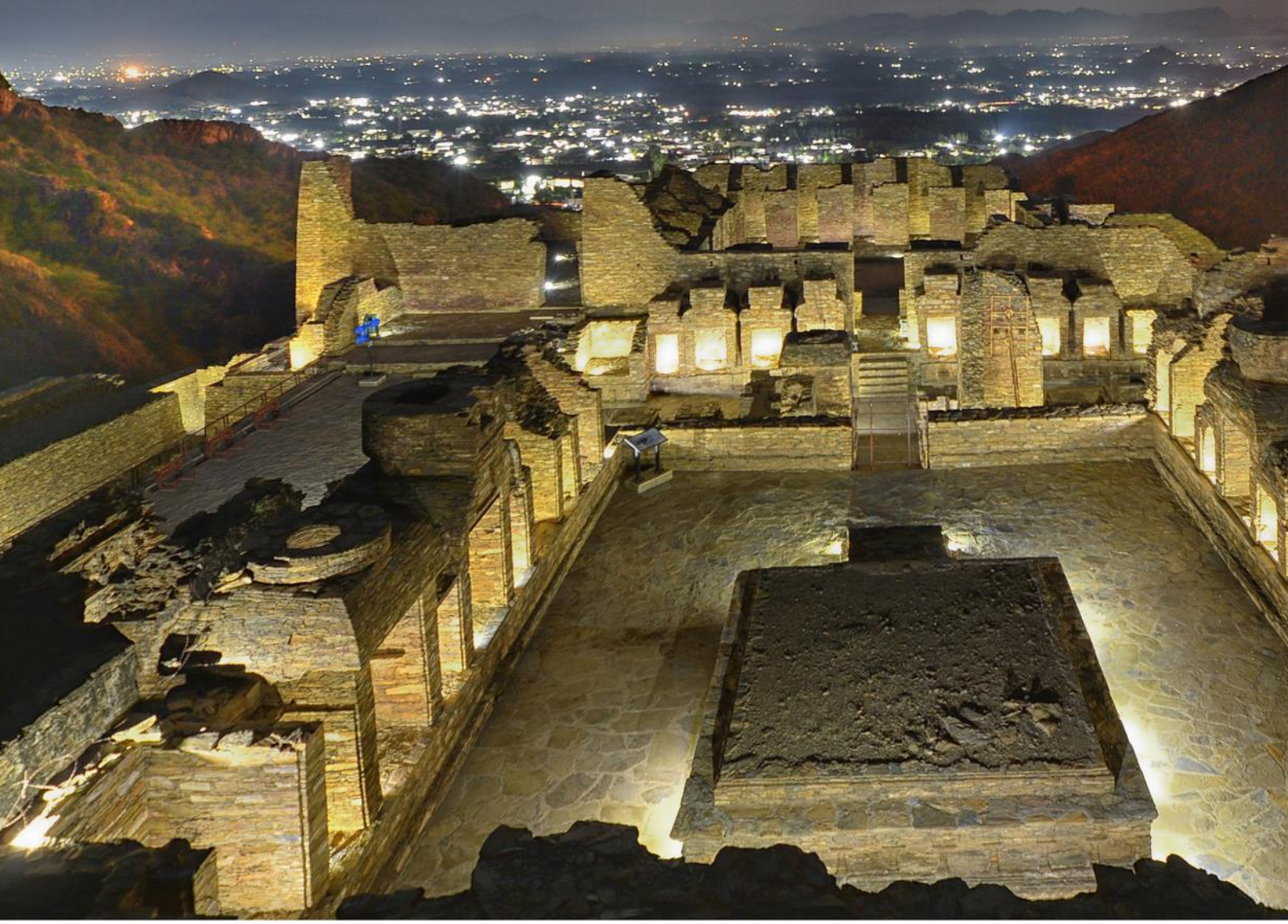
PHYSICAL CULTURAL RESOURCE MANAGEMENT PLAN

ILLUMINATION OF ARCHAEOLOGICAL SITES

TAKHT BAI | JAMAL GHARI

MAY 2023



KHYBER PAKHTUNKHWA INTEGRATED TOURISM DEVELOPMENT PROJECT

KITE

WORLD BANK GROUP

Khyber Pakhtunkhwa

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Physical Cultural Resource Management Plan -Illumination of Takht Bai and Jamal Garhi sites

Section 1 Introduction

Name of Sub- project	Commissioning of Illumination equipment for Illumination of Two Archaeological sites in District Mardan
Nature of Subproject	Tourism promotion through night tourism
Subproject Location	Takht Bai and Jamal Garhi, District Marda
Proposed Activities	PMU KITE DoT intends to install electric equipment for illumination in the above stated two archaeological sites to enhance its attraction and appealing to promote night tourism. This includes, installation of spots lights, flood lights and other modern illumination equipment. As such as no construction or civil work is required for this purpose.
Subproject Objective	Twinkling of sites and Night Tourism promotion
Proposing Deptt/Directorate	Directorate of Archeology and Museums (DOAM) – Department of Tourism, Culture, Archeology and Museums Khyber Pakhtunkhwa
Sponsoring Agency / Department	Project Management Unit, Khyber Pakhtunkhwa Integrated Tourism Development Project – KITE (Department of Tourism, Culture, Archeology and Museums, Khyber Pakhtunkhwa.
Agency responsible for O&M	Directorate of Archeology and Museums (DOAM) – Department of Tourism, Culture, Archeology and Museums Khyber Pakhtunkhwa
Estimated Cost	100.50 million PKR
Current Information for Environmental & Social Screening	KITE E&S screening and PCRMP

Section 2 Executive Summary

The GoKP has received a loan from International Development Association (administered by the World Bank) for implementation of Khyber Pakhtunkhwa Integrated Tourism Development Project (KITE) to enhance the potential of tourism sector in province for generating income and revenues, by providing an enhanced tourism experience to domestic and international tourists. Khyber Pakhtunkhwa Integrated Tourism Development Project (KITE) is effective in Khyber Pakhtunkhwa (KP) since 2019. The project is focused on enhancing tourism in major tourist destinations of the province. These destinations are both developed and facilitated with new infrastructure and innovation and are at different stages of development. KITE is foreign funded project under administrative control of Department of Tourism, Culture, Archeology and Museums, Government of Khyber Pakhtunkhwa.

Archaeological tourism is an efficient instrument to interact with heritage and tourism in archaeological sites and to change archaeological attractions into tourism products and ultimately make archaeology knowledge public and generalize it. The project focus is on the preservation of the environment, wildlife, culture, and heritage. Pakistan has six UNESCO World Heritage sites that can attract tourists. Takht Bai is one of them, and the illumination of the site is a step to boost night tourism in the region.

The Physical Cultural Resource Management Plan (PCRMP) covers all phases of subprojects, i.e., the illumination of two archaeological sites, i.e., Takht Bai and Jamal Garhi in District Mardan. PCRMP goal is to ensure the identification of environmental and social impacts, monitoring of environmental impacts, and ensuring implementation of environmental mitigation measures.

The proposed project activities under this PCRMP are summarized as the lit-up structures, interiors, and art installations that aim to ignite the structure and views.

Section 3 Sub-Project Description:

The PMU KITE DoT has undertaken the initiative of illumination of two archaeological sites in District Mardan after approval of Departmental Development Working Party. Both Jamal Garhi and Takht Bai are unique attractions for both national and international tourists. These sites are PCR protected sites under WB financed project, national laws governing the protection of physical, cultural property are complied with. Effective management and protection of all cultural resources, whether they are historic structures, archaeological sites, museum objects, or archaeological artifacts begins with an understanding of the broad scope of cultural resources for which the DoAM is responsible.

Both sites are already under the governance of Directorate of Archaeology & Museums (DOAM). External illumination work will be done under the supervision of the DOAM.

The major activities to be undertaken at the sites are:

- Ambient lighting. Ambient lighting is evenly distributed and illuminates entire areas of the sites:
- Wiring, installation of the transformer, electricity supply Distribution board and main board installation.

Jamal Garhi: It is an ancient site located at 13 kilometers from Mardan city in Khyber Pakhtunkhwa province of Pakistan. It is considered as main Buddhist monastery from the first till the fifth century AD.

Takht Bai: The Buddhist Ruins of Takht Bai is 16 KM from Mardan city is one of the most imposing relics of Buddhism in the Gandhara region of KP. The ruins comprise a main stupa court, votive stupas court, a group of three stupas, the monastic quadrangle with meditation cells, conference hall, covered stepped passageways and other secular buildings.

The detail drawings under the project is given in **Figure 1.1**.

Sub project's Locations:

The project will be implemented in two archeological sites of district Mardan in KP. The following sites with GPS coordinates, proposed number of units with name of authority owning the land is given below:

S. No.	GPS	Name of Site	Responsible / Owner
1 2	**34.2876° N, 71.9342° E** **34.3158° N, 72.0676° E**	Jamal Ghari & Takht Bai	Directorate of Archaeology and Museums, Khyber Pakhtunkhwa.

Section 4 Stakeholder's Engagement:

Stakeholder key contact/s	Level of interest (low>medium>high)	Ability to impact (low>medium>high)	Date and venue of the consultation	No of Participants
Sikandar Khan and Bakht Mohammad	High	High	12 January 2023- DOAM	02 males
Engineer Arif Khan and two resident engineers	High	High	12 January 2023 in the DOAM	03 males
Uzair Maqsood Architect	Medium	Medium	16 Jan 2023	01 Male
Site Engineer & Staff Archaeologist	High	High	14 January	05 males
Random public tourist	High	Medium	14 January	12 males
	Medium	Medium	14 January	05 females

The consultation involved briefing about the assessment of environmental and social impacts caused by the proposed installation of illumination of both sites. The consultation was attended by the following participants:

i. Sikandar Khan
ii. Mr. Arif Khan- Engineer – DOAM
iii. Noor Ullah
iv. Shahjahan
v. Mr. Tayyab - Site Engineer
vi. Uzair Maqsood – Architect
vii. Jawad Hussain- Engineer
viii. Usman Anwar – Technical Expert
ix. Mr. Ghayur Shahab- Archaeologist
x. Mr. Iftikhar and Mr. Nawab Khan
xi. Suriya Bibi random tourist
xii. Saleem – Tourist

xiii. Abrar Gul Tourist
xiv. Irfan – random tourist
xv. Mudassar
xvi. Javed
xvii. Zahoor
xviii. Wajid
xix. Arslan
xx. Iqbal

The individual meetings and Focus Group Discussion (FGD) carried out with the relevant stakeholders to inform them about the proposed intervention and to discuss their potential environmental and social impacts: identify their concerns and take into account special needs and considerations. The aim of the exercise was to obtain stakeholder inputs regarding how to avoid or at least minimize adverse impacts, and to identify their guidance and preferences.

The consultations involved briefing about the proposed installation of illumination equipment for improving the visual impact and thus promoting tourism. The staff members appreciated the idea and welcomed the initiative, and suggested the following to be considered during implementation:

i. Proper location and angles shall be identified during the installation of lights so that it could fulfill its intended purpose under the supervision of a qualified and experienced archeologist.
ii. It was agreed that a well-conceived plan and program to preserve historic resources are very much needed.
iii. Ensure that the equipment and wiring are safe and easily handled during operation with proper fire safety provisions.
iv. No cutting of trees or disturbance to the existing natural and social environment.
v. Proper location and angles shall be identified during installation of lights so that it could fulfill its intended purpose under the supervision of a qualified and experienced archeologist.
vi. Main switches if any are installed out site building shall be made water-proof.
vii. Those lights /equipment's shall be preferred that is available locally so that in case of

any fault it could be replaced easily.

viii. Use of PPEs should made mandatory during the work.

ix. Make sure that main supply line should be switched off at the time of work.

x. Availability of Safety harness belts for the staff.

Section 4 Chance Find Procedure

A Chance Find Procedure is a project-specific procedure which is to be followed if previously unknown cultural heritage is encountered during project activities. The Chance Find Procedure sets out how chance finds associated with the project will be managed. The procedure includes a requirement to notify relevant authorities of found objects or sites by cultural heritage experts; to fence off the area of finds or sites to avoid further disturbance; to conduct an assessment of found objects or sites by cultural heritage experts; to identify and implement actions consistent with the requirements of WB ESSF and national law; and to train project personnel and project workers on chance find procedures.

However, in this case, there is no civil work, no construction, or even minor digging etc. involved therefore this exercise will not be carried out. However, sensitization about the CFP to the contractor and its staff is mandatory.

Section 5 Environmental and Social Screening (E&S Screening)

As part of the environmental and social impact assessment process, a screening matrix focusing on environmental and social impacts is developed specifically for the proposed sub-project. The matrix examined the interaction of project activities with various components of the environment and of society. The impacts were broadly classified as physical, biological and social which fall under Category C. Detailed E&S screening findings fall under category C. An EIA or environmental analysis is normally not required for Category C projects because the project is unlikely to have adverse impacts; usually, they have negligible or minimal direct disturbances in the physical setting. However, as all the illumination would be done inside and at the cultural heritage, therefore, a Physical Cultural Resource Management Plan is devised.

The project involves the lightening of both sites' exterior cases and the provision of illumination strips in and around the different locations of sites, thus, OP 4.11 is triggered that requires preparation of PCRMP. The present document provides an overview of both heritage sites observed during the E&S exercise under the preparation of the Physical Cultural Resource Management plan (PCRMP) of the project. This PCRMP outlined the preliminary potential environmental impacts, mitigation measures and management of cultural heritage sites. A generic screening mechanism has also been developed in the PCRMP which will be updated and used before the implementation of the subproject. Details are mentioned in below given matrix:

Environment and Social Screening (Takht Bai)

S. No	Issues	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks/ Mitigation Measures (If required)
A	**Zoning and Land Use Planning**					
1.	Will the subproject affect land use zoning and planning or conflict with prevalent land use patterns?	X	–	–	–	DOAM owned the SITE therefore the activity will not affect any land use pattern.
2.	Will the subproject involve significant land disturbance or site clearance?	X	–	–	–	No site clearance is involved.
3.	Will the subproject land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?	X	–	–	–	
B	**Utilities and Facilities**					
1.	Will the subproject require the setting up of ancillary facilities?	X	–	–	–	
2.	Will the subproject make significant demands on utilities and services?	X	–	–	–	
3.	Will the subproject require significant levels of accommodation or service amenities to support the workforce during construction?	X	–	–	–	
C	**Water and Soil Contamination**					
1.	Will the subproject require large amounts of raw materials or construction materials?	X	–	–	–	No such activities/ construction materials are required during the execution of this activity.
2.	Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?	–	X	–	–	Minor waste from a. Supply and erection PVC pipe b. Installation of light fixtures c. Drilling for minor holes for electricity wiring is expected.

S. No	Issues	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks/ Mitigation Measures (If required)
						As a mitigation measure all waste produced will be dumped in the solid waste bin in the premises by contractor, later to be disposed of by the municipality.
3.	Will the subproject result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?	X	_	_	_	
4.	Will the subproject lead to increased suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?	X	_	_	_	
5.	Will the subproject involve the use of chemicals or solvents?	X	_	_	_	Deep Cycle Value Regulated Lead Acid Batteries (Dry cell batteries) shall be used that contain solid gel rather than liquid. The only mitigation is to replace it with the new one.
6.	Will the subproject lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?	X	_	_	_	
7.	Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?	X	_	_	_	
D	**Noise and Air Pollution Hazardous Substances**					
1.	Will the subproject increase the levels of harmful air emissions?	X	_	_	_	
2.	Will the subproject increase ambient noise levels?	_	X	_	_	Minor noise disturbance is expected during drilling.

S. No	Issues	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks/ Mitigation Measures (If required)
						As a mitigation measure contractor shall provide ear plugs to the workers.
3.	Will the subproject involve the storage, handling or transport of hazardous substances?	X	–	–	–	
E	**Fauna and Flora**					
1.	Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?	X	–	–	–	The subject activity has no direct effect on Fauna and Flora.
2.	Will the subproject lead to destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?	X	–	–	–	
3.	Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes,	X	–	–	–	
4.	Disturbance of wildlife habitats, and noise-related problems?	X	–	–	–	
F	**Destruction/Disruption of Land and Vegetation**					
1.	Will the subproject lead to unplanned use of the infrastructure being developed?	X	–	–	–	
2.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?	X	–	–	–	
3.	Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?	X	–	–	–	
4.	Will the subproject lead to landslides, slumps, slips and other mass movements in road cuts?	X	–	–	–	

S. No	Issues	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks/ Mitigation Measures (If required)
5.	Will the subproject lead to erosion of lands receiving concentrated outflow carried by covered or open drains?	X	_	_	_	
6.	Will the subproject lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?	X	_	_	_	
G	**Cultural Property**					
1.	Will the subproject have an impact on archaeological or historical sites, including historic urban areas?	_	_	X	_	It will have a beneficial/ positive impact as illumination work will enhance the attraction of this site, and thus it will encourage more tourists to visit.
2.	Will the subproject have an impact on religious monuments, structures and/or cemeteries?	X	_	_	_	All drilling, electrification and related works will be carried out by properly trained and experienced workers for PCRMP sites.
H	**Expropriation and Social Disturbance**					
1.	Will the subproject involve land expropriation or demolition of existing structures?	X	_	_	_	
2.	Will the subproject lead to induced settlements by workers and others causing social and economic disruption?	X	_	_	_	
3.	Will the subproject lead to environmental and social disturbance by construction camps?	X	_	_	_	
4.	Will the sub- project require of tree cutting, if yes how many, location, pictures	X	_	_	_	

Summarized E&S Screening Table

Type of Grant (s)	**Physical**					**Biological**		**Social and Socioeconomic**											
Activities	Soil Erosion/	Air Quality	Surface Water Quality	Groundwater Quality	Water Availability and	Natural Vegetation	Wildlife	Blocked Access	Noise and Vibration	Impacts on Agriculture	Impacts on Irrigation	Livestock Grazing	Compensation Issues	Safety Hazard	Infrastructure Utilities	Public Health	Aesthetic Value	Cultural Issues	Gender Issues
Construction activities																			
	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

S/No	ISSUES	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks
A	**Zoning and Land Use Planning**					
4.	Will the subproject affect land use zoning and planning or conflict with prevalent land use patterns?	X	–	–	–	
5.	Will the subproject involve significant land disturbance or site clearance?	X	–	–	–	
6.	Will the subproject land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?	X	–	–	–	
B	**Utilities and Facilities**					
4.	Will the subproject require the setting up of ancillary facilities?	X	–	–	–	Wheel borrow
5.	Will the subproject make significant demands on utilities and services?	–	X	–	–	WAPDA + Contractors +
6.	Will the subproject require significant levels of accommodation or service amenities to support the workforce during construction	X	–	–	–	

S/No	ISSUES	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks
C	**Water and Soil Contamination**					
8.	Will the subproject require large amounts of raw materials or construction materials?	X	–	–	–	
9.	Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?	X	–	–	–	
10.	Will the subproject result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?	X	–	–	–	
11.	Will the subproject lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?	X	–	–	–	
12.	Will the subproject involve the use of chemicals or solvents?	X	–	–	–	
13.	Will the subproject lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?	X	–	–	–	

S/No	ISSUES	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks
14.	Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?	X	–	–	–	
D	**Noise and Air Pollution Hazardous Substances**					
4.	Will the subproject increase the levels of harmful air emissions?	X	–	–	–	LED fixtures
5.	Will the subproject increase ambient noise levels?	X	–	–	–	
6.	Will the subproject involve the storage, handling or transport of hazardous substances?	X	–	–	–	
E	**Fauna and Flora**					
5.	Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?	X	–	–	–	
6.	Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or	X	–	–	–	

S/No	ISSUES	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks
	endangered species directly or by induced development?					
7.	Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes,	X	–	–	–	
8.	Disturbance of wildlife habitats, and noise-related problems?	X	–	–	–	
F	**Destruction/Disruption of Land and Vegetation**					
7.	Will the subproject lead to unplanned use of the infrastructure being developed?	–	–	X		They will construct a small pad to put the transformer on it. It would be next to the entrance point.
8.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?	X	–	–	–	
9.	Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?	X	–	–	–	

S/No	ISSUES	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks
10.	Will the subproject lead to landslides, slumps, slips and other mass movements in road cuts?	X	–	–	–	
11.	Will the subproject lead to erosion of lands receiving concentrated outflow carried by covered or open drains?	X	–	–	–	
12.	Will the subproject lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?	X	–	–	–	
G	**Cultural Property**					
3.	Will the subproject have an impact on archaeological or historical sites, including historic urban areas?	–	–	–	X	Positive impact
4.	Will the subproject have an impact on religious monuments, structures and/or cemeteries?	–	–	–	X	Positive impact
H	**Expropriation and Social Disturbance**					
5.	Will the subproject involve land expropriation or demolition of existing structures?	X	–	–	–	

S/No	ISSUES	None	Minor/ Small	Moderate/ Medium	Significant / Large	Remarks
6.	Will the subproject lead to induced settlements by workers and others causing social and economic disruption?	X	–	–	–	
7.	Will the subproject lead to environmental and social disturbance by construction camps?	X	–	–	–	
8.	Will the sub- project require of tree cutting, if yes how many, location, pictures	–	X	–	–	It might cut few trees which are locally /naturally pop up. There is no cutting of trees as it involves no digging or construction work. However, while passing wire from one point to another there are chances of disturbing of few plants or trees.

Type of Grant (s)	**Physical**					**Biological**		**Social and Socioeconomic**										
Activities	Soil Erosion/	Air Quality	Surface Water Quality	Groundwater Quality	Water Availability and	Natural Vegetation	Wildlife	Blocked Access	Noise and Vibration	Impacts on Agriculture	Impacts on Irrigation	Livestock Grazing	Compensation Issues	Safety Hazard	Infrastructure Utilities	Public Health	Aesthetic Value	Cultural Issues	Gender Issues
Construction activities																			
	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Section 5 Legal and Regulatory Framework

a. **E&S Operational Policies of World Bank**:

This activity can potentially cause negative environmental and social impacts in small scale, localized and reversible in nature therefore this PCRMP has been prepared in accordance with OP 4.01, and OP 4.11.

i. **OP 4.01 Environmental Assessment**:

This policy defines the Environmental Assessment (EA) process and various types of the EA instruments. Since most of impacts from this activity are likely to be small scale, short term, localized, and reversible in nature therefore can be managed through PCRMP mitigation and management plan (checklist followed by supervision and monitoring checklist).

ii. **OP 4.11 Physical and Cultural Resources**:

This policy safeguards archaeological, physical or cultural heritage sites and assists in their preservation and avoids their elimination. The sub-project activity is planned to be implemented on PCRMP sites. Therefore, this PCRMP has been prepared to ensure any adverse impacts can be catered to during electrical works as well as operationalization phase.

b. **KP Environmental Protection Act (Revised 2014**):

Relevant provisions are as follows:

Section 15 (Handling of Hazardous Substances) requires that "Subject to the provisions of this Act, no person shall generate, collect, consign, transport, treat, dispose of, store, handle, or import any hazardous substance except (a) under a license issued by the EPA and in such manner as may be prescribed; or (b) in accordance with the provisions of any other law for the time being in force, or of any international treaty, convention, protocol, code, standard, agreement, or other Instrument to which Pakistan is a party."

Section 18 (Penalties): Whoever contravenes or fails to comply with the provisions of section 11, 12, 13, or section 16 or any order issued thereunder shall be punishable with fine which may extend to one million rupees, and in the case of a continuing contravention or failure, with an additional fine which may extend to one hundred thousand rupees for every day during which such contravention or failure continues:

Khyber Pakhtunkhwa Antiquities Act 2016:

The protection of cultural resources in KP is ensured by the Antiquities Act of 2016. Antiquities have been defined in the Act as ancient products of human activity, historical sites, or sites of anthropological or cultural interest, national monuments etc. The act is designed to protect antiquities from destruction, theft, negligence, unlawful excavation, trade and export.

Implementation Arrangements:

Project Director (PD) PMU KITE DoT will be overall responsible for the PCRMP implementation. The Social Development Specialist & Environmental Expert PMU DoT and C&W and Archaeological Engineer DoAM are designated as the PCRMP Coordinators for the effective implementation of this PCRMP. The PCRMP Coordinators will ensure that the PCRMP is provided to each of the construction contractors.

The PMU Environment and Social Experts have filled for each site at the outset the Environmental Screening Checklists of both sides. It will keep the complete PCRMP at the respective site; copies of the PCRMP will be provided to the DoAM and the contractor.

The PCRMP Coordinators will also ensure that the environmental monitoring is carried out regularly during the entire implementation phase. The filled Environmental Monitoring Checklist after each monitoring visit will be sent to the PMU E&S Specialist, who will review and maintain a complete record of these Checklists. He will also prepare a quarterly report based on the filled checklists, summarizing the salient information and outcome of the environmental and social monitoring of each site. These quarterly reports will be provided to the KITE Project Director, and will also be shared with the World Bank.

Post-construction, the Directorate of Archaeology Khyber Pakhtunkhwa will be responsible for the regular O&M for these sites. E&S Expert PMU KITE will do regular monitoring visits.

Section 6 Environmental Screening Assessment & Management:

The E&S team conducted screening and assessment and prepared environmental management plan. According to the assessment the proposed sub project activity comes under Category C.

Mitigation and Monitoring Budget:

The cost for the implementation stage activities given in this plan will be included within the contract for this sub-project with total cost of Rs. 110000/-

Table 1: PCRMP Mitigation and Monitoring Plan for TWO Archeological Sites:

E&S Issues	Mitigation Measures	Responsibility	Monitoring by during installation/ Construction	Budget (PKR)
Solid Waste Management	All the waste produced from the activity a, b, can be dump in the solid waste bin in the premises by contractor, the solid waste can be disposed by municipality. One time training will be provided to sites staff for operations & maintenance and handling the equipment waste by the contractor.	Contractor	DoA/ PMU DoT	10,000
Noise Disturbance	Contractor shall provide ear plugs to the worker/ and all other PPEs for drilling purpose, such as gloves, mask, glasses	Contractor	DoA/ PMU DoT	50,000

PPEs	Shall have adequate safe access to every point for installers and O&M personnel e.g., i.e., working platform for electrician, staircase slope, riser height, tread width, landings, hand railing etc. Properly trained worker will be involved for installation of illumination equipment along with use of personal protection equipment. PPEs shall be provided as follows: Safety boots, apron, ear plugs, eye glasses, mask, rubber gloves for electrical works, to the workers	Contractor	DoA/ PMU DoT	35000
Working tools for electrification work	Proper and safe working tools shall be used in order to avoid any unforeseen event. In case of any damage tools will immediately be replaced by the Contractor.	Contractor	DoA/ PMU DoT	NA
Safety and Fire Hazards	Taking care of basic safety measures like providing rubber mats, gloves, first-aid box, fire extinguishers to handle all type of fires and well-lit exit routes while installers and O&M personnel are at work, in case of fire or any type of emergencies. Fire extinguisher will be installed near main circuit board.	Contractor	DoA/ PMU DoT	10,000
Covid SOPs	Covid SOPs will be strictly adhered to during work. Contract to provide PPEs, hand sanitizers etc. to workers.	Contractor	DoA/ PMU DoT	5000*

Section 7 Monitoring Plan:

The objective of environmental monitoring during the various phases of the proposed sub-project will be as follows:

- Ensuring that the mitigation measures included in the PCRMP are being implemented completely. AND
- Ensuring the effectiveness of the mitigation measures in minimizing the project's impacts on social and environmental resources.

Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Responsibility of Monitoring
General Activity	Notification to staff before the start of work and encourage them to WFH option or avail off hours	STAF	Before the start of work	DOAM /Site In charge
Minor waste from Supply and erection PVC pipe. Supply and installation and testing and commission of light fixtures. Drilling for minor holes in electricity wiring is expected,	All the waste produced from the activity a, b, can be dump in the solid waste bin in the premises by contractor, the solid waste can be disposed by municipality. Luminaries contain types of materials that are also recyclable i.e, steel,	Visual inspection Construction waste is disposed of in municipal bins. Mechanisms in place on site for collection and disposal of waste. Training topic covered under the training modules.	Once at the time of mobilization of contractor Once during implementation of work.	DoA/ PMU DoT

Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Responsibility of Monitoring
can create environmental problems. End-of-life disposal of equipment and light fixtures.	plastic, extruded aluminum, cast iron and glass. The minor integrated circuits inside the equipment shall be disposed off along the municipality waste whose impact on environment shall be negligible to none. The luminaries proposed have replaceable lamps technology thus making the overall solution more sustainable and prone to lesser e-waste and having a remarkable life span. One time training will be provided to Site staff for operations & maintenance and handling the equipment waste by the contractor.			

Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Responsibility of Monitoring
Noise Disturbance	Contractor shall provide ear plugs to the worker/ and all other PPEs for drilling purpose, such as gloves, mask, glasses	PPE training will be delivered PPEs are available and utilized by the workers	Once at the time of mobilization of contractor Once during implementation of work.	DoA/ PMU DoT
Improper Waste management can cause social and environmental problems within the vicinity of both sites.	The applicable existing waste management will be enforced. Site staff engaged in handling and disposing waste will be provided with PPEs including safety gloves and masks.	PPEs are available for staff handling the equipment. Staff has been trained for proper usage of equipment	Once at the time of mobilization of contractor Once during implementation of work.	DoA/ PMU DoT
Working tools for electrification work	Proper and safe working tools shall be used in order to avoid any unforeseen event.	experience and qualification certificate of workers on site Supervision qualified archaeologist	Once during implementation of work.	DoA/ PMU DoT

Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Responsibility of Monitoring
	In case of any damage tools will immediately be replaced by the Contractor.	Visual inspection of tools		
Installation of routers/ Electricity Board	Shall provide under shed/ or in ventilated room, to avoid damages by short circuit.	experience and qualification certificate of workers on site Supervision qualified archaeologist Inspection of designs during implementation	Visual inspection once during implementation	DoA/ PMU DoT
Safety of installers and O&M Personnel	PPEs shall be provided as follows: Safety boots, apron, ear plugs, eye glasses, mask, rubber gloves for electrical work, to the workers at sites.	PPEs are available for staff handling the equipment. Staff has been trained for proper usage of equipment.	Visual inspection once during implementation	DoA/ PMU DoT
Safety and Fire Hazards	Taking care of basic safety measures like providing rubber mats, gloves, first-aid box, fire extinguishers to handle all type of fires and well-lit exit routes while installers and O&M	Emergency preparedness and response plan has been prepared EPRP is being implemented	Visual inspection during implementation Inspection of records for the	DoA/ PMU DoT

Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Responsibility of Monitoring
	personnel are at work, in case of fire or any type of emergencies. Fire extinguisher will be installed near main circuit board.	Training delivered to all staff mentioned in emergency preparedness and response plan Visual inspection of equipment available for fire fighting	implementation of PCRMP once before operationalization	
Covid SOPs	Covid SOPs will be strictly adhered to during work. Contract to provide PPEs, hand sanitizers etc to workers.	Covid SOPs are being strictly adhered to during work. PPEs, hand sanitizers etc is provided by contractor to workers.	Visual inspection during implementation	DoA/ PMU DoT

Note: Implementation monitoring budget will be supported by DoAM through its own resources.

Section 8 Capacity Building

Training:

To ensure the successful implementation of environmental and mitigation measures, strengthening relevant and fundamental competencies is essential. The objectives of the environmental and social training include providing basic knowledge and information on the key environmental and social issues associated with the proposed interventions to the key project personnel, including the DoAM staff, PMU staff and contractors involved in the subproject's management.

In order to comply with the expected environment and social attributes as described in PCRMP, meetings will be held with the contractor to ensure a socially acceptable and environmentally sustainable situation during the execution of the schemes.

The Contractor will also be informed on procedures and techniques for complying with environmental and social management conditions, as well as any special conditions stated in a PCRMP; a description of specific mitigation measures that will be undertaken in order to minimise adverse impacts; and a summary of all planned monitoring activities. The contractor will ensure that the proposed project activities adhere to the PCRMP, NEQS, and World Bank operational rules.

The PMU KITE's Environmental and Social Safeguard Expert will carry out the training programmes and be responsible for the overall implementation of the training plan, as well as ensuring proper applicable documentation. KITE DOT will be in charge of the budget. The following is a sample training schedule:

Training plan under PCRMP

Description of Training	Training Module	Location	Participants	Frequency	Budget
One day training by DoAM on PCR Management Plan	• Implementation of PCRMP • Detail about Mitigation Measures	One at sub-project site	Contractor, DoAM staff,	Before start of implementation activities by the Contractor	10,000

GRM Monitoring and reporting	proposed in PCRMP				
One day training by the DoAM for the contractor and workers regarding Design and methodology	• approved project designs • utilization of proper tools, materials and methodology for the electrical works	Sub-project site	Contractors, PMU Staff	Before start of implementation activities by the Contractor	10,000
One day Training on Appropriate personal protective equipment (PPE) and First Aid	• What is the purpose of PPE? • How important to use PPE? • How to use PPE? • First Aid • EHS aspects • Fire Fighting	PMU KITE Peshawar	Contractor, DoAM staff,	At the start of Construction	10,000

Mitigation and Monitoring Budget:

The cost for implementation stage mitigation activities is given in this plan will be included within the contract for this sub-project with total cost of Rs**. 110,000/.** After of assignment all sites will be handed over to DoAM for operations, hence, all O&M will be borne by DoAM through its own annual budget. DoAM has been observed to have adequate capacity with regards to implementation of Project O&M.

Name of item	Quantity	Unit
Face Masks	10	box
Safety Shoes	20	pairs
Gloves	50	pairs
First Aid Box	5	1 Box per site
Ear Plugs	55	Pair
Safety Helmets	55	Per person
Safety Jackets	20	Per person
Sanitizer	11	Per site
Reflective Tape	11	Each
Safety cones	20	Each
Safety boards	11	Each

Section 9 Grievance Redress Mechanism:

KITE is committed to grievance redress. Effectively addressing grievances from people impacted by the projects is a core component of managing operational risk. The grievance Redress Mechanism (GRM) is an effective tool for early identification, assessment, and resolution of concerns, complaints and suggestions. A key emphasis will be to quickly respond to all highlighted and reported concerns or grievances, as per KITE GRM policy.

As the PMU-KITE has established and publicized policy: In policy, Access Point and Complaint Uptake channels have been defined.

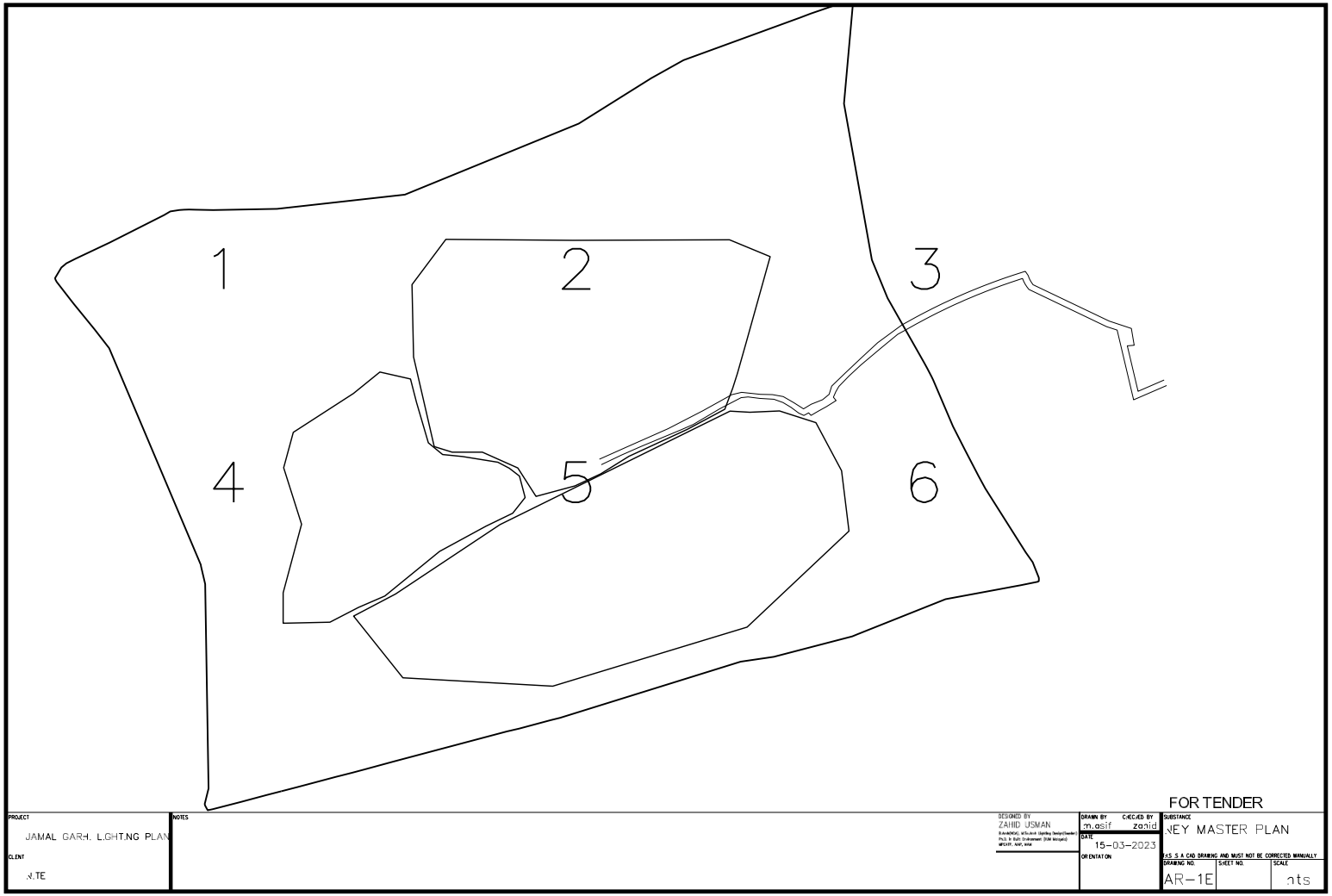
Grievance Recording: it will be made sure that all incidents and complaints/grievances are properly recorded and in a timely manner. Through initial assessment, eligibility would be made to ensure that the issue being raised is relevant to the subproject. All grievances would be resolved after verification within a stipulated time span at the respective level.

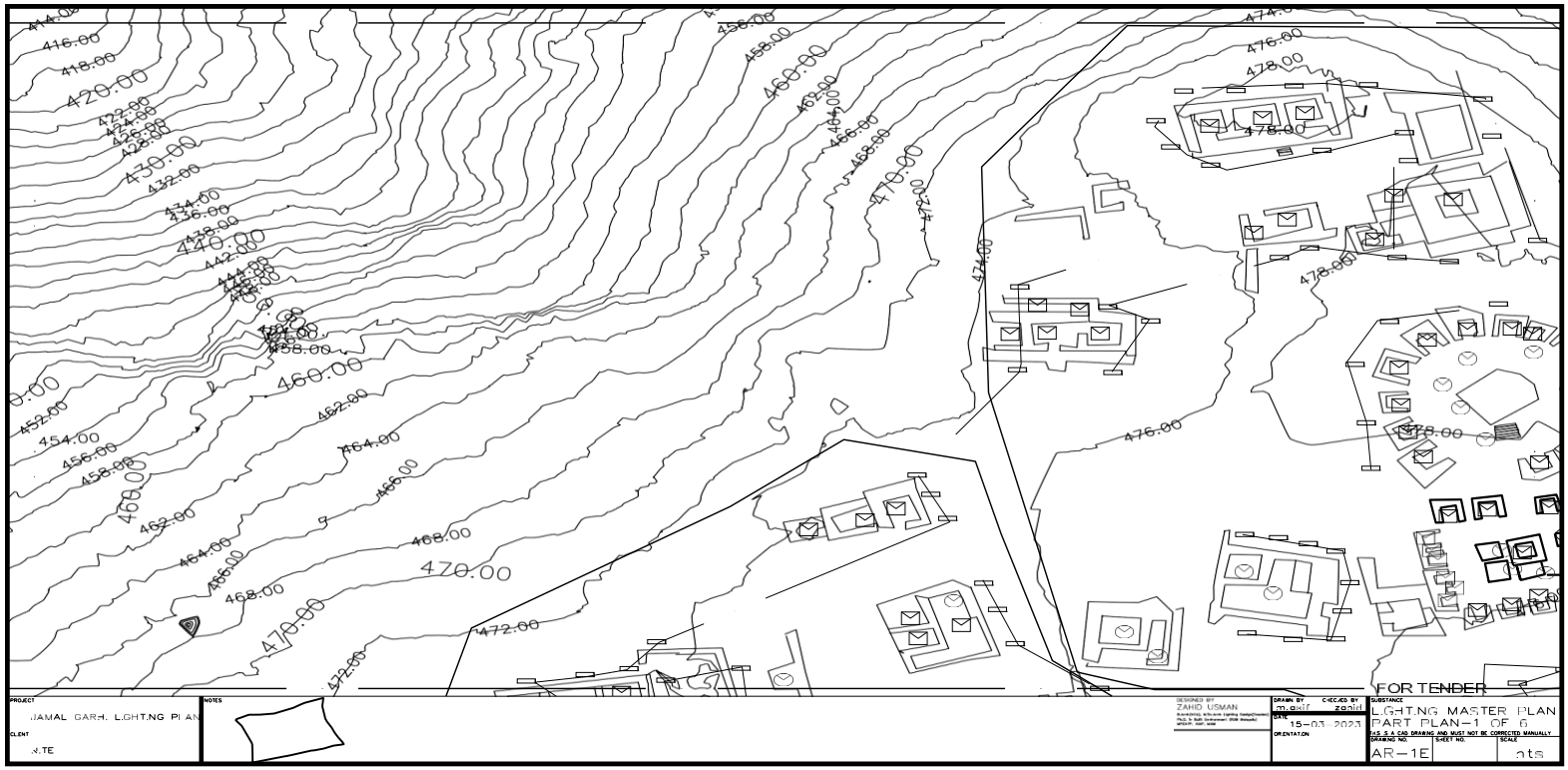
Follow-up of cases will be done to determine satisfaction with the process, resolution of complaints, etc. The PMU will provide tracking numbers to the grievances received to determine and monitor whether complaints have been redressed.

Pictures from Jamal Garhi:

Pictures from Takht Bai

Annex- Figure I- illumination plan for both Jamal Garhi:





PROJECT
JAMAL GARH, LIGHTING PLAN

CLIENT
N.TE

NOTES

DESIGNED BY
ZAHID USMAN

DRAWN BY
CHECKED BY
zaid

DATE
15-03-2023

ORIENTATION

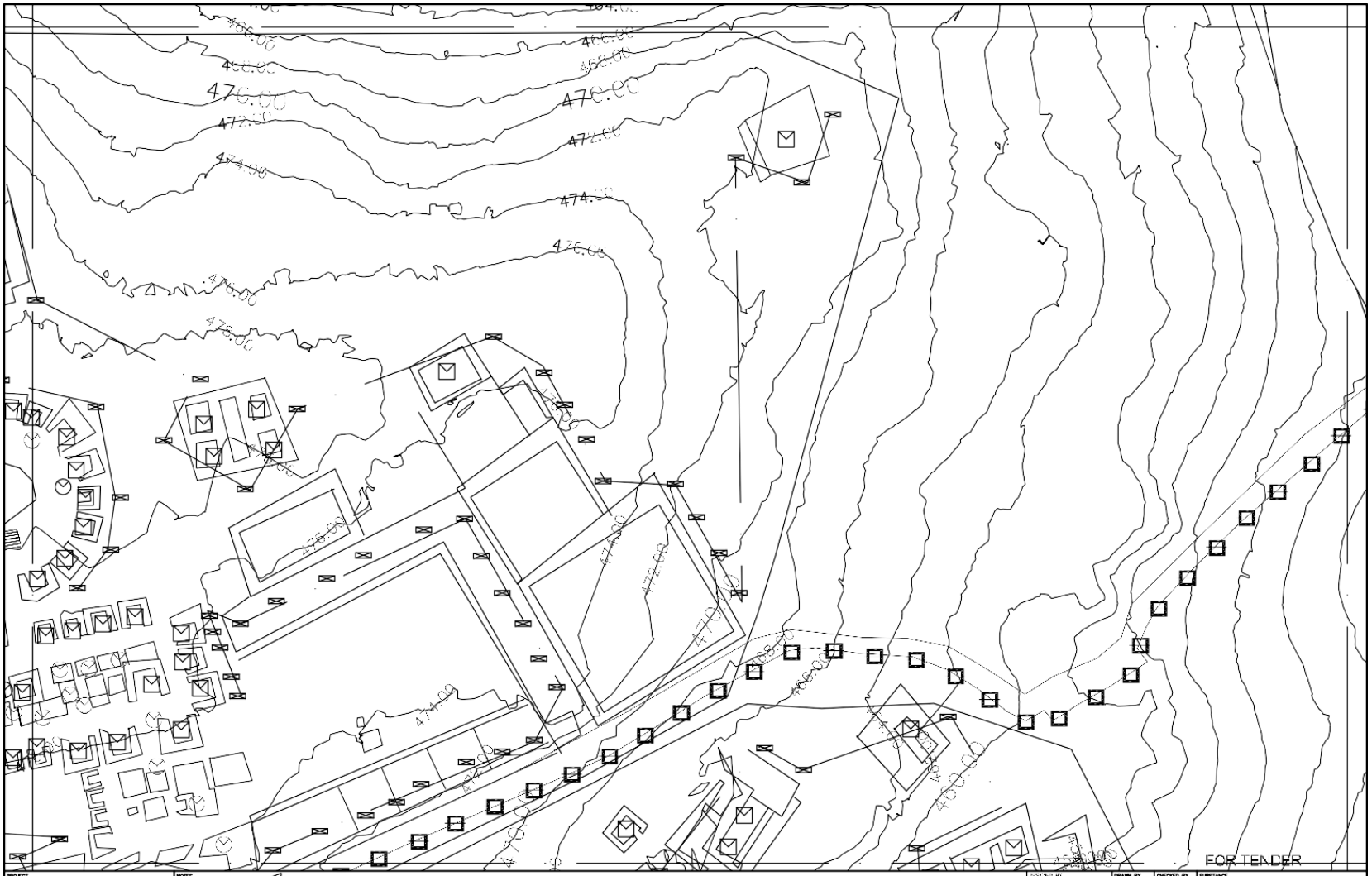
SUBSTANCE
FOR TENDER
LIGHTING MASTER PLAN
PART PLAN-1 OF 6

AS A CAD DRAWING AND MUST NOT BE CORRECTED MANUALLY

DRAWING NO.
AR-1E

SHEET NO.

SCALE
nts



PROJECT: JAMAL GARHI LIGHTING PLAN	NOTES	DESIGNED BY: ZAHID USMAN	DRAWN BY: m.asif / CHECKED BY: zahid
CLIENT: KITE			DATE: 15-03-2021
			ORIENTATION

SUBSTANCE: LIGHTING MASTER PLAN
PART PLAN-2 OF 8
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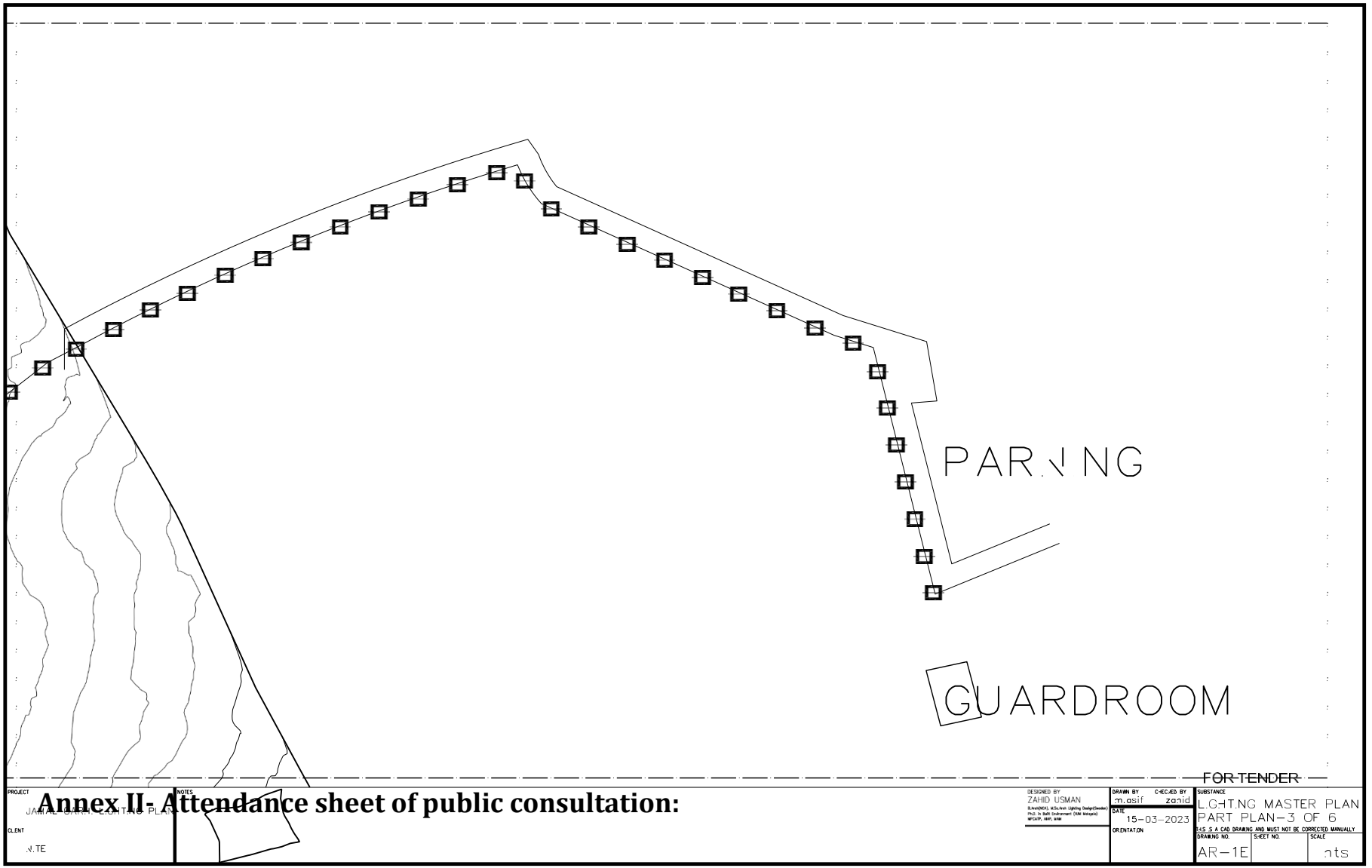

Annex II- Attendance sheet of public consultation:

Annex II- Attendance sheet of public consultation

Government of Khyber Pakhtunkhwa
Project Management Unit (DoT)
Khyber Pakhtunkhwa Integrated Tourism Development
Project (KITE) Dot

ATTENDANCE SHEET

Dated 14/01/2023

E&S SCREENING CONSULTATION AT JAMAL GARHI & TAKHT-BHAI

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