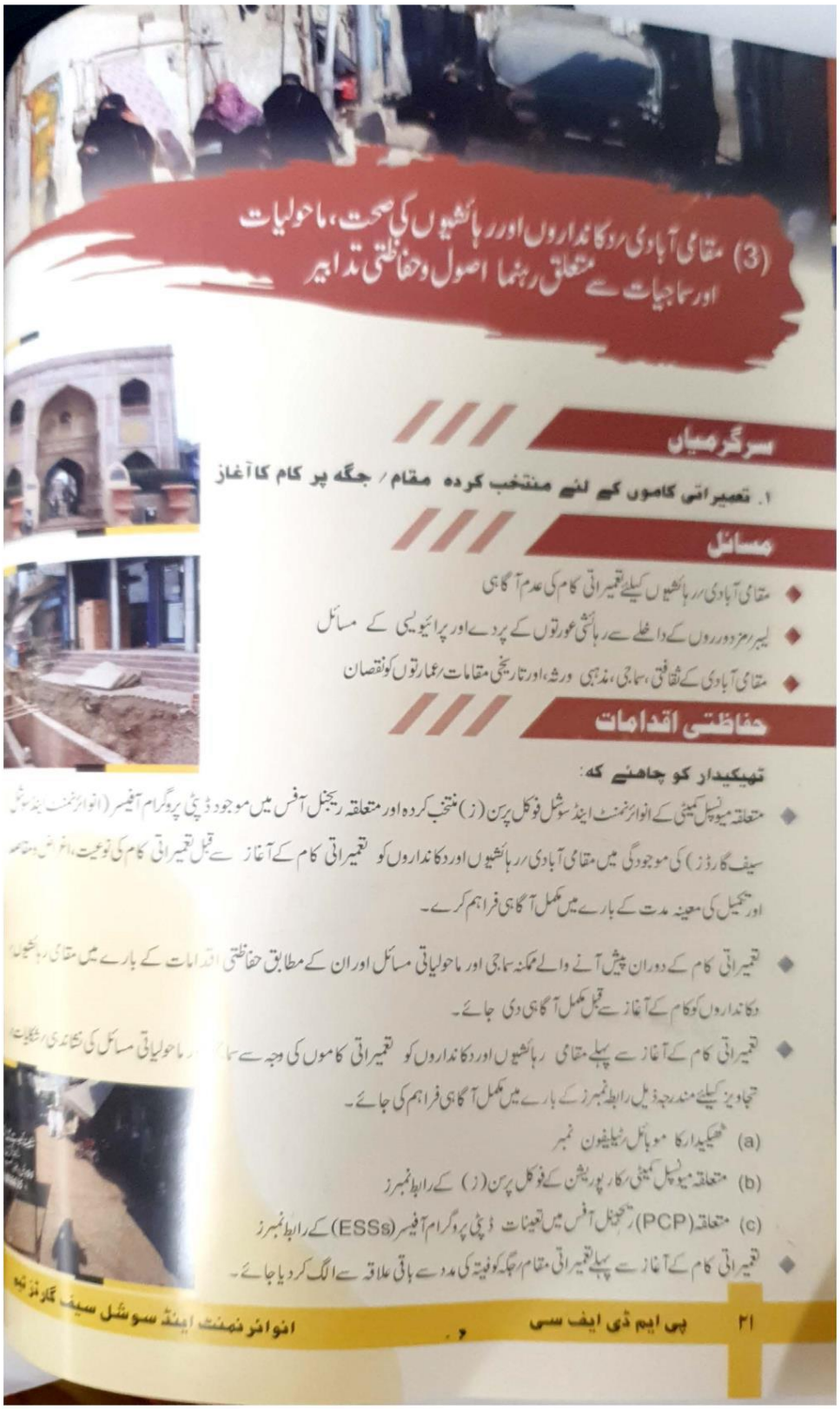
Objective	Workplace Hazards	Suggested PPE	Pictures
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.	
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.	
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or ear muffs).	
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.	
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.	
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available.	
	Oxygen deficiency	Portable or supplied air (fixed	
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and	Insulating clothing, body suits, aprons etc.	
Working at *height	Rehabilitation Projects	Helmet, Safety glasses,	
	New Construction Projects	Anchor, belt, lanyard,	

*In general, use of PPEs is required for any height of 4 ft or more. *Ref: OSHA standards*

۲۰ پی ایم ڈی ایف سی

وائرنمنٹ اینڈ سوشل سیف گارڈز ٹیم

Scanned with CamScanner



(3) مقامی آبادی ،دکانداروں اور رہائشیوں کی صحت، ماحولیات اور سماجیات سے متعلق رہنما اصول وحفاظتی تدابیر

سرگرمیاں

۱. تعمیراتی کاموں کے لئے منتخب کردہ مقام / جگہ پر کام کا آغاز

مسائل

- مقامی آبادی ،رہائشیوں کیلئے تعمیراتی کام کی عدم آگاہی
- لیبر/مزدوروں کے داخلے سے رہائشی عورتوں کے پردے اور پرائیویسی کے مسائل
- مقامی آبادی کے ثقافتی، سماجی، مذہبی ورثہ اور تاریخی مقامات/عمارتوں کو نقصان

حفاظتی اقدامات

ٹھیکیدار کو چاہئے کہ:

- متعلقہ میونسپل کمیٹی کے انوائرنمنٹ اینڈ سوشل فوکل پرسن (ز) منتخب کردہ اور متعلقہ ریجنل آفس میں موجود ڈپٹی پروگرام آفیسر (انوائرنمنٹ اینڈ سوشل سیف گارڈز) کی موجودگی میں مقامی آبادی ،رہائشیوں اور دکانداروں کو تعمیراتی کام کے آغاز سے قبل تعمیراتی کام کی نوعیت، اخراج متعلقہ اور تکمیل کی معینہ مدت کے بارے میں مکمل آگاہی فراہم کرے۔
- تعمیراتی کام کے دوران پیش آنے والے ممکنہ سماجی اور ماحولیاتی مسائل اور ان کے مطابق حفاظتی اقدامات کے بارے میں مقامی رہائشیوں/ دکانداروں کو کام کے آغاز سے قبل مکمل آگاہی دی جائے۔
- تعمیراتی کام کے آغاز سے پہلے مقامی رہائشیوں اور دکانداروں کو تعمیراتی کاموں کی وجہ سے سماجی/ ماحولیاتی مسائل کی نشاندہی/شکایات/ تجاویز کیلئے مندرجہ ذیل رابطہ نمبرز کے بارے میں مکمل آگاہی فراہم کی جائے۔
  - (a) ٹھیکیدار کا موبائل/ٹیلیفون نمبر
  - (b) متعلقہ میونسپل کمیٹی/کارپوریشن کے فوکل پرسن (ز) کے رابطہ نمبرز
  - (c) متعلقہ (PCP) ریجنل آفس میں تعینات ڈپٹی پروگرام آفیسر (ESSs) کے رابطہ نمبرز
- تعمیراتی کام کے آغاز سے پہلے تعمیراتی مقام/جگہ کو فینسنگ کی مدد سے باقی علاقہ سے الگ کر دیا جائے۔

تعمیراتی جگہ/مقام پر واضح بورڈ نصب کر دیے جائیں، جن پر درج ذیل پیغامات/احکامات لکھے ہوں:

(a) تعمیراتی کام کی نوعیت

(b) ٹریفک میں رکاوٹ کی صورت میں متبادل راستے کا نشان اور عارضی رکاوٹ کا پیغام

(c) ایمرجنسی اور شکایت کیلئے رابطہ نمبرز

(d) (PMDFC) کی جانب سے جاری کردہ سماجی و ماحولیاتی پیغامات پر مبنی پوسٹرز۔

تعمیراتی کام کی جگہ کے ارد گرد 100 میٹر تک کی حدود میں موجود ثقافتی، سماجی، مذہبی ورثہ، تاریخی عمارتوں اور مذہبی مقامات جیسے قبرستان، مساجد، مندر، گرجا گھروں وغیرہ کو کسی قسم کا نقصان نہ پہنچایا جائے اور ان کی حدود میں کوڑا کرکٹ ڈالنے یا فالتو پانی چھوڑنے سے گریز کیا جائے۔ مزید برآں کھدائی کے دوران کسی نئے آثارِ قدیمہ ملنے کی صورت میں متعلقہ مقامی محکمے سے رجوع کیا جائے اور کھدائی کا کام بند کر کے تعمیراتی کام روک دیا جائے۔

سرگرمیاں

2- کھدائی کی جگہ اور اس سے متعلقہ کام اور نالوں کی صفائی اور اس سے حاصل شدہ بھل وغیرہ

مسائل

- کھدائی سے حاصل شدہ مٹی/کنکر کے ڈھیر (Debris) سے رہائشیوں کی آمد و رفت اور ٹریفک میں رکاوٹ
- مقامی رہائشیوں کیلئے ناگواری کا باعث
- مچھروں اور دیگر بیماری پھیلانے والے جراثیم کی افزائش کا ذریعہ
- کھدائی کی جگہ پر گرنے اور حادثات کے خطرات

حفاظتی اقدامات

- تعمیر کے دوران کھدائی کے تمام مقامات کے اردگرد حفاظتی ٹیپ / پٹی لگائی جائے اور کھدائی کی جگہ کو عارضی طور پر بند کر دیا جائے جس کے باہر اس جگہ سے دور رہنے کیلئے واضح پیغامات لکھے ہوں۔
- کھدائی سے حاصل شدہ مٹی / کنکر / پتھر وغیرہ کو ایک دن سے زیادہ اس جگہ پر موجود نہ رہنے دیا جائے بلکہ روزانہ کی بنیاد پر متعلقہ میونسپل کمیٹی / کارپوریشن کی منتخب کردہ جگہ پر محفوظ طریقے سے ٹھکانے لگایا جائے۔
- نالوں کی صفائی سے حاصل شدہ بھل / ریت وغیرہ کو ایک دن سے زیادہ اس جگہ پر موجود نہ رہنے دیا جائے بلکہ روزانہ کی بنیاد پر اٹھوایا جائے اور بھل کو ایک جگہ سے دوسری جگہ منتقلی کے دوران ٹریکٹر / ٹرالی کو ترپال کی مدد سے ڈھانپ کر لے جایا جائے۔

سرگرمیاں

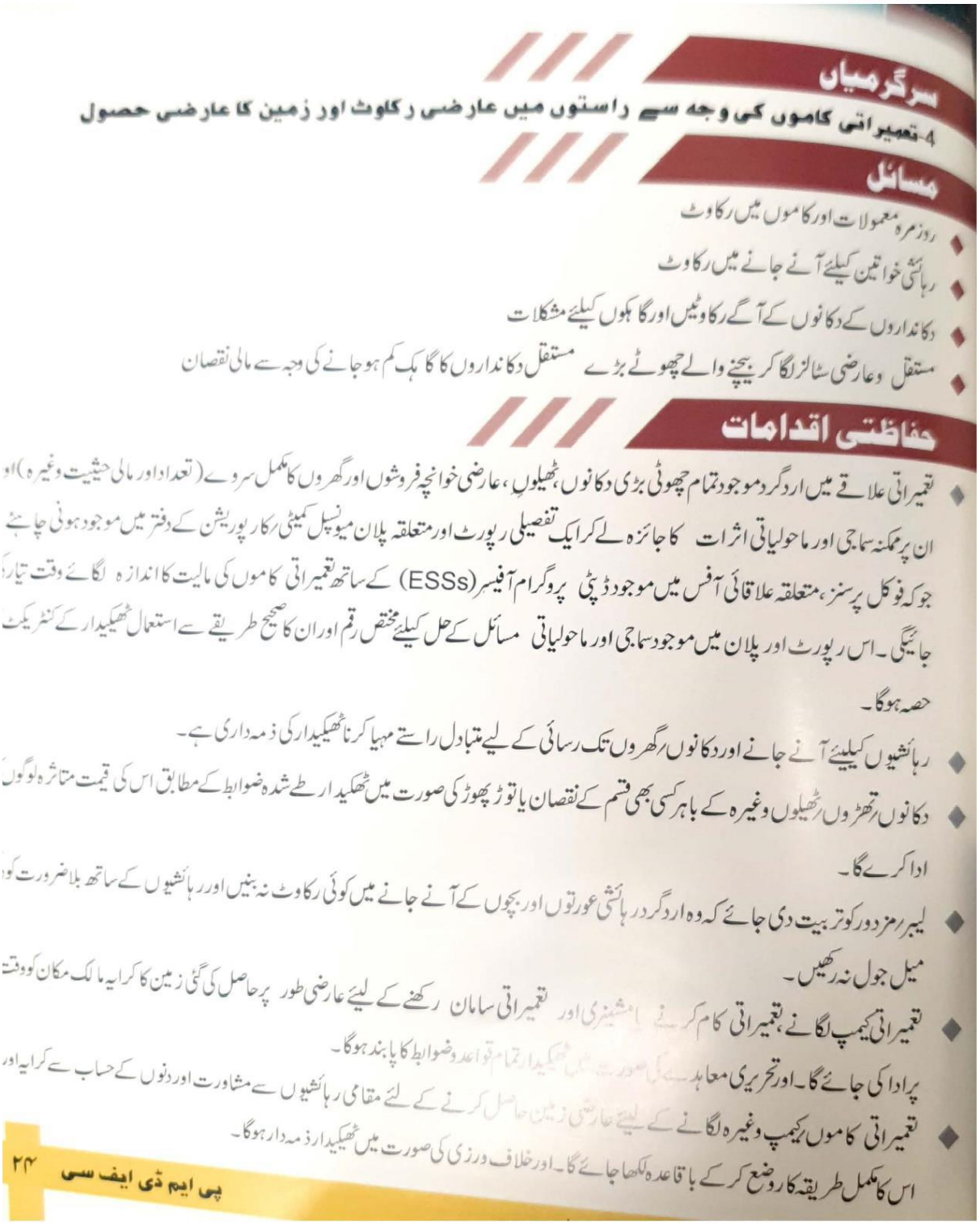
3-تعمیراتی مشینری / تعمیراتی مٹیریل اور تعمیراتی کاموں کی وجہ سے عارضی بندش

مسائل

- ٹریفک میں رکاوٹ۔

حفاظتی اقدامات

- ٹریفک میں ممکنہ رکاوٹ کے پیش نظر متبادل راستے کا انتخاب اور اس کی نشاندہی کیلئے پیغامات واضح درج کیے جائیں۔
- ٹریفک کونز (cones) کی مدد سے رکاوٹ والی جگہ کو الگ کر دیا جائے تاکہ حادثات سے بچا جا سکے۔
- ٹریفک میں زیادہ دنوں تک مسلسل رکاوٹ کی صورت میں مقامی ٹریفک پولیس کو آگاہ کیا جائے اور ان کے ساتھ مل کر ٹریفک مینجمنٹ پلان وتشکیل دیا جائے جس کو واضح مقام پر نصب کیا جائے اور مقامی آبادی / رہائشیوں کو اس کے بارے میں مکمل آگاہی دی جائے۔



سرگرمیاں

4-تعمیراتی کاموں کی وجہ سے راستوں میں عارضی رکاوٹ اور زمین کا عارضی حصول

مسائل

- روزمرہ معمولات اور کاموں میں رکاوٹ
- رہائشی خواتین کیلئے آنے جانے میں رکاوٹ
- دکانداروں کے دکانوں کے آگے رکاوٹیں اور گاہکوں کیلئے مشکلات
- مستقل وعارضی سٹالز لگا کر بیچنے والے چھوٹے بڑے مستقل دکانداروں کا گاہک کم ہو جانے کی وجہ سے مالی نقصان

حفاظتی اقدامات

- تعمیراتی علاقے میں اردگرد موجود تمام چھوٹی بڑی دکانوں، ٹھیلوں، عارضی خوانچہ فروشوں اور گھروں کا مکمل سروے (تعداد اور مالی حیثیت وغیرہ) او
ان پر ممکنہ سماجی اور ماحولیاتی اثرات کا جائزہ لے کر ایک تفصیلی رپورٹ اور متعلقہ پلان میونسپل کمیٹی رکارپوریشن کے دفتر میں موجود ہونی چاہئے
جو کہ فوکل پرسنز، متعلقہ علاقائی آفس میں موجود ڈپٹی پروگرام آفیسر (ESSs) کے ساتھ تعمیراتی کاموں کی مالیت کا اندازہ لگائے وقت تیار
جائیگی۔ اس رپورٹ اور پلان میں موجود سماجی اور ماحولیاتی مسائل کے حل کیلئے مختص رقم اور ان کا صحیح طریقے سے استعمال ٹھیکیدار کے کنٹریکٹ
حصہ ہوگا۔
- رہائشیوں کیلئے آنے جانے اور دکانوں رگھروں تک رسائی کے لیے متبادل راستے مہیا کرنا ٹھیکیدار کی ذمہ داری ہے۔
- دکانوں رتھڑوں رٹھیلوں وغیرہ کے باہر کسی بھی قسم کے نقصان یا توڑ پھوڑ کی صورت میں ٹھیکیدار طے شدہ ضوابط کے مطابق اس کی قیمت متاثرہ لوگوں
ادا کرے گا۔
- لیبر رمزدور کو تربیت دی جائے کہ وہ اردگرد رہائشی عورتوں اور بچوں کے آنے جانے میں کوئی رکاوٹ نہ بنیں اور رہائشیوں کے ساتھ بلاضرورت کو
میل جول نہ رکھیں۔
- تعمیراتی کیمپ لگانے، تعمیراتی کام کرنے، مشینری اور تعمیراتی سامان رکھنے کے لیئے عارضی طور پر حاصل کی گئی زمین کا کرایہ مالک مکان کو وقت
پر ادا کی جائے گا۔ اور تحریری معاہدے کی صورت میں ٹھیکیدار تمام قواعد وضوابط کا پابند ہوگا۔
- تعمیراتی کاموں رکیمپ وغیرہ لگانے کے لیئے عارضی زمین حاصل کرنے کے لئے مقامی رہائشیوں سے مشاورت اور دنوں کے حساب سے کرایہ اور
اس کا مکمل طریقہ کار وضع کر کے باقاعدہ لکھا جائے گا۔ اور خلاف ورزی کی صورت میں ٹھیکیدار ذمہ دار ہوگا۔

سرگرمیاں

5.تعمیراتی کام اور ہیوی مشیری کا استعمال

مسائل

- شور غل
- پانی کی آلودگی
- ہوائی آلودگی
- دیگر ماحولیاتی مسائل

حفاظتی اقدامات

- تعمیراتی علاقے میں موجود ہسپتالوں، سکولوں/کالجوں وغیرہ اور رہائشی گھروں/دکانوں کی تمام تفصیلات کی رپورٹ متعلقہ میونسپل کمیٹی کے دفتر میں موجود ہونی چاہیے جو کہ ٹھیکیدار کے کنٹریکٹ کا حصہ ہوگی۔ اور ٹھیکیدار ان تفصیلات کے مطابق ایسا پلان ترتیب دے گا جس سے اردگرد عمارتوں/رہائشیوں اور دکانداروں کو کم سے کم پریشانی کا سامنا کرنا پڑے مثلاً زیادہ شور پیدا کرنے والے کام دن کے اس حصے میں کئے جائیں جب ہسپتالوں، اور سکولوں/کالجوں وغیرہ کے مصروف اوقات کار نہ ہوں اور ایسے کام جن کی وجہ سے راستوں کی عارضی بندش ضروری ہوں وہ رات کو کیئے جائیں جب رہائشیوں کی آمدورفت نہ ہو۔
- تعمیراتی کاموں کے دوران پیدا شدہ فاضل پانی یا پورٹیبل ٹوائلٹس کا پانی/فضلہ وغیرہ کا محفوظ اور مناسب طریقے سے ٹھکانے لگانے کا بندوبست کیا جائے اور فاضل پانی کو پینے کے صاف پانی کے ساتھ شامل ہونے سے بچانے کا ہر ممکن قدم اٹھایا جائے۔
- واٹر سپلائی کی سکیموں یا ایسی تمام کام جن کی وجہ سے رہائشیوں کو پانی یا سیوریج وغیرہ میں عارضی بندش کا سامنا کرنا پڑ سکتا ہو۔، ایسے تمام کاموں کے آغاز سے پہلے رہائشیوں کو پیشگی اطلاع دی جائے اور متبادل انتظامات کا خاطر خواہ انتظام کیا جائے۔
- تعمیراتی کاموں کی وجہ سے درختوں کی کٹائی سے ہر حال میں گریز کیا جائے اور ناگزیر صورت حال میں ایک درخت کی کٹائی کے متبادل کے طور پر چار درخت لگانا ضروری ہیں۔
- تعمیراتی جگہ پر پیدا ہونے والے کوڑا کرکٹ کو ٹھکانے لگانے کیلئے ڈسٹ بن لگائے جائیں اور ان کو روزانہ کی بنیاد پر متعلقہ میونسپل کمیٹی کی طرف سے مقرر کردہ مقام پر ٹھکانے لگایا جائے۔
- کوڑا کرکٹ اور فاضل پانی اردگرد موجود فصلوں اور ندی نالوں میں پھینکنے سے گریز کریں۔
- گرد و غبار اور ہوائی آلودگی کی صورت میں پانی کا باقاعدہ چھڑکاؤ کریں۔
- تعمیراتی کام کی مدت اور نوعیت کے مطابق کام کے آغاز سے پہلے، کام کے دوران اور کام کے بعد شور کی آلودگی، ہوائی آلودگی اور آبی آلودگی کے نمونہ جات حاصل کر کے ان کی جانچ پڑتال کرانا ٹھیکیدار کی ذمہ داری ہے۔ اس سلسلے میں ریجنل آفس میں موجود ڈپٹی پروگرام آفیسر (ESSs) سے مزید رہنمائی حاصل کریں۔
- تعمیراتی کام مکمل ہو جانے کے بعد علاقے کی صفائی ستھرائی اور ماحولیاتی خوبصورتی کا خاص خیال رکھیں اور پہلے سے بہتر حالت میں چھوڑیں۔

★ سپریم کورٹ آف پاکستان کے سوموٹو کیس نمبر 25 بمطابق 2009 حوالہ نمبر "کٹنگ آف ٹریز فار کینال وواڈیننگ پراجیکٹ لاہور" تعمیراتی کاموں کے دوران ہر ایک درخت کی کٹائی کے متبادل چار درخت لگائے جائیں گے۔

Annexure D: COVID-19 Pandemic and Health Safety Measures

Given the unprecedented nature of the COVID-19 pandemic, contractors are bound to take all necessary precautions to maintain the health and safety related measures at site and to ensure suitable arrangements regarding hygiene requirements for the prevention of pandemic.

Following are the measures that should be implemented at the construction site to avoid the spread of Covid-19:

Activities	Adaptive Measures
Pre- Execution Phase	
A. Profile preparation	• Detail profile of project workforce • Enlist the names, addresses and contact # • Breakdown of the workforce (workers from local communities and those who have on site accommodation) • Assigning the task against each person • Schedule the key activities and their duration at site
B. Initial Screening	• All enlisted workforce should go through initial screening process • Ensuring the availability of Thermogun at site • Record keeping against initial screening • Identifying all workers who are initially at more risk of contracting Covid-19
During Execution Phase	
A. Preliminary Screening	**Regular Screening:** • Regular screening by using Thermogun on daily basis before starting civil work at site • Checking and recording temperatures of workers and other people entering the site or requiring self-reporting prior to or on entering the site. • If a worker has symptoms of COVID-19 (e.g. fever, dry cough, fatigue) the worker should be removed immediately from work activities and isolated on designated site. • Co-workers (i.e. workers with whom the sick worker was in close contact) should be required to stop work, and to quarantine themselves for 14 days, even if they have no symptoms. **Sequential Screening:** Concerned DHQ medical staff is requested for screening at regular intervals. List should also be shared with DHQ for avoiding future inconvenience **or hire health safety officer on weekly basis.**
B. Special Arrangements regarding PPEs	• Ensuring availability of handwashing facilities (sanitizers/soaps) at site • Presence of closed waste bins at key places throughout site, including at entrances/exits to work areas (toilet, canteen or food distribution, or provision of drinking water; in worker accommodation; at waste stations; at stores; and in common spaces). • Special arrangements regarding PPEs and sanitation at site • Record keeping of stock availability on daily basis
C. Restricted Movement/ Demobilization of staff	• Encourage employees to wash their hands at least for 20 seconds with soap and stay at least one meter away from people who are coughing or sneezing • Breakdown of workers who reside at home (i.e. workers from the communities), workers who lodge within the local communities and workers in on-site accommodation. Workers accommodated on site should be required to minimize contact with people near the site, and

Activities	Adaptive Measures
	in certain cases be prohibited from leaving the site for the duration of their contract, so that contact with local communities is avoided. • Workers from local communities, who return home daily, weekly or monthly, will be more difficult to manage. They should be subject to health checks at entry to the site (as set out above) and at some point, circumstances may make it necessary to require them to either use accommodation on site or not to come to work. • All workers should be provided separate accommodation.
D. Training sessions	• Health and safety training for Contractor's Personnel (which include project workers and all personnel that the Contractor uses on site, including staff and other employees of the Contractor and Subcontractors and any other personnel assisting the Contractor in carrying out project activities. • Sessions related to safety procedures, use of construction PPEs, occupational health and safety issues, and code of conduct specially privacy issues including social distancing. • Arranging daily briefings with workforce, reminding workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor or the COVID-19 focal point if they have symptoms or are feeling unwell. • Placing posters and sign boards around the site in local languages. • Appointing one person on daily basis among the workforce who will serve as trainer for conducting awareness session and encouraging the rest to take preventive measures.
E. Operationalization of Grievance Redress Mechanism	• Effective implementation of GRM at site • Encouraging to report any COVID-19 related health issue and concerns about the health of their co-workers and other staff as well. • In case of unavailability of the PPEs at site, grievance would be lodged directly to PMU.
F. Role of PMU	• PMU is required to arrange regular meetings with Contractors and workforce to monitor all procedural implementation of COVID-19 prevention related mechanism. • Arrange meeting with concerned DHQs for immediate support and guidance in case of emergency. During inspection visit by PMU Staff, if a worker is found to has symptoms of COVID-19, the worker should be removed immediately from work activities and isolated on designated site.
Post Execution Phase	
A. Post Screening	• Screening should be done at the end of the day on daily basis, if a worker is found to have any symptoms of COVOD-19, he should be immediately reported to concerned health department.
B. Cleaning and waste disposal	• All waste (PPEs and sanitation related) shall be disposed properly at designated sites.

Annexure E: Personal Protective Equipment According to Hazard

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or ear muffs).
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines). On-site rescue equipment.
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits, aprons etc. of appropriate materials.

Annexure F: Chance find procedures

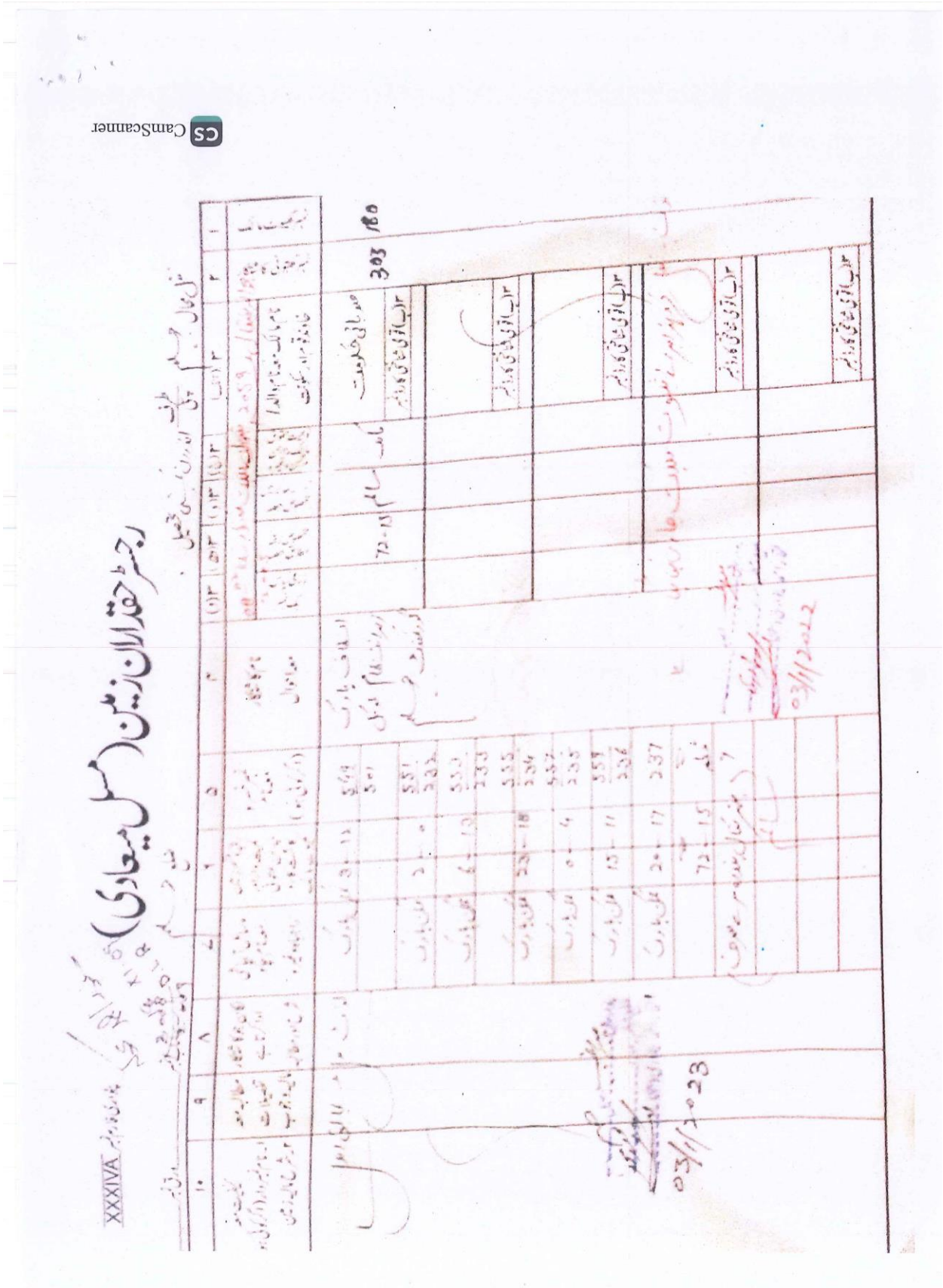
Chance find procedures which will be used during this Project are as follows:

- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry in charge of Department of Archaeology take over;
- Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry immediately (within 24 hours or less);
- Responsible local authorities and the Ministry in charge of Department of Archaeology would oversee protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the Department of Archaeology and Museums (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry in charge of Department of Archaeology. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;
- Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry in charge of Department of Archaeology; and
- Construction work could resume only after permission is given from the responsible local authorities and the Ministry in charge of Department of Archaeology concerning safeguard of the heritage.

  These procedures will be referred to as standard provisions in construction contracts, when applicable. During project supervision, the Site Engineer will monitor the above regulations relating to the treatment of any chance find encountered are observed.

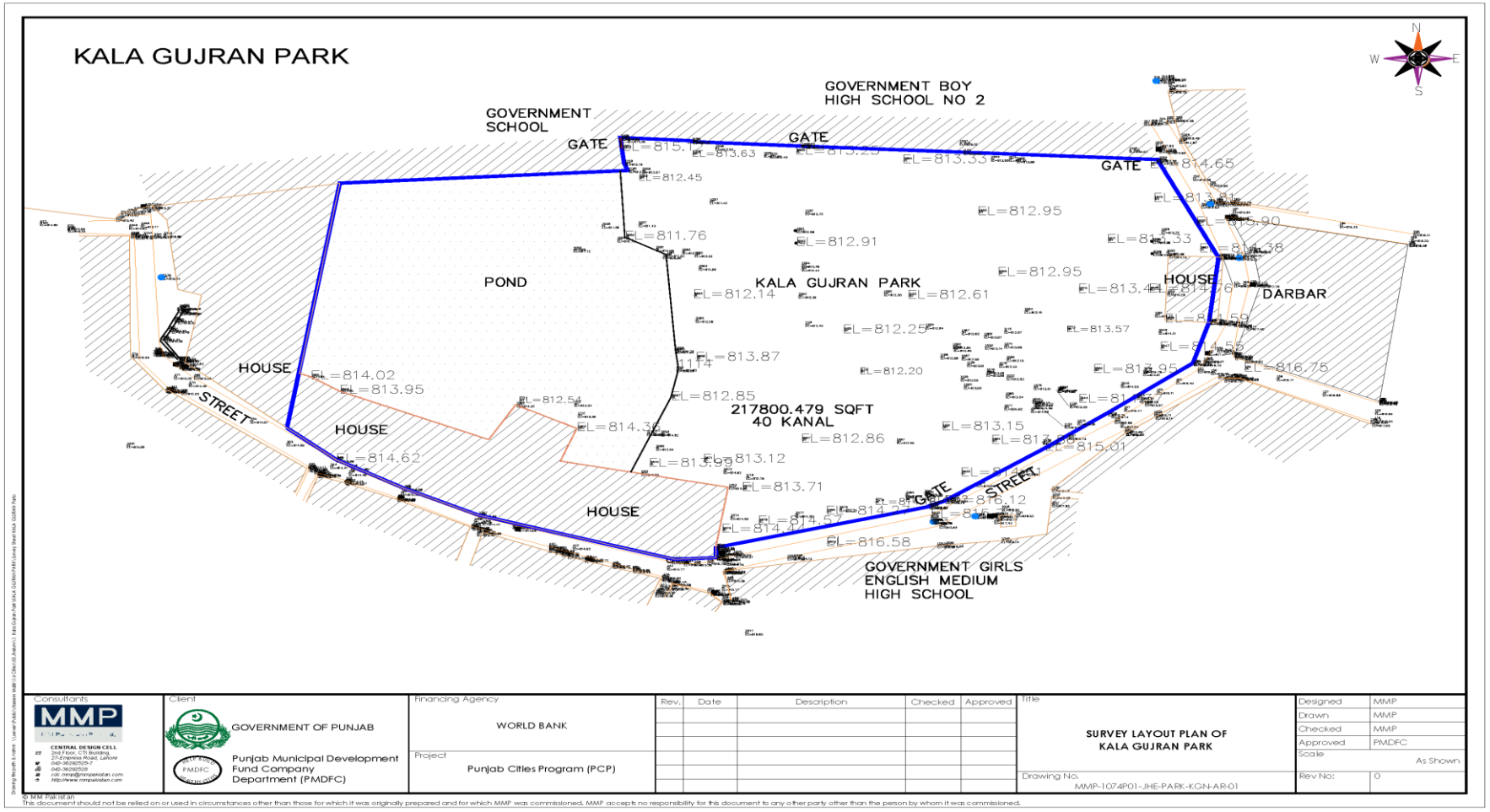
Annexure G: Proponent CNIC

Annexure H: Ownership Certificate



Annexure I: Drawings

ARCHITECTURE DRAWINGS


KALA GUJRAN PARK
GOVERNMENT BOY HIGH SCHOOL NO 2
GOVERNMENT SCHOOL
GATE
GATE
GATE
POND
KALA GUJRAN PARK
HOUSE
DARBAR
HOUSE
STREET
HOUSE
217800.479 SQFT
40 KANAL
HOUSE
GATE
STREET
GOVERNMENT GIRLS ENGLISH MEDIUM HIGH SCHOOL
N
S
E
W
Consultants
MMP
CENTRAL DESIGN CELL
2nd Floor, CTI Building,
37-Empress Road, Lahore
Client
GOVERNMENT OF PUNJAB
Punjab Municipal Development Fund Company Department (PMDFC)
Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev.
Date
Description
Checked
Approved
Title
SURVEY LAYOUT PLAN OF KALA GUJRAN PARK
Drawing No.
MMP-1074P01-JHE-PARK-KGN-AR-01
Designed
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Drawn
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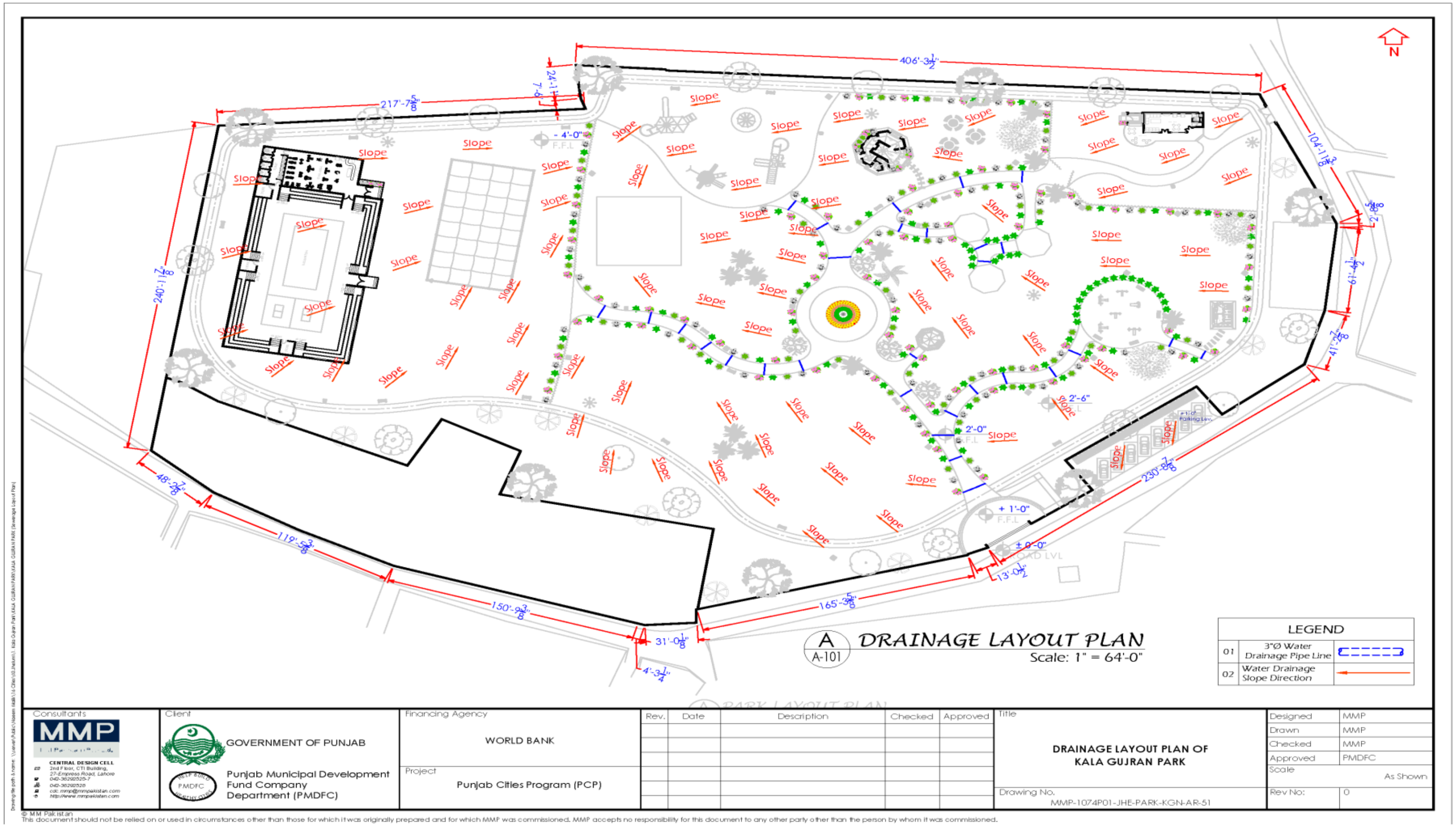
DRAINAGE LAYOUT PLAN
Scale: 1" = 64'-0"
A
A-101
LEGEND
01 3"Ø Water Drainage Pipe Line
02 Water Drainage Slope Direction
Consultants
MMP
Client
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Punjab Municipal Development Fund Company Department (PMDFC)
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Approved
Title
DRAINAGE LAYOUT PLAN OF KALA GUJRAN PARK
Drawing No.
MMP-1074P01-JHE-PARK-KGN-AR-51
Designed MMP
Drawn MMP
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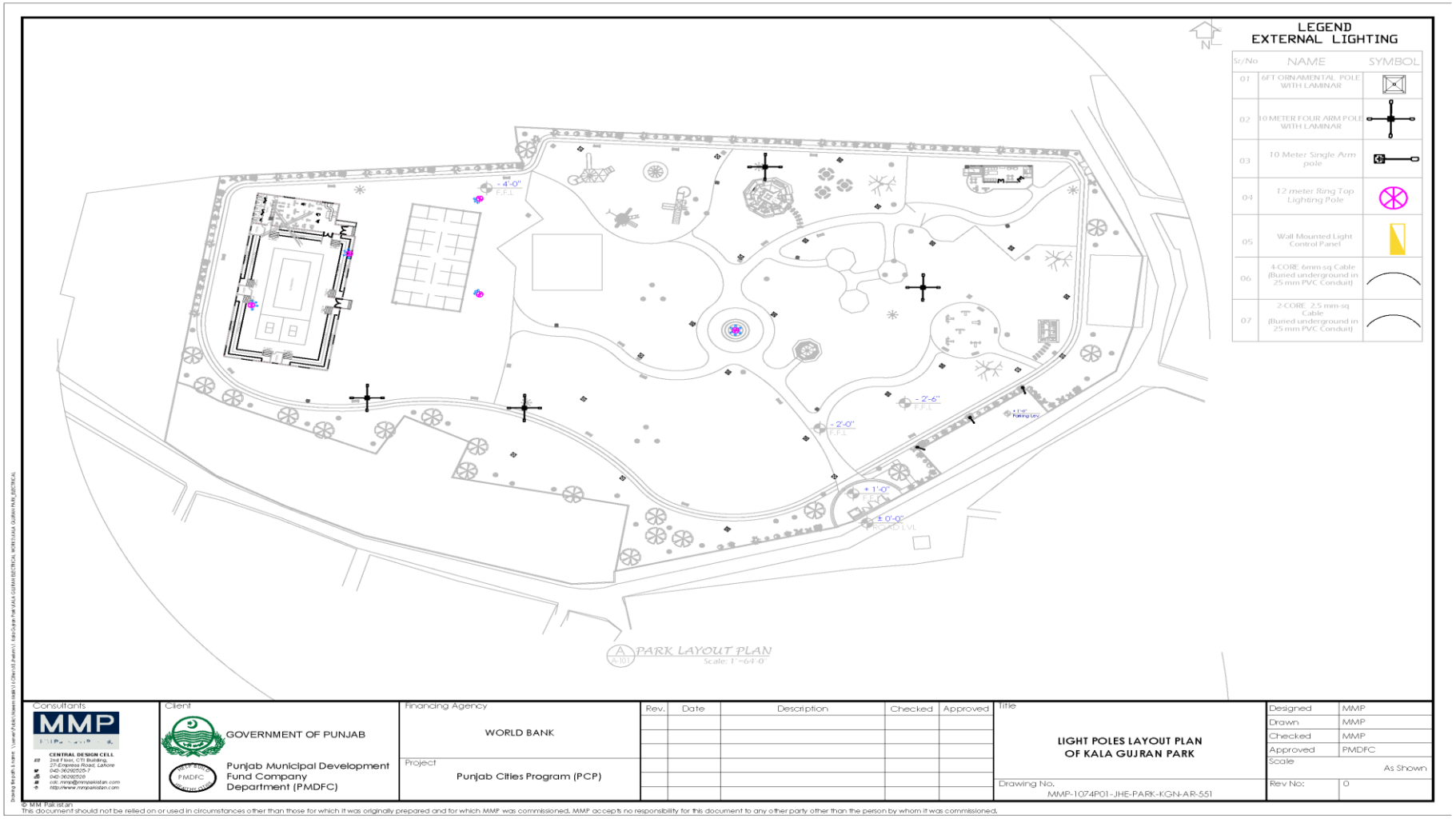
LEGEND
EXTERNAL LIGHTING
Sr/No
NAME
SYMBOL
01
6FT ORNAMENTAL POLE WITH LAMINAR
02
10 METER FOUR ARM POLE WITH LAMINAR
03
10 Meter Single Arm pole
04
12 meter Ring Top Lighting Pole
05
Wall Mounted Light Control Panel
06
4-CORE 6mm-sq Cable (Buried underground in 25 mm PVC Conduit)
07
2-CORE 2.5 mm-sq Cable (Buried underground in 25 mm PVC Conduit)
PARK LAYOUT PLAN
Scale: 1"=64'-0"
Consultants
CENTRAL DESIGN CELL
2nd Floor, CTI Building,
27-Empress Road, LaHore
040-36290520-7
040-36290520
cdc: mmp@mmpakistan.com
http://www.mmpakistan.com
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WORLD BANK
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Date
Description
Checked
Approved
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LIGHT POLES LAYOUT PLAN OF KALA GUJRAN PARK
Drawing No.
MMP-1074P01-JHE-PARK-KGN-AR-551
Designed
MMP
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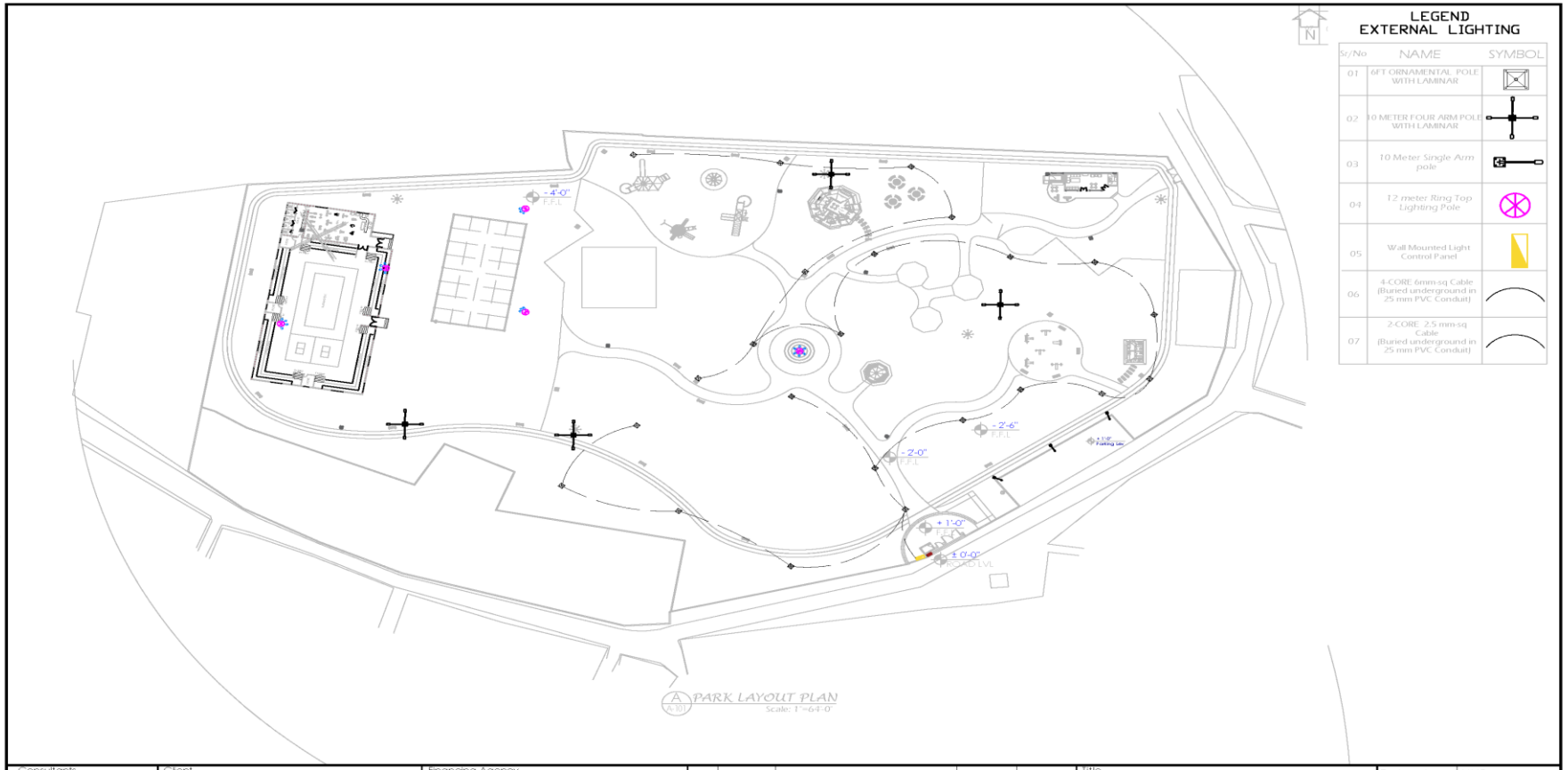
LEGEND
EXTERNAL LIGHTING
Sr/No | NAME | SYMBOL
01 | 6FT ORNAMENTAL POLE WITH LAMINAR
02 | 10 METER FOUR ARM POLE WITH LAMINAR
03 | 10 Meter Single Arm pole
04 | 12 meter Ring Top Lighting Pole
05 | Wall Mounted Light Control Panel
06 | 4-CORE 6mm sq Cable (Buried underground in 25 mm PVC Conduit)
07 | 2-CORE 2.5 mm sq Cable (Buried underground in 25 mm PVC Conduit)
- 4'-0" F.F.L
- 2'-6" F.F.L
- 2'-0" F.F.L
+ 1'-0" F.F.L
± 0'-0" F.G.R.D LVL
PARK LAYOUT PLAN
Scale: 1"=64'-0"
Consultants
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CENTRAL DESIGN CELL
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042-36292520
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Title
LIGHT CONDUIT LAYOUT PLAN-1 OF KALA GUJRAN PARK
Drawing No.
MMP-1074P01-JHE-PARK-KGN-AR-552
Designed | MMP
Drawn | MMP
Checked | MMP
Approved | PMDFC
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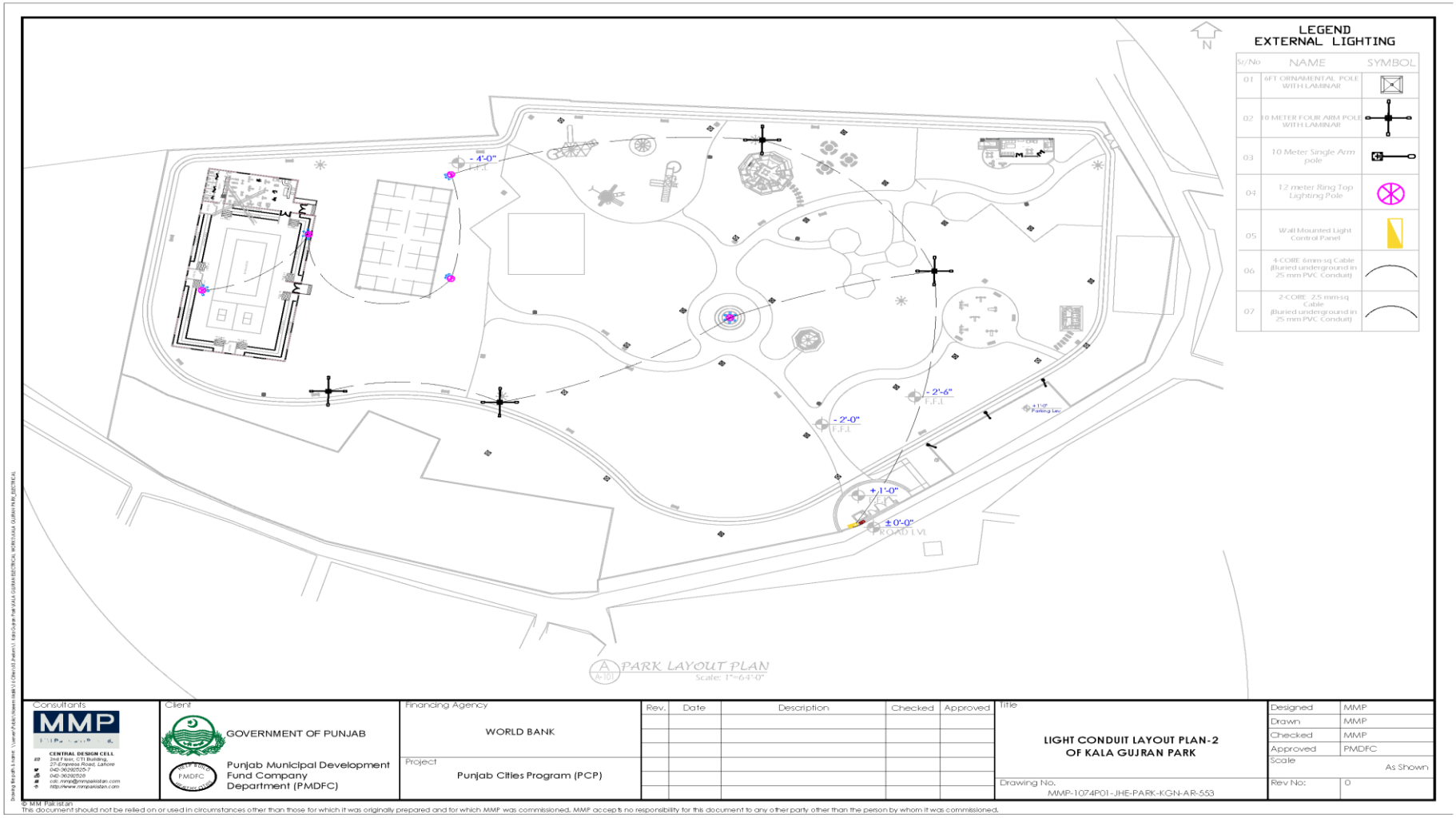
LEGEND
EXTERNAL LIGHTING
Sr/No
NAME
SYMBOL
01 6FT ORNAMENTAL POLE WITH LAMINAR
02 30 METER FOUR ARM POLE WITH LAMINAR
03 10 Meter Single Arm pole
04 12 meter Ring Top Lighting Pole
05 Wall Mounted Light Control Panel
06 4-CORE 6mm-sq Cable (Buried underground in 25 mm PVC Conduit)
07 2-CORE 2.5 mm-sq Cable (Buried underground in 25 mm PVC Conduit)
N
- 4'-0" F.F.L
- 2'-6" F.F.L
- 2'-0" F.F.L
+1'-0" Parking Lev.
+1'-0" F.F.L
±0'-0" ROAD LVL
A PARK LAYOUT PLAN
Scale: 1"=64'-0"
Consultants
MMP
CENTRAL DESIGN CELL
2nd Floor, CTI Building,
27-Empress Road, Lahore
040-36290525-7
040-36290520
cdc: mmp@mmpakistan.com
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Financing Agency
WORLD BANK
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Punjab Cities Program (PCP)
Rev.
Date
Description
Checked
Approved
Title
LIGHT CONDUIT LAYOUT PLAN-2 OF KALA GUJRAN PARK
Drawing No.
MMP-1074P01-JHE-PARK-KGN-AR-553
Designed MMP
Drawn MMP
Checked MMP
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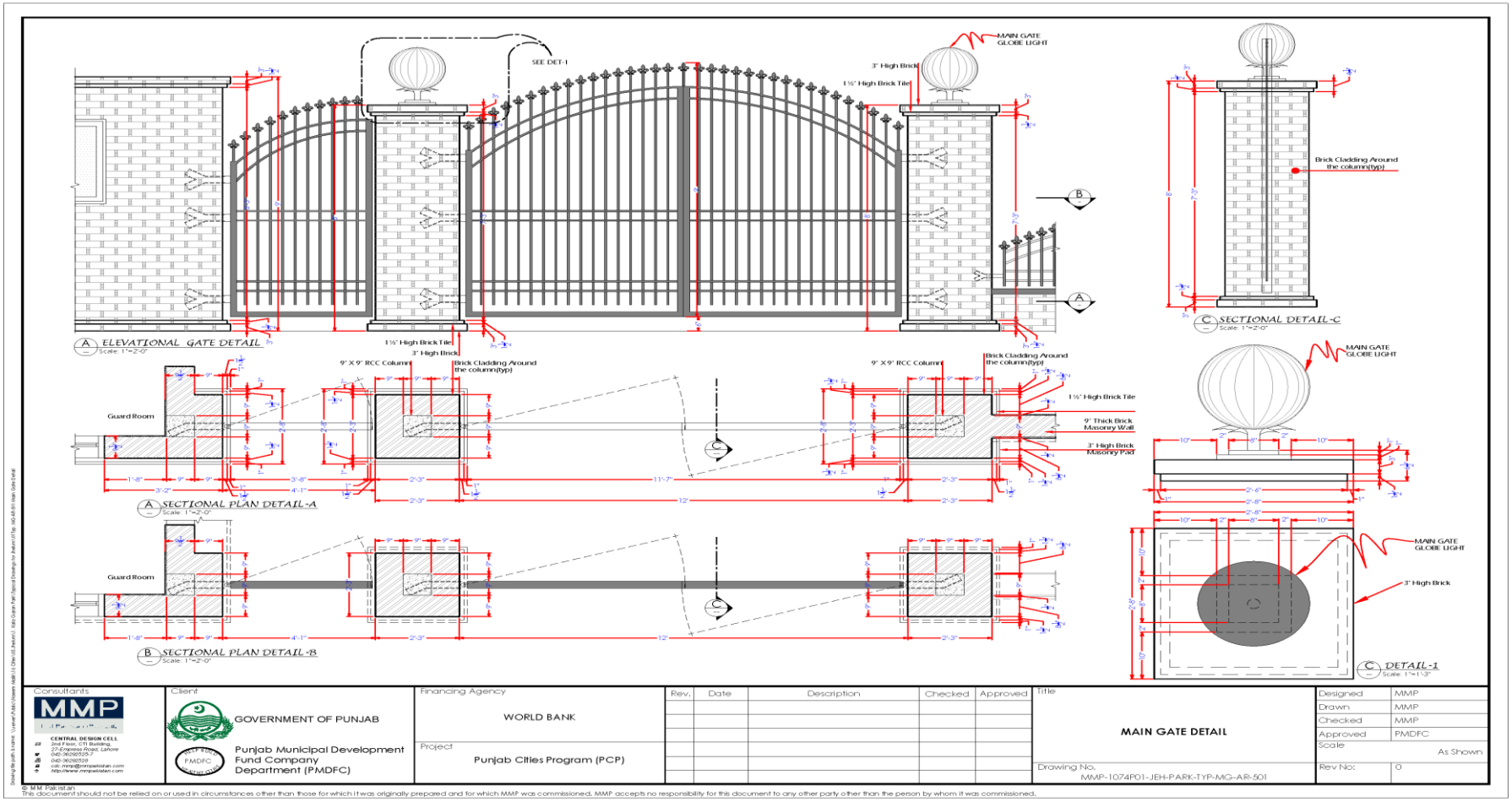

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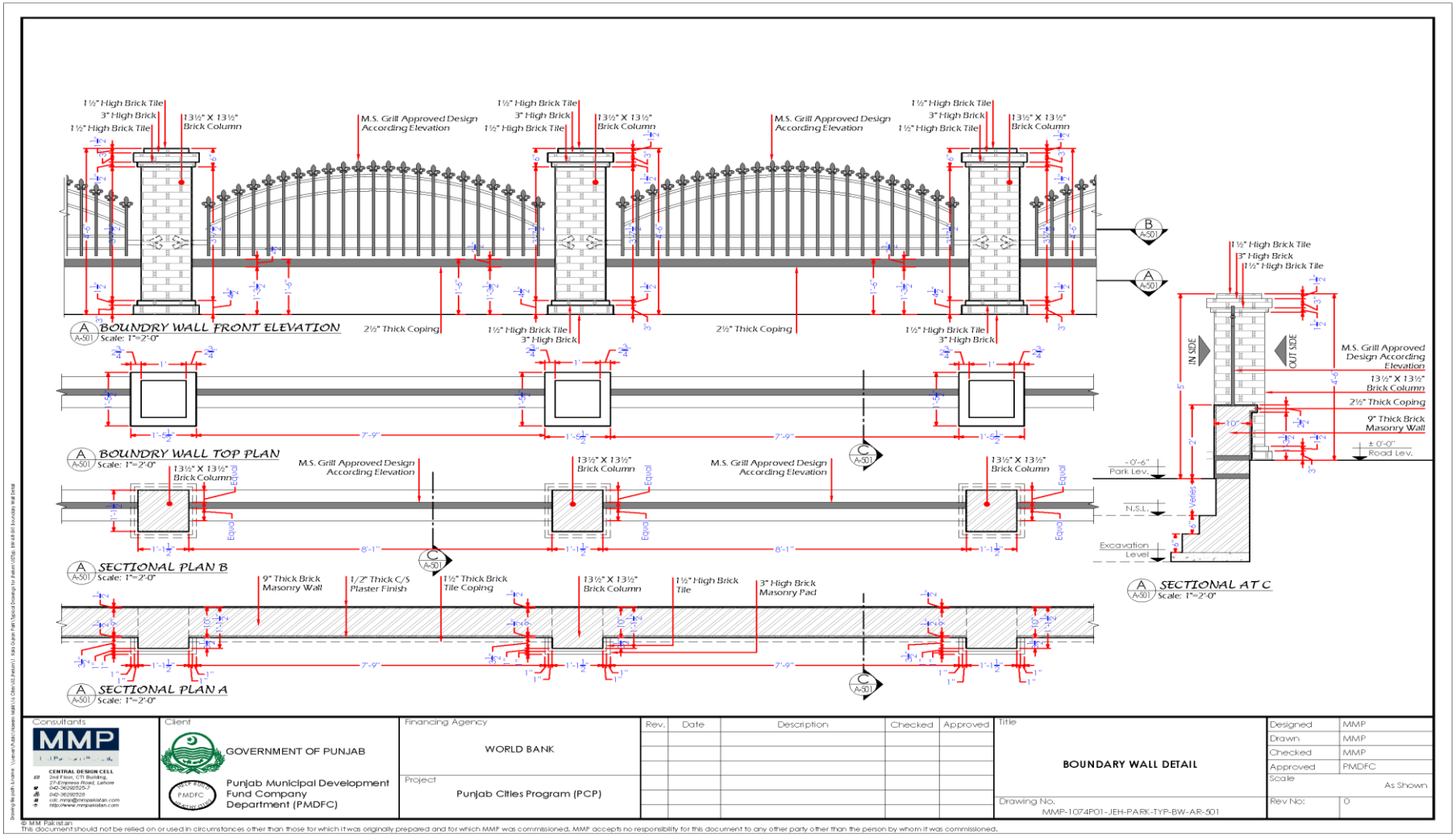
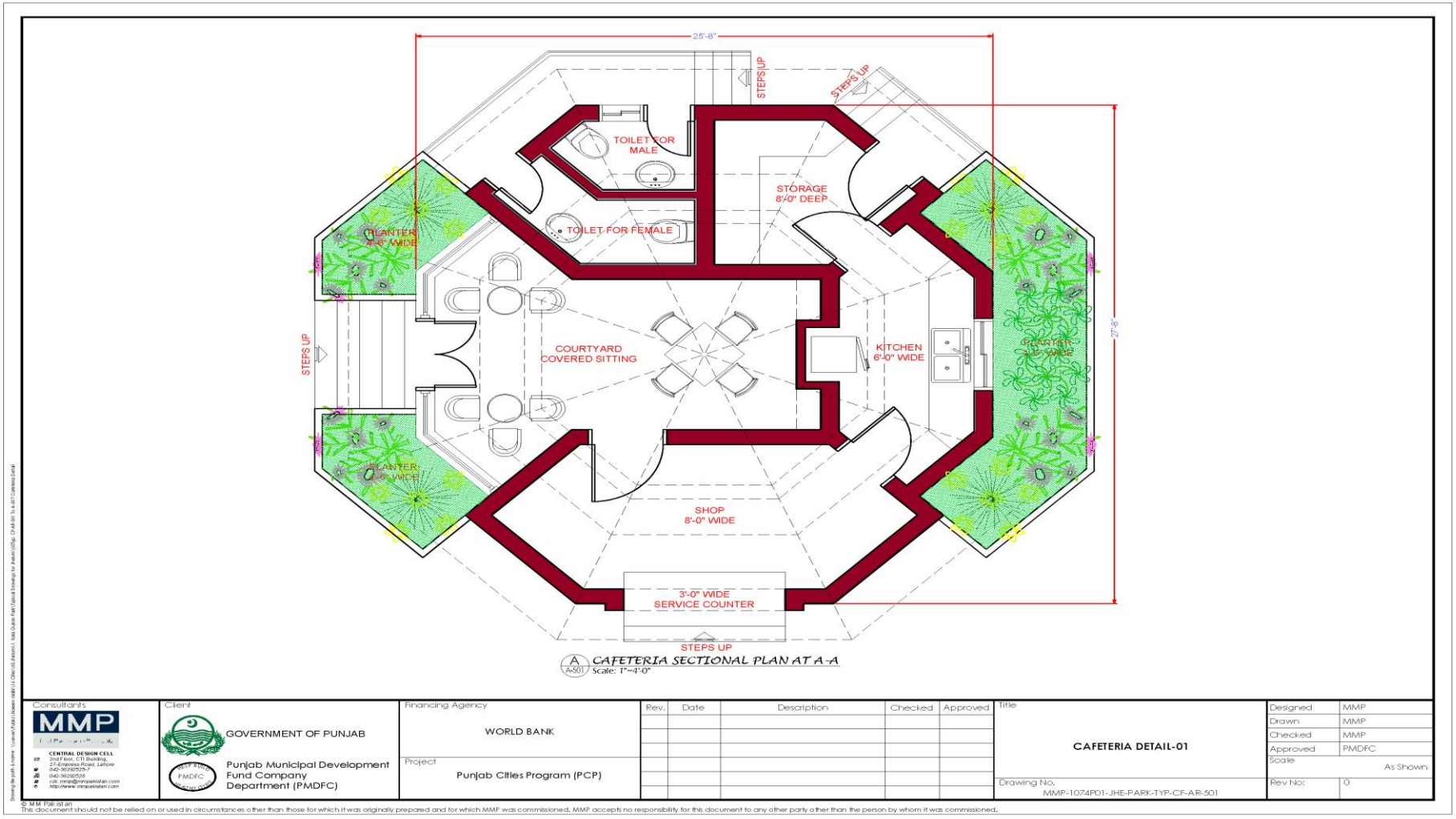
Designed	MMP
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
Rev No:	0



Consultants: MMP (Pvt) Ltd. — CENTRAL DESIGN CELL, 2nd Floor, CTI Building, 27-A Egerton Road, Lahore, 042-36308525-7, 042-36308526, cdc.mmp@mmpakistan.com, http://www.mmpakistan.com	Client: GOVERNMENT OF PUNJAB; Punjab Municipal Development Fund Company Department (PMDFC)	Financing Agency: WORLD BANK; Project: Punjab Cities Program (PCP)	Rev. / Date / Description / Checked / Approved	Title: BOUNDARY WALL DETAIL; Drawing No.: MMP-1074P01-JEH-PARK-TYP-BW-AR-501	Designed: MMP; Drawn: MMP; Checked: MMP; Approved: PMDFC; Scale: As Shown; Rev No: 0	



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		Project: Punjab Cities Program (PCP)						Drawing No.: MMP-1074P01-JHE-PARK-TYP-CF-AR-501

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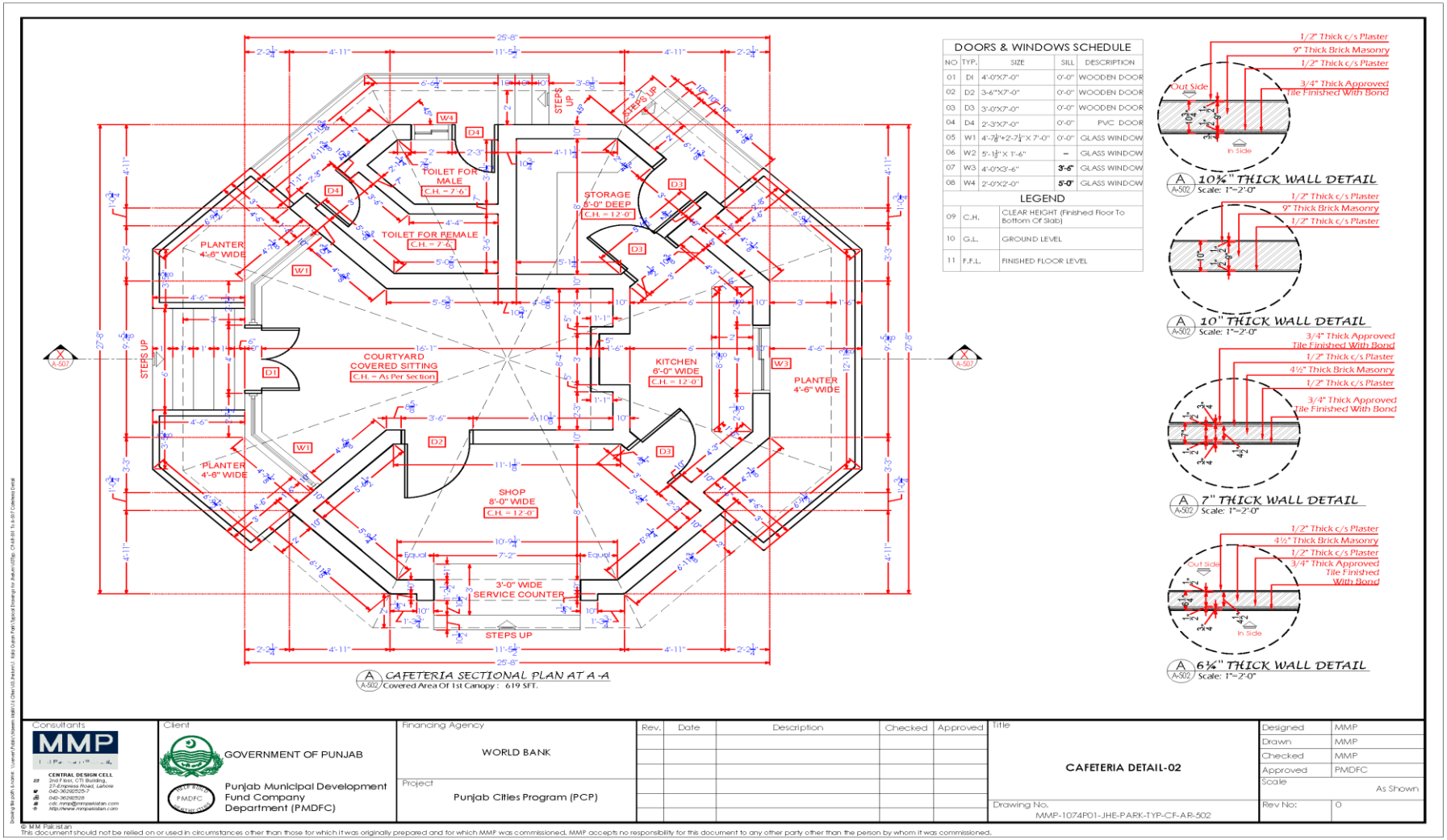
Approved	PMDFC
Scale	As Shown
Rev No:	0



A CAFETERIA SECTIONAL PLAN AT A-A
Covered Area Of 1st Canopy : 619 SFT.

Consultants: MMP — CENTRAL DESIGN CELL, 2nd Floor, CTI Building, 27-Empress Road, Lahore, 042-36368520-7, 042-36368528, cdc.mmp@mmpakistan.com, http://www.mmpakistan.com

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Financing Agency: WORLD BANK

Project: Punjab Cities Program (PCP)

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Title: CAFETERIA DETAIL-02

Drawing No.: MMP-1074P01-JHE-PARK-TYP-CF-AR-502

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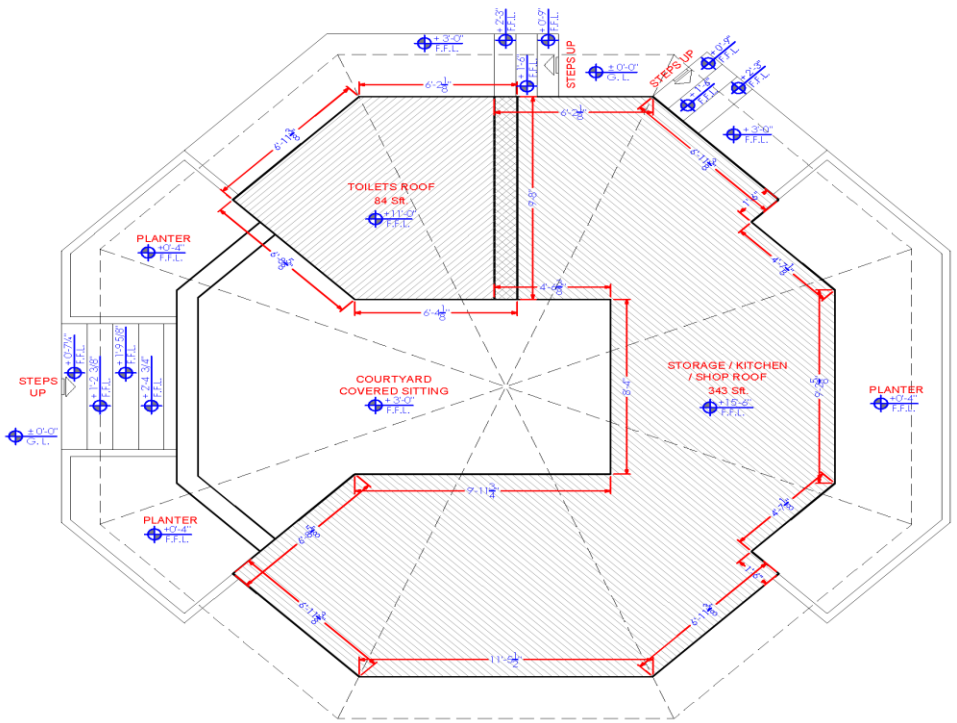
Rev No:	0



A CAFETERIA LEVELS PLAN
A-503 Covered Area Of Flat Slab: 427 SFT.

DOORS & WINDOWS SCHEDULE

NO	TYP.	SIZE	SILL	DESCRIPTION
01	D1	4'-0"X7'-0"	0'-0"	WOODEN DOOR
02	D2	3-6"X7'-0"	0'-0"	WOODEN DOOR
03	D3	3'-0"X7'-0"	0'-0"	WOODEN DOOR
04	D4	2'-3"X7'-0"	0'-0"	PVC DOOR
05	W1	4'-7⅛"+2'-7½" X 7'-0"	0'-0"	GLASS WINDOW
06	W2	5'-1⅜" X 1'-6"	–	GLASS WINDOW
07	W3	4'-0"X3'-6"	3'-6"	GLASS WINDOW
08	W4	2'-0"X2'-0"	5'-0"	GLASS WINDOW

LEGEND

09	C.H.	CLEAR HEIGHT (Finished Floor To Bottom Of Slab)
10	G.L.	GROUND LEVEL
11	F.F.L.	FINISHED FLOOR LEVEL

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Project: Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title: CAFETERIA DETAIL-03

Drawing No.: MMP-1074P01-JHE-PARK-TYP-CF-AR-503

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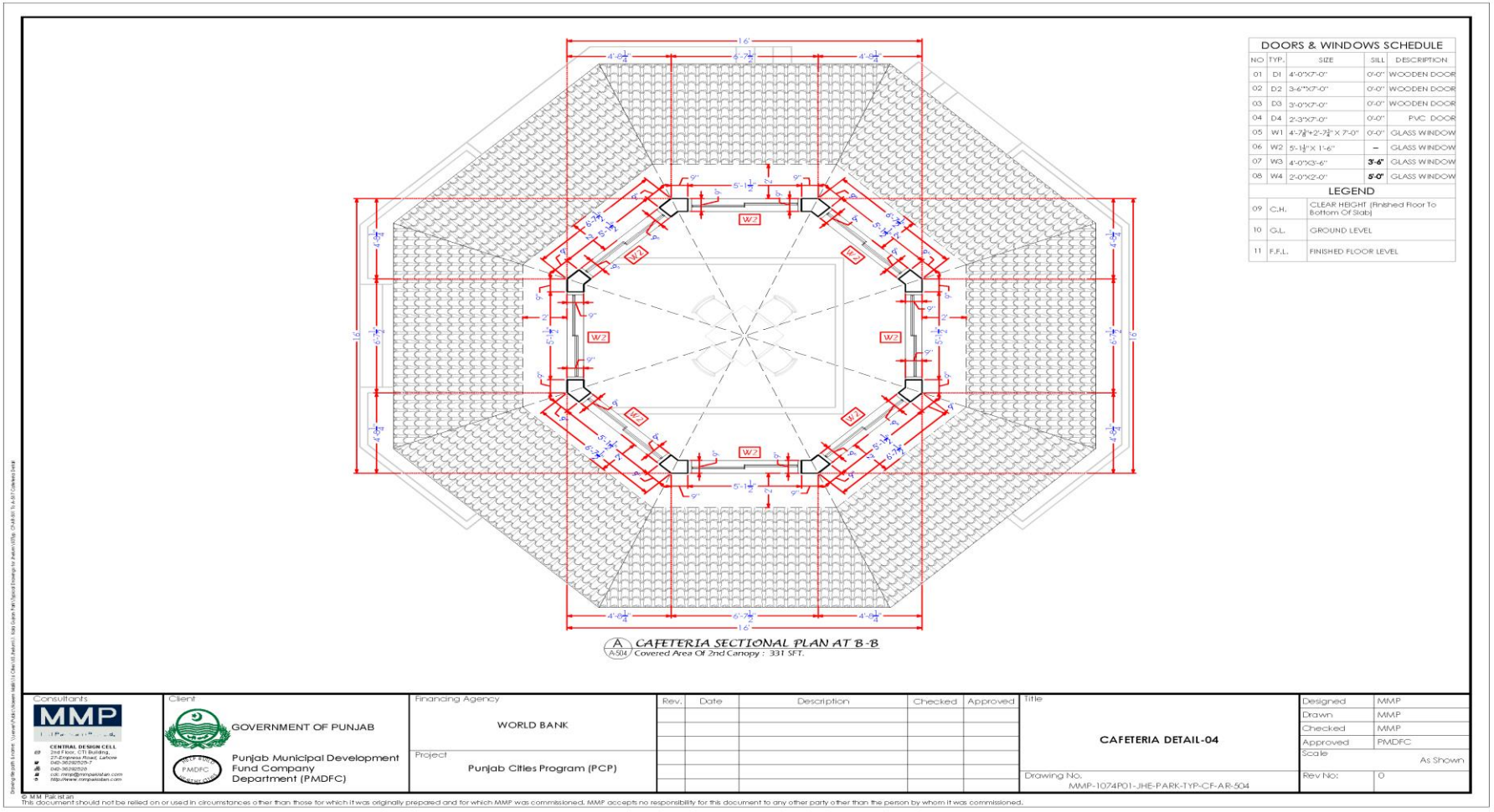
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
Rev No:	0


DOORS & WINDOWS SCHEDULE
NO | TYP. | SIZE | SILL | DESCRIPTION
01 | D1 | 4'-0"X7'-0" | 0'-0" | WOODEN DOOR
02 | D2 | 3-6"X7'-0" | 0'-0" | WOODEN DOOR
03 | D3 | 3'-0"X7'-0" | 0'-0" | WOODEN DOOR
04 | D4 | 2'-3"X7'-0" | 0'-0" | PVC DOOR
05 | W1 | 4'-7⅞"+2'-7¼" X 7'-0" | 0'-0" | GLASS WINDOW
06 | W2 | 5'-1½" X 1'-6" | – | GLASS WINDOW
07 | W3 | 4'-0"X3'-6" | 3'-6" | GLASS WINDOW
08 | W4 | 2'-0"X2'-0" | 5'-0" | GLASS WINDOW
LEGEND
09 | C.H. | CLEAR HEIGHT (Finished Floor To Bottom Of Slab)
10 | G.L. | GROUND LEVEL
11 | F.F.L. | FINISHED FLOOR LEVEL
A CAFETERIA SECTIONAL PLAN AT B-B
A-504 Covered Area Of 2nd Canopy : 331 SFT.
Consultants
MMP
CENTRAL DESIGN CELL
2nd Floor, CTI Building,
Client
GOVERNMENT OF PUNJAB
Punjab Municipal Development Fund Company
Department (PMDFC)
Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev. | Date | Description | Checked | Approved
Title
CAFETERIA DETAIL-04
Drawing No.
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Designed MMP
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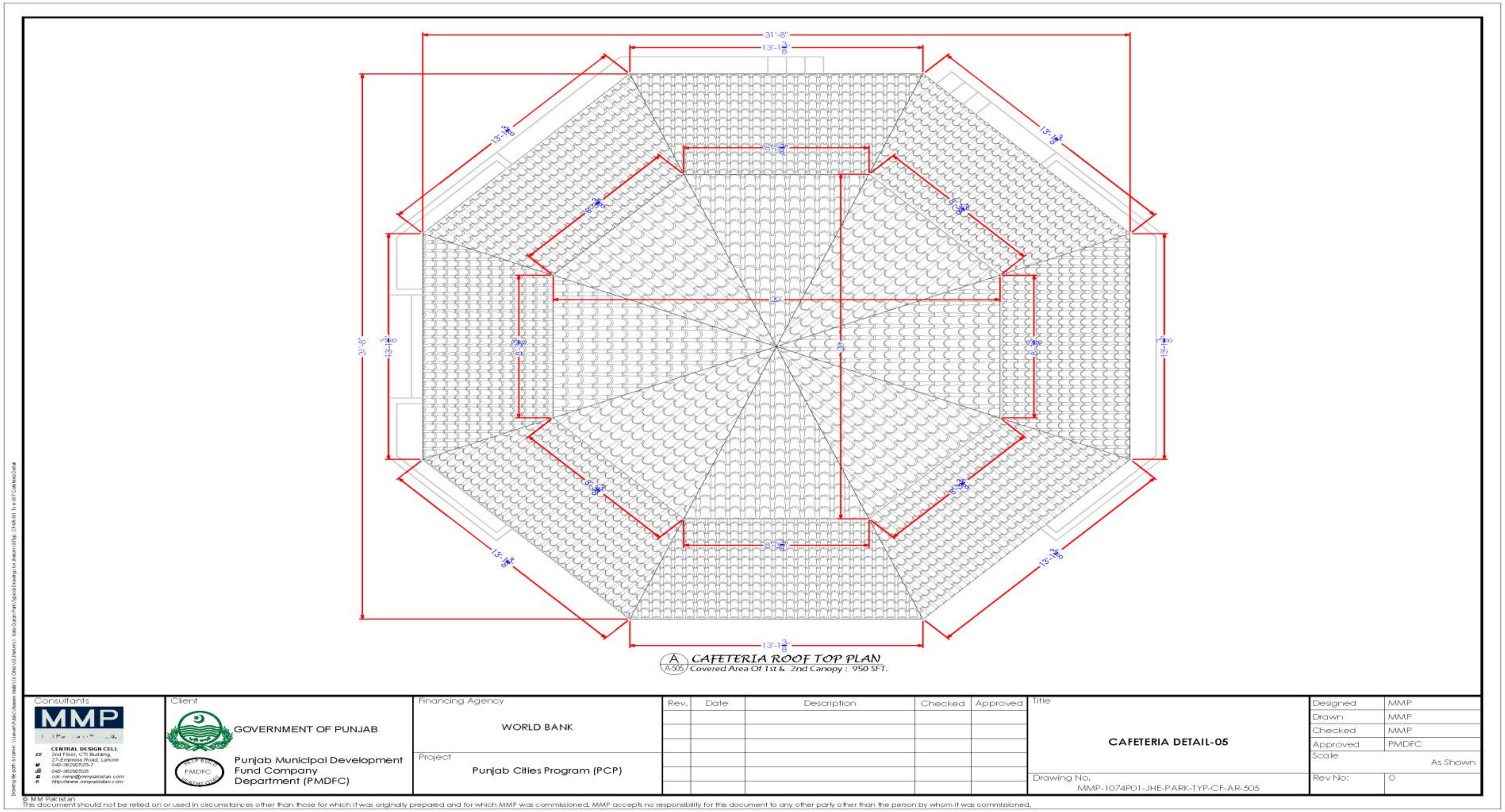

31'-8"
13'-1 3/8"
A-505 A CAFETERIA ROOF TOP PLAN
Covered Area Of 1st & 2nd Canopy : 950 SFT.
Consultants
MMP
CENTRAL DESIGN CELL
2nd Floor, CTI Building,
27-Empress Road, Lahore
042-36292525-7
042-36292526
cdc.mmp@mmpakistan.com
http://www.mmpakistan.com
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Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev. Date Description Checked Approved
Title
CAFETERIA DETAIL-05
Drawing No.
MMP-1074P01-JHE-PARK-TYP-CF-AR-505
Designed MMP
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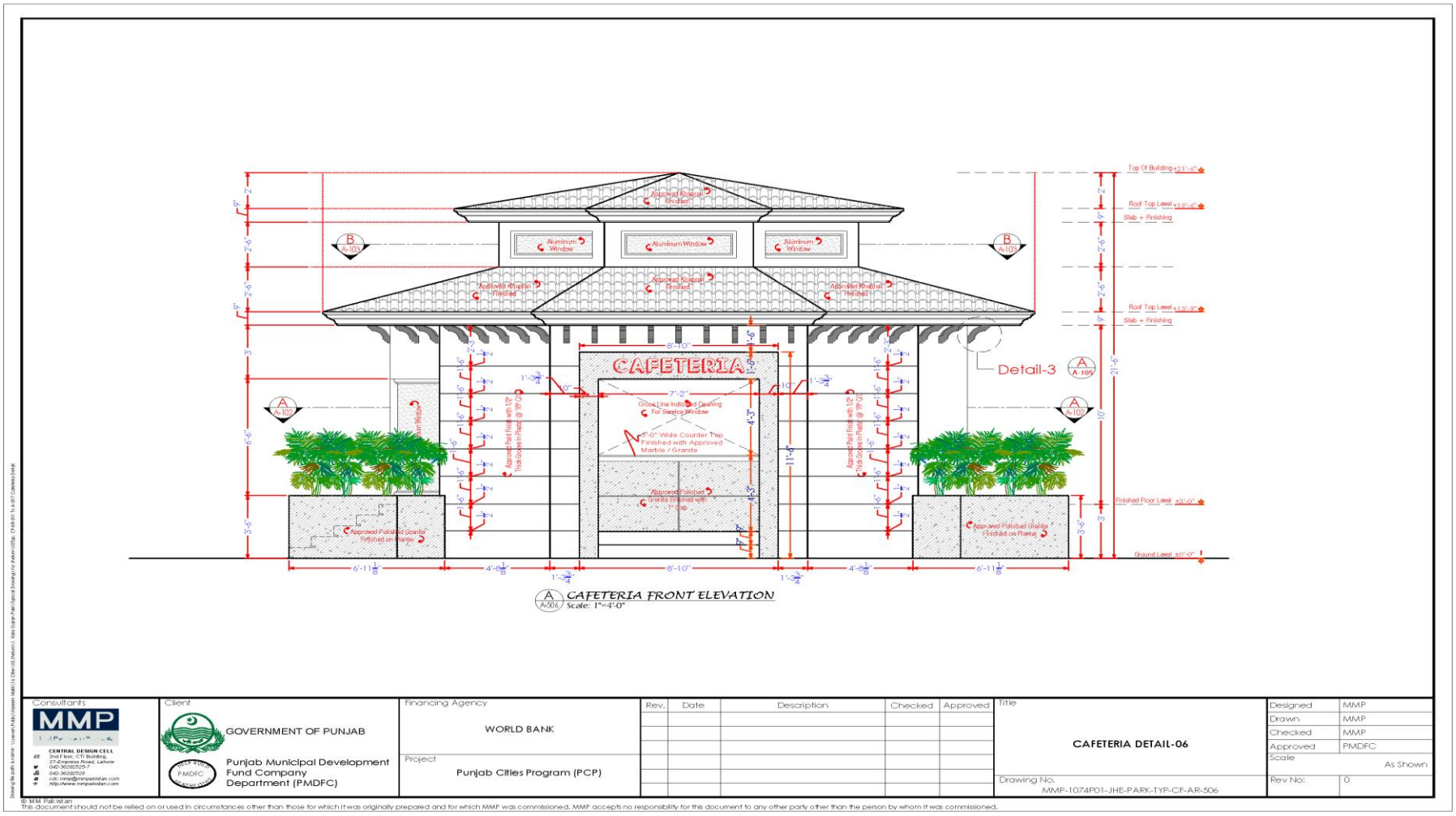

A CAFETERIA FRONT ELEVATION
A-506 Scale: 1"=4'-0"

Consultants	Client	Financing Agency	Rev.	Date	Description	Checked	Approved	Title	Designed	MMP
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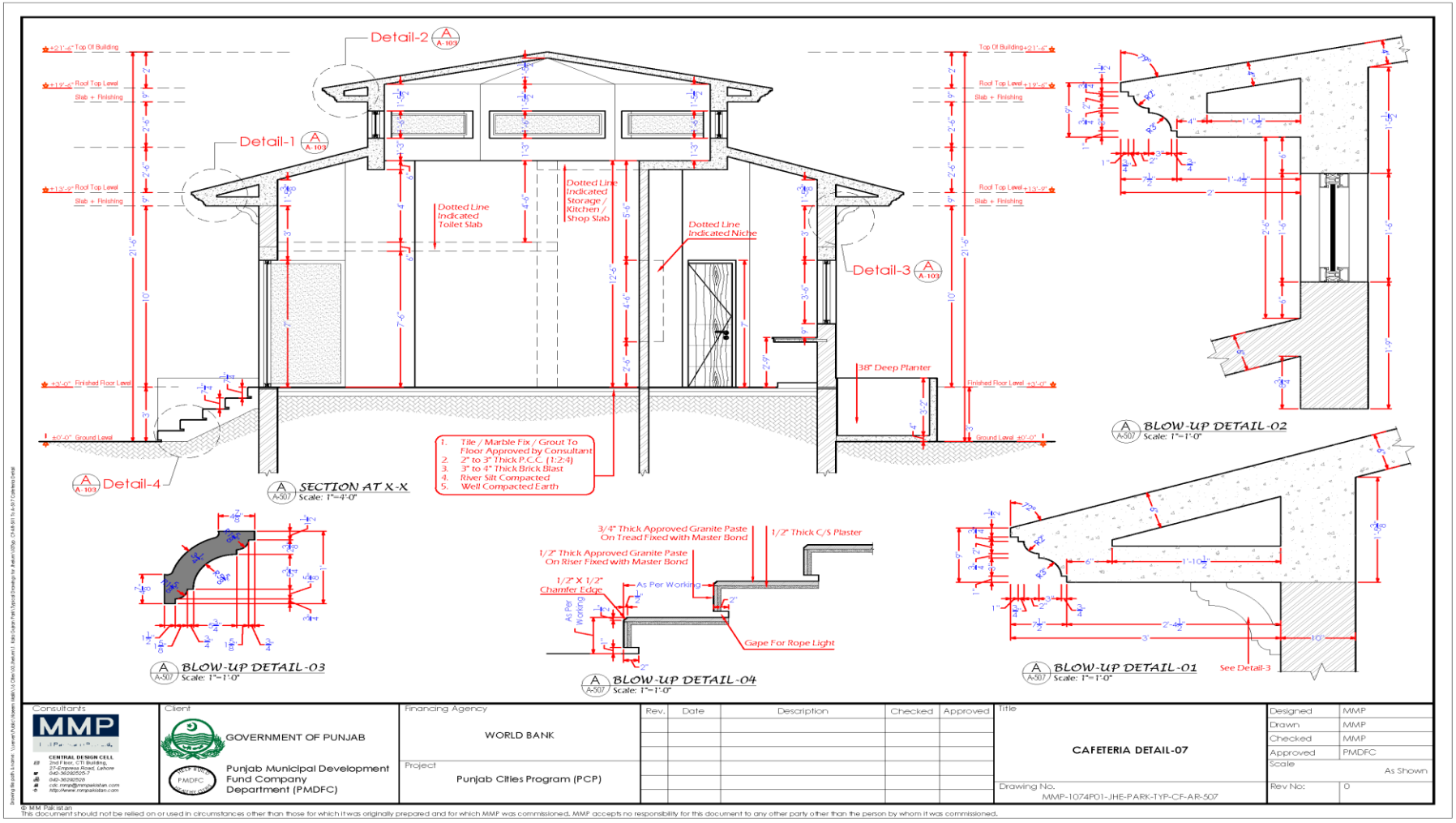
									Checked	MMP
									Approved	PMDFC
									Scale	As Shown
									Rev No:	0



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Client: GOVERNMENT OF PUNJAB — Punjab Municipal Development Fund Company Department (PMDFC)

Financing Agency: WORLD BANK

Project: Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title: CAFETERIA DETAIL-07

Drawing No.: MMP-1074P01-JHE-PARK-TYP-CF-AR-507

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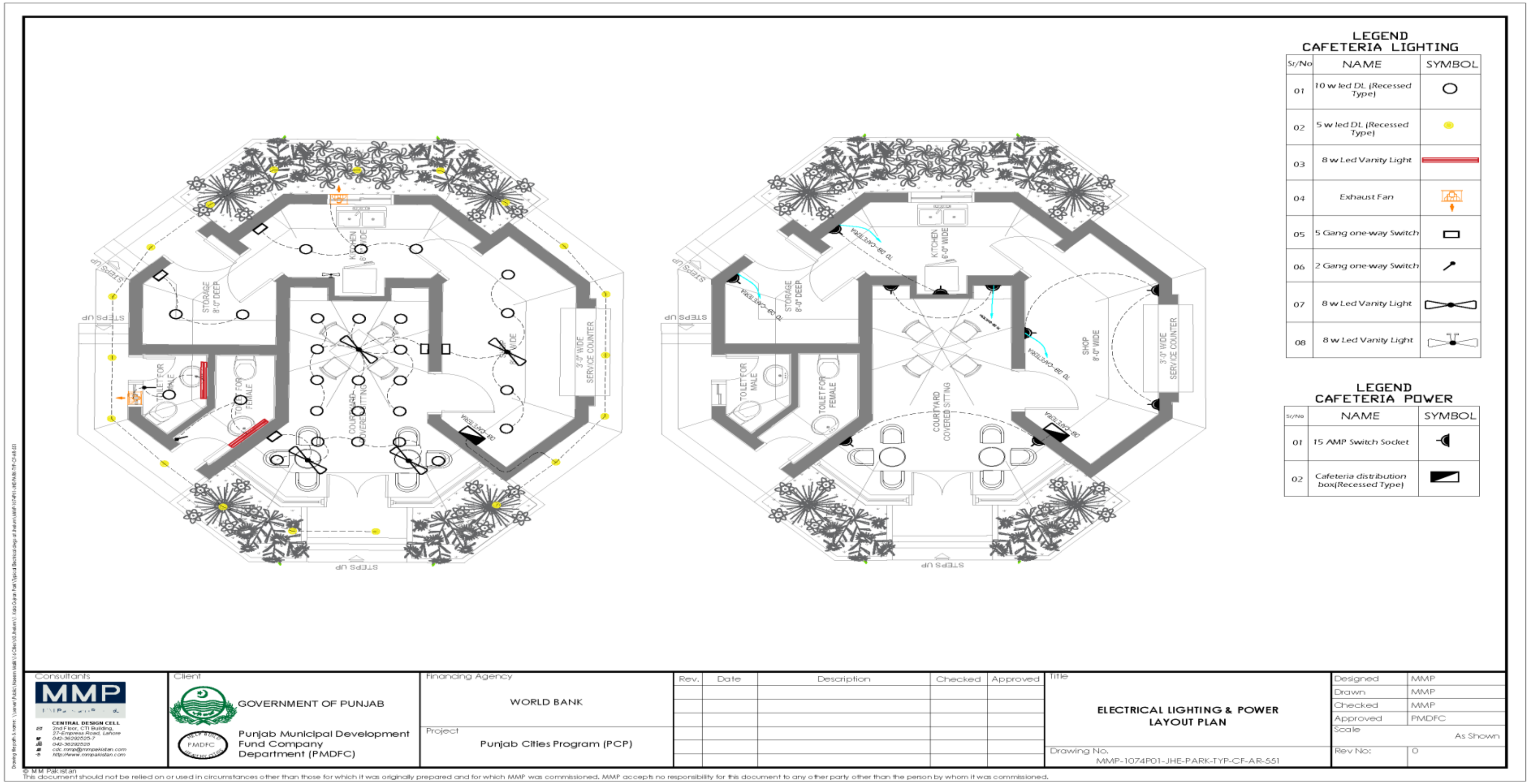
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
Rev No:	0


STEPS UP
STORAGE 8'-0" DEEP
KITCHEN 6'-0" WIDE
TOILET FOR MALE
TOILET FOR FEMALE
COURTYARD COVERED SITTING
3'-0" WIDE SERVICE COUNTER
SHOP 8'-0" WIDE
LEGEND
CAFETERIA LIGHTING
Sr/No | NAME | SYMBOL
01 | 10 w led DL (Recessed Type)
02 | 5 w led DL (Recessed Type)
03 | 8 w Led Vanity Light
04 | Exhaust Fan
05 | 5 Gang one-way Switch
06 | 2 Gang one-way Switch
07 | 8 w Led Vanity Light
08 | 8 w Led Vanity Light
LEGEND
CAFETERIA POWER
Sr/No | NAME | SYMBOL
01 | 15 AMP Switch Socket
02 | Cafeteria distribution box(Recessed Type)
Consultants
MMP
CENTRAL DESIGN CELL
Client
GOVERNMENT OF PUNJAB
Punjab Municipal Development Fund Company Department (PMDFC)
Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev. | Date | Description | Checked | Approved
Title
ELECTRICAL LIGHTING & POWER LAYOUT PLAN
Drawing No.
MMP-1074P01-JHE-PARK-TYP-CF-AR-551
Designed MMP
Drawn MMP
Checked MMP
Approved PMDFC
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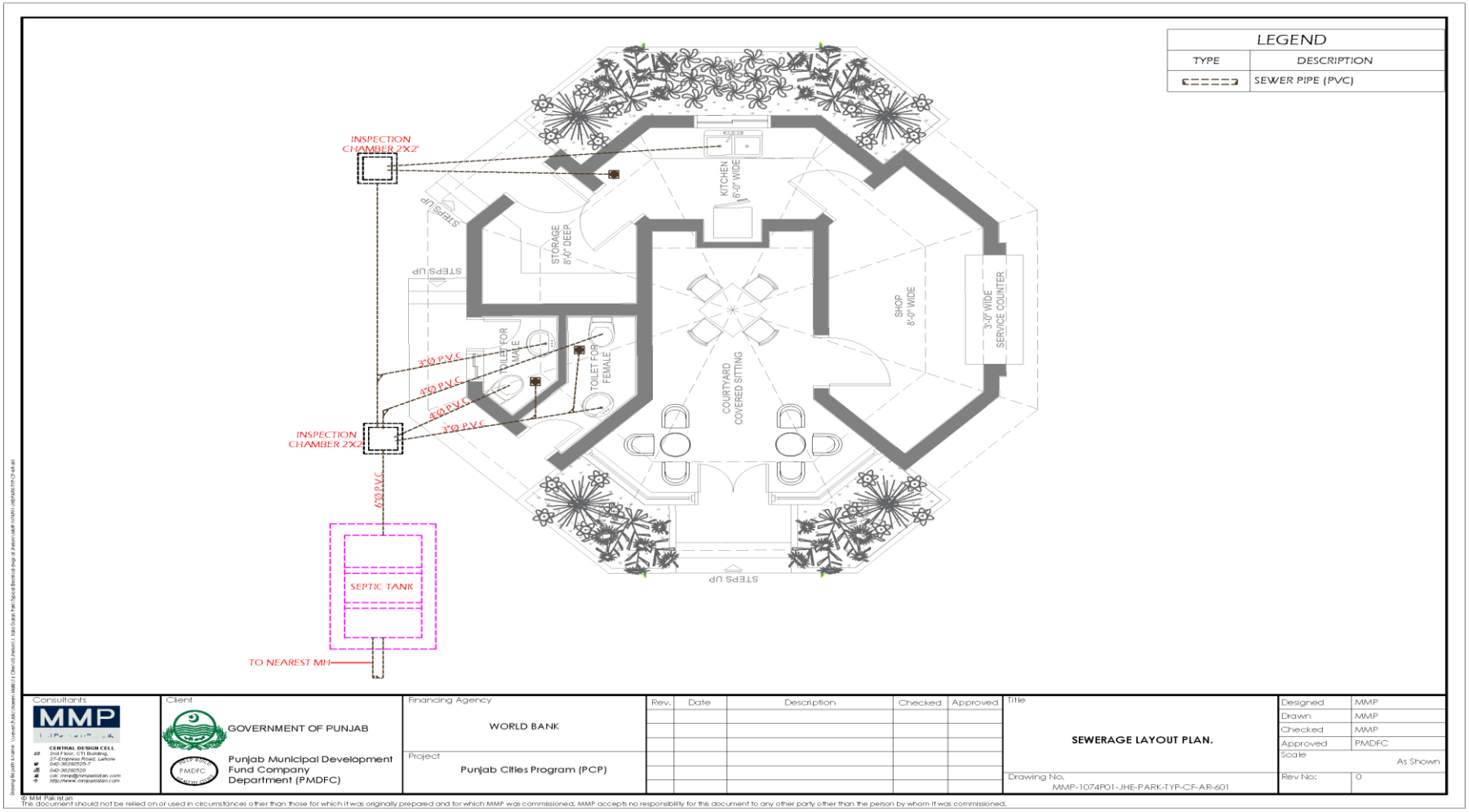
LEGEND
TYPE
DESCRIPTION
SEWER PIPE (PVC)
INSPECTION CHAMBER 2'X2'
INSPECTION CHAMBER 2'X2'
3"Ø P.V.C
4"Ø P.V.C
4"Ø P.V.C
3"Ø P.V.C
6"Ø P.V.C
SEPTIC TANK
TO NEAREST MH
STEPS UP
STEPS UP
STEPS UP
STORAGE 8'-0" DEEP
KITCHEN 6'-0" WIDE
TOILET FOR MALE
TOILET FOR FEMALE
COURTYARD COVERED SITTING
SHOP 8'-0" WIDE
3'-0" WIDE SERVICE COUNTER
Consultants
MMP
CENTRAL DESIGN CELL
2nd Floor, 171 Building,
27-Empress Road, Lahore
040-36280520-7
040-36280520
cdc: mmp@mmpakistan.com
http://www.mmpakistan.com
Client
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Financing Agency
WORLD BANK
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Rev.
Date
Description
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Title
SEWERAGE LAYOUT PLAN.
Drawing No.
MMP-1074P01-JHE-PARK-TYP-CF-AR-601
Designed
MMP
Drawn
MMP
Checked
MMP
Approved
PMDFC
Scale
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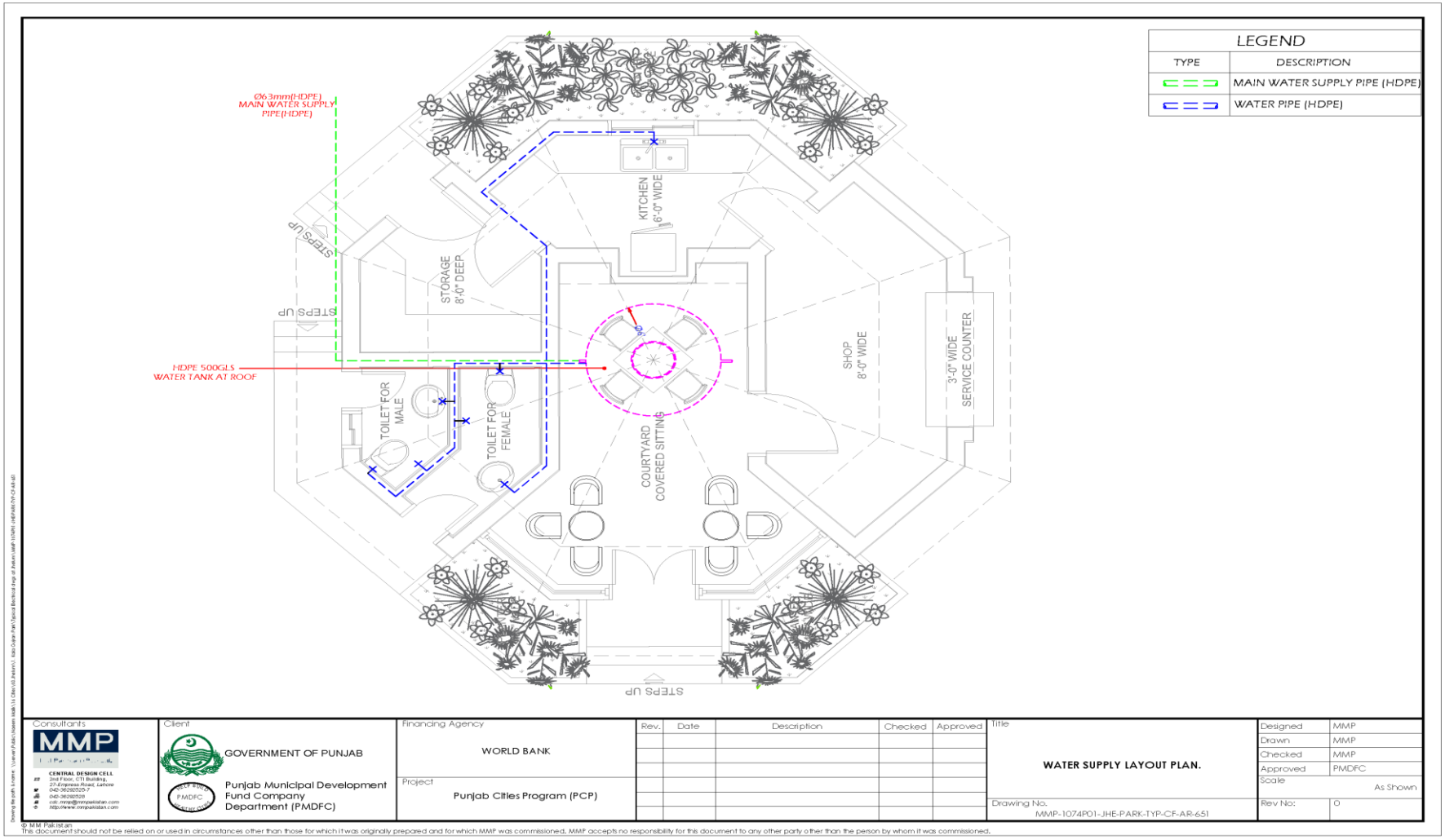
LEGEND
TYPE
DESCRIPTION
MAIN WATER SUPPLY PIPE (HDPE)
WATER PIPE (HDPE)
Ø63mm(HDPE) MAIN WATER SUPPLY PIPE(HDPE)
HDPE 500GLS WATER TANK AT ROOF
KITCHEN 6'-0" WIDE
STORAGE 8'-0" DEEP
STEPS UP
STEPS UP
STEPS UP
TOILET FOR MALE
TOILET FOR FEMALE
COURTYARD COVERED SITTING
SHOP 8'-0" WIDE
3'-0" WIDE SERVICE COUNTER
Consultants
MMP
CENTRAL DESIGN CELL
2nd Floor, CTI Building,
27-Empress Road, Lahore
042-36292525-7
042-36292529
cdc.mmp@mmpakistan.com
http://www.mmpakistan.com
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Punjab Municipal Development Fund Company Department (PMDFC)
Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev.
Date
Description
Checked
Approved
Title
WATER SUPPLY LAYOUT PLAN.
Drawing No.
MMP-1074P01-JHE-PARK-TYP-CF-AR-651
Designed
MMP
Drawn
MMP
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Scale
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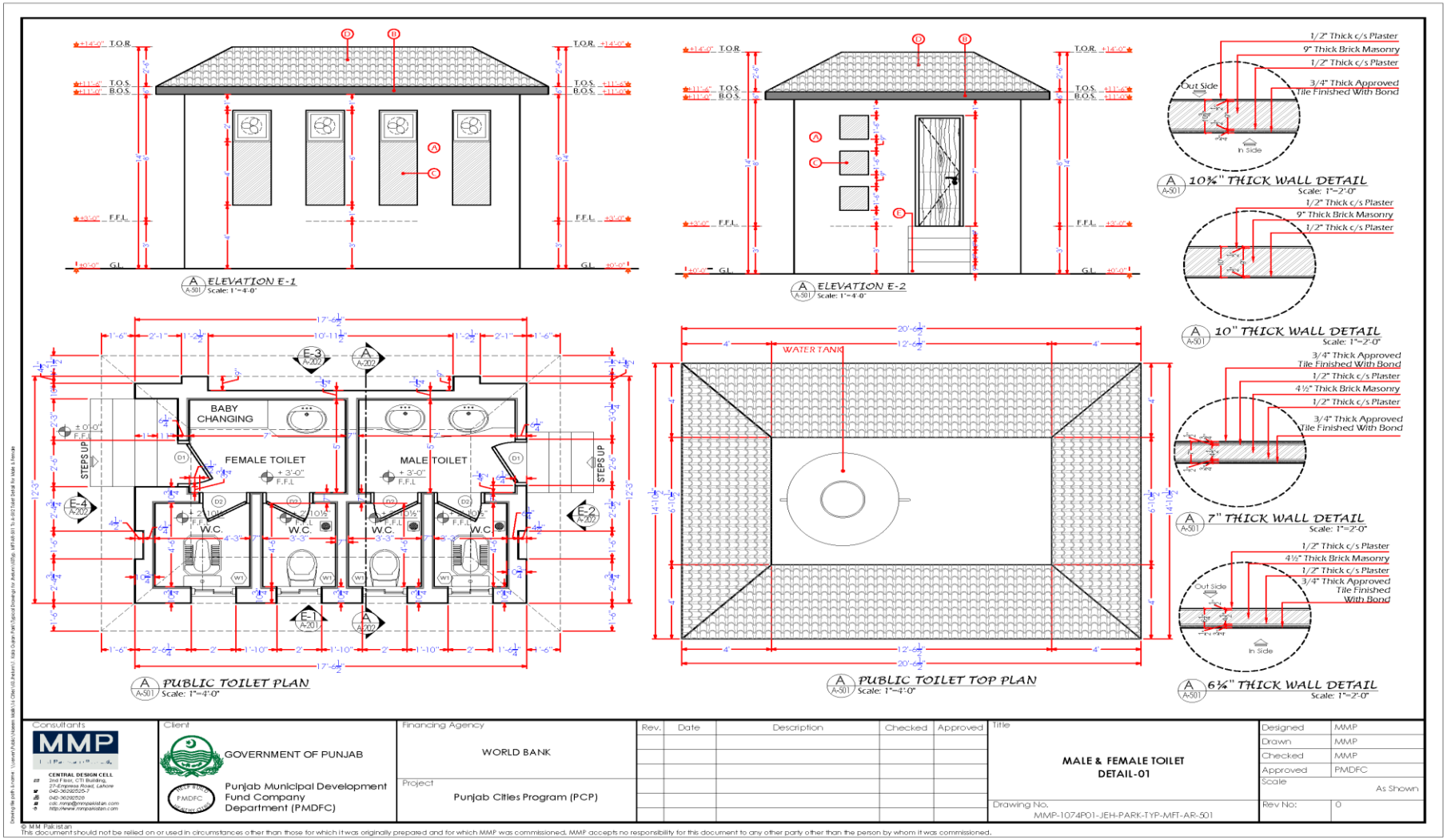

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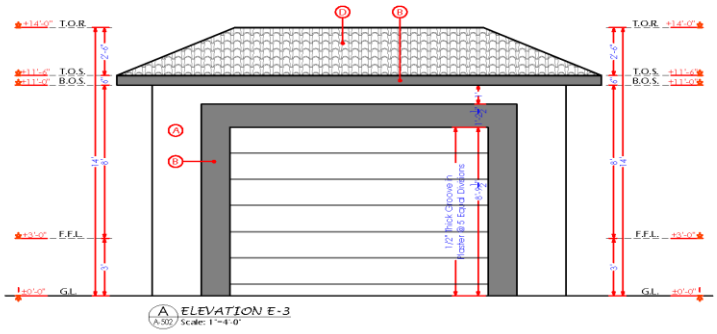
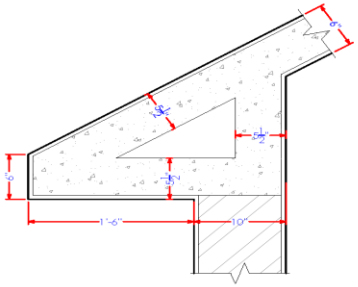
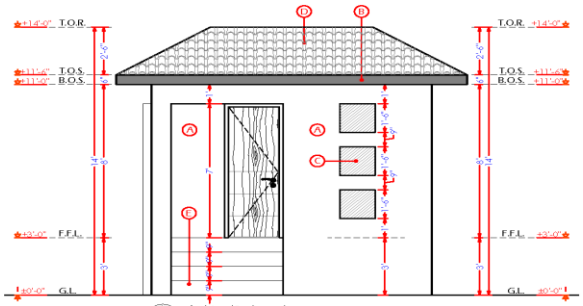


A/A-502 ELEVATION E-3
Scale: 1"=1'-0"

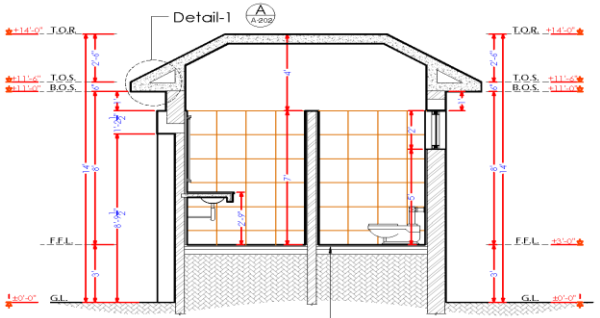


A/A-502 BLOW-UP DETAIL-01
Scale: 1"=1'-0"

LEGEND	
TYPE	DESCRIPTION
G.L.	GROUND LEVEL
F.F.L.	FINISHED FLOOR LEVEL
B.O.S.	BOTTOM OF SLAB
T.O.S.	TOP OF SLAB
T.O.R.	TOP OF ROOF
C.H.	CLEAR HEIGHT
	ELEVATION MARK IN PLAN
	SECTION LINE MARK IN PLAN
	LEVEL MARK IN ELEVATION
	LEVEL MARK IN PLAN
A	APPROVED PAINT FINISHED
B	APPROVED GREY PAINT FINISHED
C	APPROVED TILE FINISHED
D	APPROVED KHAPRAIL FINISHED
E	APPROVED GRANITE FINISHED



A/A-502 ELEVATION E-4
Scale: 1"=1'-0"



A/A-502 SECTION AT A-A
Scale: 1"=1'-0"

1. Tile / Marble Fix / Grout To Floor Approved by Consultant
2. 2" to 3" Thick P.C.C. (1:2:4)
3. 3" to 4" Thick Brick Blast
4. River Silt Compacted
5. Well Compacted Earth

Consultants
MMP
CENTRAL DESIGN CELL
2nd Floor, CTI Building, 27-A Empress Road, Lahore
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042-36292520
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Client
GOVERNMENT OF PUNJAB
Punjab Municipal Development Fund Company Department (PMDFC)

Financing Agency
WORLD BANK

Project
Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title
MALE & FEMALE TOILET DETAIL-02

Drawing No.
MMP-1074P01-JHE-PARK-TYP-MFT-AR-502

Designed	MMP
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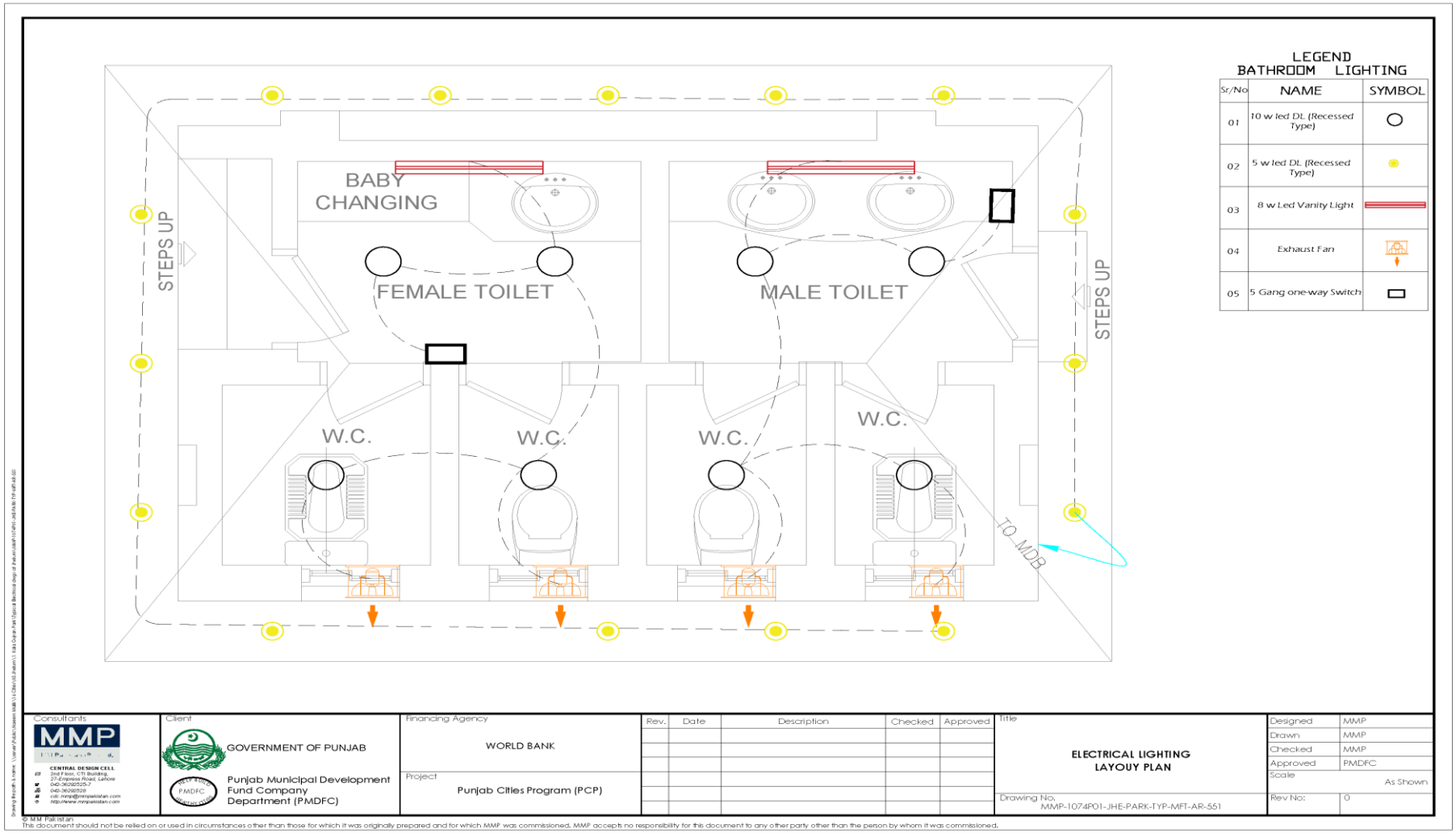
Rev No:	0


BABY CHANGING
FEMALE TOILET
MALE TOILET
STEPS UP
STEPS UP
W.C.
W.C.
W.C.
W.C.
TO MDB
LEGEND
BATHROOM LIGHTING
Sr/No
NAME
SYMBOL
01
10 w led DL (Recessed Type)
02
5 w led DL (Recessed Type)
03
8 w Led Vanity Light
04
Exhaust Fan
05
5 Gang one-way Switch
Consultants
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040-36302528
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Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev.
Date
Description
Checked
Approved
Title
ELECTRICAL LIGHTING LAYOUY PLAN
Drawing No.
MMP-1074P01-JHE-PARK-TYP-MFT-AR-551
Designed
MMP
Drawn
MMP
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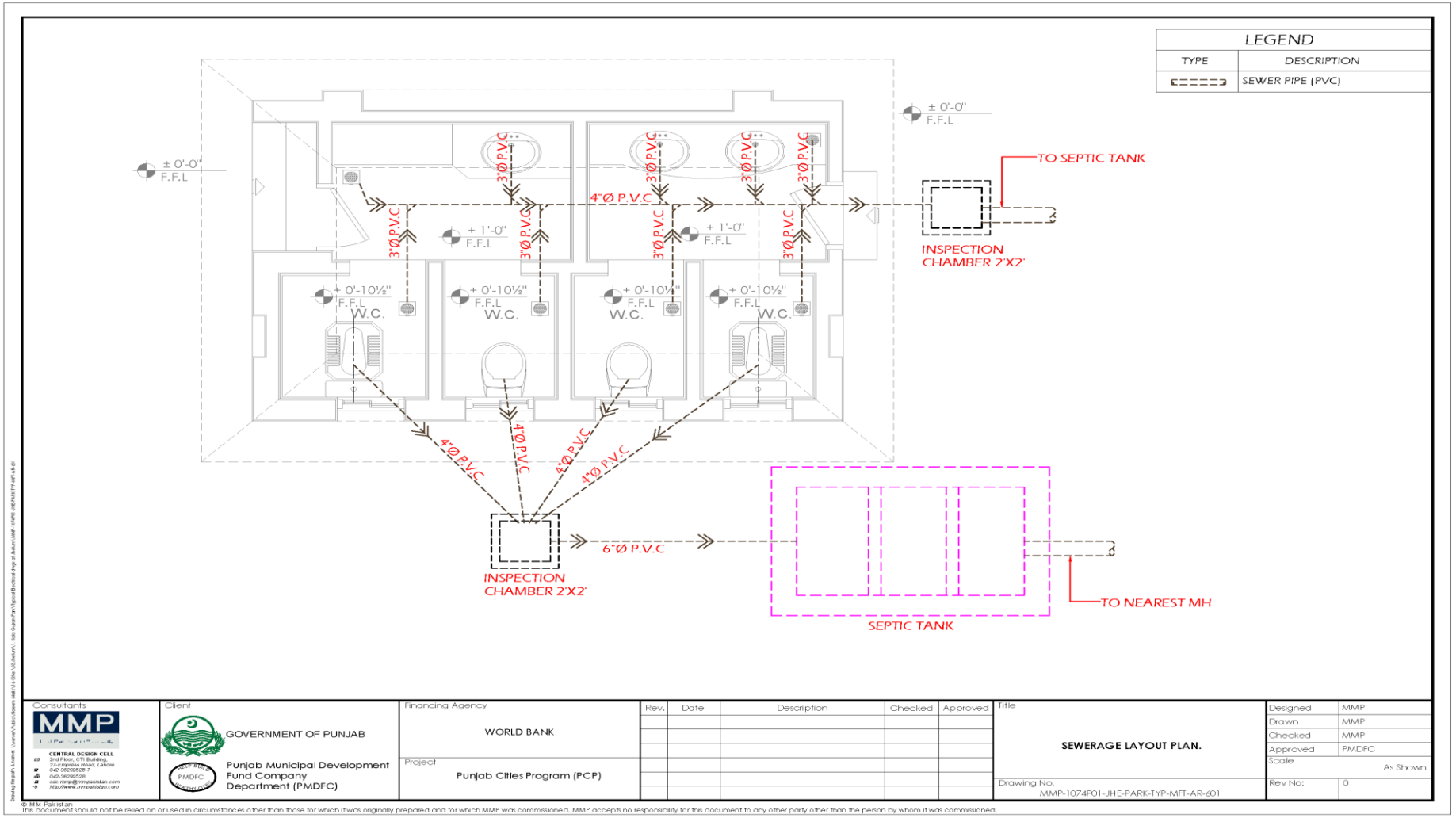
LEGEND
TYPE
DESCRIPTION
SEWER PIPE (PVC)
± 0'-0" F.F.L
TO SEPTIC TANK
3"Ø P.V.C
4"Ø P.V.C
+ 1'-0" F.F.L
INSPECTION CHAMBER 2'X2'
+ 0'-10½" F.F.L
W.C.
6"Ø P.V.C
INSPECTION CHAMBER 2'X2'
TO NEAREST MH
SEPTIC TANK
Consultants
MMP
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042-36280526
cdc.mmp@mmpakistan.com
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Punjab Municipal Development Fund Company Department (PMDFC)
Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev.
Date
Description
Checked
Approved
Title
SEWERAGE LAYOUT PLAN.
Drawing No.
MMP-1074P01-JHE-PARK-TYP-MFT-AR-601
Designed
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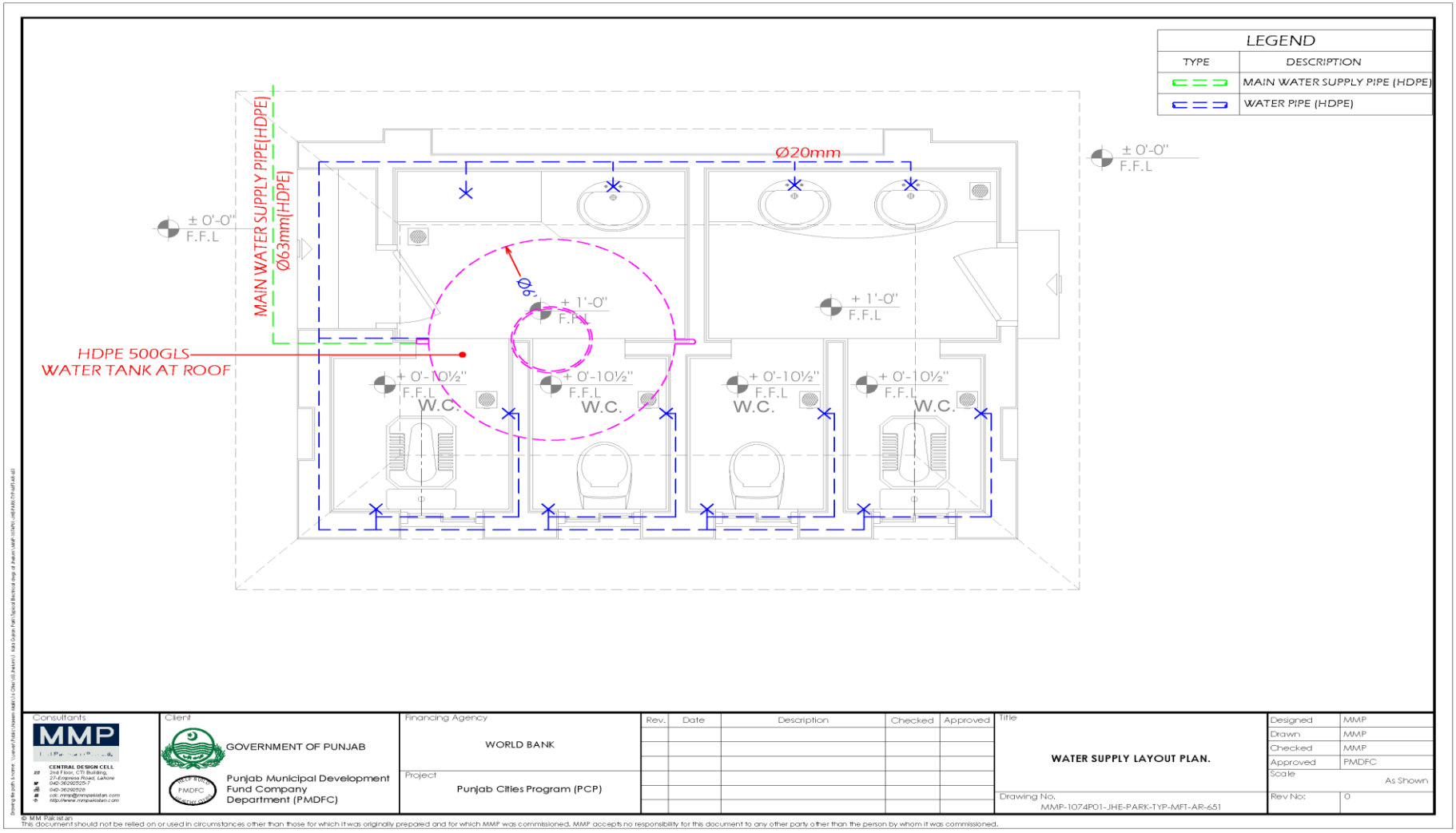
LEGEND
TYPE
DESCRIPTION
MAIN WATER SUPPLY PIPE (HDPE)
WATER PIPE (HDPE)
MAIN WATER SUPPLY PIPE(HDPE)
Ø63mm(HDPE)
HDPE 500GLS
WATER TANK AT ROOF
Ø20mm
± 0'-0"
F.F.L
+ 1'-0"
F.F.L
+ 0'-10½"
F.F.L
W.C.
Consultants
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Project
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Rev.
Date
Description
Checked
Approved
Title
WATER SUPPLY LAYOUT PLAN.
Drawing No.
MMP-1074P01-JHE-PARK-TYP-MFT-AR-651
Designed
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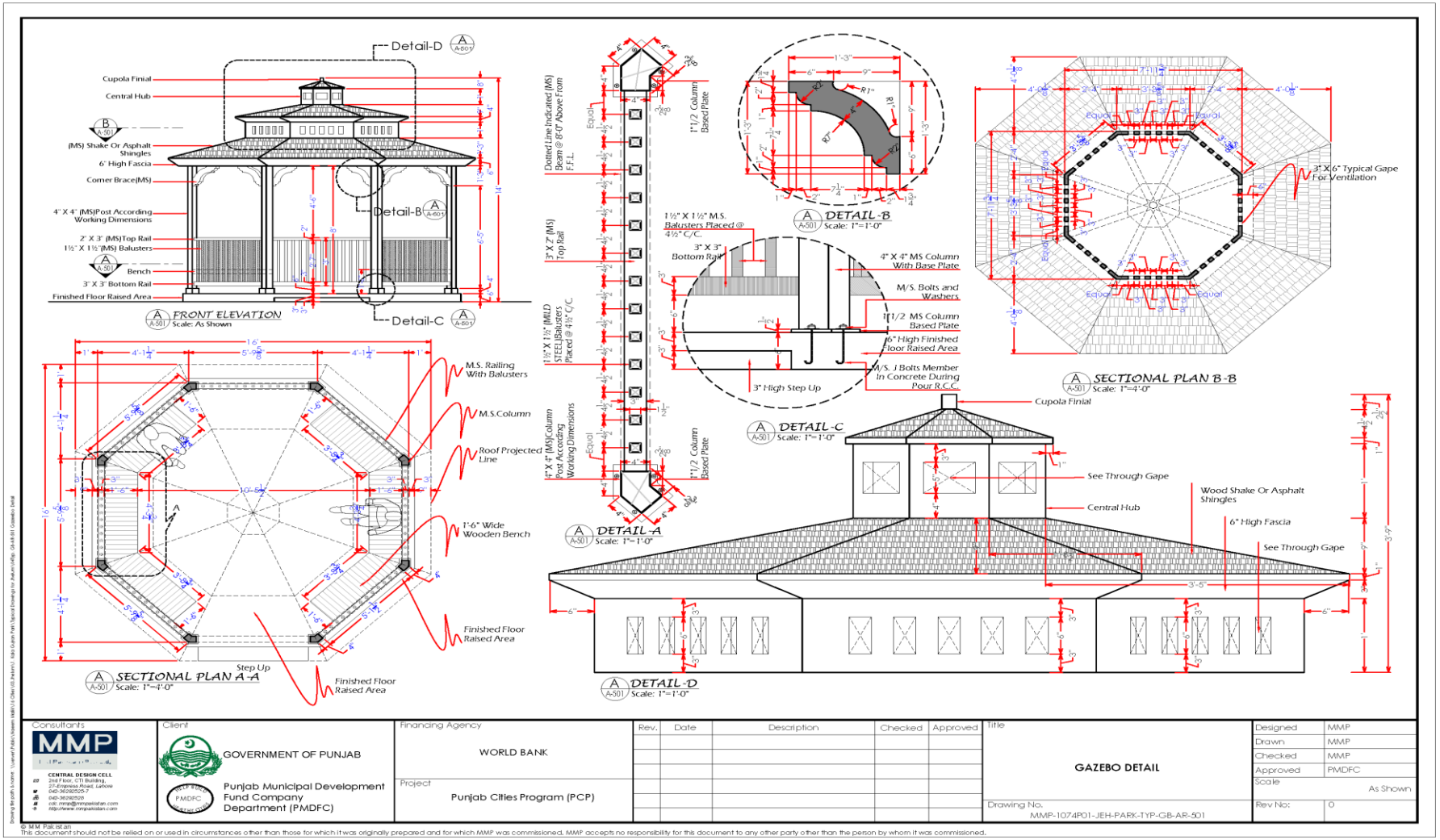

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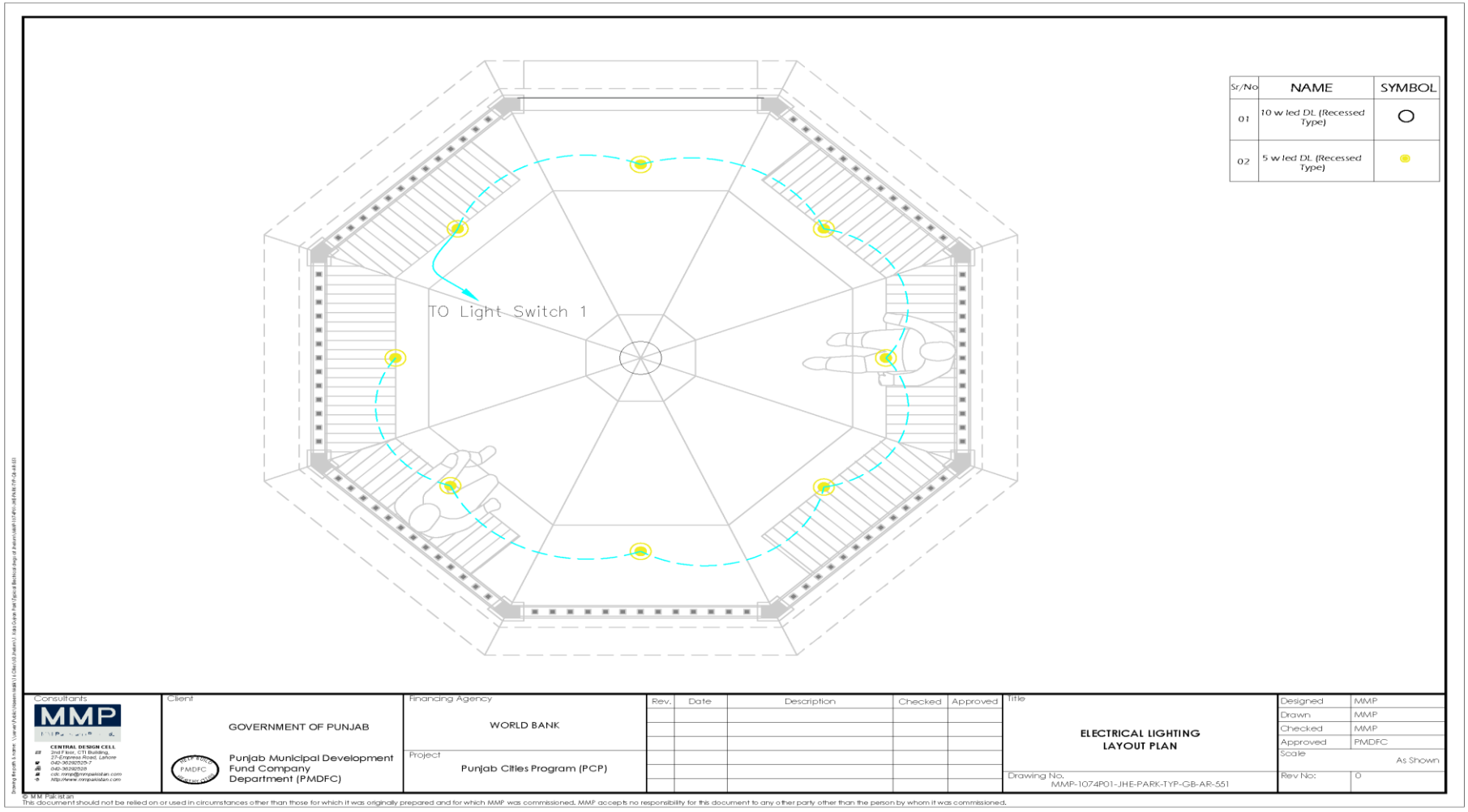
TO Light Switch 1
Sr/No
NAME
SYMBOL
01
10 w led DL (Recessed Type)
02
5 w led DL (Recessed Type)
Consultants
MMP
CENTRAL DESIGN CELL
Client
GOVERNMENT OF PUNJAB
Punjab Municipal Development Fund Company Department (PMDFC)
Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev.
Date
Description
Checked
Approved
Title
ELECTRICAL LIGHTING LAYOUT PLAN
Drawing No.
MMP-1074P01-JHE-PARK-TYP-GB-AR-551
Designed
MMP
Drawn
MMP
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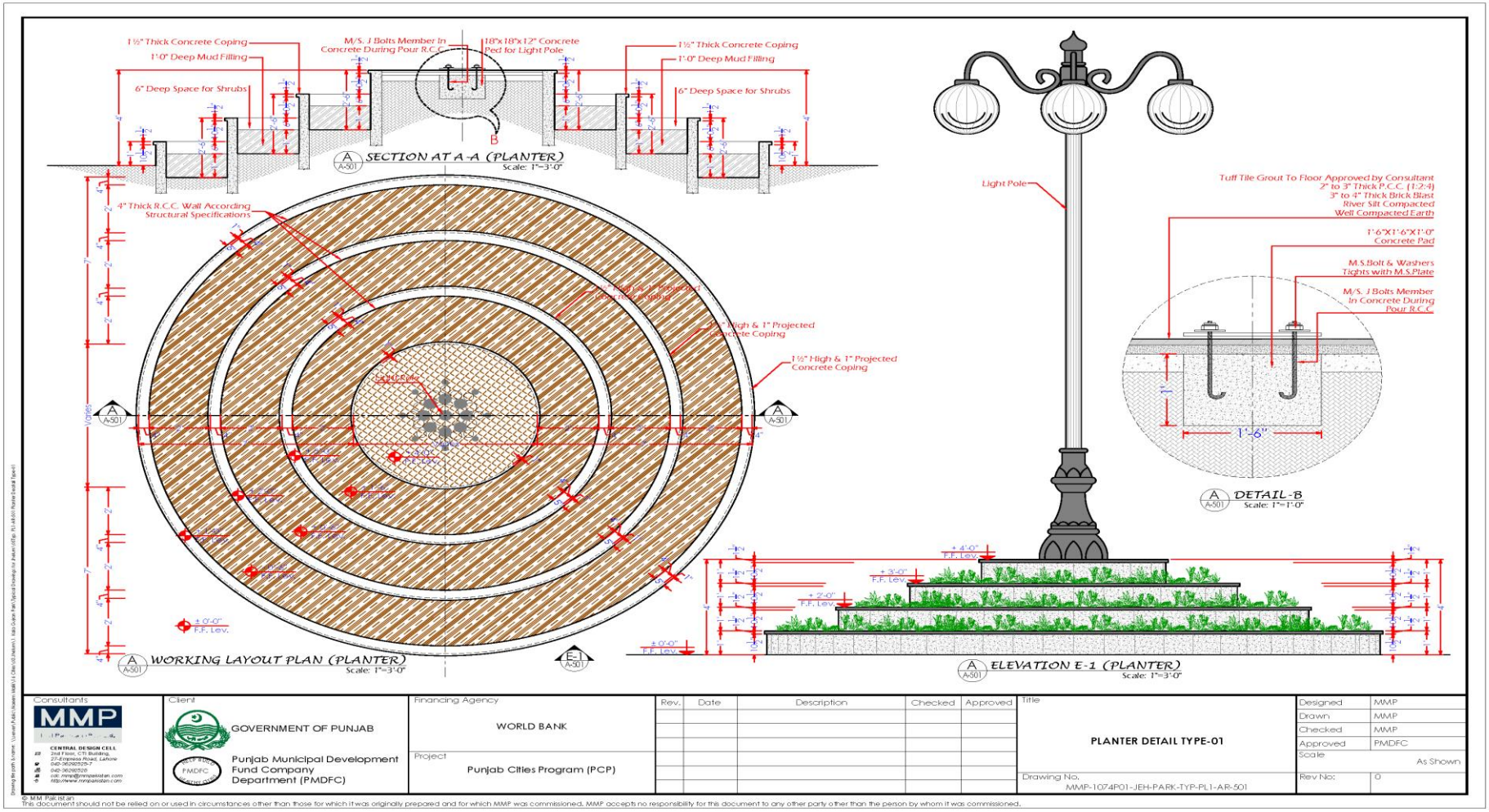

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Financing Agency: WORLD BANK

Project: Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title: PLANTER DETAIL TYPE-01

Drawing No.: MMP-1074P01-JEH-PARK-TYP-PL1-AR-501

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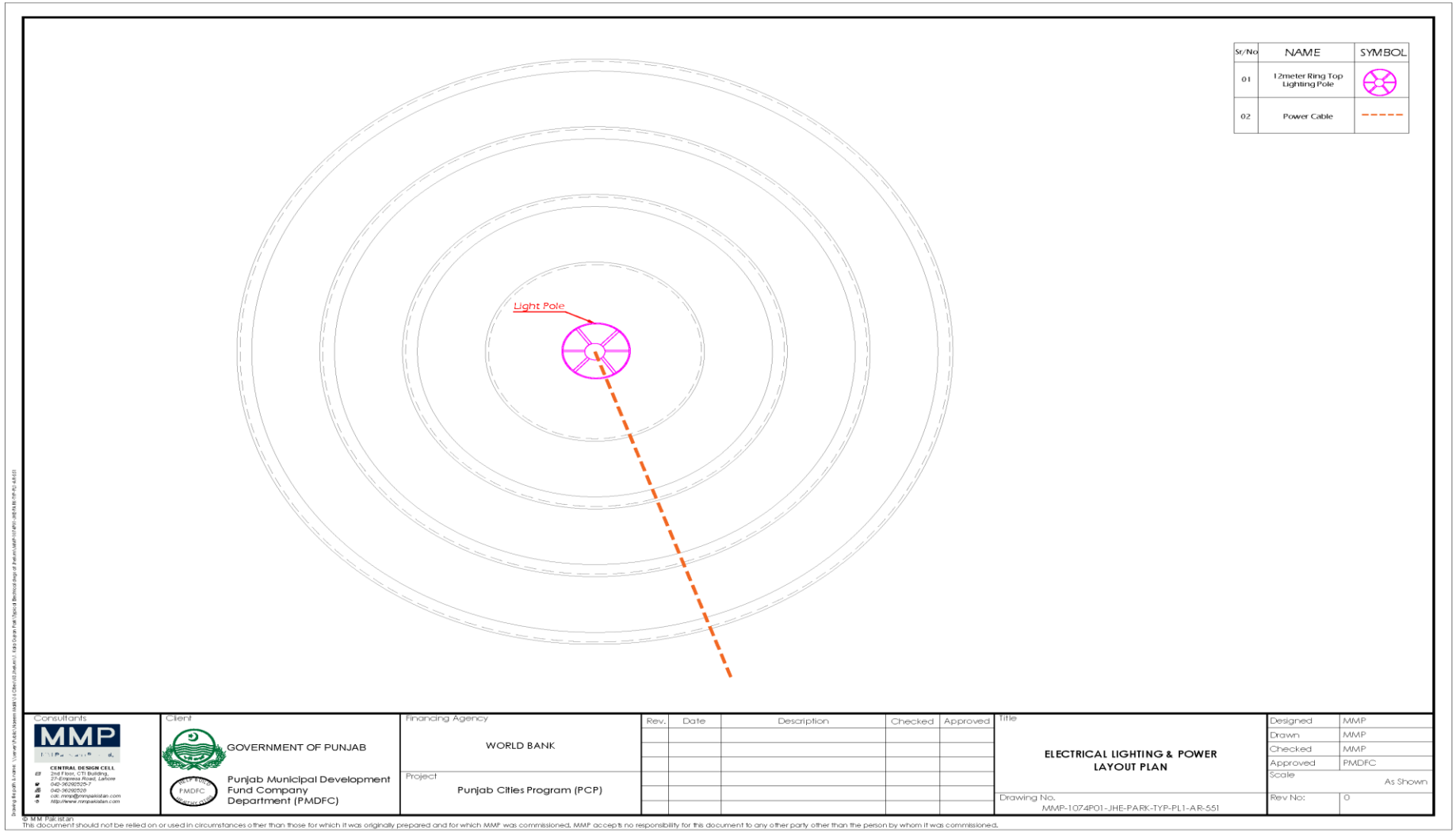
Sr/No
NAME
SYMBOL
01
12meter Ring Top Lighting Pole
02
Power Cable
Light Pole
Consultants
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CENTRAL DESIGN CELL
2nd Floor, CTI Building,
27-E Inpress Road, Lahore
042-36292525-7
042-36292529
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Rev.
Date
Description
Checked
Approved
Title
ELECTRICAL LIGHTING & POWER LAYOUT PLAN
Drawing No.
MMP-1074P01-JHE-PARK-TYP-PL1-AR-551
Designed
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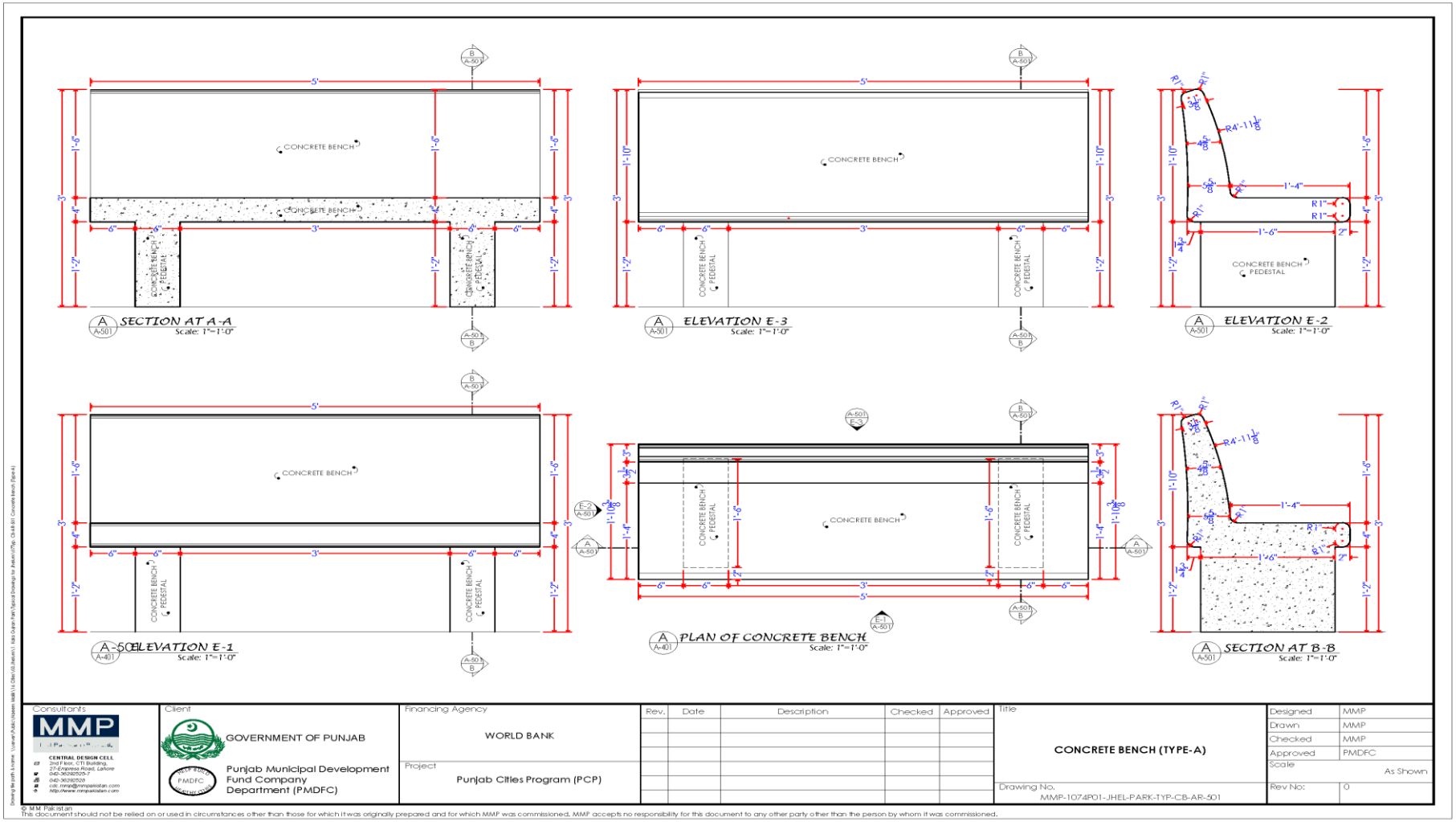
SECTION AT A-A
Scale: 1"=1'-0"
ELEVATION E-3
Scale: 1"=1'-0"
ELEVATION E-2
Scale: 1"=1'-0"
ELEVATION E-1
Scale: 1"=1'-0"
PLAN OF CONCRETE BENCH
Scale: 1"=1'-0"
SECTION AT B-B
Scale: 1"=1'-0"
CONCRETE BENCH
CONCRETE BENCH PEDESTAL
Consultants
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Financing Agency
WORLD BANK
Project
Punjab Cities Program (PCP)
Rev. | Date | Description | Checked | Approved
Title
CONCRETE BENCH (TYPE-A)
Drawing No.
MMP-1074P01-JHEL-PARK-TYP-CB-AR-501
Designed MMP
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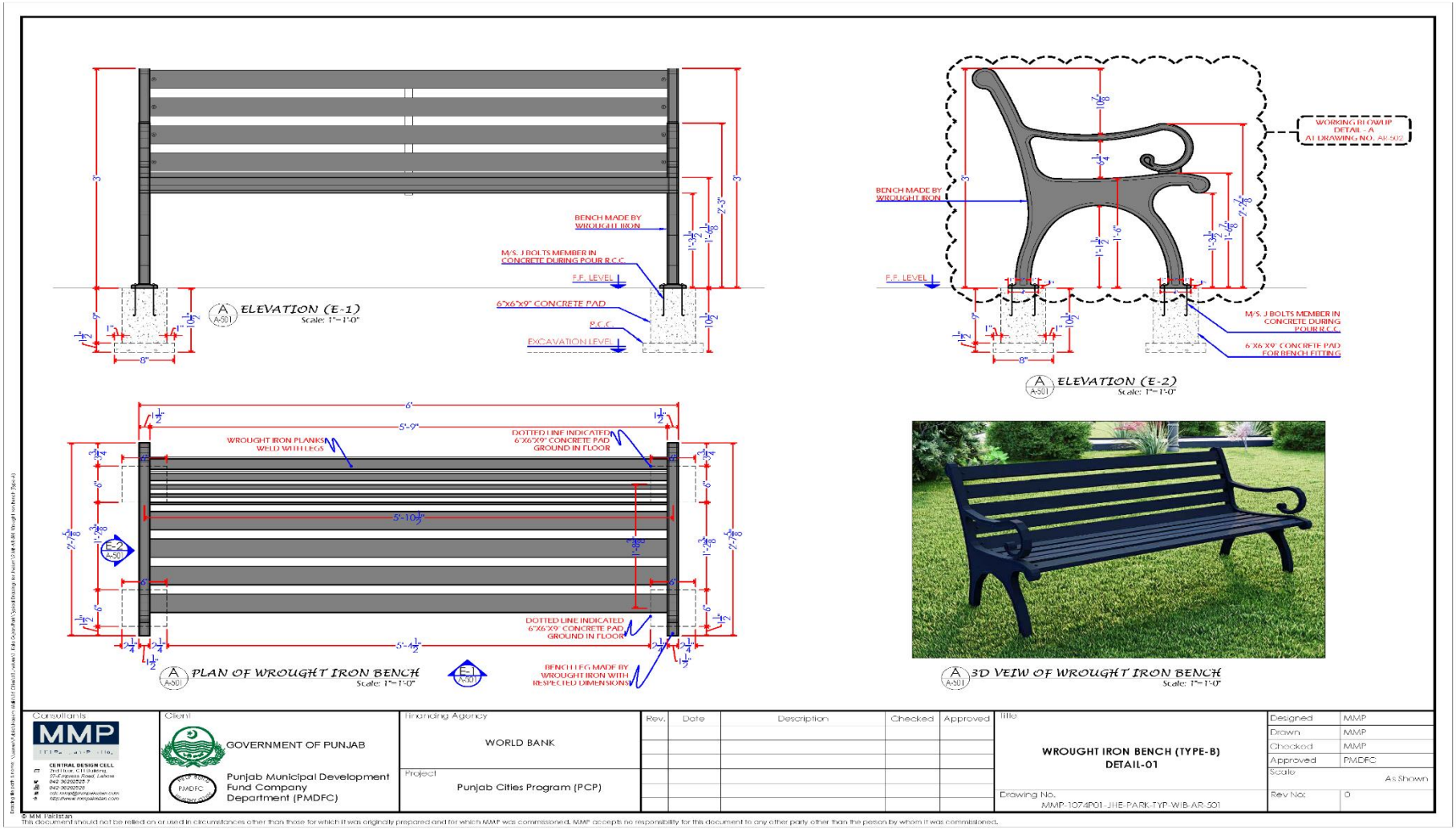
BENCH MADE BY WROUGHT IRON
M/S. J BOLTS MEMBER IN CONCRETE DURING POUR R.C.C
F.F. LEVEL
6"X6"X9" CONCRETE PAD
P.C.C.
EXCAVATION LEVEL
ELEVATION (E-1)
Scale: 1"=1'-0"
WORKING BLOW UP DETAIL - A AT DRAWING NO. AR-502
BENCH MADE BY WROUGHT IRON
F.F. LEVEL
M/S. J BOLTS MEMBER IN CONCRETE DURING POUR R.C.C
6"X6"X9" CONCRETE PAD FOR BENCH FITTING
ELEVATION (E-2)
Scale: 1"=1'-0"
WROUGHT IRON PLANKS WELD WITH LEGS
DOTTED LINE INDICATED 6"X6"X9" CONCRETE PAD GROUND IN FLOOR
DOTTED LINE INDICATED 6"X6"X9" CONCRETE PAD GROUND IN FLOOR
BENCH LEG MADE BY WROUGHT IRON WITH RESPECTED DIMENSIONS
PLAN OF WROUGHT IRON BENCH
Scale: 1"=1'-0"
3D VEIW OF WROUGHT IRON BENCH
Scale: 1"=1'-0"
Consultants
MMP
CENTRAL DESIGN CELL
Client
GOVERNMENT OF PUNJAB
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Financing Agency
WORLD BANK
Project
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Rev.
Date
Description
Checked
Approved
Title
WROUGHT IRON BENCH (TYPE-B) DETAIL-01
Drawing No.
MMP-1074P01-JIIE-PARK-TYP-WIB-AR-501
Designed MMP
Drawn MMP
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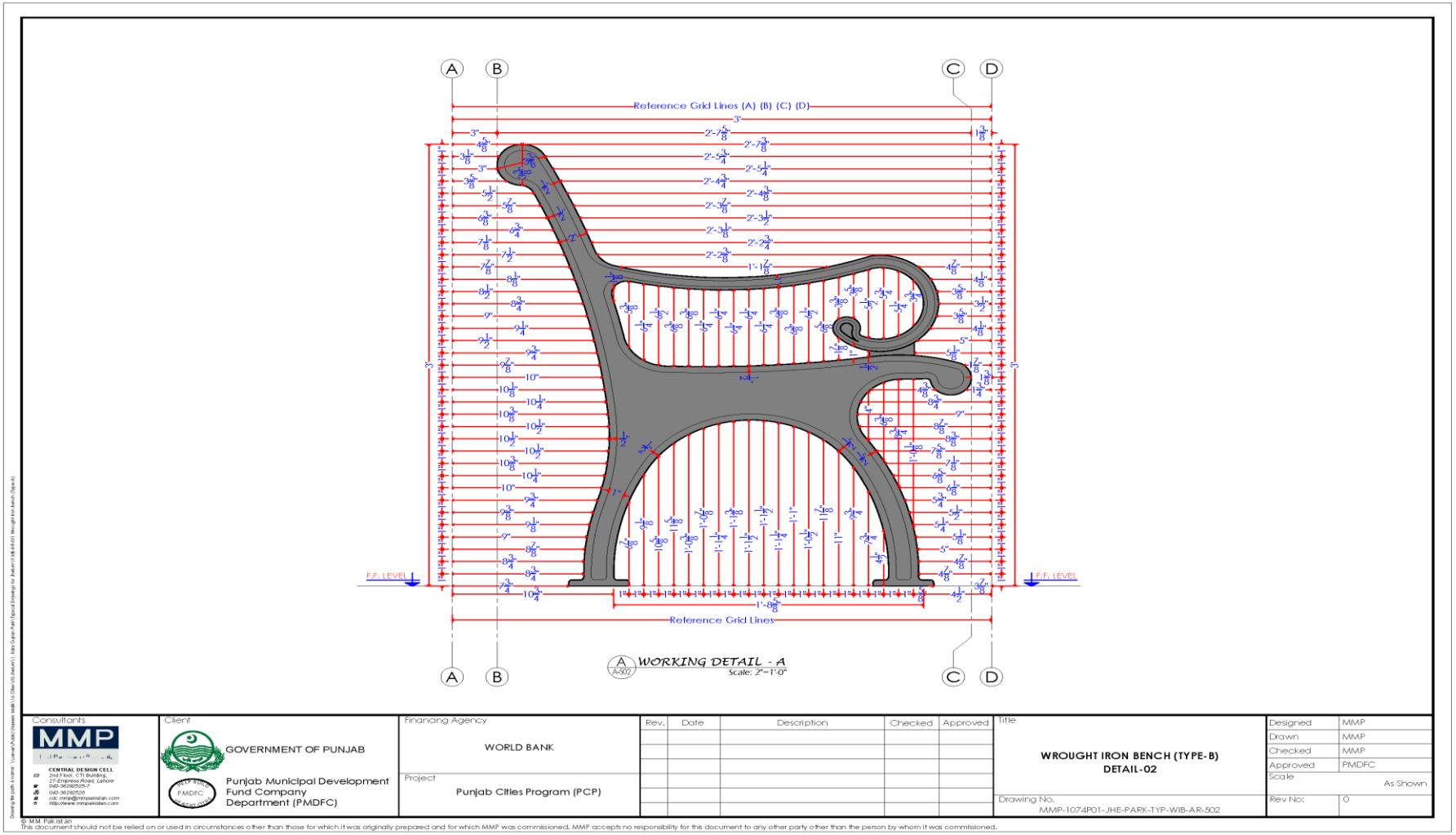

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Punjab Municipal Development Fund Company Department (PMDFC)

Financing Agency
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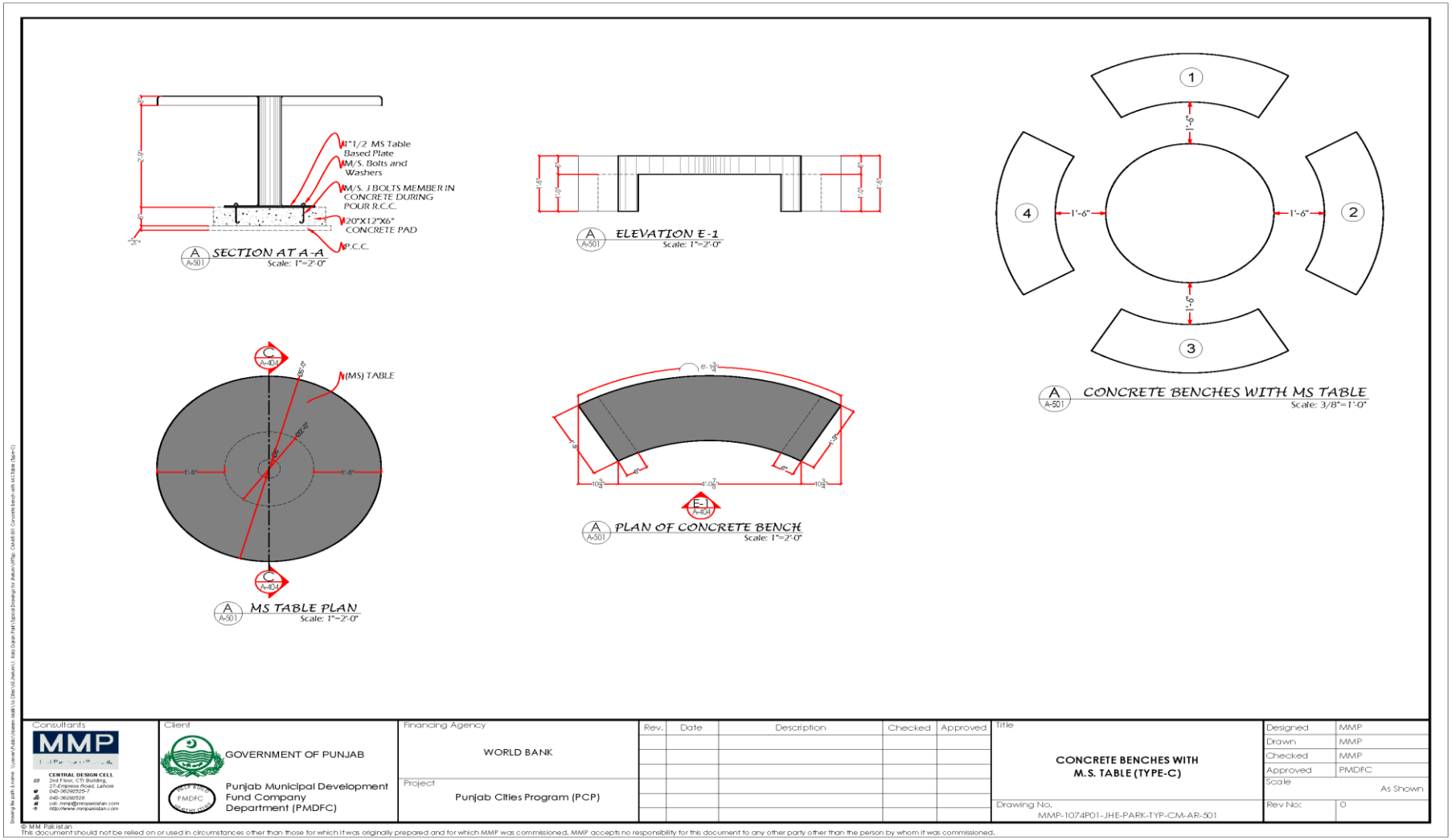
Project
Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title
WROUGHT IRON BENCH (TYPE-B) DETAIL-02

Drawing No.
MMP-1074P01-JHE-PARK-TYP-WIB-AR-502

Designed	MMP
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
Rev No:	0



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Client: GOVERNMENT OF PUNJAB — Punjab Municipal Development Fund Company Department (PMDFC)

Financing Agency: WORLD BANK

Project: Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title: **CONCRETE BENCHES WITH M.S. TABLE (TYPE-C)**

Drawing No.: MMP-1074P01-JHE-PARK-TYP-CM-AR-501

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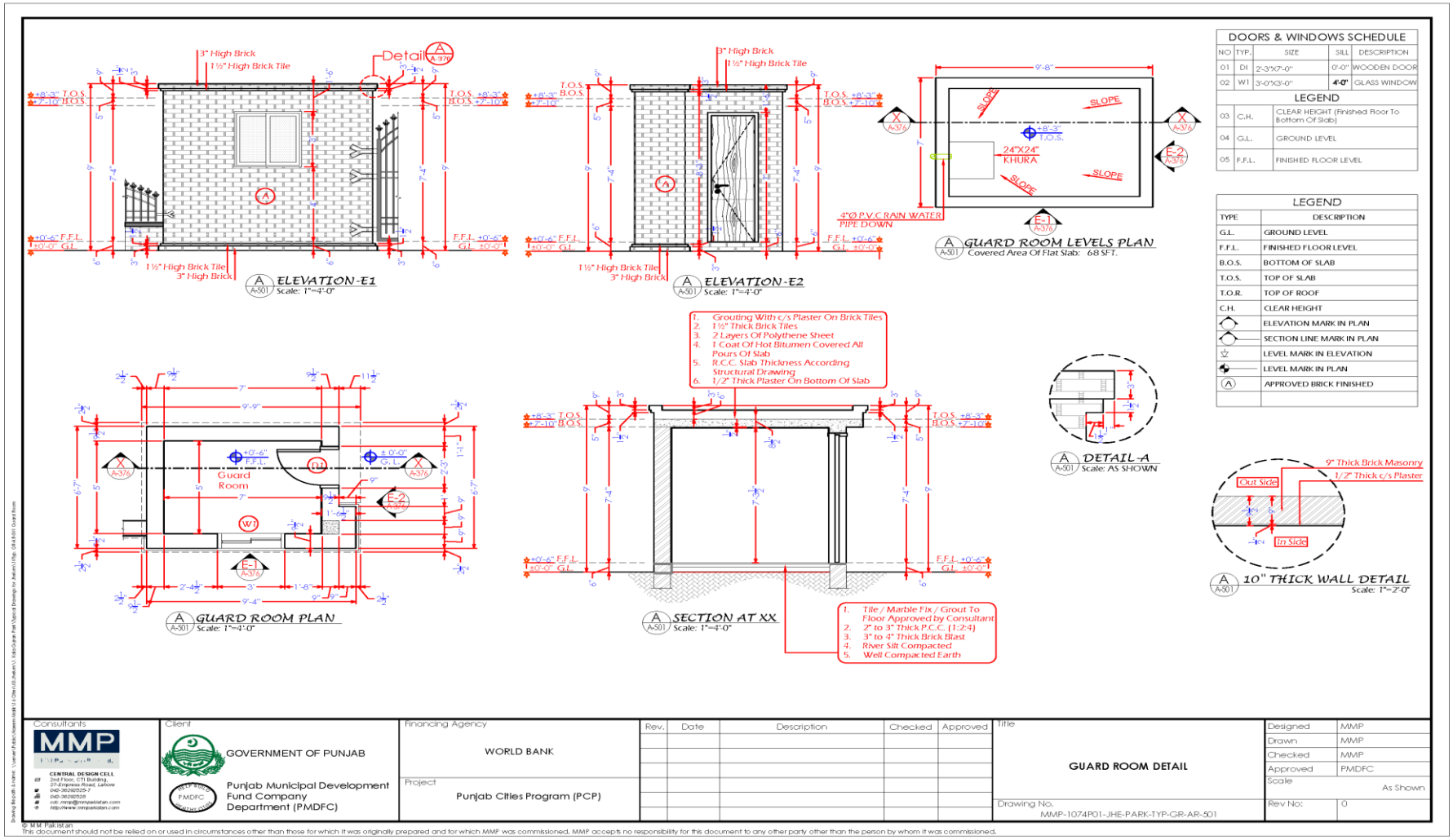
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
Rev No:	0



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Client: GOVERNMENT OF PUNJAB — Punjab Municipal Development Fund Company Department (PMDFC)

Financing Agency: WORLD BANK

Project: Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title: GUARD ROOM DETAIL

Drawing No.: MMP-1074P01-JHE-PARK-TYP-GR-AR-501

Designed	MMP
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
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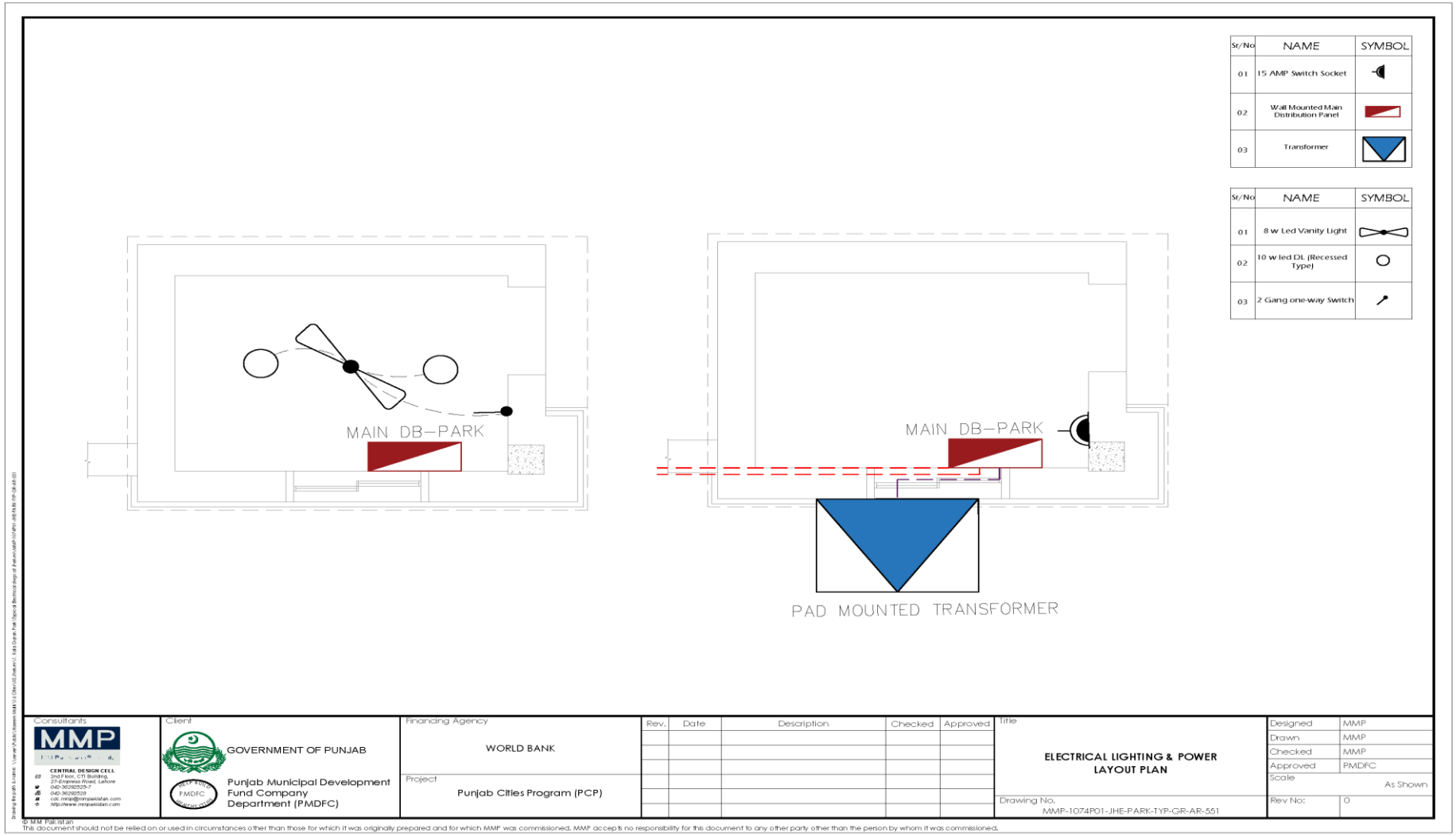
Sr/No
NAME
SYMBOL
01
15 AMP Switch Socket
02
Wall Mounted Main Distribution Panel
03
Transformer
Sr/No
NAME
SYMBOL
01
8 w Led Vanity Light
02
10 w led DL (Recessed Type)
03
2 Gang one-way Switch
MAIN DB-PARK
MAIN DB-PARK
PAD MOUNTED TRANSFORMER
Consultants
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042-36280526
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Rev.
Date
Description
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Title
ELECTRICAL LIGHTING & POWER LAYOUT PLAN
Drawing No.
MMP-1074P01-JHE-PARK-TYP-GR-AR-551
Designed
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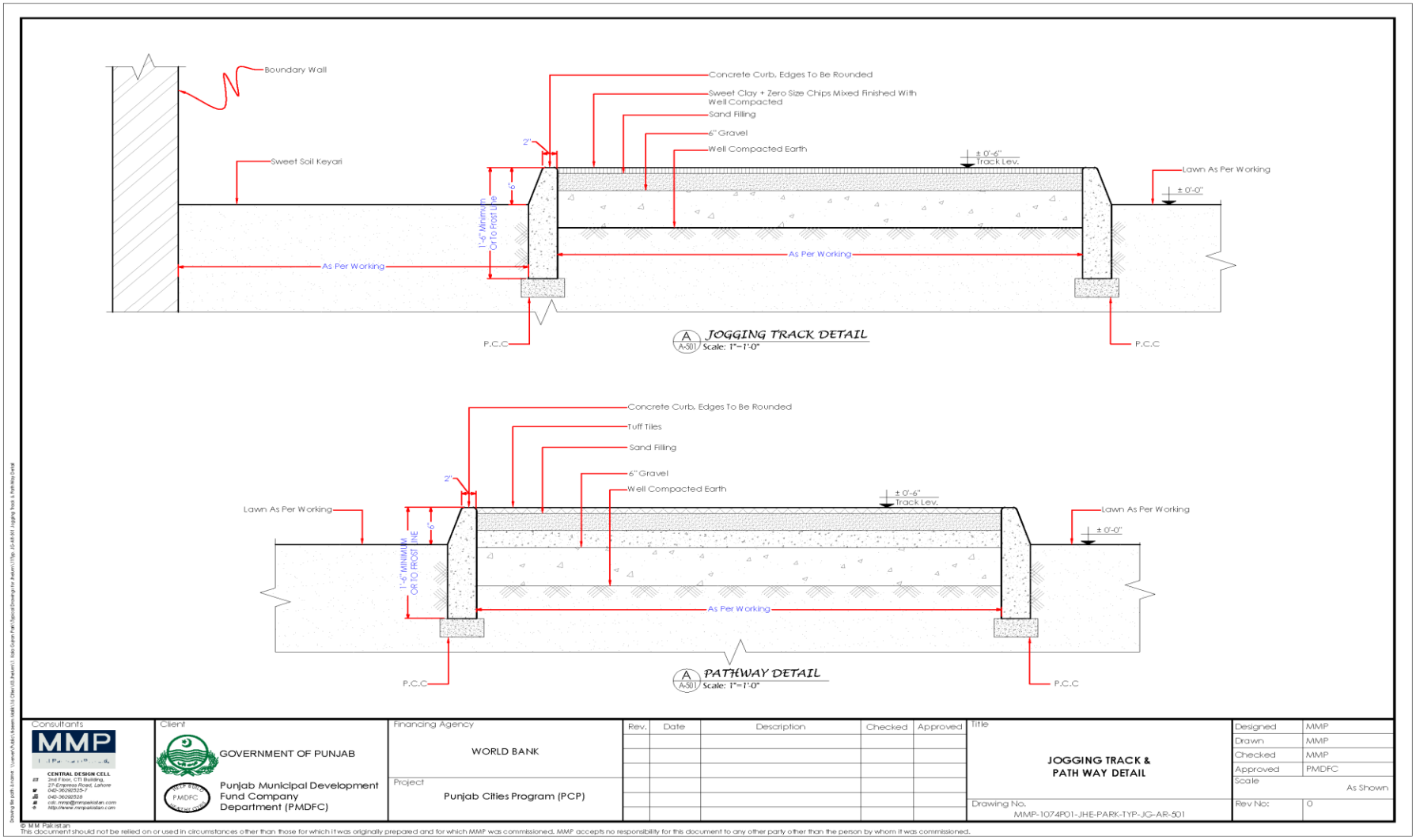
Boundary Wall
Sweet Soil Keyari
Concrete Curb, Edges To Be Rounded
Sweet Clay + Zero Size Chips Mixed Finished With Well Compacted
Sand Filling
6" Gravel
Well Compacted Earth
2"
6"
1'-6" Minimum Or To Frost Line
± 0'-6" Track Lev.
Lawn As Per Working
± 0'-0"
As Per Working
P.C.C
A A-501 JOGGING TRACK DETAIL
Scale: 1"=1'-0"
Concrete Curb, Edges To Be Rounded
Tuff Tiles
Sand Filling
6" Gravel
Well Compacted Earth
2"
6"
1'-6" MINIMUM OR TO FROST LINE
Lawn As Per Working
± 0'-6" Track Lev.
± 0'-0"
As Per Working
P.C.C
A A-501 PATHWAY DETAIL
Scale: 1"=1'-0"
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JOGGING TRACK & PATH WAY DETAIL
Drawing No.
MMP-1074P01-JHE-PARK-TYP-JG-AR-501
Designed MMP
Drawn MMP
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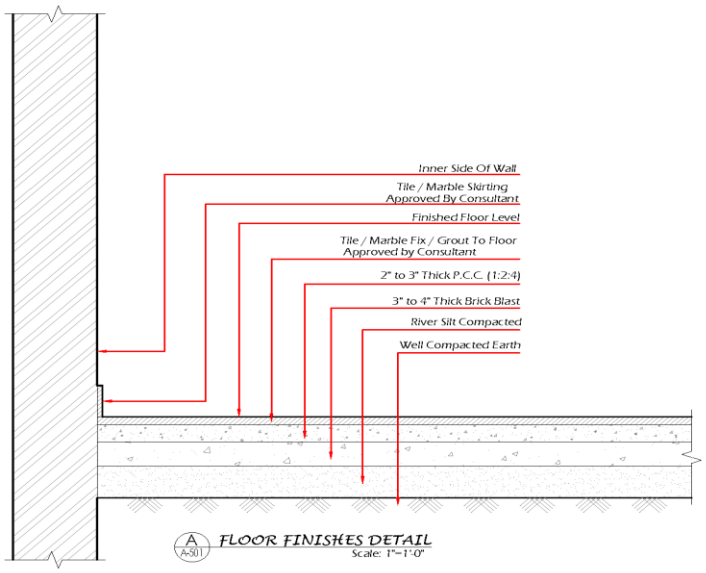

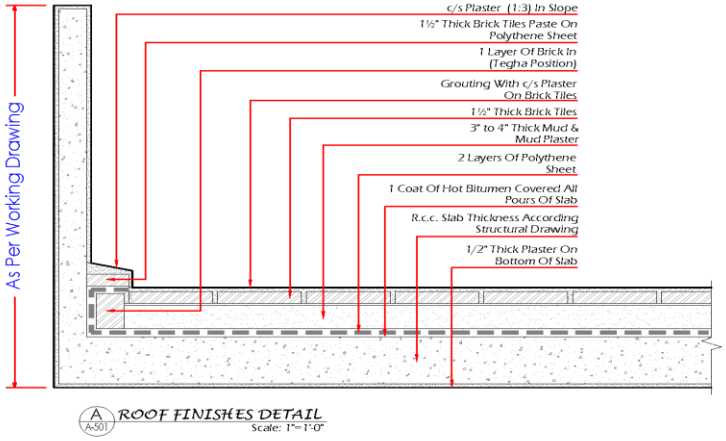

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Project
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Rev.	Date	Description	Checked	Approved

Title
FINISHES DETAIL OF KALA GUJRAN PARK

Drawing No.
MMP-1074P01-JHE-PARK-FD-AR-501

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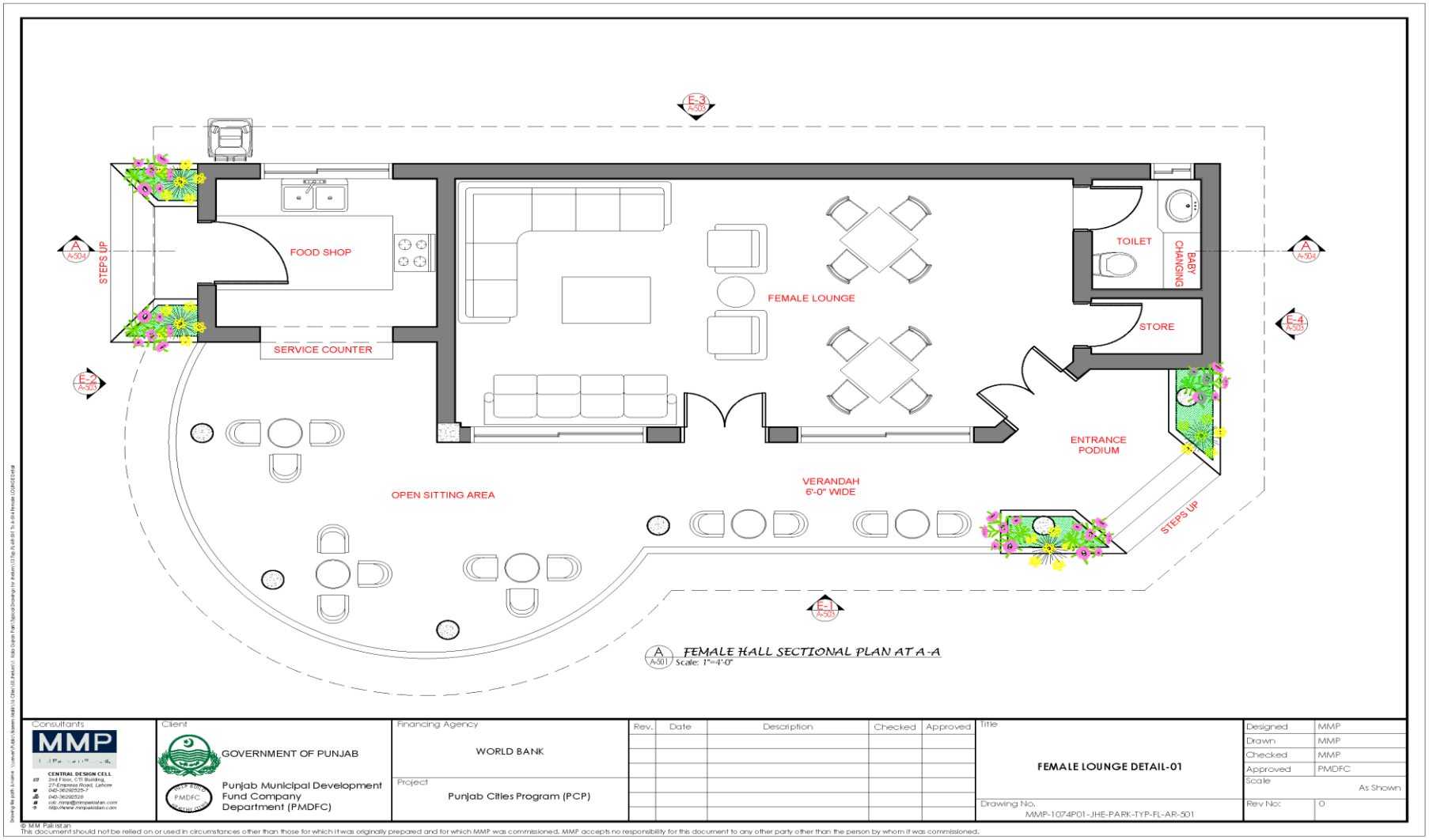
E-3 A-503
A A-504
STEPS UP
FOOD SHOP
SERVICE COUNTER
FEMALE LOUNGE
TOILET
BABY CHANGING
STORE
A A-504
E-4 A-503
E-2 A-503
ENTRANCE PODIUM
OPEN SITTING AREA
VERANDAH 6'-0" WIDE
STEPS UP
E-1 A-503
A A-501 FEMALE HALL SECTIONAL PLAN AT A-A
Scale: 1"=4'-0"
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Title
FEMALE LOUNGE DETAIL-01
Drawing No.
MMP-1074P01-JHE-PARK-TYP-FL-AR-501
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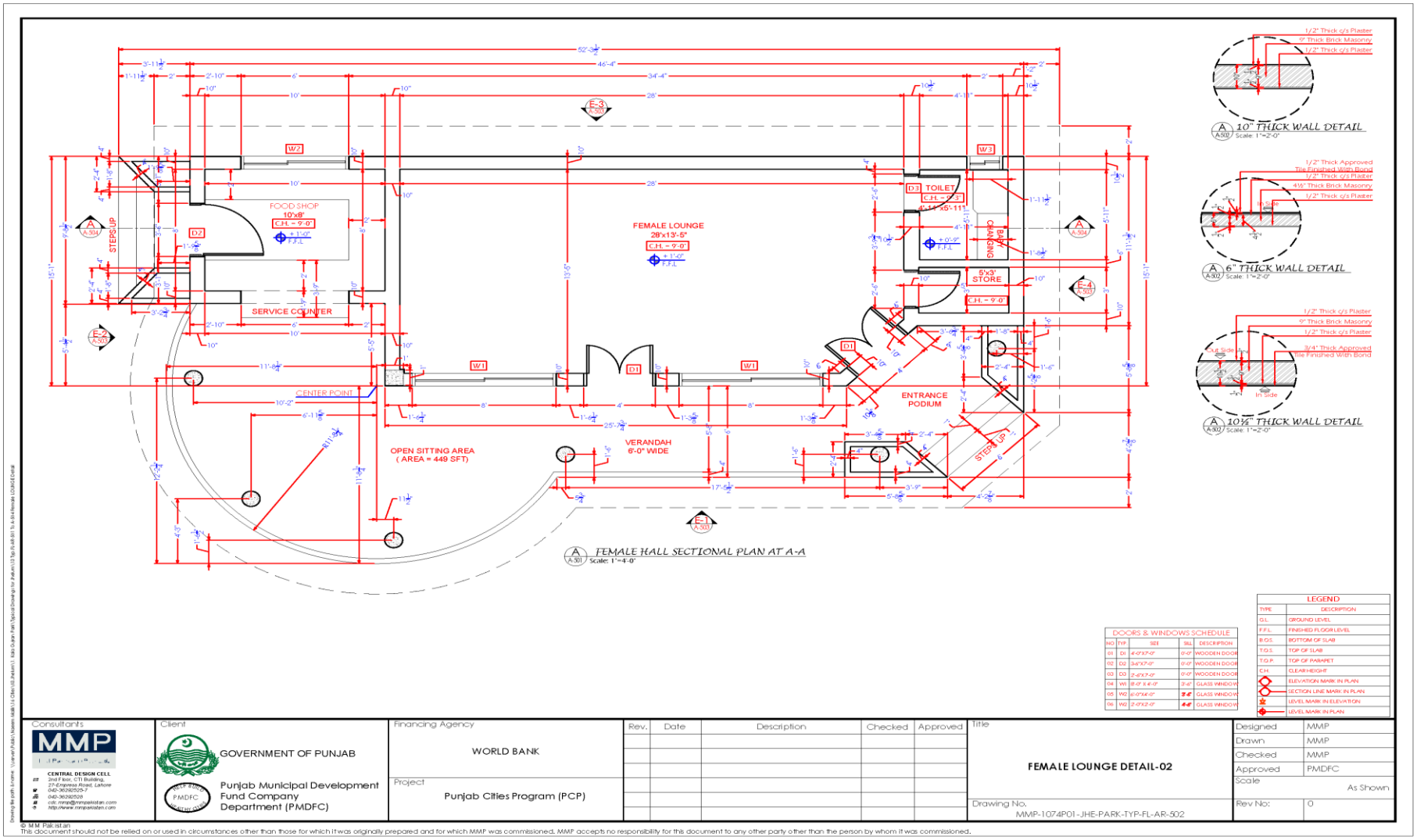

DOORS & WINDOWS SCHEDULE

NO	TYP	SIZE	SILL	DESCRIPTION
01	D1	4'-0"X7'-0"	0'-0"	WOODEN DOOR
02	D2	3'-6"X7'-0"	0'-0"	WOODEN DOOR
03	D3	2'-6"X7'-0"	0'-0"	WOODEN DOOR
04	W1	8'-0" X 4'-0"	3'-0"	GLASS WINDOW
05	W2	6'-0"X4'-0"	3'-0"	GLASS WINDOW
06	W3	2'-0"X3'-0"	4'-0"	GLASS WINDOW

LEGEND

TYPE	DESCRIPTION
G.L	GROUND LEVEL
F.F.L	FINISHED FLOOR LEVEL
B.O.S.	BOTTOM OF SLAB
T.O.S.	TOP OF SLAB
T.O.P.	TOP OF PARAPET
C.H.	CLEAR HEIGHT
	ELEVATION MARK IN PLAN
	SECTION LINE MARK IN PLAN
	LEVEL MARK IN ELEVATION
	LEVEL MARK IN PLAN

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Rev.	Date	Description	Checked	Approved

Title
FEMALE LOUNGE DETAIL-02

Drawing No.
MMP-1074P01-JHE-PARK-TYP-FL-AR-502

Designed	MMP
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
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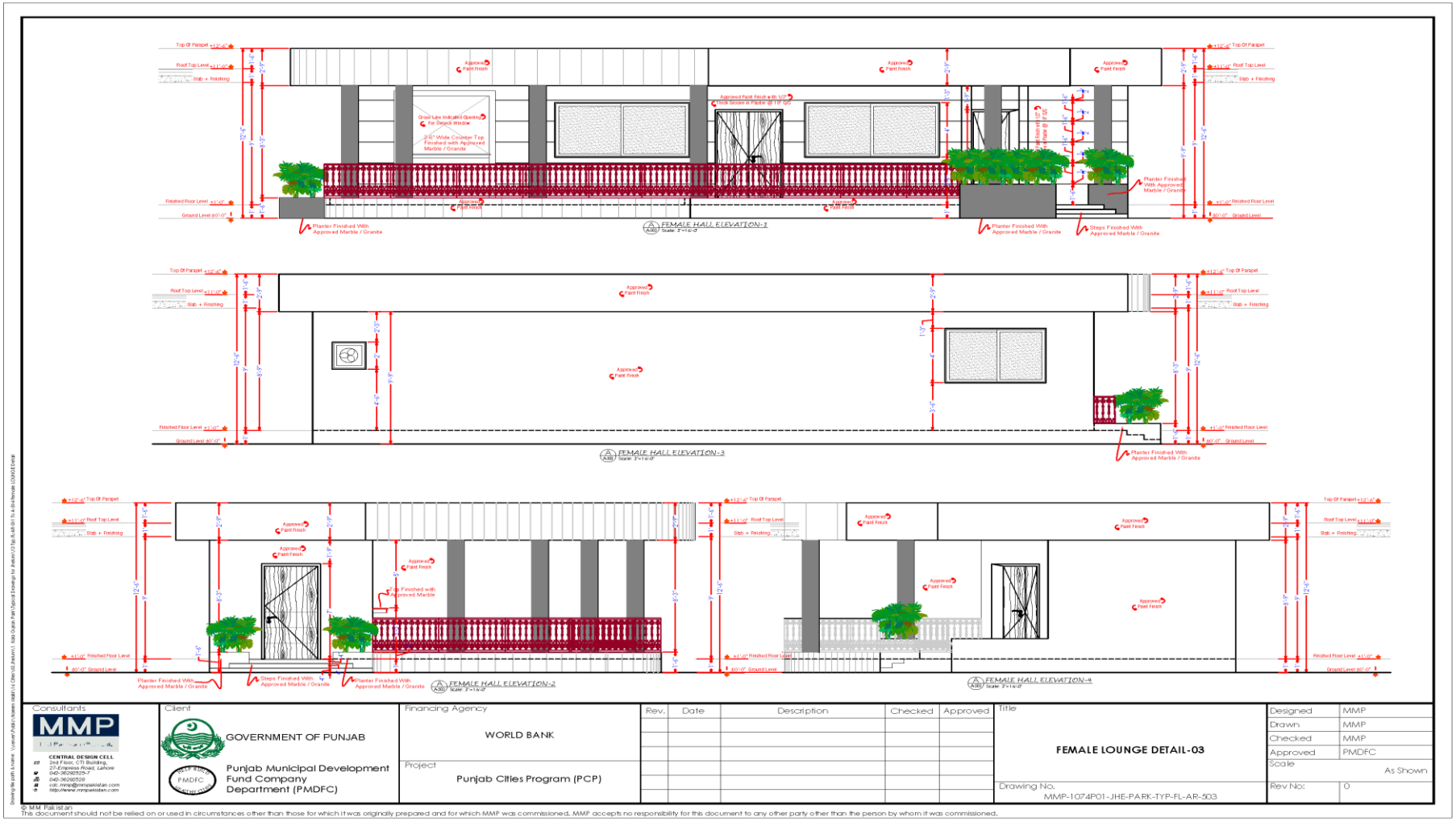
FEMALE HALL ELEVATION-1
FEMALE HALL ELEVATION-3
FEMALE HALL ELEVATION-2
FEMALE HALL ELEVATION-4
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Rev.
Date
Description
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Title
FEMALE LOUNGE DETAIL-03
Drawing No.
MMP-1074P01-JHE-PARK-TYP-FL-AR-503
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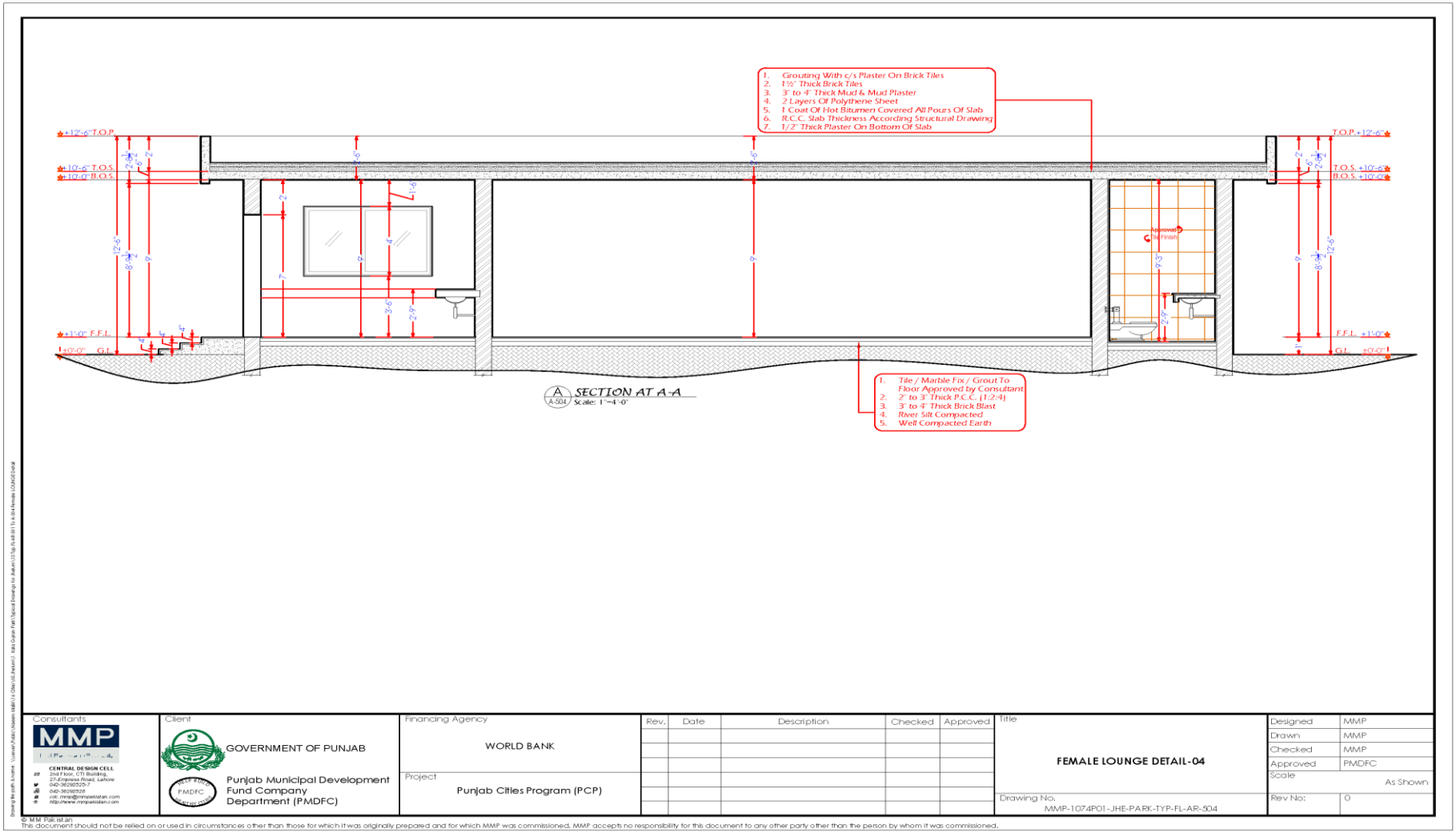

A / A-504 SECTION AT A-A
Scale: 1"=4'-0"

Consultants	Client	Financing Agency	Title
MMP CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36282525-7 042-36282526 cdc: mmp@mmpakistan.com http://www.mmpakistan.com	GOVERNMENT OF PUNJAB Punjab Municipal Development Fund Company Department (PMDFC)	WORLD BANK Project: Punjab Cities Program (PCP)	FEMALE LOUNGE DETAIL-04 Drawing No. MMP-1074P01-JHE-PARK-TYP-FL-AR-504

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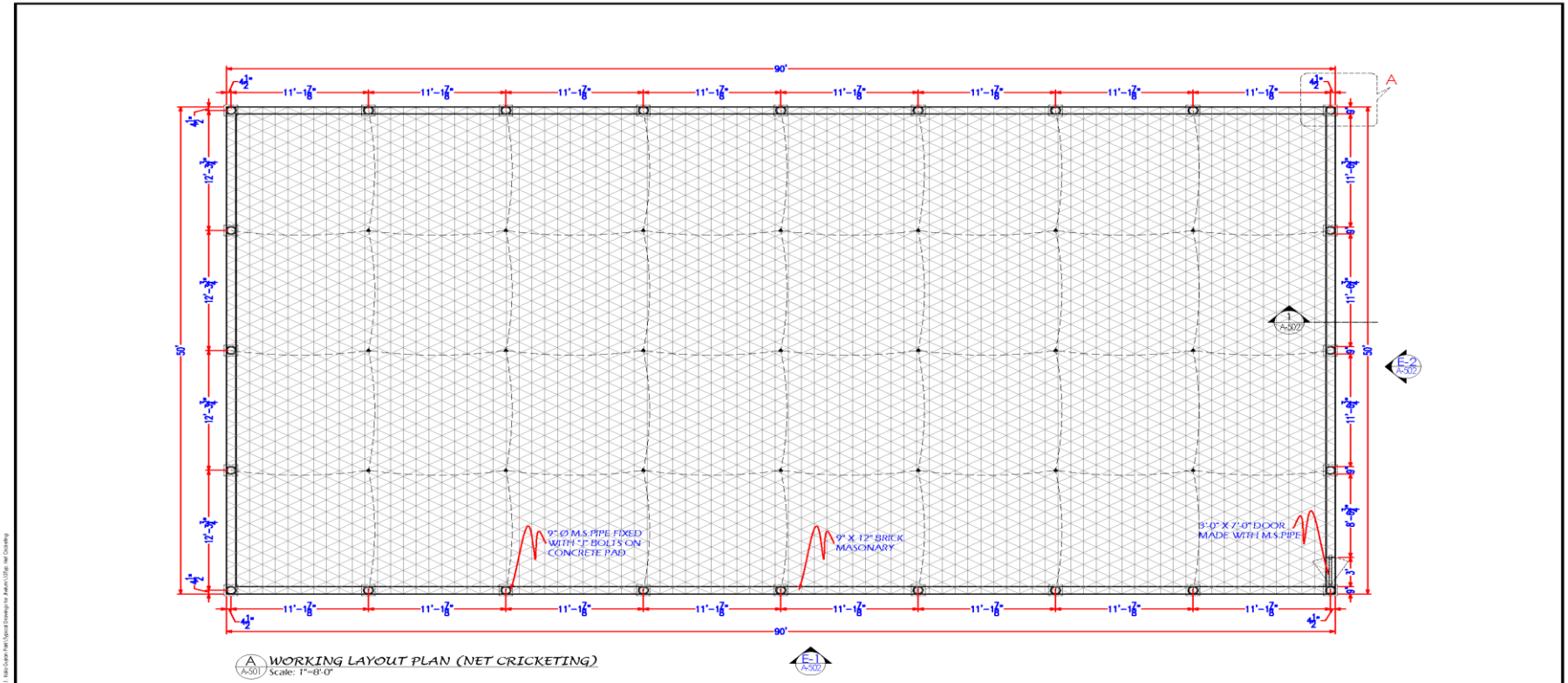

A A-501 WORKING LAYOUT PLAN (NET CRICKETING)
Scale: 1"=8'-0"

Consultants: MMP — CENTRAL DESIGN CELL, 2nd Floor, CTI Building, 27-Empress Road, Lahore, 042-36302520-7, 042-36302526, cell: mmp@mmpakistan.com, http://www.mmpakistan.com

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Financing Agency: WORLD BANK

Project: Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title: NET CRICKETING DETAIL-01

Drawing No.: MMP-1074P01-JHE-PARK-TYP-NCK-AR-501

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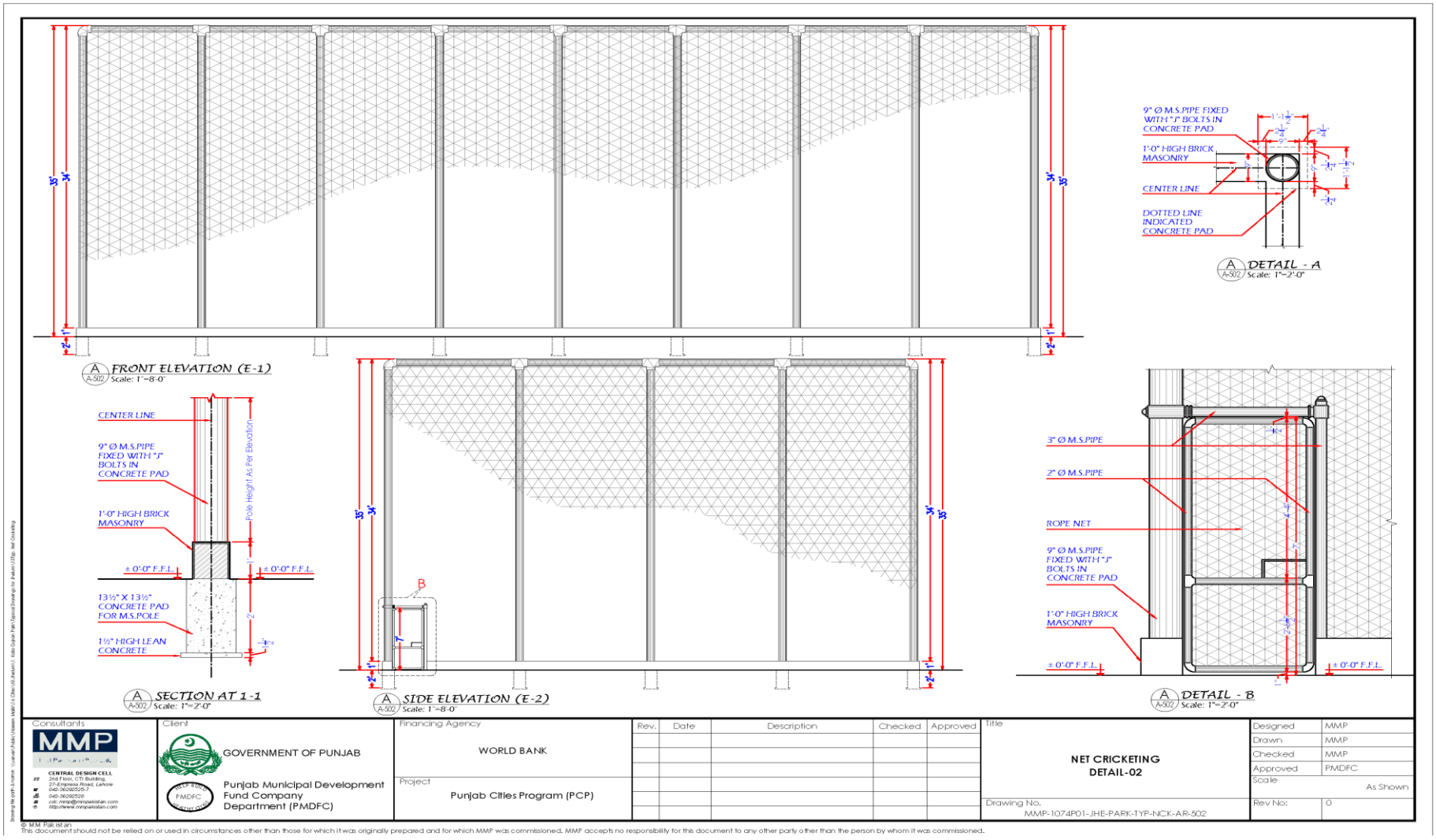
FRONT ELEVATION (E-1)
Scale: 1"=8'-0"
SIDE ELEVATION (E-2)
Scale: 1"=8'-0"
SECTION AT 1-1
Scale: 1"=2'-0"
DETAIL - A
Scale: 1"=2'-0"
DETAIL - B
Scale: 1"=2'-0"
9" Ø M.S.PIPE FIXED WITH "J" BOLTS IN CONCRETE PAD
1'-0" HIGH BRICK MASONRY
CENTER LINE
DOTTED LINE INDICATED CONCRETE PAD
Pole Height As Per Elevation
± 0'-0" F.F.L.
13½" X 13½" CONCRETE PAD FOR M.S.POLE
1½" HIGH LEAN CONCRETE
3" Ø M.S.PIPE
2" Ø M.S.PIPE
ROPE NET
Consultants
MMP
CENTRAL DESIGN CELL
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NET CRICKETING
DETAIL-02
Drawing No.
MMP-1074P01-JHE-PARK-TYP-NCK-AR-502
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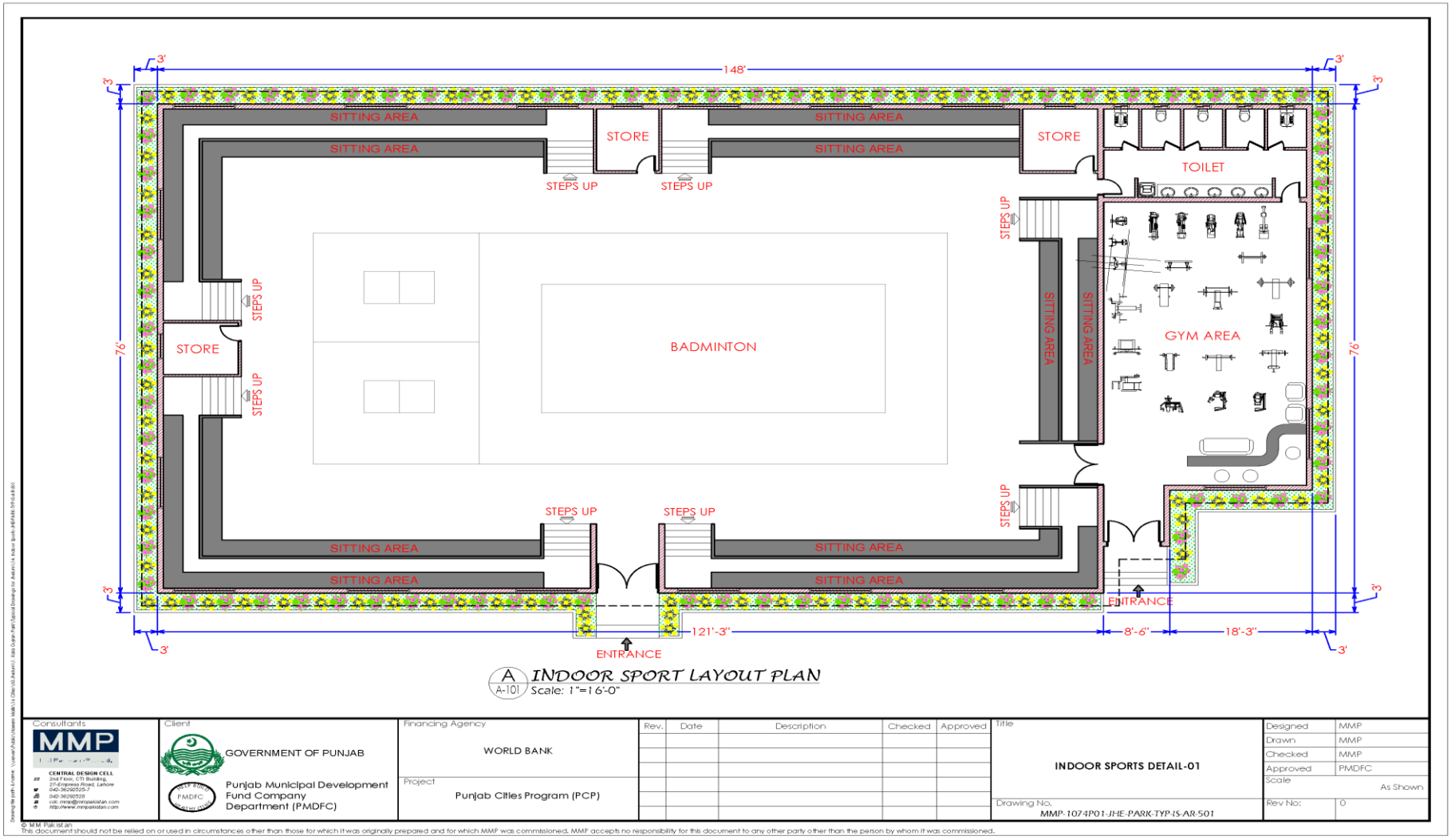
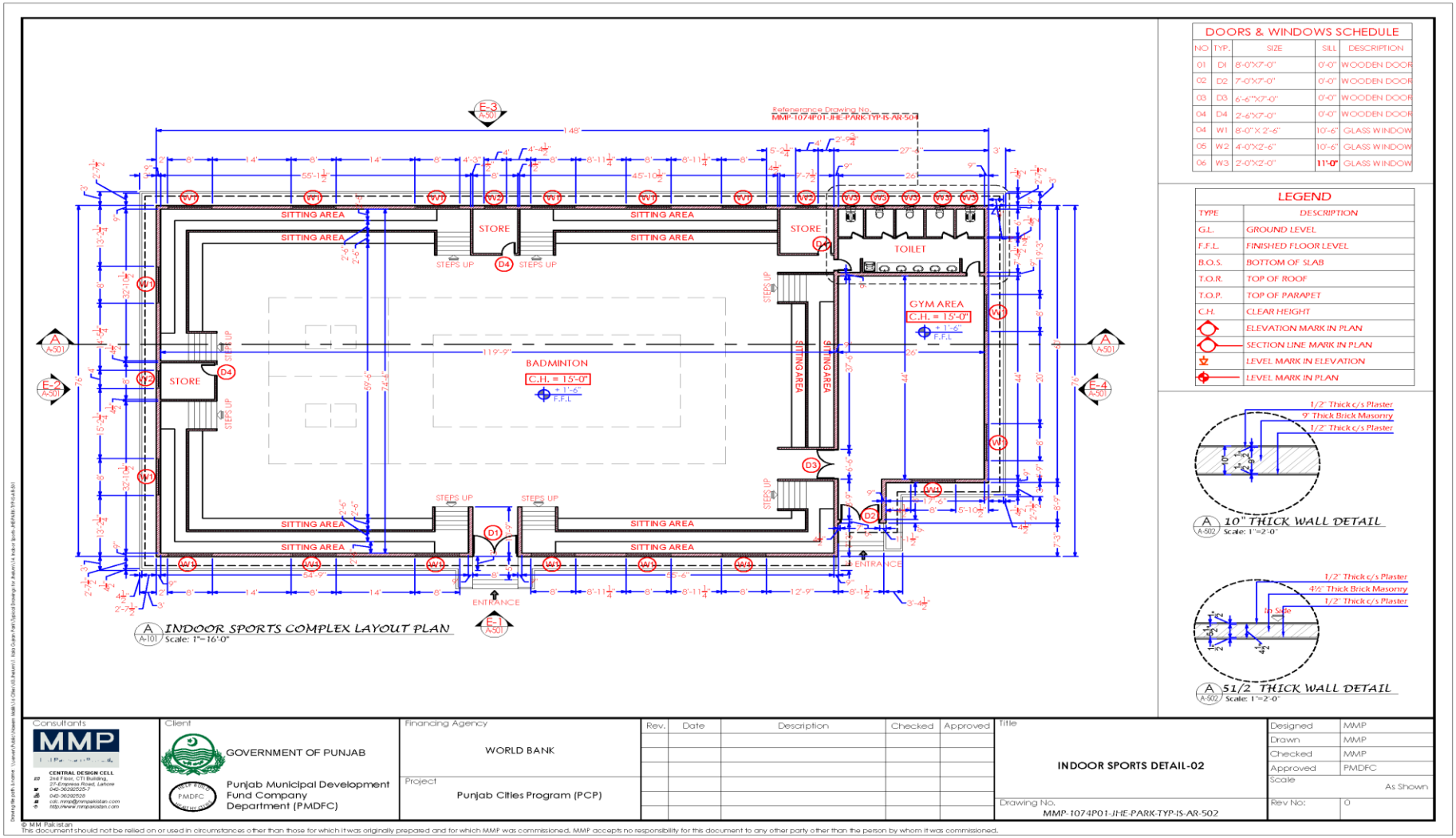


A-101 INDOOR SPORT LAYOUT PLAN
Scale: 1"=16'-0"

Consultants: MMP, CENTRAL DESIGN CELL, 2nd Floor, CTI Building, 27-Empress Road, Lahore, 042-36362525-7, 042-36362526, cdc.mmp@mmpakistan.com, http://www.mmpakistan.com	Client: GOVERNMENT OF PUNJAB; Punjab Municipal Development Fund Company Department (PMDFC)	Financing Agency: WORLD BANK; Project: Punjab Cities Program (PCP)	Rev. / Date / Description / Checked / Approved		Title: INDOOR SPORTS DETAIL-01; Drawing No.: MMP-1074P01-JHE-PARK-TYP-IS-AR-501	Designed: MMP; Drawn: MMP; Checked: MMP; Approved: PMDFC; Scale: As Shown; Rev No: 0		



DOORS & WINDOWS SCHEDULE				
NO	TYP.	SIZE	SILL	DESCRIPTION
01	D1	8'-0"X7'-0"	0'-0"	WOODEN DOOR
02	D2	7'-0"X7'-0"	0'-0"	WOODEN DOOR
03	D3	6'-6"X7'-0"	0'-0"	WOODEN DOOR
04	D4	2'-6"X7'-0"	0'-0"	WOODEN DOOR
04	W1	8'-0" X 2'-6"	10'-6"	GLASS WINDOW
05	W2	4'-0"X2'-6"	10'-6"	GLASS WINDOW
06	W3	2'-0"X2'-0"	11'-0"	GLASS WINDOW

LEGEND	
TYPE	DESCRIPTION
G.L.	GROUND LEVEL
F.F.L.	FINISHED FLOOR LEVEL
B.O.S.	BOTTOM OF SLAB
T.O.R.	TOP OF ROOF
T.O.P.	TOP OF PARAPET
C.H.	CLEAR HEIGHT
	ELEVATION MARK IN PLAN
	SECTION LINE MARK IN PLAN
	LEVEL MARK IN ELEVATION
	LEVEL MARK IN PLAN

A A-502 10" THICK WALL DETAIL
Scale: 1"=2'-0"

A A-502 5 1/2 THICK WALL DETAIL
Scale: 1"=2'-0"

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Title
INDOOR SPORTS DETAIL-02

Drawing No.
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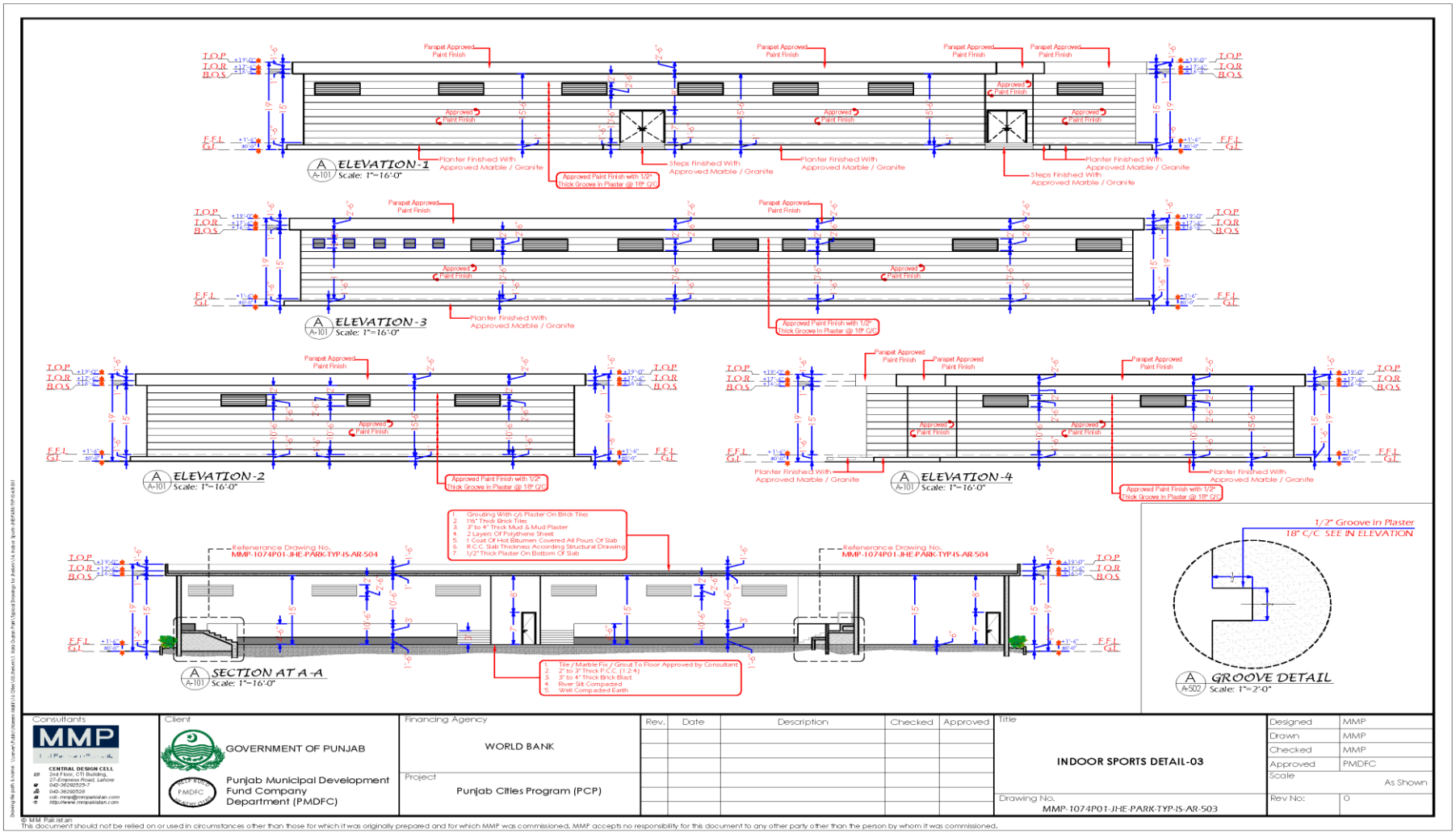

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Rev.	Date	Description	Checked	Approved

Title: INDOOR SPORTS DETAIL-03

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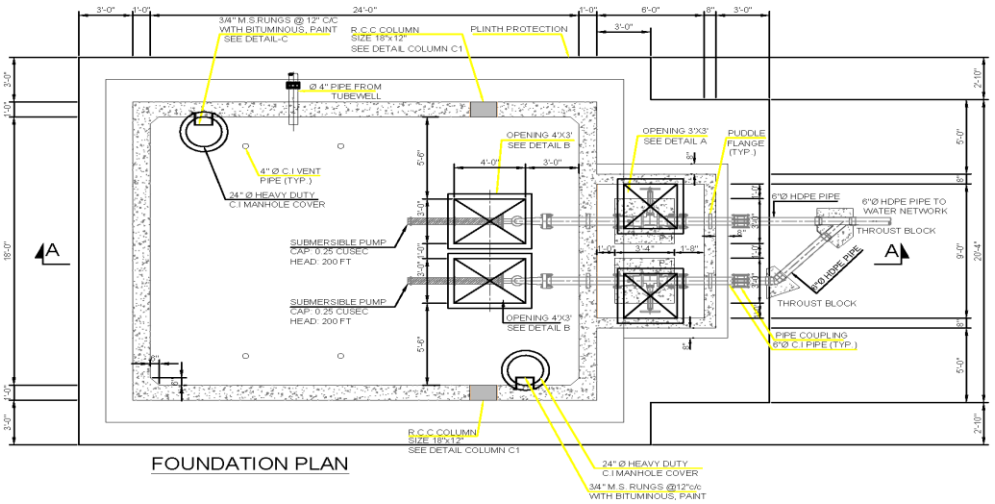

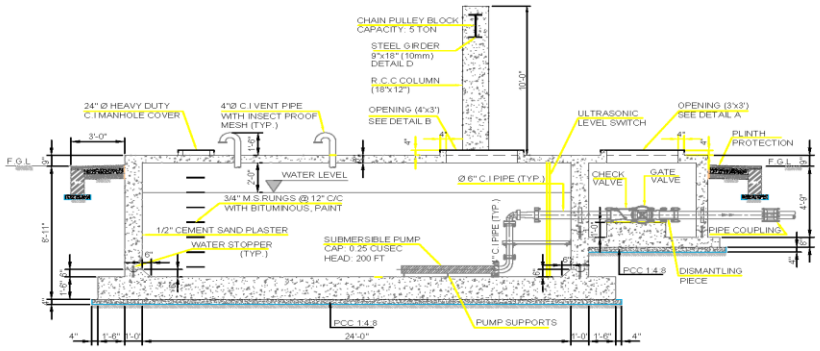

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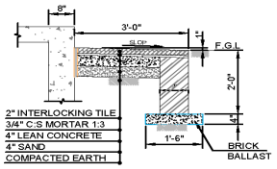
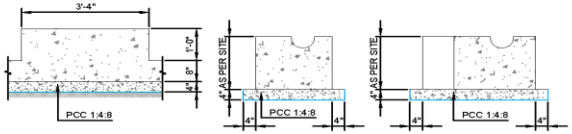
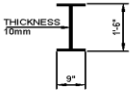
2- THE LOCATION OF COLUMN SHALL BE ADJUSTED W.R.T THE LOCATION OF THE PUMPS IN UGWT.



TYP. PLINTH PROTECTION



PAD P-1 PAD P-2 PAD P-3



DETAIL-D

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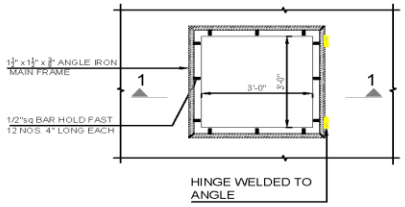
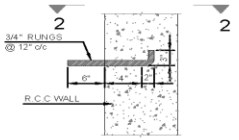
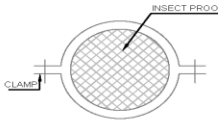


DETAIL A
OPENING PLAN

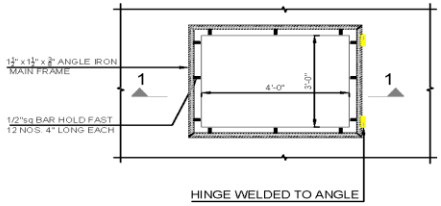


DETAIL C

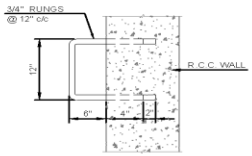
DETAIL-D



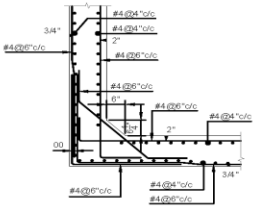
TYP.CLAMP DETAILS



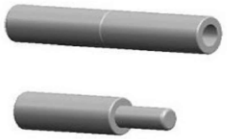
DETAIL B
OPENING PLAN



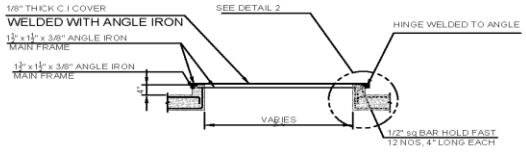
SECTION 2-2



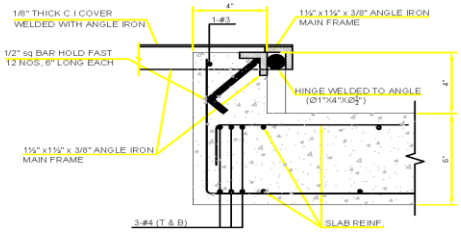
DETAIL 1



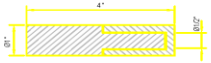
VIEW OF HINGE



SECTION 1-1

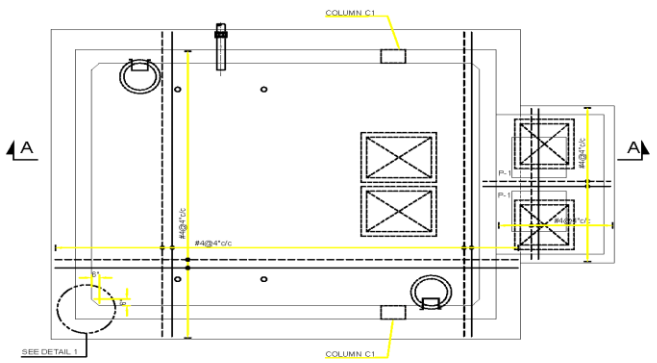


DETAIL 2

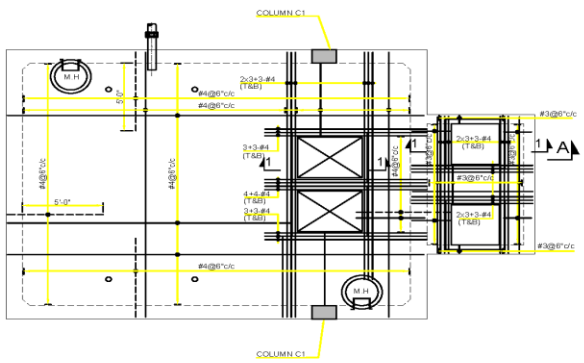


PLAN OF HINGE

Consultants: MMP (Pvt) Ltd. — CENTRAL DESIGN CELL, 2nd Floor, CTI Building, 27-Empress Road, Lahore, 042-36292525-7, 042-36292528, cdc.mmp@mmpakistan.com, http://www.mmpakistan.com	Client: GOVERNMENT OF PUNJAB; Punjab Municipal Development Fund Company Department (PMDFC)	Financing Agency: WORLD BANK; Project: Punjab Cities Program (PCP)	Rev. / Date / Description / Checked / Approved		Title: UNDER GROUND WATER TANK DETAIL-2; Drawing No.: MMP-1074P01-JHE-PARK-TYP-WT-AR-502	Designed: MMP; Drawn: MMP; Checked: MMP; Approved: PMDFC; Scale; Rev No: 0



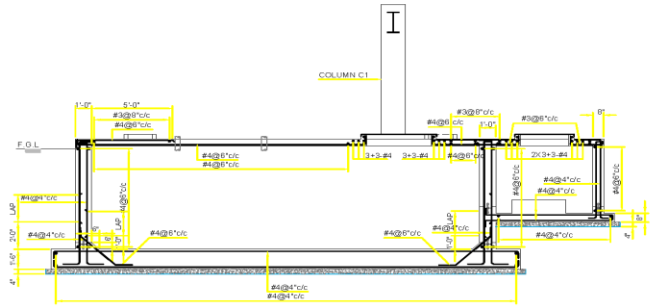
FOUNDATION PLAN



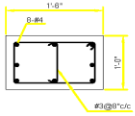
TOP PLAN

NOTEs:

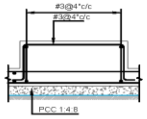
1- READ THIS DRAWING IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
2- THE LOCATION OF COLUMN SHALL BE ADJUSTED W.R.T THE LOCATION OF THE PUMPS IN UGWT.



SECTION A-A



COLUMN C1



PAD P-1

Consultants: MMP (Pvt) Ltd. — CENTRAL DESIGN CELL, 2nd Floor, CTI Building, 27-Empress Road, Lahore, 042-36292525-7, 042-36292529, cdc.mmp@mmpakistan.com, http://www.mmpakistan.com	Client: GOVERNMENT OF PUNJAB — Punjab Municipal Development Fund Company Department (PMDFC)	Financing Agency: WORLD BANK	Project: Punjab Cities Program (PCP)	Rev. / Date / Description / Checked / Approved	Title: UNDER GROUND WATER TANK DETAIL-3	Designed: MMP; Drawn: MMP; Checked: MMP; Approved: PMDFC; Scale	Drawing No.: MMP-1074P01-JHE-PARK-TYP-WT-AR-503; Rev No.: 0

LEGEND

No.	Plant
01	Terminalia Tree
02	Phoenix Palm
03	Yucca
04	Rain Tree
05	Plumbago
06	Bismarkia
07	Conocapus
08	Cone Topiary
09	Lantana
10	Bird Of Paradise
11	Foxtail Palm
12	Star Jasmine
13	Jatropha
14	Kaner
15	Bougain Plant
16	Lagerstroemia
17	Alternanthera
18	Hibiscus
19	Fine Dhaka Grass

LEGEND

No.	Item
01	Lawn Light Pole
02	High Luminance / Mast Pole
03	Three Phase Pole For Electric Swings
04	35' High Light Pole

LEGEND

No.	Item
01	Concrete Bench with M.S.Table
02	Concrete Bench
03	Wrought Iron Bench
04	Gazebo
05	Public Toilets
06	Cafeteria
07	Storage Tank

Consultants: MMP
CENTRAL DESIGN CELL
2nd Floor, CTI Building, 27 Empress Road, Lahore
042-36292520-7
042-36292528
cdc: mmp@mmpakistan.com
http://www.mmpakistan.com

Client: GOVERNMENT OF PUNJAB
Punjab Municipal Development Fund Company Department (PMDFC)

Financing Agency: WORLD BANK

Project: Punjab Cities Program (PCP)

Rev.	Date	Description	Checked	Approved

Title: LEGEND

Drawing No. MMP-1074P01-JHE-PARK-TYP-LG-AR-501

Designed	MMP
Drawn	MMP
Checked	MMP
Approved	PMDFC
Scale	As Shown
Rev No:	0

Annexure J: IFC EHS Guidelines for Construction and Decommissioning

General EHS Guidelines [Complete version] at: **www.ifc.org/ehsguidelines**

IFC International Finance Corporation

Environmental, Health, and Safety (EHS) Guidelines
GENERAL EHS GUIDELINES: CONSTRUCTION AND DECOMMISSIONING

WORLD BANK GROUP

4.0 Construction and Decommissioning

Applicability and Approach

This section provides additional, specific guidance on prevention and control of community health and safety impacts that may occur during new project development, at the end of the project life-cycle, or due to expansion or modification of existing project facilities. Cross referencing is made to various other sections of the General EHS Guidelines.

4.1 Environment{ TC "4.1 Environment" \f C \l "2" }

Noise and Vibration

During construction and decommissioning activities, noise and vibration may be caused by the operation of pile drivers, earth moving and excavation equipment, concrete mixers, cranes and the transportation of equipment, materials and people. Some recommended noise reduction and control strategies to consider in areas close to community areas include:

- Planning activities in consultation with local communities so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance
- Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, and exhaust muffling devices for combustion engines.
- Avoiding or minimizing project transportation through community areas

Soil Erosion

Soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities. The mobilization and transport of soil particles may, in turn, result in sedimentation of surface drainage networks, which may result in impacts to the quality of natural water systems and ultimately the biological systems that use these waters. Recommended soil erosion and water system management approaches include:

Sediment mobilization and transport

- Reducing or preventing erosion by:
  - Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical
  - Contouring and minimizing length and steepness of slopes
  - Mulching to stabilize exposed areas
  - Re-vegetating areas promptly
  - Designing channels and ditches for post-construction flows
  - Lining steep channel and slopes (e.g. use jute matting)
- Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical.

Clean runoff management

- Segregating or diverting clean water runoff to prevent it mixing with water containing a high solids content, to minimize the volume of water to be treated prior to release

Road design

- Limiting access road gradients to reduce runoff-induced erosion
- Providing adequate road drainage based on road width, surface material, compaction, and maintenance

Disturbance to water bodies

- Depending on the potential for adverse impacts, installing free-spanning structures (e.g., single span bridges) for road watercourse crossings
- Restricting the duration and timing of in-stream activities to lower low periods, and avoiding periods critical to biological cycles of valued flora and fauna (e.g., migration, spawning, etc.)
- For in-stream works, using isolation techniques such as berming or diversion during construction to limit the exposure of disturbed sediments to moving water
- Consider using trenchless technology for pipeline crossings (e.g., suspended crossings) or installation by directional drilling

Structural (slope) stability

- Providing effective short term measures for slope stabilization, sediment control and subsidence control until long term measures for the operational phase can be implemented
- Providing adequate drainage systems to minimize and control infiltration

Air Quality

Construction and decommissioning activities may generate emission of fugitive dust caused by a combination of on-site excavation and movement of earth materials, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind. A secondary source of emissions may include exhaust from diesel engines of earth moving equipment, as well as from open burning of solid waste on-site. Techniques to consider for the reduction and control of air emissions from construction and decommissioning sites include:

- Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone)
- Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content
- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements
- Selectively removing potential hazardous air pollutants, such as asbestos, from existing infrastructure prior to demolition
- Managing emissions from mobile sources according to Section 1.1
- Avoiding open burning of solid (refer to solid waste management guidance in Section 1.6)

Solid Waste

Non-hazardous solid waste generated at construction and decommissioning sites includes excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills. Other non-hazardous solid wastes include office, kitchen, and dormitory wastes when these types of operations are part of construction project activities. *Hazardous solid waste* includes contaminated soils, which could potentially be encountered on-site due to previous land use activities, or small

amounts of machinery maintenance materials, such as oily rags, used oil filters, and used oil, as well as spill cleanup materials from oil and fuel spills. Techniques for preventing and controlling non-hazardous and hazardous construction site solid waste include those already discussed in Section 1.6.

Hazardous Materials

Construction and decommissioning activities may pose the potential for release of petroleum based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. These materials may also be encountered during decommissioning activities in building components or industrial process equipment. Techniques for prevention, minimization, and control of these impacts include:

- Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids,
- Using impervious surfaces for refueling areas and other fluid transfer areas
- Training workers on the correct transfer and handling of fuels and chemicals and the response to spills
- Providing portable spill containment and cleanup equipment on site and training in the equipment deployment
- Assessing the contents of hazardous materials and petroleum-based products in building systems (e.g. PCB containing electrical equipment, asbestos-containing building materials) and process equipment and removing them prior to initiation of decommissioning activities, and managing their treatment and disposal according to Sections 1.5 and 1.6 on Hazardous Materials and Hazardous Waste Management, respectively
- Assessing the presence of hazardous substances in or on building materials (e.g., polychlorinated biphenyls, asbestos-containing flooring or insulation) and decontaminating or properly managing contaminated building materials

Wastewater Discharges

Construction and decommissioning activities may include the generation of sanitary wastewater discharges in varying quantities depending on the number of workers involved. Adequate portable or permanent sanitation facilities serving all workers should be provided at all construction sites. Sanitary wastewater in construction and other sites should be managed as described in Section 1.3.

Contaminated Land

Land contamination may be encountered in sites under construction or decommissioning due to known or unknown historical releases of hazardous materials or oil, or due to the presence of abandoned infrastructure formerly used to store or handle these materials, including underground storage tanks. Actions necessary to manage the risk from contaminated land will depend on factors such as the level and location of contamination, the type and risks of the contaminated media, and the intended land use. However, a basic management strategy should include:

- Managing contaminated media with the objective of protecting the safety and health of occupants of the site, the surrounding community, and the environment post construction or post decommissioning
- Understanding the historical use of the land with regard to the potential presence of hazardous materials or oil prior to initiation of construction or decommissioning activities
- Preparing plans and procedures to respond to the discovery of contaminated media to minimize or reduce the risk to health, safety, and the environment consistent with the approach for Contaminated Land in Section 1.6
- Preparation of a management plan to manage obsolete, abandoned, hazardous materials or oil consistent with the approach to hazardous waste management described in Section 1.6.

Successful implementation of any management strategy may require identification and cooperation with whoever is responsible and liable for the contamination.

4.2 Occupational Health and Safety{ TC "4.2 Occupational Health and Safety" \f C \l "2" }

Over-exertion

Over-exertion, and ergonomic injuries and illnesses, such as repetitive motion, over-exertion, and manual handling, are among the most common causes of injuries in construction and decommissioning sites. Recommendations for their prevention and control include:

- Training of workers in lifting and materials handling techniques in construction and decommissioning projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary
- Planning work site layout to minimize the need for manual transfer of heavy loads
- Selecting tools and designing work stations that reduce force requirements and holding times, and which promote improved postures, including, where applicable, user adjustable work stations
- Implementing administrative controls into work processes, such as job rotations and rest or stretch breaks

Slips and Falls

Slips and falls on the same elevation associated with poor housekeeping, such as excessive waste debris, loose construction materials, liquid spills, and uncontrolled use of electrical cords and ropes on the ground, are also among the most frequent cause of lost time accidents at construction and decommissioning sites. Recommended methods for the prevention of slips and falls from, or on, the same elevation include:

- Implementing good house-keeping practices, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths
- Cleaning up excessive waste debris and liquid spills regularly
- Locating electrical cords and ropes in common areas and marked corridors
- Use of slip retardant footwear

Work in Heights

Falls from elevation associated with working with ladders, scaffolding, and partially built or demolished structures are among the most common cause of fatal or permanent disabling injury at construction or decommissioning sites. If fall hazards exist, a fall protection plan should be in place which includes one or more of the following aspects, depending on the nature of the fall hazard[95]:

- Training and use of temporary fall prevention devices, such as rails or other barriers able to support a weight of 200 pounds, when working at heights equal or greater than two meters or at any height if the risk includes falling into operating machinery, into water or other liquid, into hazardous substances, or through an opening in a work surface
- Training and use of personal fall arrest systems, such as full body harnesses and energy absorbing lanyards able to support 5000 pounds (also described in this section in Working at Heights above), as well as fall rescue procedures to deal with workers whose fall has been successfully arrested. The tie in point of the fall arresting system should also be able to support 5000 pounds
- Use of control zones and safety monitoring systems to warn workers of their proximity to fall hazard zones, as well as

[95] Additional information on identification of fall hazards and design of protection systems can be found in the United States Occupational Health and Safety Administration's (US OSHA) web site: http://www.osha.gov/SLTC/fallprotection/index.html

securing, marking, and labeling covers for openings in floors, roofs, or walking surfaces

Struck By Objects

Construction and demolition activities may pose significant hazards related to the potential fall of materials or tools, as well as ejection of solid particles from abrasive or other types of power tools which can result in injury to the head, eyes, and extremities. Techniques for the prevention and control of these hazards include:

- Using a designated and restricted waste drop or discharge zones, and/or a chute for safe movement of wastes from upper to lower levels
- Conducting sawing, cutting, grinding, sanding, chipping or chiseling with proper guards and anchoring as applicable
- Maintaining clear traffic ways to avoid driving of heavy equipment over loose scrap
- Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as hand rails and toe boards to prevent materials from being dislodged
- Evacuating work areas during blasting operations, and using blast mats or other means of deflection to minimize fly rock or ejection of demolition debris if work is conducted in proximity to people or structures
- Wearing appropriate PPE, such as safety glasses with side shields, face shields, hard hats, and safety shoes

Moving Machinery

Vehicle traffic and use of lifting equipment in the movement of machinery and materials on a construction site may pose temporary hazards, such as physical contact, spills, dust, emissions, and noise. Heavy equipment operators have limited fields of view close to their equipment and may not see pedestrians close to the vehicle. Center-articulated vehicles create a significant impact or crush hazard zone on the outboard side of a turn while moving. Techniques for the prevention and control of these impacts include:

- Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic
- Ensuring the visibility of personnel through their use of high visibility vests when working in or walking through heavy equipment operating areas, and training of workers to verify eye contact with equipment operators before approaching the operating vehicle
- Ensuring moving equipment is outfitted with audible back-up alarms
- Using inspected and well-maintained lifting devices that are appropriate for the load, such as cranes, and securing loads when lifting them to higher job-site elevations.

Dust

- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements
- PPE, such as dusk masks, should be used where dust levels are excessive

Confined Spaces and Excavations

Examples of confined spaces that may be present in construction or demolition sites include: silos, vats, hoppers, utility vaults, tanks, sewers, pipes, and access shafts. Ditches and trenches may also be considered a confined space when access or egress is limited. In addition to the guidance provided in Section 2.8 the occupational hazards associated with confined spaces and excavations in construction and decommissioning sites should be prevented according to the following recommendations:

- Controlling site-specific factors which may contribute to excavation slope instability including, for example, the use of excavation dewatering, side-walls support, and slope gradient adjustments that eliminate or minimize the risk of collapse, entrapment, or drowning
- Providing safe means of access and egress from excavations, such as graded slopes, graded access route, or stairs and ladders
- Avoiding the operation of combustion equipment for prolonged periods inside excavations areas where other workers are required to enter unless the area is actively ventilated

Other Site Hazards

Construction and decommissioning sites may pose a risk of exposure to dust, chemicals, hazardous or flammable materials, and wastes in a combination of liquid, solid, or gaseous forms, which should be prevented through the implementation of project-specific plans and other applicable management practices, including:

- Use of specially trained personnel to identify and remove waste materials from tanks, vessels, processing equipment or contaminated land as a first step in decommissioning activities to allow for safe excavation, construction, dismantling or demolition
- Use of specially trained personnel to identify and selectively remove potentially hazardous materials in building elements prior to dismantling or demolition including, for example, insulation or structural elements containing asbestos and Polychlorinated Biphenyls (PCBs), electrical components containing mercury[96]
- Use of waste-specific PPE based on the results of an occupational health and safety assessment, including respirators, clothing/protective suits, gloves and eye protection

[96] Additional information on the management and removal of asbestos containing building materials can be found in ASTM Standard E2356 and E1368

4.3 Community Health and Safety{ TC "4.3 Community Health and Safety" \f C \l "2" }

General Site Hazards

Projects should implement risk management strategies to protect the community from physical, chemical, or other hazards associated with sites under construction and decommissioning. Risks may arise from inadvertent or intentional trespassing, including potential contact with hazardous materials, contaminated soils and other environmental media, buildings that are vacant or under construction, or excavations and structures which may pose falling and entrapment hazards. Risk management strategies may include:

- Restricting access to the site, through a combination of institutional and administrative controls, with a focus on high risk structures or areas depending on site-specific situations, including fencing, signage, and communication of risks to the local community
- Removing hazardous conditions on construction sites that cannot be controlled affectively with site access restrictions, such as covering openings to small confined spaces, ensuring means of escape for larger openings such as trenches or excavations, or locked storage of hazardous materials

Disease Prevention

Increased incidence of communicable and vector-borne diseases attributable to construction activities represents a potentially serious health threat to project personnel and residents of local communities. Recommendations for the prevention and control of communicable and vector-borne diseases also applicable to

construction phase activities are provided in Section 3.6 (Disease Prevention).

Traffic Safety

Construction activities may result in a significant increase in movement of heavy vehicles for the transport of construction materials and equipment increasing the risk of traffic-related accidents and injuries to workers and local communities. The incidence of road accidents involving project vehicles during construction should be minimized through a combination of education and awareness-raising, and the adoption of procedures described in Section 3.4 (Traffic Safety).