Initial Environmental Examination

Project Number: 40648-034
May 2017

IND: Infrastructure Development Investment Program for Tourism (IDIPT) - Tranche 3

Package : State-wide Tourism Centers, Interpretation Centers (Lot-1) - Eastern Circuit at Rupnagar (Existing TIC) and Chandigarh (Package no: PB/IDIPT/T3/01/01-(Lot 01))

Submitted by:

Program Management Unit, Punjab Heritage and Tourism Board, Chandigarh

Asian Development Bank

NK/SV

Punjab Heritage and Tourism Promotion Board
Infrastructure Development Investment Programme for Tourism (IDIPT)
(ADB Assisted Project)
Plot No. 03, Sector 38 A, Chandigarh, Ph. 0172-2625952, 5014495
Email:idipt.pb.office@gmail.com

To

The Country Director,
India Resident Mission
Asian Development Bank,
4, San Martin Marg, Chanakyapuri,
New Delhi – 110021

No. PHTPB/IDIPT/2017/3326-33

Dated: 20/4/2017

Project: Loan 3223-IND: Infrastructure Development Investment Programme for Tourism (IDIPT) - IEE Report for Package no: PB/IDIPT/T3/01/01(Lot-1): State-wide Tourism Centers, Interpretation Centers (Lot-1) - Eastern Circuit at Rupnagar (Existing TIC)

Subject: Submission of revised Initial Environmental Examination (IEE) Report

The revised Initial Environmental Examination (IEE) Report for the contract Package PB/IDIPT/T3/01/01(Lot-1) seeking ADB's concurrence is hereby enclosed with this letter for your approval.

18/4/17
Addl. Project Director

CC:

1. PA to PD, IDIPT-PB
2. PA to APD, IDIPT-PB
3. CGM, PHTPB
4. FCS, IDIPT-PB
5. TL, PMC
6. TL, DSC
7. ESS, IDIPT-PB

Soft copy read. 20.04.17

Compliance matrix to the Queries from ADB

Package no. PB/IDIPT/T3/01/01 (Lot-1): State-wide Tourism Centres, Interpretation Centres (Lot-1) - Eastern Circuit at Rupnagar (Existing TIC) and Chandigarh (Archives Building, Sector 38)

Sl.no	Comments from ABD	Response from PMU
1.	The revised IEE report has confirmed that the provisions of the Wetland Rules 2010 are not applicable for this subproject (Table 4, page 15). Since the proposed sub-project is reported to be within 100 meters from Ropar Wetland listed in the Wetland Rules 2010, we request you to reassess the applicability of the provisions stipulated under these rules, and make suitable corrections in table 4 as deemed necessary	The proposed sub-project interventions at TIC, Ropar commensurate with the stipulations as per the Conservation Management Action Plan (2013-18) for Conservation of Ropar Wetland. However, as per the section 4(2) (restrictions on activities within Wetlands) of the Wetland Rules, 2010, this subproject mandates clearance from Chief Wildlife Warden of Punjab and accordingly the same has been obtained (**Annexure 9**). Since, the proposed interventions are not within the Wetlands, hence, Wetland Rules, 2010 are not applicable for this sub-project.

Initial Environmental Examination

Project Number: 40648-034
ADB loan Number: 3223-IND
April 2017

Infrastructure Development Investment Program for Tourism (IDIPT) - Punjab

Subproject –State-wide Tourism Centers, Interpretation Centers (Lot-1)- Eastern Circuit at Rupnagar (Existing TIC) and Chandigarh, (Archives Building, Sector-38)

(Package no: PB/IDIPT/T3/01/01-(Lot 01)

Prepared by the Government of Punjab

ABBREVIATIONS

ADB	:	Asian Development Bank
ATM	:	Automated teller machine
AAQ	:	Ambient Air Quality
CTE	:	Consent to Establish
CTO	:	Consent to Operate
CPCC	:	Chandigarh Pollution Control Committee
DSC	:	Design Supervision Consultant
DoT	:	Department of Tourism
EA	:	Executing Agency
EARF	:	Environment Assessment & Review Framework
EIA	:	Environmental Impact Assessment
EMP	:	Environmental Management Plan
GoI	:	Government of India
GoP	:	Government of Punjab
GRC	:	Grievance Redress Committee
H&S	:	Health and Safety
IEE	:	Initial Environmental Examination
IDIPT	:	Infrastructure Development Investment Programme for Tourism
LGC	:	Local Grievance Committee
NoC	:	No Objection Certificate
NGO	:	Non-Governmental Organization
MoEF&CC	:	Ministry of Environment, Forest and Climate Change
MC	:	Municipal Corporation
MCM	:	Million Cubic Meters
O&M	:	Operation and Maintenance
PIU	:	Project Implementation Unit
PHTPB	:	Punjab Heritage and Tourism Promotion Board
PMC	:	Project Management Consultant
PMU	:	Project Management Unit
REA	:	Rapid Environmental Assessment
SPS	:	Safeguard Policy Statement
SC	:	Schedule Caste
SLEC	:	State Level Empowered Committee
TIC	:	Tourism Information Centre
TSS	:	Total Suspended Solids
UT	:	Union Territory
UNWTO	:	United Nations World Tourism Organization
VOC's	:	Volatile Organic Compounds

Table of Contents

List of Tables

List of Figures

Annexures

EXECTUVE SUMMARY

1. **Background.** The Infrastructure Development Investment Program for Tourism Financing Facility (the Facility) will develop and improve basic urban infrastructure and services in the four participating states of Himachal Pradesh, Punjab, Uttarakhand and Tamil Nadu to support the tourism sector as a key driver for economic growth. It will focus on:

(i). Strengthening connectivity to and among key tourist destinations;
(ii). Improving basic urban infrastructure and services, such as water supply, road and public transport, solid waste management and environmental improvement, at existing and emerging tourist destinations to ensure urban amenities and safety for the visitors and to protect nature and culture-based attractions.

2. Physical infrastructure investments will be accompanied bycapacity building programs for concerned sector agencies and local communities for better management of the tourist destinations and for more active participation in the tourism-related economic activities, respectively.

3. The proposed subproject sites fall under the Rupnagar and Chandigarh. Rupnagar (Ropar) district lies between north latitude 30°32' and 31°24' and eastlongitude 76°18' and 76°55'. Rupnagar (formerly known as Ropar) town,the district headquarters is 42 kilometres (km) from Chandigarh. The district comprises of 4 Tehsils[1]: Rupnagar, Anandpur Sahib,Nangal and Chamkaur Sahib, and includes 624 villages and 6towns(Rupnagar, Chamkaur Sahib, Anandpur Sahib, Morinda, KiratpurSahibandNangal). Rupnagar is famous for sikh pilgrimage. The Tourism Information Centre (TIC) at Rupnagar, which is proposed for improvement is located near the Maharaja Ranjit Singh Treaty site[2] and is adjoining the Water Lily restaurant (belongs to Department of Tourism). The TIC is having an area of 540 sq m including parking area. It shall be accessed through National Highway-21 (GT Road). The purpose of the TIC is to share the historical information about the Rupnagar, MRS Treaty site and Ropar Wetland to the tourist/ visitors

4. Chandigarh (UT) is located in the foothills of the Shiwalik hill ranges in the north, which form a part of the fragile Himalayan ecosystem. It falls in the longitude 76°47' 14E and latitude 30° 44' 14N. The area is drained by two seasonal rivulets viz. SukhnaChoe in the east and Patiala-Ki-RaoChoe in the west. The proposed TIC at Chandigarh is located in sector 38 in the Archives Bhawan,which serves as office space for the Government departments including Punjab Heritage and Tourism Promotion Board (PHTPB), Infrastructure Development Investment Programme for Tourism (IDIPT), Directorate of Cultural Affairs, Archaeology & Archives, Museum, Department of Tourism and Anandpur Sahib Heritage foundation.

5. **Executing and implementing agencies.**The Executing Agency (EA) is the Department of Tourism (DoT), Punjab. The implementing agency is the Punjab Heritage and TourismPromotion Board (PHTPB), Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution and is supported by the Project

[1] A tehsil (also known as tahsil, tahasil, taluka, taluk, or taluq) is a unit of government i in the Republic of India - it is similar to a county. It usually consists of a town (possibly more towns) and the villages around the towns.
[2]Maharaja Ranjit Singh Treaty site (located near to proposed site) is in the Rupnagar, which has a historical significance being a venue for signing of the historic Ropar Treaty between Maharaja Ranjit Singh and British Governor General Lord William Bentinck on 26th October 1831.

ManagementConsultant (PMC). Project Implementation Unit (PIU) is set up at Rupnagar and it is supported by Design Supervision Consultant (DSC). For this subproject, the Directorate of Cultural Affairs, Archaeology and Museums, Punjab is the asset owner for both the sites.

6. **Categorization.**The proposed sub-project is classified as Environmental Category "B" as per the Safeguard Policy Statement (SPS), 2009 as no significant impacts are envisioned. Accordingly this Initial Environmental Examination (IEE) has been prepared which assesses the environmental impacts and provides appropriate mitigation and monitoring measures.

7. **Subproject Scope.**The major scope of this subproject is to develop Tourist Information Centre (TIC) at Rupnagar and Chandigarh;

8. **TIC at Rupnagar**: The existing TIC building at Rupnagar is set to upgrade under this subproject. The building is located in the close proximity to the Tourism Hotel (Water Lily Restaurant), MRS Treaty site and River Sutlej Barrage. The proposed intervention includes site planning, building interiors and exterior façade development.

Sl.no	Location	Interventions
1.	TIC, Rupnagar	• **Site planning**- development of parking area, lights, signage, benches and landscaping • **Building interiors-** development of storage area, information area, providing new furniture, toilet facilities, interior lighting and fixtures etc. • **Exterior façade development-** development in Sikh style of architecture such as segmented arches, chatris, jali work on the top as railing, wall patterns and traditional design of columns, glass doors etc.

9. **TIC at Chandigarh**:Some of the building blocks within the PHTPB (Archives Bhawan) located inthe Sector 38A, Chandigarh is planned to be developed/renovated as TIC. The major scope of work shall includedevelopment of new reception, exhibition area and souvenir shop, new cafeteria, multipurpose hall and administrative area, wall finishes, electric wiring and light fixtures, flooring, false ceiling and new office furniture (modular) etc.

10. **Description of the Environment.**Subproject components are located inthe urban areas of Rupnagarand Chandigarh***.***

(i). ***TICat Rupnagar***: The site is bounded from North, West and East by River Sutlej. Towards the east of the site along the banks of River Sutlej, Sadabarat nature trail and Ropar wetlands (Ramsar Site) are located, which is home to migratory birds. The site can be accessed through Phagwara-Mohali Highway and through an approach road connecting expressway. The subproject site of TIC at Rupnagar is located at an aerial distance of 100 m from the Ropar (Ramsar) Wetland Site.

(ii). ***TICatChandigarh***:The subproject site is in the existing building of the Archives Bhawan, Department of Tourism, surrounded by various sectors having commercial and residential activities. The subproject site is having open spaces with landscaping and ornamental plants and trees. The building is in three tier having basement, ground floor and first floor.Sufficient parking is provided in the campus and all the blocks are connected with internal roads. There are no protected areas (eco sensitiveareas, forests etc.,) in the vicinity of the subproject site.

11. **Environmental Management.**An Environmental Management Plan (EMP) is included as part of this IEE, which includes (i) mitigation measures for the identified environmental

impacts, which are likely to arise during the project implementation; (ii) an environmental monitoring program, and the responsible entities/ agency for implementing the mitigation measures monitoring measures and reporting mechanism; (iii) public consultation and information disclosure; and (iv) grievance redress mechanism. The EMP will be included in the civil work bidding and contract documents for effective implementation.

- For the proposed interventions, suitable design options were considered for reducing the anticipated environmental impacts. The adopted design options are
- Design and material will be compatible to the local architectural, physical, cultural and landscaping elements;
- Preference will be given to the use of local material and labour as far as possible;
- For conservation, local construction material available in the nearby region will be used as far as possible suiting to those in existence;
- The paints having low volatile organic compounds (VOC's) shall be used for all painting work(interior and exterior)
- Earth backfill (if any) will be done from the site excavated material; and
- Ensuring all planning and design interventions and decisions are made in consultation with the local communities and reflecting inputs from public consultation.

12. During the construction phase, impacts may arise due to the disturbances to tourists/visitors visiting MRS Treaty site and using restaurant (Water Lily) at Rupnagar andat Chandigarh, the office space which are currently located in the Archives Bhawan building has to be shifted/ relocated and hence it will cause temporary impact to the tourism department employees.The proposed construction activities are not large enough to have any sort of impacts on the existing environmental condition. The anticipated impacts includes noise pollution during the drilling / cutting operations using tile cutter etc., dust generation during dismantling of walls/ existing structure for alteration purposes and unforeseen safety impacts. In the operational phase, all facilities and infrastructure will operate with routine maintenance, which should not affect the environment. Facilities will need to be repaired from time to time, but environmental impacts will be much less in comparison with the construction phase.

13. Mitigation measures have been developed to reduce the negative impacts. Mitigation measures will be assured by the environmental monitoring program, which is to be conducted during the subproject construction. The environmental monitoring program will ensure that all mitigation measures are implemented and will determine whether the environment is protected as intended. It will include on and off-site observations, document checks, and interviews with workers and beneficiaries. Any requirements for corrective action will be reported to the ADB.

14. The tourists/ visitors, commercial establishments (shops, hotels etc.,) and the local people/ communities would be the major beneficiaries of the project. The proposed subproject will improve adequate tourism facilities and propagate the local traditions and Cultural Heritage of the state. This subproject will provide a common platform for local traditions and values; provide and improve business opportunities for local communities linked to the cultural and natural heritage tourism.

15. **Consultation, Disclosure and Grievance Redress.**The stakeholders were involved in developing the IEE through discussions; the views that were expressed were incorporated into the IEE as well as in the planning and development of the subproject. The IEE will be made available at public locations in the town and will be disclosed to a wider audience via

the ADB and PHTPB websites. The consultation process will be continued and expanded during project implementation to ensure that stakeholders are fully engaged in the project and have the opportunity to participate in its development and implementation. A grievance redress mechanism is described within the IEE to ensure any public grievances are addressed quickly.

16. **Monitoring and Reporting.**The PIU and DSC will be responsible for performing environmental monitoring and they will be supervised by the PMU and PMC. The PIU with support from the DSC will submit quarterly and Semi-annual monitoring reports to the PMU. The PMU will consolidate the Semi-annual reports in assistance of PMC and will send it to ADB. ADB after approval will post the environmental monitoring reports on its website.

17. **Conclusions and Recommendations**. The proposed subproject is unlikely to cause major environmental impacts. The anticipated negative impacts that are associated with design, construction and operation can be mitigated/ minimized through proper engineering design and the incorporation or application of recommended mitigation measures and procedures. Based on the findings of the IEE, it shall be concluded that there are no significant environmental impacts in implementing this subproject and accordingly the subproject is classified as Category “B” project (as per SPS, 2009) and further study or detailed. Environmental Impact Assessment (EIA) is not required.

I. INTRODUCTION

18. **Background.** The Infrastructure Development Investment Program for Tourism Financing Facility (the Facility) will develop and improve basic urban infrastructure and services in the four participating states of Himachal Pradesh, Punjab, Uttarakhand and Tamil Nadu to support the tourism sector as a key driver for economic growth. It will focus on:

(i). Strengthening connectivity to and among key tourist destinations; and
(ii). Improving basic urban infrastructure and services, such as water supply, road and public transport, solid waste management and environmental improvement, at existing and emerging tourist destinations to ensure urban amenities and safety for the visitors, and protect nature and culture-based attractions.

19. Physical infrastructure investments will be accompanied bycapacity building programs for concerned sector agencies and local communities for better management of the tourist destinations and for more active participation in the tourism-related economic activities, respectively.

20. The subproject is a part of Eastern Circuit. The eastern circuit connects the pilgrimages, historical and natural tourism sites located in Patiala, Fatehgarh Sahib, Chandigarh, Rajpura, Rupnagar, Ghanouli, Kiratpur, and Nangal. The Circuit is linked to the south eastern end of the Western Pilgrimage and Ecotourism Circuit in Punjab and is the main route to access this Circuit from the south. Chandigarh is the main air, rail and road gateway for the corridor, as well as the main overnight centre for travel in and around it. (*Source: As per Punjab Tourism Development Master Plan, 2008-2023; United Nations World Tourism Organization (UNWTO)*).

21. The Proposed **Tourist Information Centre Site in Rupnagar**is located in the northern part of theRupnagar Town and adjacent to the bank of the River Sutlej. The Rupnagar town, the areas surrounding the River Sutlej and the water bodies from Rupnagar Barrage to the Bhakhra Dam is bestowed with variety of natural, historic and cultural resources with excellent potential for attracting tourists.The Subproject site is located at 100m aerial distance from the Ropar (Ramsar) Wetland Site. The Ropar Wetland Site is home to variety of migratory birds.

22. Another site of the proposed **Tourism Information Centre is located in Chandigarh**at Archives Bhawan; Sector 38. This building is under the Department of Tourism, Government of Punjab. The building is having offices of several wings of Department, including Punjab Heritage and Tourism Promotion Board (PHTPB), Infrastructure Development Investment Programme for Tourism (IDIPT), Department of Culture, Department of Tourism and Anandpur Sahib Heritage foundation.

23. **Executing and Implementing Agencies.** The executing agency is the Department of Tourist (DoT), Punjab. The implementing agency is the Punjab Heritage and Tourism Promotion Board (PHTPB) Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution. Project Management Consultant (PMC) at Chandigarh provides assistance to PMU in the project execution. Project Implementation Unit (PIU) is set up at Rupnagar and it is supported by Design Supervision Consultant (DSC). For this subproject, the Directorate of Cultural Affairs, Archaeology & Archives, Museum, Govt. of Punjab is the asset owner for both the TIC sites.

24. **Proposed sub-project**.The major scope of work proposed at Tourism Information Centre (TIC), Rupnagar and Chandigarhis detailed in the **Table 1**.

Table 1: Proposed Subproject Interventions

<table>
<tr><th>Sl.no</th><th>Location</th><th colspan="2">Interventions</th></tr>
<tr><td>1.</td><td>TIC,Rupnagar</td><td colspan="2">• Site planning- development of parking area, lights, signage, benches and landscaping
• Building interiors- development of storage area, information area, providing new furniture, toilet facilities, interior lighting and fixtures etc.
• Exterior façade development- development in Sikh style of architecture such as segmented arches, chatris, jali work on the top as railing, wall patterns and traditional design of columns, glass doors etc.</td></tr>
<tr><td rowspan="19">2.</td><td rowspan="19">TIC, Chandigarh</td><td colspan="2">• Development of new reception, exhibition area and souvenir shop for tourists, new cafeteria, multipurpose hall and administrative area, wall finishes, electric wiring and light fixtures, flooring, false ceiling and new office furniture (modular) etc.,</td></tr>
<tr><td>Area Statement For TIC Chandigarh</td><td>Area (Sq.m)</td></tr>
<tr><td>Basement Part 1</td><td></td></tr>
<tr><td>Office 1</td><td>172.20</td></tr>
<tr><td>Office 2</td><td>30.90</td></tr>
<tr><td>Meeting Area</td><td>29.50</td></tr>
<tr><td>Basement Part 2</td><td></td></tr>
<tr><td>ES2</td><td>208.50</td></tr>
<tr><td>ES1</td><td>164.30</td></tr>
<tr><td>Store</td><td>36.90</td></tr>
<tr><td>Lobby/ Corridor</td><td>152.00</td></tr>
<tr><td>Storage (Compactors)</td><td>61.20</td></tr>
<tr><td>Data Centre</td><td>115.70</td></tr>
<tr><td>Ground Floor</td><td></td></tr>
<tr><td>Canteen</td><td>168.50</td></tr>
<tr><td>Research and Marketing Cell</td><td>82.40</td></tr>
<tr><td>Storage (Compactors)</td><td>85.30</td></tr>
<tr><td>Corridor</td><td>123.40</td></tr>
<tr><td>Cyber Area</td><td>58.50</td></tr>
<tr><td>Total</td><td>1489.30</td></tr>
</table>

25. **Categorization.**As per the Asian Development Bank's (ADB) Safeguard Policy Statement 2009 and in line with the Environment Assessment & Review Framework (EARF), the proposed sub-project is categorized as 'B' and accordingly an Initial Environmental Examination (IEE) has been prepared. The IEE was based on the review of sub-project site plans, reports, field visits, secondary data (to characterize the environment and identify potential impacts), interviews and discussions with stakeholders.

26. **Purpose of the IEE.**This report gives an account of the Initial Environmental Examination (IEE) of the subproject as per Detailed Design. The environmental impacts for this contract package are primarily related to construction activities. The proposed construction activities are selected considering the historical and cultural value of the city. There will be construction impacts associated with proposed civil and conservation works but

these will be of limited intensity and of short duration. Therefore, as per the Asian Development Bank's (ADB) Environmental Assessment Guidelines (SPS 2009), the subproject components are categorized as 'B' and accordingly an IEE has been prepared. This IEE provides mitigation measures for impacts related to location, design, construction, operation, and maintenance. The REA checklist is attached as **Annexure-1** with this report.

II. DESCRIPTION OF THE SUB PROJECT

A. Existing Condition and Need of the Subproject

27. **Location:**The Subproject (Tourism Information Centre (TIC)) has been proposed to develop at Rupnagar and Chandigarh.

28. **TIC at Rupnagar:**The existing Tourist Information Center at Rupnagar is proposed for up gradation. The subproject site is located in the Rupnagar town ofRupnagar district. The Rupnagar districtlies between north latitude 30°-32' and 31°-24' and east longitude 76°-18' and 76°-55'. Rupnagar (formerly known as Ropar) town, the district headquarters is 42 km from Chandigarh. The district adjoins ShahidBhagat Singh Nagar (formerly known as Nawanshahar), Mohali and Fatehgarh Sahib Districts of Punjab. The proposed site is bounded from north, west and east by River Sutlej. The Sadabarat trail and Ropar wetland (known for bird watching) are located towards east of the subproject site. The site can be accessed through Phagwara-Mohali Highway and an approach road connecting expressway.

29. **Existing Condition ofthe TIC at Rupnagar-** As per the detailed investigation/ assessment of the TIC building, the followingare the observations:

- The building is in fairly good condition but has the problem of water seepage on the walls and ceiling. Due to seepage,the wall finishes has been damaged.
- At present there are no display areas and waiting/ sitting areas for the visitors.
- The room which is used as storage facility was originally designed for ATM, however, is not being used effectively.
- There is absence of proper ventilation in the building.
- There is no proper storage units
- The paved area surrounding the TIC has been badly damaged.

30. **TIC at Chandigarh:** The subproject site is located at Archives Bhawan, Sector 38, Chandigarh. Chandigarh is located at coordinates of 30° 44'14 N latitude and 76° 47' 14E Longitude. It has good accessibility, as it is located at a distance of 12 km from the airport, 10 km from the railway station and 6 km from the bus stand. The Archives Bhawan building functions presently as office building for some Government departments, including Punjab Heritage and Tourism Promotion Board (PHTPB), Infrastructure Development Investment Programme for Tourism (IDIPT), Department of Cultural Affairs, Archaeology, Museums Department of Tourism and Anandpur Sahib Heritage foundation. The building is in fairly good condition and can be very effectively used as Tourism Information Centre (TIC)

31. **Existing Conditions of theTIC at Chandigarh-** The available space in the ground floor and the first floor has been proposed to develop as TIC. As per the site assessment/ detailed inventory, the building experiences seepage issues and lack of facilities like exhibition area, display area, furniture, sitting lounge multipurpose hall and cafeteria. In view of this, the

proposed subproject interventions have been developed. **Annexure 2** shows photoillustration of the project sites of Rupnagar and Chandigarh.

B. Proposed Subproject Components

32. **TIC at Rupnagar:** The subproject has three components- (i) Site planning, (ii) Building Interiors and (iii) Exterior façade. The proposed works under each component are detailed in the **Table 2**.

Table 2 : Proposed detail Work at TIC Rupnagar

Sl.no	Subproject Location	Proposed Interventions
1.	TIC at Rupnagar	**Site Planning** • Leveling and paving of the parking area and improvement of green patch • Improvement of surroundings • Replacement of light poles ensuring safety • Signages **Building Plan** • Removal of storage area so that it can be optimally utilized • Wall finishes • Optimization of existing furniture, fixtures and fittings • Addition of new furniture, fixtures and fittings as required • Separate display area – interactive panels • Upgradation of toilet fixtures and tiles • Damp proofing of slab from terrace level • Air-conditioning & Services • Storage compartments for old newspapers • Improvement of façade and elevation • Information area has display area for pamphlets, books, and other reading materials on both sides. • The front wall features an interactive display screen in encasing and covers light behind where visitors can get all information regarding tourist sites. **Building Façade** • The building façade has been designed to give heritage look in consistence with the surrounding areas (MRS Treaty Site). • The façade has features of Sikh style of architecture such as segmented arches, chatris, jali work on the top as railing, wall patterns and traditional design of columns. • Provision of glass door with glass itching.

33. Layout plan of subprojects in TIC Rupnagar is given in **Figure 2 toFigure 3**.

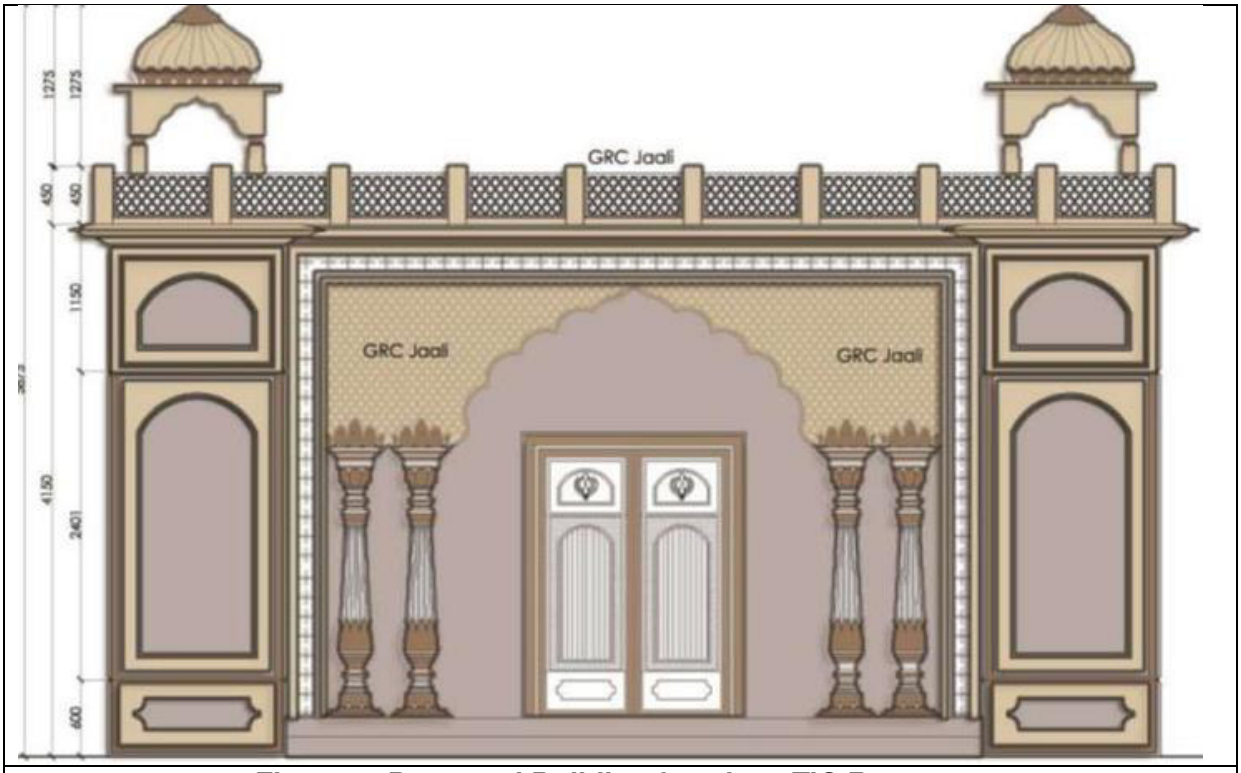


Figure 1: Proposed Building facade at TIC Rupnagar

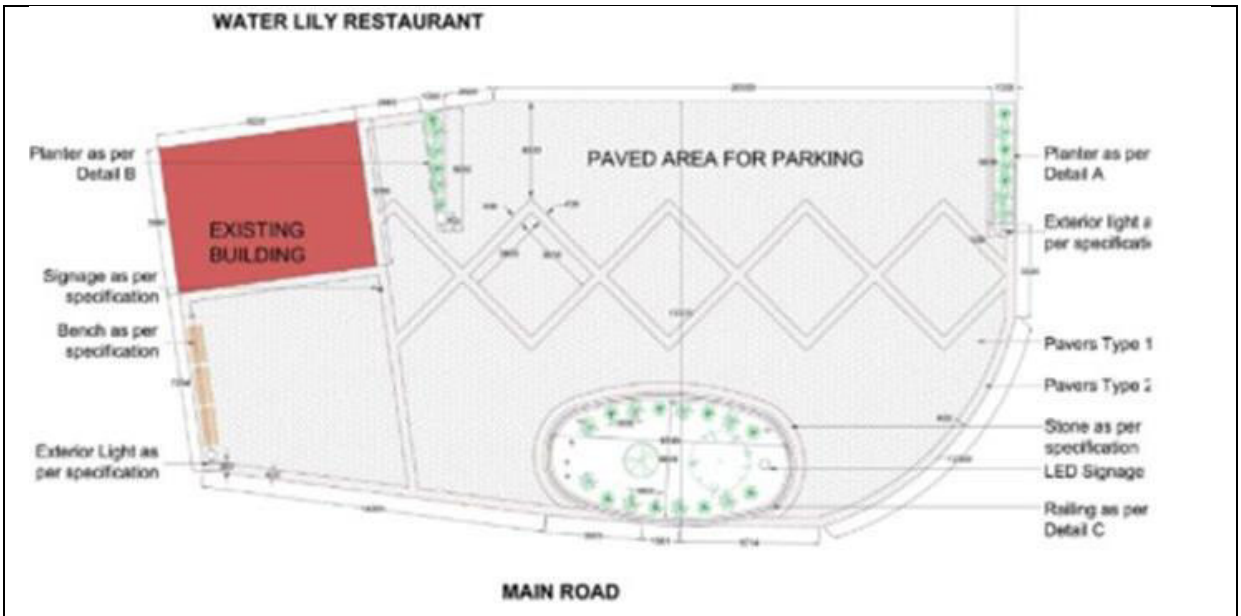


Figure 2: Layout Map of Subproject site of TIC Rupnagar

Figure 3: Proposed Site Development of TIC Rupnagar

34. **TIC at Chandigarh.**Summary of proposed work is given in the **Table 3.**

Table 3 : Proposed Detail Work at TIC Chandigarh

Sl.no	Subproject Location	Proposed Interventions	
1	TIC at Chandigarh	• New Reception area, Exhibition area and souvenir shop for tourists • New Cafeteria, Multipurpose hall and Administrative area • Wall Finishes • Texture Paint at back wall of office and entrance • Wood paneling in administration area, multipurpose hall and Reception area. • Art work along the corridor in basement • Electric work and light fixtures • Flooring with vitrified tiles • False ceiling of gypsum board and grid ceiling • New Office Furniture (Modular) of reputed make	
		Area Statement For TIC Chandigarh	**Area (Sq.m)**
		Basement Part 1	
		Office 1	172.20
		Office 2	30.90
		Meeting Area	29.50
		Basement Part 2	
		ES2	208.50
		ES1	164.30
		Store	36.90
		Lobby/ Corridor	152.00
		Storage (Compactors)	61.20
		Data Centre	115.70
		Ground Floor	

Sl.no	Subproject Location	Proposed Interventions	
		Canteen	168.50
		Research and Marketing Cell	82.40
		Storage (Compactors)	85.30
		Corridor	123.40
		Cyber Area	58.50
		Total	**1489.30**

35. Layout of the proposed works are shown in **Figure 4** and**Figure 5**

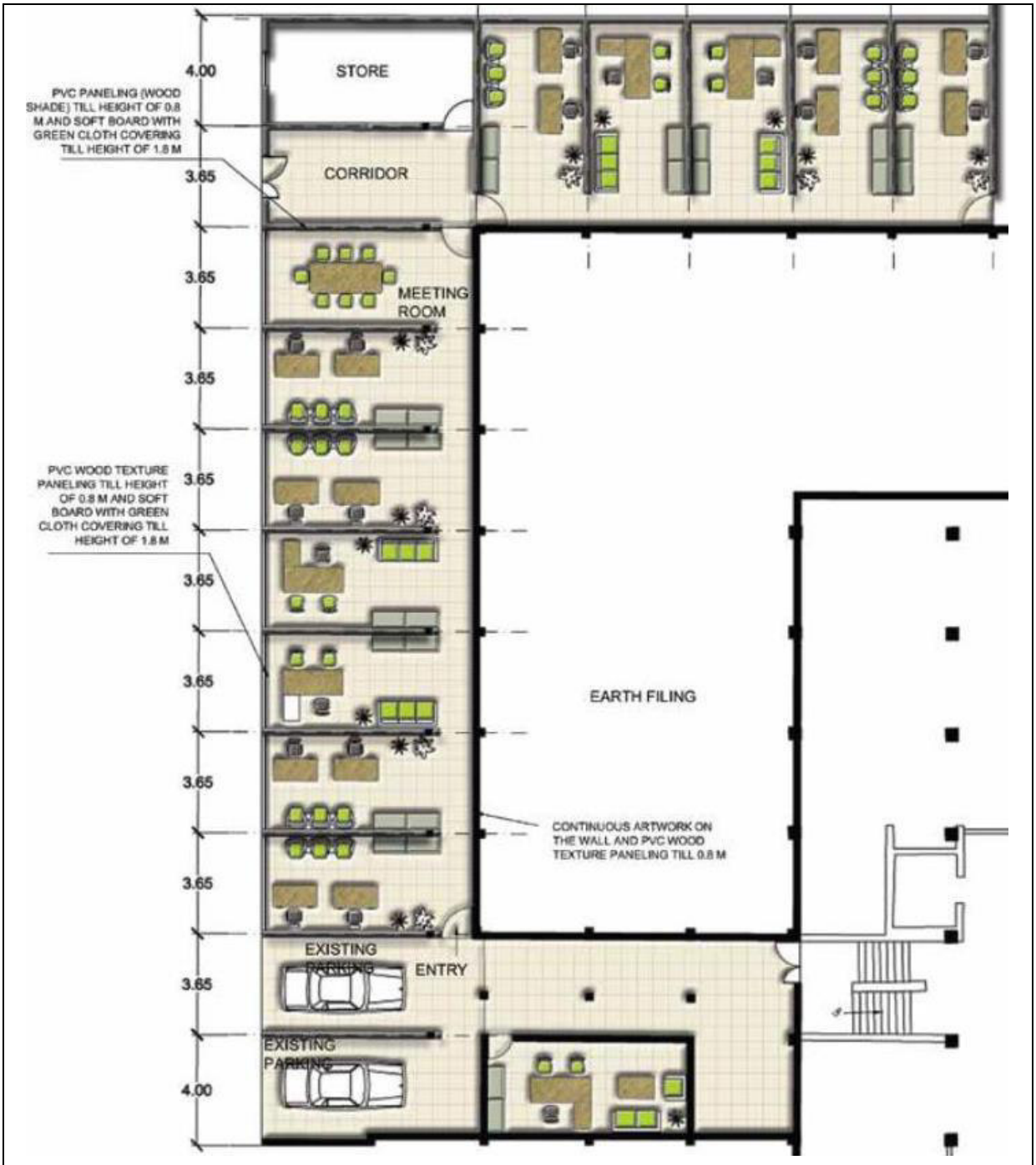


Figure 4: Proposed Basement Plan of Office area for TIC, Chandigarh

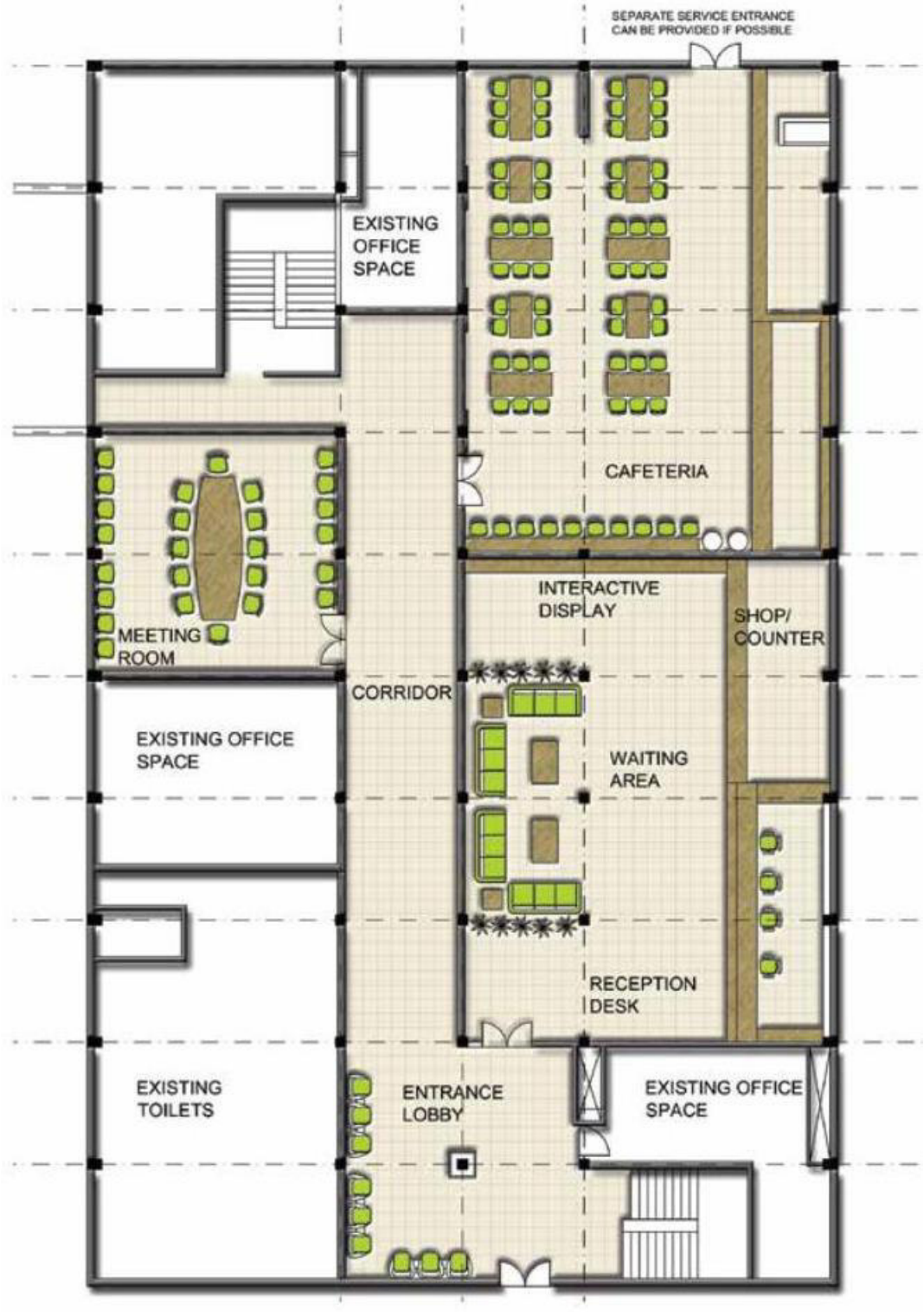


Figure 5: Proposed Ground Floor Plan for TIC, Chandigarh

C. Implementation Schedule

36. It is estimated that the construction period will cover 18 months after the award of the contract.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. ADB Policy

37. ADB requires the consideration of environmental issues in all aspects of ADB's operations, and the requirements for environmental assessment are described in ADB's SPS, 2009. This states that ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, and loans involving financial intermediaries, and private sector loans.

38. **Screening and Categorization.** The nature of the environmental assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project, the sensitivity, scale, nature and magnitude of its potential impacts, and the availability of cost-effective mitigation measures. Projects are screened for their expected environmental impact and are assigned to one of the following four categories:

> **Category A**. Projects could have significant adverse environmental impacts. An EIA is required to address significant impacts.
> **Category B**. Projects could have some adverse environmental impacts, but of lesser degree or significance than those in category A. An IEE is required to determine whether significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.
> **Category C**. Projects are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.
> **Category FI**. Projects involve a credit line through a financial intermediary or an equity investment in a financial intermediary. The financial intermediary must apply an environmental management system, unless all Projects will result in insignificant impacts.

39. **Environmental Management Plan.**An EMP which addresses the potential impacts and risks identified by the environmental assessment has been prepared. The level of detail and complexity of the EMP and the priority of the identified measures and actions will be commensurate with the Project's impact and risks.

40. **Public Disclosure.**The IEE will be put up in an accessible place (e.g., local government offices, libraries, community centres, etc.), and a summary translated into Hindi/Punjabi for the project affected people and other stakeholders shall also be disclosed. The following safeguard documents will be put up on ADB's website so that the affected people, other stakeholders, and the general public can provide meaningful inputs into the project design and implementation:

> For environmental category A projects, a draft EIA report at least 120 days before Board consideration;
> Final or updated EIA and/or IEE upon receipt; and
> Environmental monitoring reports submitted by the Project Management Unit (PMU) during project implementation upon receipt.

B. National and State Laws

41. Implementation of the subproject will be governed by the national and State of Punjab environmental acts, rules, regulations, and standards. These regulations impose restrictions

on activities to minimize/mitigate likely impacts on the environment. It is the responsibility of the project executing and implementing agencies to ensure subprojects are consistent with the legal framework, whether national, state or municipal/local. Compliance is required in all stages of the subproject including design, construction, and operation and maintenance.

42. The realm of environmental regulations and mandatory requirements for the proposed sub-project is shown in **Table 4**.The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment, Forest and Climate Change (MoEF&CC, GoI) specifies the mandatory environmental clearance requirements. Accordingly, projects and activities are broadly categorized in two categories[3] - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and; natural and man-made resources.

Table 4: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
State-wide Tourism Centers, Interpretation Centers (Lot-1)-Eastern Circuit at Rupnagar (Existing TIC) and Chandigarh, (Archives Building, Sector-38)	The Environment Protection Act, 1986 - under EIA notification, 2006 (and its subsequent amendments in 2009) provides for categorization of projects into category A and B, based on extent of impacts.	The subproject is not covered in the ambit of the EIA notification as they are not covered either under Category A or Category B of the notification. As a result, the categorization, and the subsequent environmental assessment and clearance requirements, either from the State government or the GoI is not triggered.
	ADB's Safeguard Policy Statement 2009	Categorization of subproject components into A, B or C and developing required level of environmental assessment for each component. The subproject has been Categorized as B and accordingly an IEE has been prepared
	The Wildlife Protection Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.	Not applicable. There are no wildlife protected areas within or near the proposed TIC at Chandigarh. However, the presence of Ropar wetland (RAMSAR site) at a distance of 100m from the proposed TIC at Rupnagar would be a concern. By looking at the proposed intervention, the anticipated environmental impacts would be negligible and it shall be concluded that the proposed activities shall not have any impacts on the Wetland.
	The Forest Conservation Act, 1980 and its subsequent amendments necessitate obtaining clearance from the MoEF& CC for diversion of	Not applicable, the subproject site is not located within or in the vicinity of the forest area. Felling of trees are not envisaged in this sub-project implementation and hence tree felling/ cutting permission are not

[3]All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, will require prior environmental clearance from the Central Government in the Ministry of Environment, Forest and Climate Change (MoEF&CC) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification; All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfil the General Conditions (GC) stipulated in the Schedule, *will* require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In addition, General Condition (GC) of the notification specifies that any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries.

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	forest land for non-forest purposes.	required.
	Water (Prevention and control of pollution) Act, 1974 and; Air (prevention and control of pollution) Act, 1981	Not applicable. The proposed subproject is only a conservation work having very less construction activities and construction materials and hence obtaining CTE and CTO is not envisaged
	The Ancient Monuments and Archaeological Sites and Remains Act, 1958, and the rules, 1959 provide guidance for carrying out activities, including conservation, construction and reuse in and around the protected monuments.	Not applicable as there are no protected monuments within or near the subproject site
	Wetland rules, 2010	The proposed sub-project interventions at TIC, Ropar commensurate with the stipulations as per the Conservation Management Action Plan (2013-18) for Conservation of Ropar Wetland. However, as per the section 4(2) (restrictions on activities within Wetlands) of the Wetland Rules, 2010, this subproject mandates clearance from Chief Wildlife Warden of Punjab and accordingly the same has been obtained (**Annexure 9**).Since, the proposed interventions are not within the Wetlands, hence, Wetland Rules, 2010 are not applicable for this sub-project.

43. The above **Table 4**indicates that the proposed subproject does not need to go through a full-scale environmental assessment process; as the scale of impacts and categorization of the subproject components will not require consent/ clearances from Competent Authorities. Therefore, any further approvals or clearances from the GoI or GoP are not envisaged. The ADB guidelines, stipulate addressing environmental concerns, if any, of a proposed activity in the initial stages of Project preparation. For this, the ADB Guidelines categorizes the proposed components into categories (A, B or C) to determine the level of environmental assessment required to address the potential impacts. This subproject has been categorized as B. Accordingly this IEE has been prepared to address the potential impacts, in line with the recommended IEE content and structure for Category B projects.

IV. DESCRIPTION OF ENVIRONMENT

44. This section has been developed separately for Rupnagar and Chandigarh under three subheadingsnamely (i) Physical Environment, (ii) Ecological Environment and (iii) Socio Cultural and Economic Environment.

A. Rupnagar District – Environmental Profile

a) Physical Environment

1. Climate

45. The climate of Rupnagar District is characterized by its general dryness (except in the south-west monsoon season), a hot summer and a bracing cold winter. The year may be divided into four seasons. The period from about middle of November to February is the cold season. This is followed by the summer season from March to about the end of June. The south-west monsoon season commences late in June and continues up to about middle of September. The period from mid-September to the middle of November constitute the post-monsoon or transition season. The temperature ranges from a minimum of 4°C in winter to 45°C in summer. May and June are generally hottest months and December and January are the coldest months. Relative humidity is high, averaging about 70 percent during monsoon. The average annual rainfall in the district is about 775.6 mm. About 78 percent of the annual rainfall is received during the period from June to September.

2. Geology& Soil

46. The rock formations in the district include river terraces, gravel beds, alluvial fans and calc tufa beds of recent origin and conglomerates, sandstones and clay stones of Upper Shiwalik. The Upper Shiwalik mostly comprises boulder conglomerate beds with poorly to moderately sorted sandstone beds. The conglomerate bands are usually poorly cemented and include cobbles and pebbles with some boulders of quartzite, sandstone and siltstone with stray fragments of coarse and fine grained granites, banded quartzite, limestone, trap rock, claystone, carbonaceous phyllite, schist and purple shale. Sub-recent to recent deposits include mainly gravel beds, alluvial fans, river terraces and calc tufa beds.

3. Surface water

47. River Sutlej is the main river which traverses through the Rupnagar District and it is supported by many tributaries. The irrigation system in the district is fed by two canals namely Sirhind and Bhakra main canal. The water quality information obtained from the Central Pollution Control Board (CPCB), New Delhi has been taken to describe the pollution status/surface water quality of the Sutlej River. The furnished information in the **Table 5**is based on a study under MINARS (Monitoring of Indian Aquatic Resources Series) conducted across India to monitor the pollution levels of all the perennial river systems.

Table 5: River Sutlej Surface Water Quality

Parameters	1 km downstream to Rupnagar (Station Code : 1293)	Upstream Headwork's Rupnagar (Station Code:1019)	1km downstream Rupnagar (StationCode : 1380)	CPCB Norms for Surface Waters
Temperature (°C)	18.7	18.5	18.8	40
Dissolved Oxygen(D.O.) (mg/l)	7.6	7.8	8.4	> 4
pH	7.7	7.5	7.9	6.5-8.5
Conductivity (pmhos/cm)	431	290	284	-

Parameters	1 km downstream to Rupnagar (Station Code : 1293)	Upstream Headwork's Rupnagar (Station Code:1019)	1km downstream Rupnagar (StationCode : 1380)	CPCB Norms for Surface Waters
Biochemical oxygen demand (B.O.D.) (mg/l)	1.6	0.9	0.6	< 3 mg/l
Nitrate- N (mg/l)	2.8	2.2	2.3	-
Nitrite-N (mg/l)	1.33	1.15	1.2	-
Fecal Coliform (MPN/100ml)	305	83	50	< 2500
Total Coliform (MPN/100ml)	1533	483	403	< 5000

Source: MINARS, CPCB Delhi

48. From the given information, the water quality of River Sutlej at all sampling locations is observed to be good in comparison with CPCB surface water norms. However, when compared among them, it is observed that the station code 1293 has relatively high concentration of pollutants particularly those comprising of Fecal Coliforms and Total Coliforms, which clearly indicates that the river water in this location has been polluted by the influx of sewage.

4. Ambient Air Quality

49. Under the IDIPT project, the ambient air quality monitoring has been conducted for the ongoing subprojects in the Ropar wetland and Chamkur Sahib. The monitoring data/ information have been taken for discussing the AAQ of Rupnagar. The monitoring has been conducted from February to March 2016 and the outcome of the analysis is shown in the**Table 6**.

Table 6: Ambient Air Quality of Rupnagar

S.No.	Parameters of air quality	Interpretation Centre, Wetland, Katli Road, Rupnagar	Existing TIC site at Chamkaur Sahib, Rupnagar	CPCB standards (sensitive areas)
1	Sulphur Dioxide (SO_2) µg/m^3	61.3	68.4	80
2	Oxides of Nitrogen (NO_2)µg/m^3	0.004	0.08	80
3	Carbon Monoxide (CO) mg/m^3	Nil	Nil	02
4	Suspended Particulate Matters (SPM) µg/m^3	72.6	68.4	100

50. It is observed from the analysis, that the key noxious air pollutants like sulphur di-oxide, oxides of nitrogen and carbon monoxide are well within the permissible limits set by the CPCB.

5. Ambient Noise Quality

51. The Ambient Noise Quality has been conducted along with the AAQ at Chamkaur Sahib and Ropar Wetland. The monitoring has been conducted from February to March 2016 and the outcome of the analysis is shown in the **Table 7**.

Table 7: Ambient Noise Quality of Rupnagar

S.No.	Parameters of Noise quality	Interpretation Centre, Wetland, Katli Road, Rupnagar	Existing TIC site at Chamkaur Sahib, Rupnagar	CPCB standards

1	Average day time noise level dB(A)	36	46	55

52. Results show that noise levels in these areas are well within the limits as prescribed by CPCB.

b) Ecological Environment

53. **Flora.** The floral diversity consists of scattered Khair (Acacia catechu), Chhal (*Anogeisuslatifolia),*Jhingan *(Laneagrandis*), Kikar *(Acacia nilotica),* Phalahi *(Acacia modesta),*Ber *(Zizyphusmauritiana),*shisham *(Dalbergiasisoo),* neem *(Azadirachta Indica), mango(Mangiferaindica),*dhak *(Butea monosperma)* etc., Shrubs such as garna *(Carissaspinarum),*mehnder (*Dodonaviscasa),*mallah (*Zizyphusnummularia)*gandhala*(Murrayakoenigii),*basuti *(Adathodavasica), jhav(Artemesiaspp),*hins *(Capparis decidua),*panwar *(Cassia tara),* phulbuti *(Lantana camara),* etc. and grasses such as *(Saccharumbengalenese).*

54. The forest strips mostly have artificially raised plantations like shisham (*Dalbergiasissoo*), eucalyptus *(Edcalyptusspp),*siris *(Albizzialebbek),* mango *(Mangiferaindica)*
jaman *(Syzygiumcommuni),*tun *(Cedrelatoona),* neem *(Azadiachtaindica).* Some of the mixed plantations are amaltas *(Cassia fistula)* jacranda *(Jacrandaovalifolia),*kachnar *(Bauhincavariegata),* bottle brush *(Callistemon vimnalis),* gulmohar *(DelonixRegia),* amla *(Emblicaofficivalis)*etc. There is no endangered flora identified in the project area.

55. **Fauna.**The main animals found in these areas are Blue Bull *(Boselaphus tragocamelus),* Wild boar *(Susscrofa),* Sambhar *(Cervas unicolor),* Jackal *(Canis aureus),* Common Mongoose *(Herpestes spp.),* Indian Porcupine *(Hystrixindica)* and Rhesus Monkey *(Macacamulatta)*.

56. The common birds found in the district are : *Phalacrocoraxniger* (vieillot), *Butorides striatuschloriceps* (Bonaparte), *Ardeolagrayii* (sykes), *Bubulcus ibis* or *coromandus* (Boddaert), *Ardea alba modesta*(Gray), *E. garzetta* (Linnaeus), *Anastomusoscitans* (Boddaert), *C. ciconia* (Linnaeus), *C. migra* (Linnacus), *Tadornaferruginea* (pallas), *T tadorna* (Linnaeus), *Nettapuscoromandelianus* (Gmelin), *Haliaeetusleucoryphus* (Pallas), *Coturnixcoromandelica* (Gmelin), *T. stagnatili* (Bechastein), *S. pagodrum*(Gmelin), *Chrysommasinense* (Gmelin).There is no endangered fauna identified in the project area.

57. **Protected Areas.** There is a protected RAMSAR site (Ramsar site no. 1161) in Rupnagar called as Ropar Wetland.Total area of this Ramsar site is 1,365 ha. A human made wetland of lake and river formed by the 1952 construction of a barrage for diversion of water from the Sutlej River for drinking and irrigation supplies. The site is an important breeding place for the nationally protected Smooth Indian Otter, Hog Deer, Sambar, and several reptiles, and the endangered Indian Pangolin (*Maniscrassicaudata*) is thought to be present. Some 35 species of fish play an important role in the food chain, and about 150 species of local and migratory birds are supported. Local fisheries are economically significant, and wheat, rice, sugar cane, and sorghum are cultivated in the surrounding area. Deforested local hills leading to siltation, and increasing industrialization causing an inflow of pollutants, are potential threats, and invasive weeds are a further cause for concern. Nature lovers, birdwatchers, swimmers and boaters visit the site in considerable numbers.

c) Socio Cultural and Economic Environment

6. Demographic profile

58. The total population in Rupnagar district was estimated to be 5,83,478, which includes the rural and urban population. The Rupnagar constitutes 30.8%tothe total population followed by Anandpur Sahib (25.7%), NurpurBedi (16.55), Morinda (14.8%) andChamkaur Sahib (12.2%). The following **Table 8**depicts the census information for the Rupnagar District. The total SC population in Rupnagar District was estimated to be 22.43%of the total population. Rupnagar has 28.8% of SC population which is followed by Chamkaur Sahib (18.97%), Anandpur Sahib (18.80%), Morinda (18.07%) and NurpurBedi (15.29%).

Table 8: Population Data of Rupnagar District

S.No	Particulars	Anandpur Sahib	Chamkaur Sahib	Morinda	NurpurBedi	Rupnagar	Total
1	Rural Population						
	Male	70661	38100	34520	50123	70236	263640
	Female	65284	33179	29449	45960	60283	234155
	No. Of Families	24183	12165	10439	16685	22764	86236
	No. Of S.Cs	24599	24830	23643	20016	37781	130869
2	Urban Population						
	Male	7400	-	11945	-	26057	45402
	Female	6489	-	10690	-	23102	40281

Source: Rupnagar District Statistics, Rupnagar Administration

59. **Population density.** As per the census 2011, the population density of Rupnagar is 505 people per sq. km. In 2001, the population density was about 449 people per sq. km. In comparison with 2001 census, the population density has increased by 12.47%.

60. **Literacy rate.** Average literacy rate of Rupnagar in 2011 were 82.19% compared to 76.10% of 2001. Gender wise, male and female literacy were 87.50% and 76.42%respectively. For 2001 census, same figures stood at 82.70% and 68.70%. Total literates were 502,731 of which male and female were 278,534 and 224,197 respectively.

61. **Sex ratio.** With regards to sex ratio in Rupnagar, it stood at 915 per 1000 male compared to 2001 census of 889 per 1000 male. The average national sex ratio in India is 940 per 1000 male. The child sex ratio is 863 girls per 1000 boys compared to a figure of 799 girls per 1000 boys of 2001 census.

62. **Employment.** Non-agricultural workers are edging over the agricultural workers. As per the census information, the Anandpur Sahib constitutes 27.26% of worker populace, followed by Rupnagar (24%), NurpurBedi (21.42%), Morinda (13.92%) and Chamkaur Sahib (13.4%).

B. Chandigarh District – Environmental Profile

a) Physical Environment

1. Climate

63. The summer and winter exhibits extreme temperature interspersed by monsoon. The mean maximum temperature of the city is 39.1°C (May and June) and the mean minimum is 6.1 °C (January). The highest recorded temperature in Chandigarh was 46.5°C on 20 June, 1964 and the minimum was (-) 1.2°C on 26 January, 1964. The highest relative humidity touches 80% during July – August whereas the lowest relative humidity values of 26% are recorded during April-May. Wind velocity is maximum at 8.4 km/hr during May while it is

minimum at 3.2 km/hour during September. The average annual evaporation for Chandigarh is 2110 mm. The lowest monthly evaporation is 7.2 mm during January and highest is 36.3 mm during May.

64. The normal annual rainfall of the UT is 1061 mm, which is unevenly distributed over the area in 49 days. The southwest monsoon sets in from last week of June and withdraws during the end of September, it contributes to about 80% of annual rainfall

2. Geology & Soil

65. Chandigarh is occupied by semi consolidated formations of upper Siwalik system of middle Miocene age that are exposed in north eastern fringe whereas the rest of the Territory is occupied by Indo-Gangetic plain comprising alluvium of Pleistocene age. The piedmont deposits at the foot of Siwalik Hills comprises of cobble, pebble and boulder associated with sand, silt and clay. The piedmont deposits are followed by alluvial plain comprising of clay, silt and sand.

3. Surface water

66. There are no large natural surface water bodies in Chandigarh though small ponds do exist. The area is drained by two seasonal rivulets viz. SukhnaChoe in the east and Patiala-Ki-Rao Choe in the west. The central part forms a surface water divide and has two minor streams. The stream passing through the central part is called N-Choe and the other is ChoeNala which initiates at Sector 29. The SukhnaChoe has been dammed in northeast side of the city, which has given rise to an artificial lake covering an area of about1.62 sq.km. The lake, known as Sukhna has a water holding capacity of five million cubic meters (MCM).The surface water quality analysis performed for the Chandigarh is presented in the following **Table 9.** The outcome of the analysis shows that with exemption to total hardness all other parameters are well within the water quality standards.

Table 9: Surface water quality for Chandigarh

Sl.no	Parameter	**Sampling locations: Sector 22, 35,38, 42, 44, 48 for Surface Water**	**Water quality Standard (**IS 10500 second revision, 2009)
1.	Temperature(°C)	22 - 27	-
2.	pH	6.4 - 6.8	6.5 - 8.5
3.	Total Hardness (mg/L)	250 - 350	200
4.	Alkalinity(mg/L)	500 - 650	200
5.	DO(mg/L)	4 - 7	-
6.	COD(mg/L)	25 - 40	-
7.	Ca(mg/L)	120 - 180	75
8.	Mg(mg/L)	27 - 60	30

Source: Chandigarh Pollution Control Committee

4. Groundwater

67. Ground water in the area occurs under water table, confined as well as semi- confined conditions. The pumping test data (from CGWB) of the aquifers tested in the city clearly indicates that good confined aquifers occur around sector 10,33,38 and 47 while leaky are encountered around sector 28. Ground water occurs under unconfined conditions down to about 80m in other areas. The depth of the shallow aquifer system is less than 30m below ground level whereas the depth of the deeper aquifer system ranges from 40 to 450 mbgl.The groundwater quality analysis performed for the Chandigarh is presented in the

following**Table 10**. The outcome of the analysis shows that with exemption to total hardness all other parameters are well within the water quality standards.

Table 10: Groundwater quality for Chandigarh

Sl.no	Parameter	Sampling locations: Sector 22, 35,38, 42, 44, 48 for Groundwater	Water quality Standard (IS 10500 second revision, 2009)
1.	Temperature (°C)	20 - 25	-
2.	pH	7.0 - 7.2	6.5 - 8.5
3.	Total Hardness (mg/L)	200 - 350	200
4.	Alkalinity(mg/L)	400 - 500	200
5.	DO(mg/L)	7 - 11.6	-
6.	COD(mg/L)	10 - 15	-
7.	Ca(mg/L)	130 - 220	75
8.	Mg(mg/L)	23 - 40	30

Source: Chandigarh Pollution Control Committee

5. Ambient Air Quality

68. Ambient air quality of Chandigarh is being monitored at 5 stations by Chandigarh Pollution Control Committee. The annual average values of AAQ recorded in Chandigarh is given in **Table 11.**

Table 11: Ambient Air Quality in Chandigarh

Parameters	Sector 17	Industrial area	Punjab Engineering College	Govt. College (IMTECH)	Kaimbala village	NAAQ Standard
$PM_{10}\mu g/m^3$	81	96	77	88	85	100
$SO_2\mu g/m^3$	2	2	2	2	2	80
$NO_2\mu g/m^3$	24	31	24	24	23	80

Source: Chandigarh Pollution Control Committee

69. From theobservation it shall be concluded that with exception to Punjab Engineering College, the values of all other monitored stations are nearing the standard limits of PM_{10}.

6. Noise Quality

70. As per the Chandigarh Pollution Control Committee (CPCC), the noise monitoring has been conducted for the following locations in Chandigarh and the recorded values are depicted in the **Table 12**. From the observation it shall be concluded that the recorded noise levels are alarmingly high in comparison with the Noise quality standards for Day time noise levels.

Table 12: Noise Quality in Chandigarh

Sl. no	Location	Year 2010 (Noise levels in in dBA)	Year 2014 (Noise levels in in dBA)	Standard
1.	Shopping Complex, Sector 17	90.0	76.5	Day Time Nosie level for Commercial area is 65dBA
2.	ISBT, Sector 17	98.0	95.2	
3.	Grain market, Sector 26	89.0	82.5	
4.	PGI, Sector 12	86.0	85.2	

5.	P.U., Sector 14	76.0	69.4	
6.	General Hospital sector 16	50.0	79.2	
7.	Scooter Market Sector 21	86.0	70.2	
8.	Furniture market Sector 34	75.0	82.2	
9.	Market, Sector 9D	98.0	95.0	
10.	Market, Sector 7	88.0	-	

Source: Chandigarh Pollution Control Committee

b) Ecological Environment

71. **Flora.** Flora in Chandigarh is mostly social forests planted by Municipal Corporation, Forest Department and other organizations and institutes. A wide variety of trees, herbs, shrubs, grasses and climber plants are found in the natural arenas of Chandigarh. The most prominent flora entities that are found here include: Acacia catechu (Khair), *Acacia Arabica* (Kikar), *Acacia modesta* (Phulai), *Acacia leucophloea* (Raeru), *Anogeissuslatifolia*(Chhal), *Dalbergiasisoo* (Shisham), *Bombaxceiba* (Semal), *Azadirachtaindica* (Neem), B*utea frondosa* (Dhak), *Emblica officinalis* (Amla), *Bauhinia racemosa* (Kachnar), *Morus alba* (Tut), *Diospyrosmontana* (Kendu), *Lanneagrandis* (Jhingan), *Murrayakoenigii* (Kari patta), *Cassia fistula* (Amaltas), *Prosopisjuliflora* (Musket), *Vitexnegundo* (Bana or nirgundi), *Zizyphusjujoba* (Ber), *Carissa spinarum* (Karaunda), *Saccharumsararoxb* (Moonj), *Adhatodavasica* (Vasaka), *Abrusprecatorious* (Rati), *Tinosporacordifolia* (Giloe), etc.There is no endangered flora identified in the project area.

72. **Fauna** The faunal populace in Chandigarh (urban area) is very less. However, considerable faunal population are recorded in the forest areas of Chandigarh U.T like Sukhna Wildlife Sanctuary, Lake Reserve forests, Sukhnachoe Reserve forests, Patiali-ki-Rao forests and Forest area at Brick kiln Manimajra. There is no endangered fauna identified in the project area

73. **Protected Areas:** Sukhna Wildlife Sanctuary spreads over an area of 2600 hectare and it is situated at 1 Km from the North-East direction of Sukhna Lake. It forms part of Sukhna lake catchment area subsequently falling in Shivalik hills.Sukhna Wildlife Sanctuary is located at an aerial distance of 7.5 km from the TIC Chandigarh project site. Important wildlife found in Sukhna Wildlife Sanctuary are

- **Mammals:** The mammals that are found in the Sukhna Wildlife Sanctuary include: Sambar, Pangolin or ant eater, Chittal or spotted deer, jackal, wild boar, small Indian civet, porcupine, jungle cat, rhesus monkey, hanuman langur, Common Mongoose, Indian hare, squirrel, common rat, etc.
- **Birds:** There are over 150 different variety of birds found in the Sukhna Wildlife Sanctuary. It also includes all kinds of aquatic birds. Some major birds found here include: common myna, bee-eater, hill myna, bulbul, jungle crow, tree pie, black drongo, grebes, ducks, swan, geese, hawks, coots, plovers, jacanas, doves, parrots, barn owls, rollers, woodpeckers, barbets, hornbills, hoopoes, swifts, kingfisher, golden oriole, night jars, cuckoos, grey partridge, red jungle fowl and peacock.
- **Reptiles:** Some common varieties of reptiles that are found in the Sukhna Wildlife Sanctuary are the turtle, Russell's viper, Common Krate, Rat Snake, Cobra, Common Monitor lizard (Chandan Goh) and Indian Python.

c) Socio Cultural and Economic Environment

7. Demographic profile

74. As per Census 2011, the population of Chandigarh U.T. has crossed the one million mark with its population placed very close to that of the state of Mizoram (10,91,014). The Union Territory recorded a population of 10,55,450 in 2011 with much lower decadal rate of increase in population with only 154051 people being added to the Chandigarh U.T. during the last decade. The growth rate of merely 17.10% between 2001-2011 is the slowest since its inception. This is perhaps due to the rapid pace of urbanization taking place in the neighbouring towns of Mohali, Panchkula, Zirakpur, Kalka, Kharar, etc., falling within the 16 km periphery control area. The U.T of Chandigarh has essentially become one territory with the urban settlements of Chandigarh and Manimajra occupying a major part of its 114 sq.km area. As per the census of 2011, 10,26,459 (97.25%) of its population was urban and 28,991 (2.75%) was rural.

- **Population density.** With the latest census data becoming available, the density recorded for the Chandigarh U.T. is now placed at 9258 persons per sq. km in 2011.
- **Literacy rate.** Chandigarh has always recorded a high literacy rate since its inception due to the high quality of educational infrastructure available in the city. As per Census 2011, 8,05,438 persons were literate in the U.T, indicating a literacy rate of 89.99%.
- **Sex ratio.** As per the provisional population figure of 2011, Chandigarh U.T. recorded a population of 10,54,686 out of which 5,80,282 are male whereas remaining 4,74,404 are female. As per Census 2011, compared to the all India figure of 940, Chandigarh has recorded a sex ratio of 818.
- **Employment.** The majority of workers in the U.T. are employed in fields other than cultivation, agriculture, household industry etc. From the census data it is observed that proportion of cultivators, agricultural labourers, household industry workers and other workers (mostly service sector, business and others) to total workers are 0.6%, 0.2%, 1.1% and 98.1% respectively.

V. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

75. The assessment of environmental impacts for the proposed interventions under this package (PB/IDIPT/T3/01/ Lot 01) has been carried out during the following stages of the project planning and implementation:

Location impacts. Impacts associated with site selection, including impacts on environment and resettlement or livelihood related impacts on communities

Design impacts. Impacts arising from project design, including the technology used, scale of operations etc.

Construction impacts. Impacts resulting from construction activities including site clearance, earthworks, civil works, etc.

O&M impacts. Impacts associated with the operation and maintenance of the infrastructure built in the project.

76. **Location Impact:**The proposal envisages small scale construction activities in the existing buildings and facilities on the site. This would result in minor environmental impacts typical to small construction activities. The spacefor development of proposed facilities is

available inside the existing premisesand it is free from any encumbrances and with easyaccessibility for the visitors.

- Both the sub project sites arelocated within populated area. There are well developed approach roads for both the sites therefore no impact during transportation of construction material will be envisaged.
- Other impacts related to construction activities such as generation of dust and noise, removal of construction debris and demolition wastes etc., are envisaged which shall be minimized and addressed by adopting safe engineering practices and appropriate disposal measures. Caution will be exercised in planning for safe construction and operations phase to minimize disturbance to the adjoining existing activities.
- Provision for water for construction will be made throughexisting municipal water supply or through mobile water tankers.

77. **Land Acquisition and Resettlement and cultural Impacts.** Land acquisition and resettlement and cultural impacts are not envisaged in this subproject. The proposed TIC locations are owned by the Department of Tourism (DoT), Government of Punjab.

78. **Design Considerations to Avoid Environmental Impacts.** The following are design considerations to avoid environmental impacts:

- Incorporation of adequate drainage provisions for Rupnagar TIC
- Adoption of design compatible with the natural environment and suitable selection of materials to enhance the aesthetic appeal and blend with the natural surroundings.
- Straight lines and simple geometry in the proposed landscape and architectural features.
- Use of subtle colours and simple ornamentation in the structures.
- Natural tree species in the proposed landscape.
- Use of local stone in the proposed structures thus maintaining a rustic architectural character

79. The results of interventions are unobtrusive and will be integral part of the ambience of the site. The physical components have been proposed with minimalist design treatment emphasising use of local materials (wood, stone) as defined in the Detail Projects Reports.

A. Assessment of Environmental Impacts

80. **Determination of Area of Influence.**In this subproject the proposed interventions arethe works involvingrenovation, restoration, landscaping and parking development. Hence, the anticipated environmental impacts would be mainly localized, short in duration and expected only during the construction period.

B. Pre-construction Impacts and Mitigation Measures

81. **Consents, permits, clearances, no objection certificate (NOC), etc.**The subproject sites (proposed TIC buildings) are in the possession/ ownership of the Department of Tourism, Government of Punjab and hence permits, NOC's, clearances are not required.

82. **Utilities.**No utilities will be affected due to proposed works in both the building.

83. **Social and Cultural Resources.** The MRSTreaty site is the only heritage and cultural site, which is located in the close proximity to the proposed TIC building at Rupnagar. However, in view of the proposed subproject interventions, it shall be concluded that there would not be any impact on the MRS treaty site.

84. **Sites for construction work camps and areas for stockpile, storage and disposal.** The construction activities involved in this subproject are very minimal and hence the facilities like having construction camp and dedicated area for the storage of materials may not be required at a larger scale. The construction activities (stockpile, storage and disposal) shall be managed with the space available in the vicinity to the subproject area. Nevertheless if contractor want to establish construction camps, the sites should meet following criteria:

- Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc.
- Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts, and shortage of amenities).
- Disposal will not be allowed near sensitive areas which will inconvenience the community or near to river Sutlej flowing beside the site
- The fuel and lubricants shall be stored over an impervious platform/ layer to avoid any soil and groundwater contamination.
- Any construction camp site will be finalized in consultation with DSC and PIU.

85. **Sources of construction materials.** Minimal quantities of stones, gravel, sand and cement will be required for this subproject and hence the demand for the construction materials shall be met with the local authorised vendors.

86. **Access.** Both the subproject sites are located within the urban areas (Rupnagar and Chandigarh). There are well developed approach roads for both the subproject sites therefore access and traffic problem will not be anticipated.

C. Anticipated Construction Impacts and Mitigation Measures

87. The impacts during the proposed construction works are generic to the construction activities and not expected to be significant. The EMP specifies the necessary mitigation measures to be strictly followed by the contractor and supervised by the DSC. Key impacts during construction are envisaged on the following aspects: (i) dust generation, air and noisepollutionfrom construction activities, (ii) handling of construction materials at site and, (iii) adoption of safety measures during construction.

88. **Construction Schedule and Method.**It is estimated that the construction activities shall take 18 months for completion from the date of award of contract. The infrastructures will be constructed manually according to design specifications. Demolished materials will be reused to the maximum extent possible. Materials will be brought to site by trucks or hand/push cart and will be stored in identified areas within the building premises and/or nearby vacant areas. To avoid any inconvenience to facility users,Contractor will need to remove all construction and demolition wastes on a daily basis.

89. **Impacts on Water Quality.**There is no surface water body near the subproject site at Chandigarh but River Sutlejis flowing nearthe subproject site (about 50meters) at Rupnagar, therefore to avoid any risk of impacts on water quality the contractors will be required to:

- Do not dispose any construction material of general refuse on river side rather dispose all the construction debris and refuse at identified disposal site with prior permission from concerned local authority. PIU/DSC will identify and approve disposal sites.
- Strictly prohibit open defecation by workers along river banks

90. **Impacts on Air Quality.** The proposed activities include mainly repairing and refurbishments of the existing structures. Therefore proposed works will not result significant air pollution. Dust pollution shall arise during the construction works, which can be easily mitigated. Secondary sources of air pollution are emissions from vehicles transporting workers, construction materials and debris/materials to be disposed, which may cause increase in air pollutants within the city. These are low magnitude, short in duration and can be easily mitigated. The contractor will be required to:

- Conduct regular water spraying on earth piles and sand piles
- Cover all the loose materials like sand, earth, cements bags etc.
- Conduct regular visual inspection in construction zones to ensure no excessive dust emissions.
- Provide nose mask to workers working in dust areas
- Damp down the surface if required for demolition/chipping to avoid dust emission

91. **Noise and Vibration Impacts.** Most of the construction activities shall be done manually without involving heavy equipment's and hence chances for noise and vibration impacts are not envisaged. Nevertheless the contractor will be required to:

- Limit construction activities in daytime only.
- Minimize noise from construction equipment by using silencers or mufflers.
- Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach.
- Provide ear plug to workers working in high noise conditions
- Ambient Noise levels have to be monitored as per the Environmental Monitoring Program.

92. **Impacts on Flora and Fauna.** As per the detail design, tree-cutting is not required. There are no protected areas in the direct impact zones and hence there will no impacts on the flora and fauna due to the proposed construction works.

93. **Impacts on Physical and Cultural Resources.**The MRS Treaty site is the only heritage and cultural site, which is located in the close proximity to the proposed TIC building in Rupnagar. However, in view of the proposed subproject interventions (within building premises), it shall be concluded that there won't be any impact on the MRS treaty site. Whereas, the proposed TIC at Chandigarh does not have any social and cultural resources located within or in the vicinity of the subproject area.

94. **Impact due to Waste Generation.** Constructions activities shall generate excavated soils, construction materials and solid wastes (such as removed concrete, wood, packaging materials, empty containers, oils, lubricants, and other similar items). These impacts are negative but short-term and reversible by mitigation measures. The contractor will need to adopt the following mitigation measures:

- Prepare and implement a waste management plan.
- Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas.
- Coordinate with Municipal Authorities for beneficial uses of demolished materials or immediately dispose to designated areas.
- Avoid stockpiling and remove immediately all demolished materials, excess construction materials, and solid waste (removed concrete, wood, packaging materials, empty containers, oils, lubricants, and other similar items).
- Prohibit disposal of any material or wastes (including human waste) into drainage, nallah, or watercourse.

95. **Impacts on Occupational Health and Safety.**Workers need to be aware of occupational hazards which can arise from the proposed works. The contractor should comply with IFC EHS Guidelines on Occupational Health and Safety[4].The contractor will be required to:

- Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.
- Develop comprehensive site-specific health and safety (H&S) plan. The overallobjective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project.
- Include in H&S plan measures such as:
  - Type of hazards during excavation works;
  - Corresponding personal protective equipment for each identified hazard;
  - H&S training for all site personnel;
  - Procedures to be followed for all site activities; and
  - Documentation of work-related accidents.
- Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective protection, and preventing injury to fellow workers.
- Ensure that appropriate first-aid can be provided at all times.
- Provide medical insurance coverage for workers.
- Secure construction zone from unauthorized intrusion and accident risks.
- Provide supplies of potable drinking water.
- Provide clean eating areas where workers are not exposed to hazardous or noxious substances.

96. **Impacts on Socio-Economic Activities.**Manpower will be required during the 18 months construction phase. This can help generate contractual employment and increase in local revenue.For the socio-economic benefit from the project, the contractor canemploy at least 50% of the labour force or to the maximum extent.

D. Post-Construction Impacts and Mitigation Measures

97. Site clean-up is necessary after construction activities. The contractor will be required to:

- Re-establish the original grade and drainage pattern to the extent practicable.
- Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites.
- Request in writing from PIU/DSC that construction zones have been restored.

E. Anticipated Operations and Maintenance (O&M) Impacts and Mitigation Measures

98. Impacts on environmental conditions associated with the O&M of the subproject components pertain to impacts related to increased tourists in the areas resulting to increased vehicular movement along the roads, increased demands for services, and increased solid waste generation. These impacts can be mitigated by:

- Increase demands for services – addressed through the subproject design
- Increase solid waste generation – Municipal Corporation to put in place solid waste

[4]This can be downloaded from (http://www1.ifc.org/wps/wcm/connect/9aef2880488559a983acd36a6515bb18/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES).

management programs.

VI. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. ADB Disclosure Policy

99. Public consultation was undertaken as per ADB SPS requirements. All the five principles of information dissemination, information solicitation, integration, coordination and engagement into dialogue were incorporated during the task. A framework of different environmental impacts likely from the subproject was prepared based on opinions of all those consulted, especially at the micro level, by setting up dialogues with the local people and stakeholdersfrom whom information on site facts and prevailing conditions were collected.

100. As per ADB safeguard requirement, public consultation is to be carried out before and after impact identification. Public consultation was therefore carried out twice, once at the time of start of work with the key stakeholders particularly with asset owners and NGOs, and secondly to discuss mitigating measures and get concurrence of stakeholders.

B. Process for Consultation followed

101. During the project preparation, consultations have been held with the Department of Tourism, District administration, local community representatives regarding issues pertaining to the selection of subprojects and identification of key issues including addressing the current gaps in provision of basic services and improvement of tourist infrastructure.Public and stakeholder consultations were conducted at the site using formal and informal approach. The outcome of the consultation has been recorded and enclosed in **Annexure-4.**

C. Plan for Continued Public Participation

102. To ensure continued public participation, stakeholder engagement during the project design and implementation is proposed. A grievance redress cell has been set up within the PIU/DSC at field office and PMU, Chandigarh office. To ensure an effective disclosure of the project proposal to the stakeholders and the community living in the vicinity of the sub-project location, information regarding grievance redress mechanism shall be published in local newspapers. This information is also made available on PHTPB website.

103. The Executing Agency (EA) will submit to ADB the following documents for disclosure on ADB's website: (i) the final IEE; (ii) a new or updated IEE and corrective action plan prepared during project implementation, if any; and (iii) the environmental monitoring reports.

104. For the benefit of the community, relevant information in the IEE (Executive Summary) will be translated in Hindi/Punjabi and made available at: (i) Office of the PMU; and, (ii) Office of PIU, Rupnagar; (iii) Office of the District Commissioner, Rupnagar District (iv) District/Public libraries of the Chandigarh/Rupnagar towns. These copies will be made available free of cost to any person and accessible to citizens as a means to disclose the document and at the same time creating wider public awareness. On demand, the person seeking information can obtain a hard copy of the complete IEE document at the cost of photocopy from the office of the PMU/PIU, on a written request and payment for the same to the Project Director. Electronic version of the IEE will be placed in the official website of the

PHTPB and the website of ADB after approval of the documents by Government and ADB. The PMU will issue notification on the disclosure mechanism in local newspapers, ahead of the initiation of implementation of the project, providing information on the project, as well as the start date and expected completion dates etc. The notice will be issued by the PMU in local newspapers one month ahead of the implementation works.

VII. GRIEVANCE REDRESS MECHANISM

105. The affected person/aggrieved party can give their grievance verbally or in written to the local grievances committee. Grievances of affected person will first be brought to the attention of the PIU who can resolve the issue at site level. If the matter is not solved within 7 days period by the PIU, it will be brought to the Grievance Redress Committee constituted for the purpose in PIU. This GRC shall discuss the issue in its monthly meeting and resolve the issues within one month of time after receiving the grievance. If the matter is not resolved by GRC at PIU level within stipulated time, it shall be referred to GRC at PMU level by Executive Engineer of PIU.

106. GRC at PMU shall discuss the issue and try to resolve it and inform the PIU accordingly. If the matter is not resolved by the GRC at PMU level within one month of time, the aggrieved person/party can bring the matter to The Court of Law. The PIU shall keep records of all grievances received including contact details of complainant, date of receiving the complaint, nature of grievance, agreed corrective actions and the date these were affected and final outcome. The grievance redress process is shown below.

A. Composition and Functions of GRC

107. **Local Grievance Committee (LGC)**. In this LGC has worked with NGO, SHG, Line Agency, representative of Gram Panchayat, Special invitee.

108. **First Level Grievance Redress Committee (GRC) at PIU**. In each PIU there shall be one GRC, which will include Project Manager (PIU), District Tourist Officer of Department of Tourism of Govt. of Punjab, Community Development Officer of PIU, nominated representative of District Magistrate and nominated representative committee shall be headed by Project Manager (PIU). PIU can associate NGO as per his decision. The committee will meet at least once in every month. Agenda of meeting shall be circulated to all the members and affected persons/aggrieved party along with venue, date and time; informed in written at least 7 days in advance of meeting. The matters shall remain with GRC at PIU level for one month and if grievance is not resolved within this time period, the matter shall be referred to GRC at PMU.

109. **Second Level Grievance Redress Committee (GRC) at PMU**. There shall be one GRC in PMU. The matters not resolved by the GRC at PIU level within one month shall come under GRC at PMU. GRC at PMU will include Community Development Expert of PMU, Social Safeguard Specialist of PMU and Additional Project Director (APD) of PMU. The Committee shall be headed by APD of PMU. This committee shall look the matters, which are referred to and not resolved by GRC at PIU level. GRC at PMU will resolve the issue within one month.

110. **Third Level Grievance Redress Committee (GRC) at SLEC**. If the matter is not resolved by the GRC at PMU level within one month of time, the aggrieved person/party can bring the matter to The Executive Committee/State Level Empowered Committee (SLEC).

B. Approach to GRC.

111. Affected person/aggrieved party can approach to GRC for redress of his/their grievances through any of the following modes:

- Through Grievance Redress Form: Aggrieved person/party can give their grievance in Grievance Redress Form available at PIU and PMU. Sample Grievance Redress Form is attached as **Annexure 5**
- Web based: A separate corner will be developed at the program website so that public / community/ affected person can register their complaint in the online column.
- Telecom based: A toll free number will be issued by the PMU/ PIU so that general public can register their complaint through telephone / mobile phone to the PIU/PMU office.

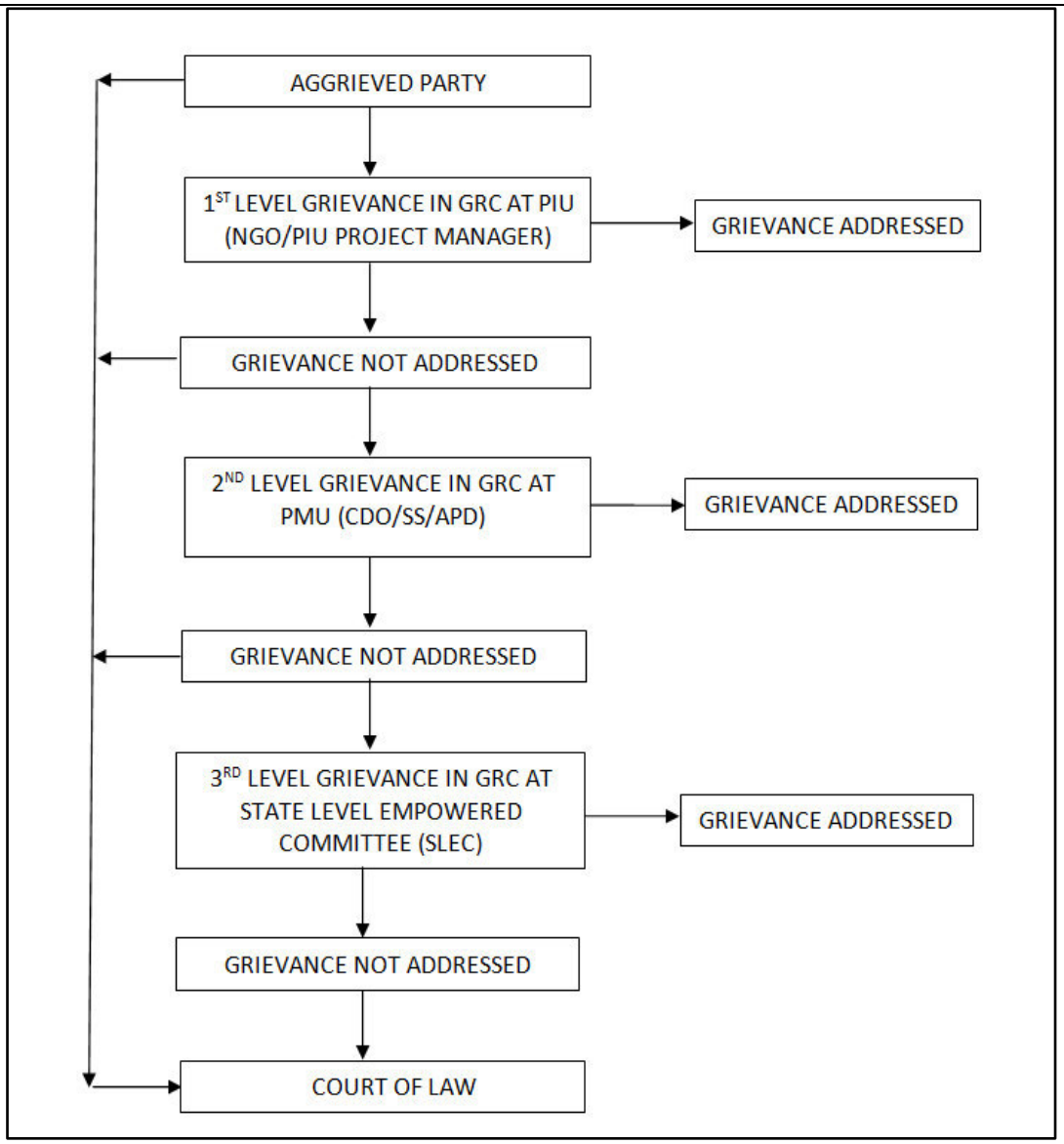


Figure 6: Grievance Redress Mechanism in IDIPT, PUNJAB

Note: LGC –NGO, SHG, Line Agency, Representative of Gram Panchayat, Special invitee GRC – PM, CDO, Engineer, DFO, DTO, SDM GRC in Environment and Social Management Cell (ESMC) – PMU (APD, SS, CDS, FS), PMC (EE, CDE)

VIII. ENVIRONMENTAL MANAGEMENT PLAN

112. The purpose of the environmental management plan (EMP) is to ensure that the activities are undertaken in a responsible, non-detrimental manner with the objectives of: (i) providing a proactive, feasible, and practical working tool to enable the measurement and monitoring of environmental performance on-site; (ii) guiding and controlling the implementation of findings and recommendations of the environmental assessment conducted for the project; (iii) detailing specific actions deemed necessary to assist in mitigating the environmental impact of the project; and (iv) ensuring that safety recommendations are complied with.

113. A copy of the EMP must be kept on work sites at all times. This EMP will be included in the bid documents under appropriate contract clauses and will be further reviewed and updated during implementation. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

114. The contractor will be required to (i) establish an operational system for managing environmental impacts (ii) carry out all of the monitoring and mitigation measures set forth in the EMP; and (iii) implement any corrective or preventative actions set out in safeguards monitoring reports that PMU and PIU will prepare from time to time to monitor implementation of this IEE and EMP. The contractor shall allocate a budget for compliance with these EMP measures, requirements and actions.

A. Responsibilities for EMP Implementation:

115. The following agencies will be responsible for EMP Implementation:

- Department of Tourism, Govt. of Punjab is the Executing Agency (EA) responsible for overall management, coordination, and execution of all activities funded under the loan;
- Punjab Heritage and Tourism Promotion board (PHTPB) including PIUs, will be the Implementing Agency (IA) responsible for coordinating procurement and construction of the project. PIU through its Project Management Unit (PMU) at Chandigarh will be implementing the project;
- The Project Management Consultant (PMC) assists PMU in managing the project including procurement and assures technical quality of design and construction;
- The Design and Supervision Consultant (DSC) will prepare the DPR of the project and will carry out construction supervision during project implementation. Their responsibility will also include EMP implementation/supervision;
- A Project Implementation Unit (PIU) shall be established in Rupnagar. This PIU will look into progress and coordination of day to day construction works with the assistance of DSC; and
- The contractor will be responsible for execution of all construction works. The contractor will work under the guidance of the PIU Rupnagar and DSC. The environmental related mitigation measures will also be implemented by the contractor.

116. The contractor's conformity with contract procedures and specifications during construction will be carefully monitored by the PIU. Safeguard Specialists are deputed in PMU, PMC and DSC, who will monitor the environmental performance of contractors. Terms of References of Safeguards Specialists are given in boxes below

Box 1: Terms of Reference of Safeguards Specialist – PMU
• Review the IEE document and ensure adequacy under Safeguard Policy Statement,

Box 1: Terms of Reference of Safeguards Specialist – PMU

2009 and identify any areas for improvement.

- Ensure that the project design and specification adequately reflect the IEE, co-ordinate the obtaining of requisite environmental clearances for the project
- Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the IEE and advise PIU for compliance with statutory requirements.
- Develop training programme for the PMU/PIUs staff, the contractors and others involved in the project implementation, in collaboration with the Environmental Specialist of the PMC and DSC
- Review and approve the Contractor's Implementation Plan for the environmental measures, as per IEE.
- Liaise with the Contractors and Consultants on the implementation of the Environmental management measures proposed in the IEE.
- Liaise with the various Government agencies on environmental and other regulatory matters.
- Continuously interact with the NGOs and Community groups to be involved in the project.
- Establish dialogue with the affected communities and ensure that the environmental concerns and suggestions are incorporated and implemented in the project.
- Review the environmental performance of the project through an assessment of the periodic environmental monitoring reports submitted by the DSC; provide a summary of the same to the Project Director, and initiate necessary follow-up actions.
- Provide support and assistance to the Government Agencies and the Asian Development Bank to supervise the implementation of the IEE during the construction as well as operation stage of the project.
- Document the good practices in the project on incorporation and integration of environmental issues into engineering design and on implementing measures in the construction, and dissemination of the same.

Box 2: Terms of Reference of Safeguards Specialist (Environment) of DSC

- To prepare the IEE document and ensure adequacy under ADB SPS, 2009.
- Interact on a regular basis with the sector specialists of the DSC and integrate environmentally sound practices into the detailed design of project components.
- Advise PMU/PIU for compliance with statutory clearances.
- Work out the site specific mitigation measures for components as required and integrate the same into contractual provisions.
- Develop, organize and deliver environmental training programmes and workshops for the staff of the PIU and Contractors and in accordance to the Capacity Building Programme as specified in the IEE.
- Preparation of Activity Plans as identified in IEE (these include Site Management Plans, Waste Management Plans, Sludge Management and Disposal Plans, Occupational Safety Plans etc).
- Supervise the implementation of the Environmental provisions by the Contractors.
- Review and approve site specific environmental enhancement/mitigation designs worked out by the Contractor. Hold regular consultation meetings with the Environmental specialist of the PMU.

Box 1: Terms of Reference of Safeguards Specialist – PMU
• Review the Contractors' Environmental Implementation Plans to ensure compliance with the IEE. • Develop good practice construction guidelines to assist the contractors in implementing the provisions of IEE. • Prepare and submit regular environmental monitoring and implementation progress reports. • Assist Environmental Specialist of the PMU to prepare good practice dissemination notes based on the experience gained from site supervision.

Box 3: Terms of Reference of Safeguards Specialist (Environment) of PMC
• Support and advice the PMU and Consultants team in finalizing the IEE reports as per the safeguard requirement • Best Environmental Practices for responding to environmental issues involved with implementation of the projects on a sustainable basis • Assistance and advice on institutional strengthening and capacity building at the PMU and PIU levels in regards to environmental practices. • Ensure that baseline surveys, environmental monitoring plans and programs, initial environmental examinations (IEE) as may be required are carried out. • Preparation of ADB procedure compliant environmental safeguard actions including impact assessment if any during the design stage • Oversight of implementation of environmental standards and safeguards as part of project implementation • Participate in preparation of Master Plan for additional sites and contribute to the environmental safeguards to the plan and sub components • Preparation of performance monitoring reports

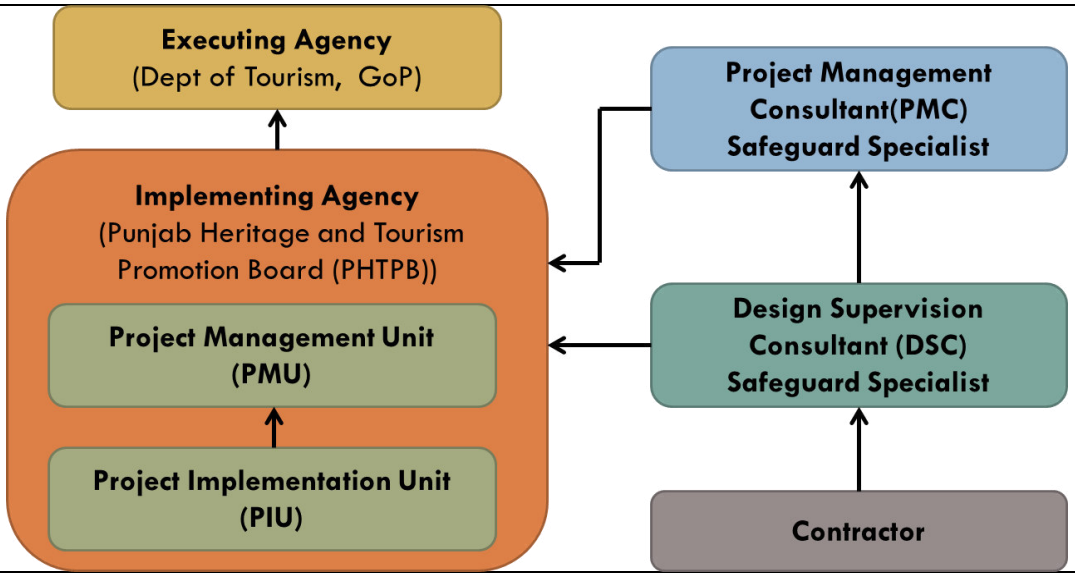


Figure 7: EMP Implementation Arrangement For IDIPT

117. **Responsibility for updating IEE during detailed design**. DSC will be responsible for preparation of IEE and updating it time to time, when required during detailed design and implementation phase.

118. **Responsibility for monitoring**. During construction, DSC's Environmental Specialist and the designated representative engineer of the PIU will monitor the contractor's environmental performance on day to day basis while PMC expert will randomly monitor the performance for corrective measures if required. During the operation phase, monitoring will be the responsibility of the Municipal Authority and Department of Tourism.

119. **Responsibility for Reporting.**PIU in coordination with DSC will submit monthly, quarterly and semi-annually monitoring report to PMU. On the basis of it PMU will submit to ADBsemi-annual monitoring reports on implementation of the EMP and will permit ADB to field environmental review missions which will review in detail the environmental aspects of the project. Any major accidents having serious environmental consequences will be reported immediately. PMC environmental expert will help in preparation and finalization of quarterly, semi-annual and annual progress reports. The sample environmental monitoring template, summary monitoring table and sample environmental site inspection report format is attached as **Annexure6 to 8**.

B. EMP Tables

120. **Tables 13 to 15**show the potential adverse environmental impacts, proposed mitigation measures, responsible parties, and cost of implementation. This EMP will be included in the bid documents and will be further reviewed and updated during implementation.

Table 13: Pre-Construction EMP Table

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
Establishment of baseline environmental conditions prior to start of civil works	Conduct documentation of location of components, areas for construction zone (camps, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones), locations of environmental monitoring	Construction cum labour camp layout	Contractor	PIU and DSC supported by PMU and PMC	Once during detailed design by DSC	PMU
Sites for construction work camps, areas for stockpile, storage and disposal	• Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc. • Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts and shortages of amenities). • Disposal will not be allowed near sensitive areas which will cause inconvenience to the community or near to river Sutlej flowing besides the site. • The construction camp, storage of fuel and lubricants should be strictly avoided near the Sutlej River bank (in Rupnagar). • Any construction camp site will be finalized in consultation with DSC and PIU.	List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal Waste management plan	DSC to prepare list of potential sites DSC to inspect sites proposed by contractor if not included in pre-approved sites	PIU and DSC	Once during detailed design by DSC	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
Occupational health and safety	• Comply with IFC EHS Guidelines on Occupational Health and Safety • Develop comprehensive site-specific health and safety (H&S) plan. The overall objective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project. • H&S plan shall include measures such as: (i) type of hazards in the construction site; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents. • Provide medical insurance coverage for workers.	Health and safety (H&S) plan	Contractor	PIU and DSC supported by PMU and PMC	Once during detailed design by DSC	Contractor
Public consultations	Continue information dissemination, consultations, and involvement/participation of stakeholders during project implementation.	Disclosure records Consultations	PIU and DSC	PMU and PMC	During preparation of IEE	PIU

Table 14: EMP Table during Construction Phase

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
Impacts on water quality	Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).	Condition in waste management plan	Contractor	PIU and DSC PIU and DSC to submit EMP monitoring report to PMU	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) Random inspection by DSC, PIU, PMC and/or PMU	Contractor on his own expense
	Do not dispose any construction material/ debris on the river side, rather dispose all the construction debris and refuse at identified disposal site with prior permission from concerned local authority. PIU/DSC will identify and approve disposal sites.	Condition in waste management plan Vehicle inspection report condition in waste management plan				
	Strictly prohibit open defecation by workers near river banks	H&S plan				
Impacts on air quality	• Cover all the loose materials like sand, earth, cements bags etc. • Conduct regular visual inspection in construction zones to ensure no excessive dust emissions. • Provide nose mask to workers working in dust areas • Damp down the surface if required for demolition/chipping to avoid dust emission • Use electricity to run equipment, if diesel generator or diesel operated	Visual inspection No complaints from sensitive receptors Records	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent during dry season and if corrective	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	equipment are required to be used, ensure they are well maintained as per specification				action is required) Random inspection by PMU, PIU, PMC and/or DSC	
	• Conduct regular visual inspection in the construction zones to ensure no excessive dust emissions.	Visual inspection				
Noise and vibrations impacts	• Limit construction activities in proposedsites and other important areas to daytime only. • Plan activities in consultation with PIU/DSC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	Work schedule	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent during noise-generating activities and if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	Minimize noise from construction equipment by using vehicle silencers noise-reducing mufflers.	Report on ambient noise level monitoring within direct impact zones				
	Ambient Noise levels have to be monitored as per the Environmental Monitoring Program	Day time dB(A)				
	Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.	No complaints received photo-documentation				
Impact due to waste generation	• Prepare and implement a waste management plan. • Manage solid waste according to the following hierarchy: reuse, recycling and disposal. • Include in waste management plan designated/approved disposal areas. • Coordinate with PIU/DSC for beneficial uses of excess spoils or	Condition in waste management plan	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	immediately dispose to designated areas. • Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (remove concrete, wood, packaging materials, empty containers, oils, lubricants, and other similar items). • Prohibit disposal of any material or wastes (including human waste) into drainage, nallah, or watercourse.				frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	
Impacts on occupational health and safety	Comply with applicable legal and contractual requirements on Occupational Health and Safety	Visual inspection Records	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.	Visual inspection Work schedule Noise level monitoring in work area				
	Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective equipment, and preventing injury to fellow workers.	Records Condition in H&S plan				
	Ensure that appropriate first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site as well as at construction camps.	Visible first aid equipment and medical supplies Condition in H&S plan				
	Provide medical insurance coverage for workers.	Records				
	Secure construction zone from unauthorized intrusion and accident risks.	Area secured Trenches barricaded				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	Provide supplies of potable drinking water.	Supply of water				
	Provide clean eating areas where workers are not exposed to hazardous or noxious substances.	Workers area				
	Mark and provide sign boards in the construction zone, and areas for storage and disposal.	Visible and understandable sign boards in construction zone				

Table 15: EMP Table during Post-Construction Phase

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
Solid waste (debris, excavated soils, etc.)	• Re-establish the original grade and drainage pattern to the extent practicable. • Restore temporary work areas. • Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish and dispose in designated disposal sites. • Request in writing from PIU/DSC that construction zones have been restored.	Pre-existing condition Construction zone has been restored	Contractor	PIU and DSC PIU and DSC to submit EMP monitoring report to PMU	Visual inspection by contractor supervisor and/or environment specialist	Contractor

C. Summary of Site and Activity-Specific Plans as per EMP

121. **Table 16**summarizes site and activity-specific plans to be prepared as per EMP tables.

Table 16: Site- and Activity-Specific Plans/Programs as per EMP

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
Detailed Design Phase	Environmental monitoring program as per detailed design	Indicate sampling locations, methodology and parameters	DSC	Contractor under the supervision of the DSC
Detailed Design Phase	List of pre-approved sites	Location/s for work camps, areas for stockpile, storage and disposal	PIU and DSC	Contractor under the supervision of the DSC
Detailed Design Phase	Waste management plan	Mitigate impacts due to waste generation	Contractor	Contractor under the supervision of the DSC
Detailed Design Phase	H&S plan	Occupational health and safety	Contractor to prepare or follow the EMP in IEE	Contractor under the supervision of the DSC

IX. ENVIRONMENTAL MONITORING PROGRAM

122. As per the above descriptions it is clear that proposed construction activities are not large enough to have significant impact on air and water quality. Hence the necessity for conducting air and water quality monitoring during the subproject construction does not arise. However, the proposed subproject intervention at the TIC Chandigarh shall have some noise impact, as there are many government offices located in the same building. Therefore as part of the environmental monitoring, it is suggested to conduct only noise quality monitoring for the subproject.

123. Through integration of mitigation measures during construction, potential impacts will mostly insignificant, temporary in nature and can be easily avoided or mitigated by following proposed mitigation measures given in the EMP.

124. **Table 17**provides the indicative environmental monitoring program which includes relevant environmental parameters, with a description of the sampling stations, frequency of monitoring, applicable standards, and responsibility to ensure EMP and monitoring program is commensurate to the impacts of the subproject.

Table 17: Indicative Environmental Monitoring Program

Sl.no	Field	Phase	Parameters	Location	Frequency	Responsibility
1.	Noise Quality	Pre-construction (before commencement of civil works)	Day time dB(A)	Proposed sites at Rupnagar and Chandigarh	24 hours Once before start of the construction	PIU
		Construction		Proposed sites at Rupnagar and Chandigarh	24 hours (quarterly except monsoon season)	Contractor

Sl.no	Field	Phase	Parameters	Location	Frequency	Responsibility
2.	Air Quality	Pre-construction (before commencement of civil works)	Particulate matter (PM_{10} & $PM_{2.5}$), SOx, NOx, CO	Proposed sites at Rupnagar and Chandigarh	24 hours (Once before start of the construction)	PIU
		Construction		Proposed sites at Rupnagar and Chandigarh	24 hours (quarterly except monsoon season)	Contractor

X. CAPACITY BUILDING

125. The Environmental Specialist of the DSC will provide the basic training required for environmental awareness followed by specific aspects of Infrastructure Improvement Projects along with Environmental implications for projects. Specific modules customized for the available skill set will be devised after assessing the capabilities of the members of the Training Programme and the requirements of the project. The entire training would cover basic principles of environmental assessment and management; mitigation plans and programmes, implementation techniques, monitoring methods and tools. The proposed training program along with the frequency of sessions is presented in**Table 18**below. This training program is intended for the entire destination and is not just specific to this package.

Table 18:Training Modules for Environmental Management (common for entire project)

Programme	Description	Participants	Form of Training	Duration/ Location	Training Conducting Agency
A. Pre-Construction Stage					
Sensitization Workshop	Introduction to Environment: Basic Concept of environment Environmental Regulations and Statutory requirements as per Government of India and ADB	Tourism / Forest / Roads / Culture Department Officials, Project Director (PD) and Environmental Specialist (ES) of the PMU/PIU	Workshop	½ Working Day	Safeguard Specialist of the PMC
Session I					
Module I	Introduction to Environment: Basic Concept of environment Safeguards Regulations and Statutory requirements as per Government of India and ADB Guidelines on cultural resources, Environmental considerations in planning, design and implementing projects	PMU/PIU (including the ES) and Engineering staff of the implementing agencies	Lecture	1Working Day	Safeguards Specialist of the PMC

Programme	Description	Participants	Form of Training	Duration/ Location	Training Conducting Agency
Module II	Environmental components impacted in construction and operation stages Activities causing pollution during construction and operation stages Environmental Management Environmental Provisions Implementation Arrangements Methodology of Assessment Good engineering practices to be integrated into contract documents	PMU/PIU (including the ES) and Engineering staff of Tourism dept.	Workshop	¼ Working Day	Safeguards Specialist of the PMC
Module III	Environmental considerations in planning, designing and implementing heritage buildings and conservation projects	PMU/PIU (including the ES) and Engineering staff of Tourism dept.	Lecture / Interactive Sessions and site visits	2 working days	Safeguards specialist of the PMC with support from the International Conservation specialist of the PMC
Module IV	Improved Co-ordination with other Departments: Statutory Permissions – Procedural Requirements Co-operation & Co-ordination with other Departments.	PMU/PIU (including the ES) and Engineering staff of Tourism dept.	Lecture / Interactive Sessions	1Working Day	Safeguards Specialist of the PMC
B. Construction Stage					
Session II					
Module V	Role during Construction Roles and Responsibilities of officials/ contractors/ consultants towards protection of environment Implementation Arrangements Monitoring mechanisms	Engineers and staff of line depts. of GoP, and PMU/PIU (including the ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC
Module VI	Monitoring and Reporting System	Engineers and staff of implementing agencies , and PMU/PIU (including the ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC

XI. EMP IMPLEMENTATION COST

126. As part of good engineering practices in the project, there have been several measures as safety, signage, dust suppression, procurement of personal protective equipmentetc. and the costs for which will be included in the design costs of specific subprojects. Therefore, these items of costs have not been included in the IEE budget. Only those items not covered under budgets for construction are considered in the IEE budget.

127. From the construction activities point of view, it is relatively a minor construction project and it is not expected to cause significant air, water and noise pollution. The main EMP cost will arise from monitoring of environmental parameters (noise) and training.

128. The costs of water sprinkling for dust suppression and providing personal protective equipment's to construction workers shall borne by contractor as part of conditions of contract. In addition the sources of funds for Mitigation measures during construction stage including monitoring during construction stage are also to be borne by the contractor. These are deemed to be included as part of the contract price amount quoted by the contractor for the works. The costs of components for monitoring in operation stage and the capacity building costs are to be funded by the PMU. The EMP cost is given in the **Table 19**below.

Table 19:Indicative EMP Budget

S.N.	Particulars	Stages	Unit	Total number	Rate (INR)	Cost (INR)	Source of fund
A. Monitoring Measures							
1	Ambient Noise Quality	Detailed design	Per location	2	4,000	8,000	PMU
2	Air quality monitoring	Detailed design	Per sample	2	10,000	20,000	PMU
3	Ambient Noise Quality	Construction	Per Sample	6	4,000	24,000	Contractor budget
4	Ambient Air Quality	Construction	Per Sample	6	10,000	60,000	Contractor budget
Sub- Total (A)						**112,000**	
B.	**Capacity Building – Training cost**						
1	Sensitization Workshop	Pre-Construction	L.S			1,50,000	PMU
2	Training Session I	Construction	L.S			1,50,000	PMU
3	Training Session II	Construction	L.S			1,50,000	PMU
Sub -Total (B)						**4,50,000**	
Total (A+B) INR						**5,62,000**	

XII. FINDINGS AND RECOMMENDATIONS

129. The proposed components as part of the package are in line with the sub-project selection criteria for the program. The subproject conforms to all GoI and ADB regulations, policies and standards.This IEE report has been prepared based on the study of design and other documents, site visits, stakeholder consultations for the impact assessment of the proposed subproject components. The construction activities proposed are very small having only repairing and refurbishment works and not supposed to cause any significant environmental impacts.

130. Some negative impacts anticipated are mostly related to health and safety and solid waste management, which can be easily mitigated through proposed measures given in

EMP.The specific management measures laid down in the IEE will effectively address any adverse environmental impacts due to the subproject. The effective implementation of the measures proposed will be ensured through the building up of capacity towards environmental management within the PMU supplemented with the technical expertise of a Safeguards Specialist as part of the DSC Consultants. Further, the environmental monitoring plans provide adequate opportunity towards course correction to address any residual impacts during construction or operation stages.

XIII. CONCLUSIONS

131. The IEE carried out for the sub-project shows that the proposed interventions/ components will result in net environmental benefits and that any likelyenvironmental impact can be addressed through proper location, planning and design of the proposed sub-project; control of construction activity and mitigation measures. The EMP provides for mitigation of all identified impacts and the Contract clauses for the environmental provisions will be part of the civil works contracts. Further, the proposed designs have been consulted with the stakeholders and no significant issues requiring redress in terms of environmental safeguards are known to exist at present.

132. Based on the findings of the IEE, there are no significant impacts and the classification of the subproject as Category “B” is confirmed. No further study or detailed Environmental Impact Assessment (EIA) needs to be undertaken to comply with ADB SPS (2009).

Annexure - 1

Rapid Environmental Assessment (REA) Checklist

URBAN DEVELOPMENT

Instructions:

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES), for endorsement by Director,RSES and for approval by the Chief Compliance Officer.

(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures

Subproject:Initial Environmental Examination: State-wide Tourism Centers, Interpretation Centers (Lot-1) Eastern Circuit at Rupnagar (Existing TIC) and Chandigarh, (Archives Building, Sector-38)

Country/ProjectTitle: India/Infrastructure development Investment program (IDIPT-Punjab)

Sector Division: Urban Development.

Screening Questions	Yes	No	Remarks
A. Project Siting It is Project area adjacent to or within any of the following environmentally sensitive areas?			
• Cultural heritage site	✓		Proposed site of TIC at Rupnagar is near to MaharajaRanjit Singh Treaty site which is a historical and a cultural heritage site.
• Protected Area		✓	
• Wetland	✓		TIC at Rupnagar site is located within aerial distance of 100m of Ropar Ramsarwetland site.
• Mangrove		✓	
• Estuarine		✓	
• Buffer zone of protected area		✓	
• Special area for protecting biodiversity	✓		TIC at Rupnagar site is within 100m of Ropar wetland which is a Ramsar site
B. Potential Environmental Impacts Will the Project cause...			
▪ Encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?		✓	The subproject sites are belongs to Government of Punjab (GoP) and free from encroachments
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		✓	Not envisaged
▪ Alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?		✓	River Sutlej flows adjacent to proposed site of TIC at Rupnagar. With proper mitigation measures, the small construction activities

Screening Questions	Yes	No	Remarks
			within building premiseswill not affectthe surface water hydrology of the river.
▪ Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	For the proposed interventions, the possibilities of the surface water runoff may not arise. Hence deterioration of surface water quality is not envisaged.
▪ Increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?		✓	No such works are proposed
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?		✓	Not envisaged
▪ Noise and vibration due to blasting and other civil works?		✓	No blasting is required
▪ Dislocation or involuntary resettlement of people?		✓	No involuntary resettlement is envisaged
▪ Dislocation and compulsory resettlement of people living in right-of- way?		✓	No dislocation and compulsory resettlement of people is expected
▪ Disproportionate impacts on the poor, women and children indigenous peoples or other vulnerable groups?		✓	No such impacts may arise
▪ Other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?		✓	No such impacts may arise
▪ Hazardous driving condition where construction interferes with pre-existing roads?		✓	Not envisaged
▪ Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?		✓	Local labours shall be engaged in the construction works. The MSW generated in the construction site shall be disposed on day to day basis. IEC materials shall be displayed for HIV/ AIDS prevention.
▪ Creation of temporary breeding habitats for disease such as those transmitted by mosquitoes and rodents?		✓	No such impacts may arise
▪ Accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?		✓	No such impacts may arise
▪ Increase noise and air pollution resulting from traffic volume?		✓	No such impacts may arise
▪ Increase risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		✓	No such impacts may arise
▪ Social conflicts if workers from other region of countries are hired?		✓	No such impacts may arise as the activity is small and will not require excessive numbers of workers
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impacts may arise as the labour requirement is not so high being small project

Screening Questions	Yes	No	Remarks
▪ 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?		✓	No such impacts may arise
▪ 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 the failure could result in injury to the community throughout project construction, operation and decommissioning.		✓	No such impacts may arise

PRELIMINARY CLIMATE RISK SCREENING CHECKLIST FOR SAMPLE SUBPROJECT TOWNS

Screening Questions		Score	Remarks[5]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?	0	Site is on the banks of River Sutlejbut not under flood affected zone
	Will the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?	0	Site is on the banks of River Sutlej but not under flood affected zone
Materials and Maintenance	Will weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity, and hydro-meteorological parameters) affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	No such issue may affect the project
	Will weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	No such issue may affect the project
Performance of project outputs	Will weather/climate conditions and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?	0	No problem will envisaged in future which likely affect the performance of project output

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response will be categorized as high risk project.

Result of Initial Screening (Low, Medium, High): Low

Other Comments: The proposed subproject activity involves minimal construction and renovation workswithin building hence the anticipated environmental impacts are very lowand does not impose any threat to the existing climatic conditions.

[5]If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Annexure- 2

Photo Illustration of Proposed sites in Rupnagar and Chandigarh

1. Proposed site for TIC, Rupnagar

Maharaja Ranjit Singh (MRS) Treaty signing site near the proposed TIC site at Rupnagar

Barrage at river Sutlej near site of TIC at Rupnagar

Existing and Proposed TIC building

Area for proposed Development in front of TIC, Rupnagar

Interior view of proposed TIC at Rupnagar

Water Lilly Restaurant beside the TIC, Rupnagar

2. Proposed site for TIC at Chandigarh

Building of IDIPT office at Sector 38, Chandigarh

Vacant space for proposed TIC at Chandigarh

Existing Corridor area

Existing Reception area

Annexure-3

Sample Outline of Spoil Management Plan (SMP)

1.0 Purpose and application:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works in accordance with the spoil management hierarchy outlined in this document.

2.0 Objectives of SMP:

The objectives of SMP are:

- To minimize spoil generation where possible
- Maximize beneficial reuse of spoil from construction works in accordance with spoil management hierarchy
- Mange onsite spoil handling to minimize environmental impacts on resident and other receivers
- Minimize any further site contamination of land, water, soil
- Manage the transportation of spoil with consideration of traffic impacts and transport related emissions

3.0 Structure of SMP:

Section 1: Introduction of SMP
Section 2: Legal and other requirements
Section 3: Roles and responsibilities
Section 4: Identification and assessment of spoil aspects and impacts
Section 5: Spoil volumes, characteristics and minimization
Section 6: Spoil reuses opportunities, identification and assessment
Section 7: On site spoil management approach
Section 8: Spoil transportation methodology
Section 9: Monitoring, Reporting, Review, and Improvements

4.0 Aspects and Potential Impacts

The key aspects of potential impacts in relation to SMP are listed in table below

Aspects	Potential Impacts
Air Quality	Potential for high winds generating airborne dust from the stock piles
Sedimentation	Potential for sediment laden site runoff from spoil stockpiles and potential for spillage of spoil from truck on roads
Surface and Groundwater	Contamination of water (surface and ground water)
Noise	Associated with spoil handling and haulage and storage
Traffic	Impacts associated with spoil haulage
Land Use	Potential for spoil to be transported to a receivable site that doesn't have permission for storage/disposal
Design specifications	Limitations on opportunities to minimize spoil generation
Sustainability	Limited sites for storage, reuse opportunities

5.0 Spoil volumes, characteristics and minimization

5.1 Spoil volume calculations: Estimate the volumes of spoils produced from each of the construction sites.

5.2 Characterization of spoil: Based on the type of spoil; characterization is done (sand stone, mud mix materials, reusable materials

5.3 Adopt Spoil Reduce, Reuse Opportunities

An overview of the assessment methodology to be used is mentioned below.

- Consideration of likely spoil characteristics

- Identification of possible reuse sites
- Screening of possible reuse opportunities

5.4 Identification of possible safe disposal sites for spoil: Those spoils which can't be reuse shall be properly disposed in designated areas, such disposal areas should be identified in project locations. Such disposal areas should be safe from environmental aspects and there should be any legal and resettlement related issues. Such areas need to be identified and prior cliental approval should be obtained to use it as spoil disposal area. The local administration must be consulted and if required permission should be obtained from them.

5.5 Storage and stock piling

5.6 Transportation and haulage route

6.0 Based on the above, the contractor will prepare a SMP as an integral part of EMP and submit it to the PIU/DSC for their review and approval.

Annexure-4

Public and StakeholderConsultations

1. Consultations have been made with the, District Administration, Department of Tourism; and local community, etc., issues pertaining to proposed sub-project interventions.
2. There are no physical or economic, temporary or permanent, IR impacts that are envisaged. No person or community is being adversely affected by this sub-project. No land or asset acquisition is necessitated in this sub-project. So people and communities will not be physically or economically displaced due to the sub-project interventions. No common property resource (CPR) will also be affected. Poor, indigenous and other ethnic groups are not being adversely impacted.
3. During the project preparation, consultations have been held by the PMU/PIU-Rupnagar safeguards team, Department of Tourism, Punjab Heritage and Tourism Promotion Board, authorities of Water Lily Restaurant, Rupnagar and also with tourists on issues pertaining to the implementation of the proposed subprojects. The key issues highlighted during the discussion include the project detail, and required improvements at proposed site.

TIC Rupnagar: The proposed work at Maharaja Ranjit Singh Treaty site, TIC and Ropar Wetland site was discussed with the visitors present at and near the site.

4. A consultation was done with the visitors near the MRST site and Verka Booth and they were informed about ongoing work at the site and also about the future scope of that work. The 70% projects were also discussed with the visitors. They were also told about the benefits that the visitors are likely to avail in future.
5. They were also informed about the Self Help Groups (SHGs) that are formed in Village Katli and TibbaTapprian, Ropar which will be provided trainings in various traditional crafts and help in generating income benefits for them.
6. The visitors appreciated the efforts extended by the Tourism Department in development of the area.
7. Mr. Surjit Singh Saini, Manager of Water Lily Hotel suggested regarding the landscaping and beautification of the site for the attraction of tourists. He suggested that some food stalls outside Water Lily Restaurant could also attract tourists at this place.

Archives Bhawan, Chandigarh:

8. The project officials, experts in general were happy about the proposed intervention and felt that it will provide comfortable and convenient place for visitors to relax, gather all required information about important tourist destinations in Punjab and plan tours accordingly. The table reflects the consultations done and issues discussed.

Table 1 - Site Visit and Consultation

Sl. No.	Date of Site Visit	Place of Site	Participants & No.	Issues Discussed
1.	4th April, 13th July and 10th August 2016	Chandigarh	PMU,PIU and PMC officials and Experts	Scope of work, proposed site, and its benefits
2.	6th April 2016	Rupnagar	PIU and DSC officials and expert, Representative of Water Lily Restaurant	Scope of work, proposed site, and its benefits, issues related to NOC/undertaking, litigation if any, etc.
3.	18th May 2016	Rupnagar	Representative from Water Lily Restaurant, and DSC Engineers and Community Development Staff	Proposed scope of work, perceived economic benefits, perception about proposed intervention etc.

Photographs of Public Consultations at TIC, Rupnagar

Consultation with concerned within TIC Rupnagar Building and Representatives from Water Lily Restaurant

Photographs of Public Consultations at Archive Bhawan, Chandigarh

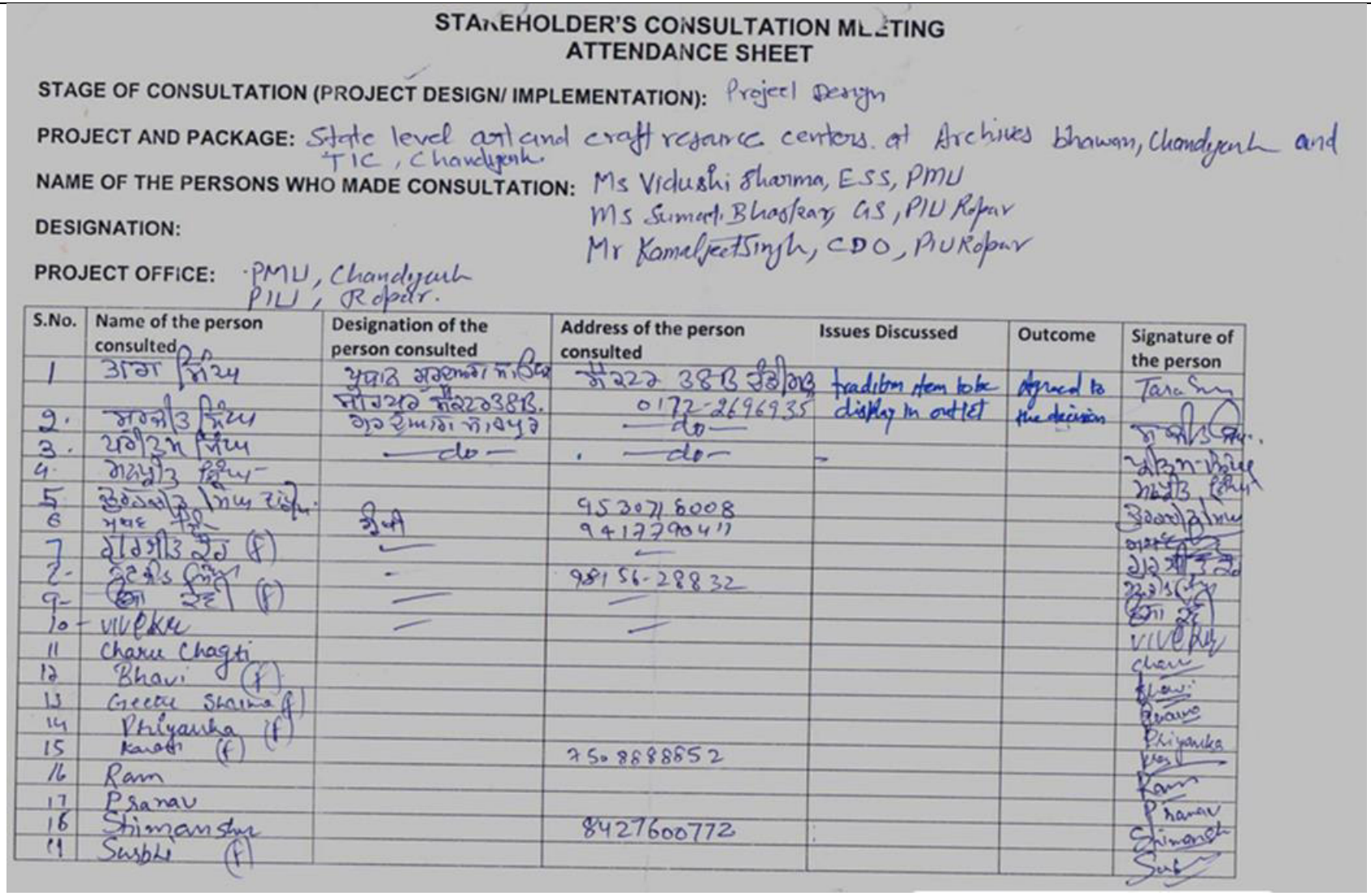
Interaction with office staff regarding proposed intervention within office campus

9. Consultation has also been carried out during Due Diligence visit with DSC, and PIU concerned experts and officials. It's noted that there are no physical or economic, temporary or permanent, IR impacts. No person or community is being adversely affected by this sub-project. No land or asset acquisition is necessitated in this sub-project. So people and communities will not be physically or economically displaced due

to the sub-project interventions. No common property resource (CPR) will be affected. Poor, indigenous and other ethnic groups are not being adversely impacted. During site visits public consultations were conducted by the DSC team during preparation of DDR with an objective to assess the possible impacts of the project.

10. During the preparation of the report, the necessary consultation has been held with the PMU, PMC, PIU Rupnagar and DSC concerned by Social Safeguards Specialist, DSC on dates mentioned in table 1. The proposed site is the new site and no on-going construction work is underway.

Attendance Sheet (Consultation at TIC Chandigarh)



STAKEHOLDER'S CONSULTATION MEETING
ATTENDANCE SHEET

STAGE OF CONSULTATION (PROJECT DESIGN/ IMPLEMENTATION): Project Design

PROJECT AND PACKAGE: State level art and craft resource centers at Archives Bhawan, Chandigarh and TIC, Chandigarh.

NAME OF THE PERSONS WHO MADE CONSULTATION: Ms Vidushi Sharma, ESS, PMU
Ms Sumedh Bhaskar, GS, PIU Ropar
Mr Komaljeet Singh, CDO, PIU Ropar

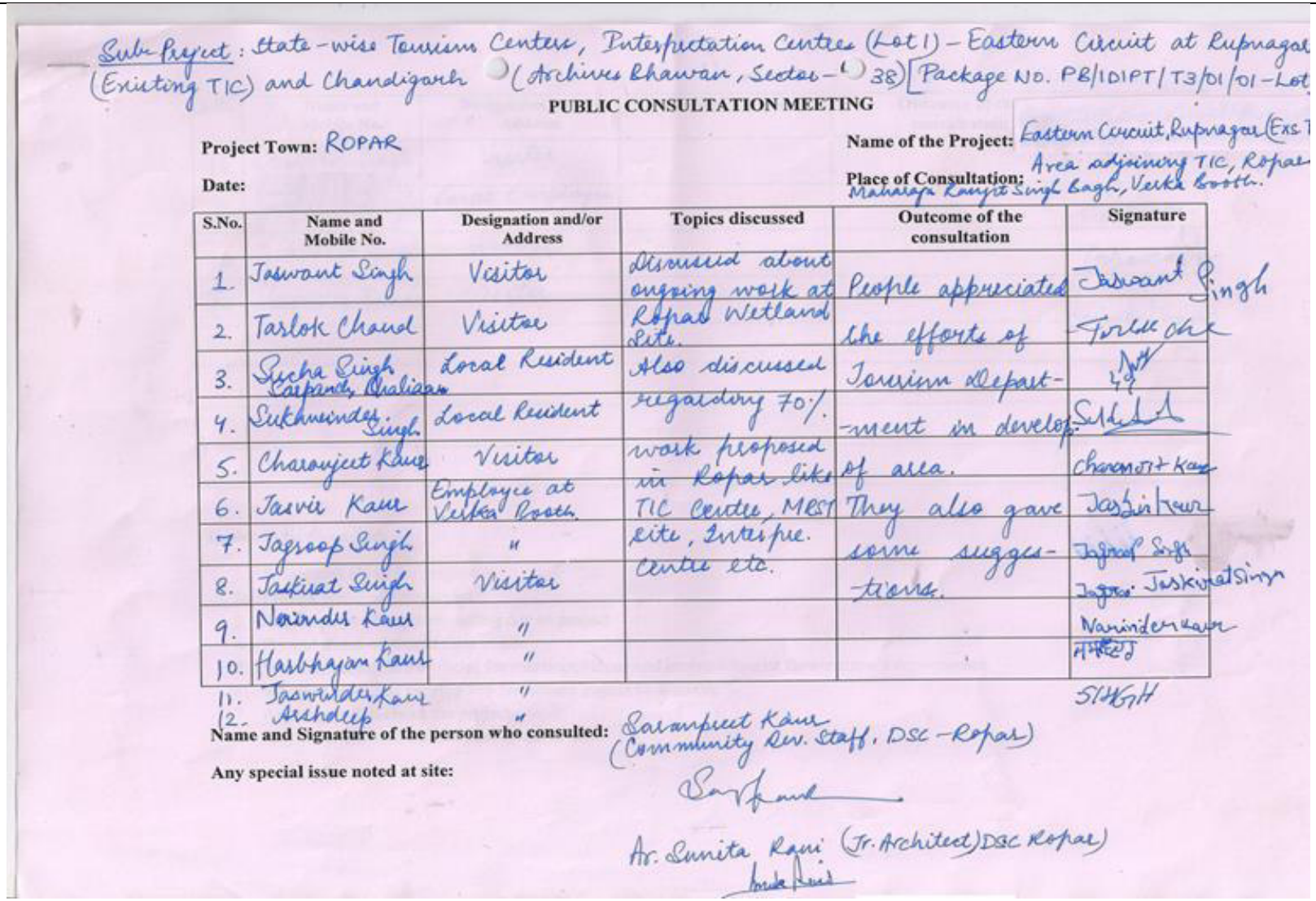
DESIGNATION:

PROJECT OFFICE: PMU, Chandigarh
PIU, Ropar.

S.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues Discussed	Outcome	Signature of the person
1	[illegible]	[illegible]	[illegible] 0172-2696935	tradition item to be display in outlet	Agreed to the decision	Tara Sm
2.	[illegible]	[illegible]	—do—			[illegible]
3.	[illegible]	—do—	—do—			[illegible]
4.	[illegible]					[illegible]
5	[illegible]		9530716008			[illegible]
6	[illegible]	[illegible]	9417790411			[illegible]
7	[illegible] (f)	—	—			[illegible]
8	[illegible]	-	98156-28832			[illegible]
9	[illegible] (f)	—	—			[illegible]
10	Vivek	—	—			Vivek
11	Charu Chagti					Charu
12	Bhavi (f)					Bhavi
13	Geetu Sharma (f)					Pranav
14	Priyanka (f)					Priyanka
15	Kavita (f)		750 8888852			Kavita
16	Ram					Ram
17	Pranav					Pranav
18	Shimanshu		8427600772			Shimanshu
19	Subhi (f)					Subhi

S.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues Discussed	Outcome	Signature of the person
20	Sandeep Kumar	Research fellow	Hostel No – 5 1/18	Art & handicraft		[illegible]
21	Anu (f)	Research fellow	Girls Hostel No. 2	Art / handicraft		[illegible]
22	Skandan Singh	Research fellow	B.H.No. 7 P.U. Chd.		8288921880	[illegible]
23	Komal Goyal	Masters in Music	B.H. no. 5 PUCHD			[illegible]
24	Jagdeep Singh	Music Deptt.		Art / handicraft		[illegible]
25	Paramjit Kaur (f)		Sewing dept PU Chd			[illegible]
26	Amandeep					[illegible]
27	Satnam Kaur (f)		Sec 55 Chd			[illegible]
28	Karamjit Kaur (f)					[illegible]
29	Nikhil Kumar	Shop Prop	sec – 22C		7696701322	[illegible]
30	PANKAJ GAMBHIR	Shop owner	Sector -15-D		8699519191	[illegible]
8						
31	GURPREET SINGH	(S.M ... PIU ROPAR)			94780-39502	[illegible]
32	KAMALJEET SINGH	CDO	PIU Ropar		9464258719	[illegible]
33	Vidushi Sharma (f)	SSS, PMU, Chd.	PMU Chd		842785211	[illegible]
34.	Sumati Bhaskar (f)	Gender Specialist	PIU Ropar		9501807562	[illegible]

Attendance Sheet (Consultation at TIC Rupnagar)



Sub Project: State-wise Tourism Centres, Interpretation Centres (Lot 1) – Eastern Circuit at Rupnagar (Existing TIC) and Chandigarh (Archives Bhawan, Sector-17) [Package No. PB/1DIPT/T3/01/01-Lot

PUBLIC CONSULTATION MEETING

Project Town: ROPAR

Name of the Project: Eastern Circuit, Rupnagar (Exs

Date:

Place of Consultation: Area adjoining TIC, Ropar Maharaja Ranjit Singh Bagh, Verka Booth.

S.No.	Name and Mobile No.	Designation and/or Address	Topics discussed	Outcome of the consultation	Signature
1.	Jaswant Singh	Visitor	Discussed about ongoing work at Ropad Wetland Site. Also discussed regarding 70% work proposed in Ropar like TIC Centre, MES site, Interpre. Centre etc.	People appreciated the efforts of Tourism Depart-ment in develop-of area. They also gave some sugges-tions.	Jaswant Singh
2.	Tarlok Chand	Visitor			Tarlok Chand
3.	Sucha Singh	Local Resident Sarpanch, Khaliana			
4.	Sukhwinder Singh	Local Resident			
5.	Charanjeet Kaur	Visitor			Charanjit Kaur
6.	Jasvir Kaur	Employee at Verka Booth.			Jasvir Kaur
7.	Jagroop Singh	"			Jagroop Singh
8.	Jaskirat Singh	Visitor			Jagroop Jaskiratsingh
9.	Navinder Kaur	"			Navinder Kaur
10.	Harbhajan Kaur	"			Harbhajan
11.	Jaswinder Kaur	"			Jaswinder
12.	Archdeep	"			

Name and Signature of the person who consulted: Saranjeet Kaur (Community Dev. Staff, DSC – Ropar)

Any special issue noted at site:

Ar. Sunita Rani (Jr. Architect) DSC Ropar

S.No.	Name and Mobile No.	Designation and/or Address	Topics discussed	Outcome of the consultation	Signature
11.	Saswan Singh	Visitor			
12.	Gurpreet Singh	Local Employee			
13.	Gurmeet Singh	Worker			
14.	Vasudev Kumar	Visitor			

Topics to be discussed:

1. Awareness about the project
2. Present status of site/project
3. Requirement of any tree cutting due to project
4. Present status of tourist flow at site
5. Whether project is beneficial for tourists/citizens and increase tourist flow/citizen's convenience
6. Whether project is causing any livelihood impact to someone
7. Any suggestion about the project
8. Any other relevant information found at site

Annexure-5

Sample Grievance Redress Form

(To be available in Local Language and English)

The _____Project welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback. Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date		**Place of registration**			
Contact Information/Personal Details					
Name		**Gender**	* Male * Female	**Age**	
Home Address					
Place					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below: If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of Official registering grievance)	
Mode of communication: Note/Letter E-mail Verbal/Telephonic	
Reviewed by: (Names/Positions of Official(s) reviewing grievance)	
Action Taken:	
Whether Action Taken Disclosed:	Yes No
Means of Disclosure:	

Annexure-6

Sample Quarterly Environmental Monitoring Report Template

This template must be included as an Annex in the EIA/IEE that will be prepared for the project. It can be adapted to the specific project as necessary.

INTRODUCTION

Overall project description and objectives
Description of sub-projects
Environmental category of the sub-projects
Details of site personnel and/or consultants responsible for environmental monitoring
Overall project and sub-project progress and status

No.	Sub-Project Name	Status of Sub-Project				List of Works	Progress of Works
		Design	Pre-Construction	Construction	Operational		
		☐	☐	☐	☐		
		☐	☐	☐	☐		
		☐	☐	☐	☐		

COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

No.	Sub-Project Name	Statutory Environmental Requirements	Status of Compliance	Action Required

COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required

COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

- Provide the monitoring results as per the parameters outlined in the EMP. Append supporting documents where applicable, including Environmental Site Inspection Reports.
- There should be Reporting on the following items which can be incorporated in the checklist of routine Environmental Site Inspection Report followed with a summary in the semi-annual Report send to ADB. Visual assessment and review of relevant site documentation during routine site inspection needs to note and record the following:
- What are the dust suppression techniques followed for site and if any dust was noted to escape the site boundaries;
- If muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads;
- adequacy of type of erosion and sediment control measures installed on site, condition of erosion and sediment control measures including if these were intact following heavy rain;
- Are their designated areas for concrete works, and refuelling;
- Are their spill kits on site and if there are site procedure for handling emergencies;
- Is there any chemical stored on site and what is the storage condition?
- Is there any dewatering activities if yes, where is the water being discharged;
- How are the stockpiles being managed;
- How is solid and liquid waste being handled on site;
- Review of the complaint management system;
- Checking if there are any activities being under taken out of working hours and how that is being managed.

Annexure-7

Summary Monitoring Table

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
Design Phase						
Pre-Construction Phase						
Construction Phase						
Operational Phase						

Overall Compliance with CEMP/EMP

No.	Sub-Project Name	EMP/CEMP Part of Contract Documents (Y/N)	CEMP/EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed & Additional Measures Required

APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

(i) Brief description on the approach and methodology used for environmental monitoring of each sub-project

MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS (AMBIENT AIR, WATER QUALITY AND NOISE LEVELS)

- Brief discussion on the basis for monitoring
- Indicate type and location of environmental parameters to be monitored
- Indicate the method of monitoring and equipment to be used
- Provide monitoring results and an analysis of results in relation to baseline data and statutory requirements

As a minimum the results should be presented as per the tables below.

Air Quality Results

Site No.	Date of Testing	Site Location	Parameters (Government Standards)		
			PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)		
			PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)

Water Quality Results

Site No.	Date of Sampling	Site Location	Parameters (Government Standards)					
			pH	Conductivity (µS/cm)	BOD (mg/L)	TSS (mg/L	TN (mg/L)	TP (mg/L)

Site No	Date of Sampling	Site Location	Parameters (Government Standards)					
			pH	Conductivity (µS/cm)	BOD (mg/L)	TSS (mg/L	TN (mg/L)	TP (mg/L)

Noise Quality Results

Site No.	Date of Testing	Site Location	LA_{eq} (dBA) (Government Standard)	
			Day Time	Night Time

Site No.	Date of Testing	Site Location	LA_{eq} (dBA) (Government Standard)	
			Day Time	Night Time

SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

- Summary of follow up time-bound actions to be taken within a set timeframe.

Annexes

- Photos
- Summary of consultations
- Copies of environmental clearances and permits
- Sample of environmental site inspection Report
- Other

Annexure-8

Sample Environmental Site Inspection Report

Project Name

Contract Number

NAME: _____ DATE: _____

TITLE: _____ DMA: _____

LOCATION:_____ GROUP: _____

WEATHER CONDITION:

_____

INITIAL SITE CONDITION: _____

CONCLUDING SITE CONDITION:

Satisfactory _____ Unsatisfactory_____ Incident_____ Resolved _____ Unresolved _____

INCIDENT:

Nature of incident:

_____

Intervention Steps:

_____

Incident Issues

Resolution

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

Inspection

Emissions	Waste Minimization
Air Quality	Reuse and Recycling
Noise pollution	Dust and Litter Control
Hazardous Substances	Trees and Vegetation

Site Restored to Original Condition Yes No

Signature

_____

_____ _____

Name **Position**

(34)

DATE : DECEMBER 18,2013

NO OBJECTION CERTIFICATE & UNDERTAKINGS

I do hereby certify that the Department of forests and Wildlife Preservation, Punjab has no objection in recommending the proposed project to be taken under IDIPT-PB for execution and development as per the guidelines laid by GOI and ADB for loan funded projects for the states of Punjab.

I hereby certify that: (Ropar Eco-Tourism Project)

1) The Proposed project Area/Building /Land (Ropar Wet Land Wildlife Sanctuary) is under the ownership of Punjab Forest Department and presently under the possession of Department of Forest and Wildlife Preservation .
2) The Proposed Project Area /Building/Land is free from all encumbrances (Legal/Circumstantial)
3) There is no Resettlement / Displacement / Rehabilitation of people involved in the above proposed project Area/Building /Land
4) The Proposed Project Area /Building/Land is not Partially / Fully part of any other project funded under State Govt/GoI/External funding schemes
5) This Department will taken operation and maintenance of the assets created as a result of the development /execution of the proposed project under the IDIPT.

Chief Wildlife Warden,
Punjab.

Head of the department
(Name of the department)

D.F.O. Wildlife
Ropar

Deputy Commissioner,
Rupnagar.