



Initial Environmental Examination

Project Number: 40648-034
June 2016

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

Package : Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in
Dharamshala & Mcleodganj

Submitted by:

Program Management Unit, Tourism Development Board, IDIPT-Himachal Pradesh,
Shimla

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Asian Development Bank

Tourism Development Board

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Dated: 23.06.2016.

Project Director

To

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Kind Attn: Mr. Leonardus Boenawan Sondjaja (ADB).

Subject: Submission of Revised IEEs for Kangra, Dharamshala and Naldehra projects under Tranche-3.

**Ref No. (i) IDIPT-HP/3223-IND/IEE-Tranche 3/2016-98 dated 04.04.2016
(ii) IDIPT-HP/3223-IND/IEE-Tranche-3/2016-1068 dated 02.06.2016**

Madam,

We are in receipt of the observations conveyed vide Email dated 6th June, 2016. The IEEs have been revised for the following sub-projects under Tranche-III:

1. Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala & Melcodganj (HPTDB/13/2)
2. Restoration and Improvement of Chamunda Temple and Bajreshwari Temple Precinct and Creation of Cultural Centre for Traditional Crafts and Arts at Nagrota Bhagwan, Kangra (HPTDB/13/4)
3. Eco-tourism Park at Naldehra, Shimla (HPTDB/16/4)

The reply of the observations is attached in the matrix form. This is for your information and approval please.

Yours Sincerely,

**Project Director,
IDIPT-H.P.**

Encl: As Above.



def copy recd 24.06.16 PA

ADB Observations on Initial Environmental Examination (IEE) Report – Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala & Mcleodganj (HPTDB/13/2)

Sr. No.	ADB Observations dated 27th April, 2016	Compliance Status, dated 02 June 2016	ADB Observations dated 06 th June, 2016	Compliance Status, dated 06 th June, 2016
1.	We observe that for the most of the IEE report, the spacing between two consecutive words is missing. Please format the report correctly and resubmit.	Complied	-	
2.	We note that the baseline environmental monitoring for parameters namely ambient air quality, ambient noise levels, and water quality will be carried out by the project management unit or the civil works contractor prior to commencement of civil works. Please ensure to undertake this baseline monitoring works at all three locations as mentioned in table 9: Indicative environmental monitoring program;	Will undertake baseline environmental testing prior to commencement of civil work	-	
3.	We also note that the number of samples mentioned in table 9 appears to be very low. Further we observe that the budgets considered for testing of ambient air and surface water qualities are at lower and that for ambient noise levels is at higher side as compared to the current market rates. Please reassess the requirement in terms of the number of samples to be tested over the construction and operation phases of the implementation; and the	Number of samples mentioned in table 9 is based on three times testing (prior to commencement of civil work, during construction and during post construction periods). Further, the budgets considered for testing is based on HPPCB rates available at their website. However, we are in process of finalization of private party as HPPCB is unable to conduct testing as per EMP requirements.	We note under sub-heading of “frequency of monitoring” (table 9), it had been reported twice in previous IEE report (i) prior to start of civil works; and (ii) during construction (pre-monsoon or post-monsoon), which has been revised to thrice: (i) prior to start of civil works; (ii) during construction; and (iii) post construction (pre-monsoon or post-monsoon). The table has	Complied in table 9 and table 11

Sr. No.	ADB Observations dated 27th April, 2016	Compliance Status, dated 02 June 2016	ADB Observations dated 06 th June, 2016	Compliance Status, dated 06 th June, 2016
	associated budget may be revised accordingly; and		<p>not been updated as per required frequency of environmental monitoring and please update the same as per following suggestions:</p> <p>(i) The monitoring frequency of ambient air quality, ambient noise levels and surface water quality prior to commencement of civil work may be once at four construction sites ;</p> <p>(ii) The monitoring frequency of ambient air quality, ambient noise levels and surface water quality during construction phase may be quarterly except monsoon period at all construction sites. Hence, during construction phase, the numbers of samples need to be revised considering 24 months construction period; and</p> <p>(iii) The monitoring frequency of ambient air quality, ambient noise levels and surface water quality during post-construction phase may be once except monsoon period.</p> <p>Please revise table 9 and indicative EMP budget given in table 11.</p> <p>We note from compliance status</p>	

Sr. No.	ADB Observations dated 27th April, 2016	Compliance Status, dated 02 June 2016	ADB Observations dated 06 th June, 2016	Compliance Status, dated 06 th June, 2016
			that the HPPCB is unable to conduct the environmental monitoring. While we have no objection to your proposal for considering transportation and sampling cost based on HPPCB applicable rates, we suggest you to ensure that the environmental monitoring may be carried out by NABL or HPPCB approved monitoring agencies.	
4.	The format of environmental monitoring report included as annexure 9 of IEE report (page 104-105), needs to be revised. Please find attached a copy of the format for environmental monitoring report.	Revised as per given format	-	

Infrastructure Development Investment Program for Tourism (Project 3) State of Himachal Pradesh

Environmental Assessment Document

Initial Environmental Examination

ADB Loan No.3223–IND

Tranche 3

Subproject- Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala & Mcleodganj



June, 2016

Prepared by the Government of Himachal Pradesh

This IEE is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff.

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ABBREVIATIONS

ADB	–	Asian Development Bank
BOD	–	Biological Oxygen Demand
BPL	–	Below Poverty Line
DO	–	Dissolved Oxygen
DSC	–	Design & Supervision Consultants
EA	–	Executing Agency
EAC	–	Expert Appraisal Committee
EARF	–	Environmental Assessment Review Framework
EIA	–	Environmental Impact Assessment
EMP	–	Environmental Management Plan
GoI	–	Government of India
GoHP	–	Government of Himachal Pradesh
HPPCB	–	Himachal Pradesh Pollution Control Board
HPTDC	–	Himachal Pradesh Tourism Development Board
IDIPT	–	Infrastructure Development Investment Program for Tourism
IEE	–	Initial environmental examination
MC	–	Municipal Council
MLD	–	Million Litres per day
MOEF	–	Ministry of Environment and Forests
MSL	–	Mean Sea Level
NGO	–	Non-Governmental Organization
O&M	–	Operations & Management
PFR	–	Periodic Financing Request
PIU	–	Project Implementation Unit
PM	–	Particulate Matter
PMC	–	Project Management Consultants
PMU	–	Project Management Unit
REA	–	Rapid Environmental Assessment
SEAC	–	State Expert Appraisal Committee
SPM	–	Suspended Particulate Matter
SPS	–	Safeguards Policy Statement
TCP	–	Town & Country Planning
TDS	–	Total Dissolved Solids
TSS	–	Total Suspended Solids

EXECUTIVE 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 protect nature and culture-based attractions. Physical infrastructure investments will be accompanied by: (iii) capacity 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.
- 2. Location:** Bhagsunag Temple Precinct is located at 32°14'39.70"N, 76°20'4.22"E is about 7km from Dharamshala and Aghanjar Mahadev Temple Precinct is located at 32°12'41.38"N, 76°22'21.87"E at about 4 km from Dharamshala on the Palampur Road or 12 km from Chamunda Devi ji temple.
- 3. Executing and implementing agencies.** The executing agency is the Dept. of Tourism and Civil Aviation, Himachal Pradesh. Project Management Unit (PMU) is setup at Shimla to coordinate the overall execution. Project Management Consultant (PMC) at Shimla provides assistance to PMU in execution. The implementing agency is Project Implementation Unit (PIU), to be supported by Design Supervision Consultant (DSC). The asset owner is the Temple Trust, Municipal Corporation Dharamshala, District Administration etc.
- 4. Categorization.** The Subproject is located in district Kangra is classified as Environmental Category B as per the SPS 2009 as no significant impacts are envisioned. Accordingly this Initial Environmental Examination (IEE) has been prepared and assesses the environmental impacts and provides mitigation and monitoring measures to ensure no significant impacts as a result of the subproject.
- 5. Subproject Scope.** The major components of the said project are proposed at Bhagsu Nag & Aghanjar Mahadev. The Cultural centre, Toilet blocks (separate for both male & female), cafeteria, landscaping, rain shelter, signages, Chowk improvements, benches, gate, gardens etc.
- 6. Description of the Environment.** The entire area of the district is traversed by the varying altitude of the Shivaliks, Dhauladhar and the Himalayas from north- west to south-east. The altitude varies from 500 metres above mean sea level (amsl) to around 5000 metres amsl. It is encapsulated in the north by the districts of Chamba and Lahaul and Spiti, in the south by Hamirpur and Una, in the east by Mandi and in the west by Gurdaspur district of Punjab. The present Kangra district came into existence on the 1st September, 1972 consequent upon there – organisation of districts by the Government of Himachal Pradesh.

Dharamshala, known as “The Holy Refuge” a home to many religious shrines and institutions. Though it is widely famous for the residence of 14th Dalai Lama, there are many Hindu religious places as well. With the back drop of Dhauladhar mountains the setting itself is divine & spiritual, due to which there are lots of temples located at scenic sites in the region.

7. **Environmental Management.** An environmental management plan (EMP) is included as part of this IEE, which includes (i) mitigation measures for environmental impacts during implementation; (ii) an environmental monitoring program, and the responsible entities for mitigating, monitoring, and reporting; (iii) public consultation and information disclosure; and (iv) grievance redress mechanism. A number of impacts and their significance have already been reduced by amending the designs. The EMP will be included in civil work bidding and contract documents.

8. **Locations and siting of the proposed infrastructures were considered to further reduce impacts.** The concepts considered in design of the sub project package HPTDB/13/2 are (i) design, material and scale will be compatible to the local architectural, physical, cultural and landscaping elements; (ii) preference will be given to the use of local material and labour as best as possible; (iii) for conservation, local construction material available in the nearby region as best as possible suiting to those in existence; (iv) all painting (interior and exterior) will be with environment-friendly low volatile organic compounds paints; (v) for retaining wall repair works, random rubble masonry will be used, with locally available stone to be laid in cement mortar by local skilled labour; (vi) earth backfill, if any will be done from the site excavated material; and (vii) ensuring all planning and design interventions and decisions are made in consultation with local communities and reflecting inputs from public consultation and disclosure for site selection.

9. During the construction phase, impacts mainly arise from the need to dispose of moderate quantities of waste soil and demolished materials. These are common impacts of construction in urban areas, and there are well developed methods for their mitigation. Measures such as conducting work in lean season and minimizing inconvenience by best construction methods will be employed. 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 than those of the construction period as the work will be in frequent, affecting small areas only.

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

11. The stakeholders were involved in developing the IEE through discussions on-site and public consultation, after which views expressed were incorporated into the IEE and 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 Himachal Pradesh Department of Tourism 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.

12. The tourists, business people and citizens of Kangra town area will be the major beneficiaries of the project. The most noticeable net environmental benefits to the tourists and population of the town will be positive and large as the proposed subproject package HPTDB/13/2 will improve access to reliable and adequate tourism facilities and propagate the local traditions and Cultural Heritage of the state. This subproject will also 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.

13. **Consultation, Disclosure and Grievance Redress.** Stakeholder consultations were done in the preparation of the project and IEE. In future, consultations will extend throughout the project implementation period. A grievance redress mechanism is described within the IEE to ensure any public grievances are addressed quickly.

14. **Monitoring and Reporting.** The PMU, PIU, PMC and DSC will be responsible for environmental monitoring. PIU in coordination with DSC will submit monthly monitoring report to PMU on the basis PMU will submit to ADB semi-annual 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. ADB will post the environmental monitoring reports on its website. Any major accidents having serious environmental consequences will be reported immediately. PMC environmental expert will help in preparing quarterly, semi-annual and annual progress reports including environmental closure report.

15. **Conclusions and Recommendations.** The proposed subproject package HPTDB/13/2 is unlikely to cause significant adverse impacts. The potential impacts that are associated with design, construction and operation can be mitigated to standard levels without difficulty through proper engineering design and the incorporation or application of recommended mitigation measures and procedures. 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 special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB SPS-2009 or Government of India EIA Notification, 2006.

I. INTRODUCTION

1. 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 protect nature and culture-based attractions. Physical infrastructure investments will be accompanied by: (iii) capacity 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.

2. The proposed components of subproject package HPTDB/13/2 for Ancient Temples and surrounding areas are located in Dharamshala and Mcleodganj of Kangra district which lies between 31° 21 'to 32°59 'N latitude and 75°47'55" to 77°45' E longitude. It is situated on the southern escarpment of the Himalayas. The entire area of the district is traversed by the varying altitude of the Shivaliks, Dhauladhar and the Himalayas from north-west to south-east. The altitude varies from 500 metres above mean sea level (amsl) to around 5000 metres amsl. It is encapsulated in the north by the districts of Chamba and Lahaul and Spiti, in the south by Hamirpur and Una, in the east by Mandi and in the west by Gurdaspur district of Punjab. The present Kangra district came in to existence on the 1st September, 1972 consequent upon there-organisation of districts by the Government of Himachal Pradesh. Dharamshala, known as "The Holy Refuge" a home to many religious shrines and institutions. Though it is widely famous for the residence of 14th Dalai Lama, there are many Hindu religious places as well. With the back drop of Dhauladhar mountains the setting itself is divine & spiritual, due to which there are lots of temples located at scenic sites in the region. The Figure1 depicts index map of the project location.

3. **Executing and implementing agencies.** The executing agency is the Dept. of Tourism and Civil Aviation, HP. Project Management Unit (PMU) is setup at Shimla to coordinate the overall execution. Project Management Consultant (PMC) at Shimla provides assistance to PMU in execution. The implementing agency is Project Implementation Unit (PIU), to be supported by Design Supervision Consultant (DSC). The asset owner is the Municipal – Corporation and The District Administration. NoC has been procured and MoU has been signed (attached as per **Annexure 11 & 12** respectively). A team of technical, administrative and financial officials, including safeguards specialists, is being provided at the PMU to implement, manage and monitor project implementation activities. The PIUs are staffed by qualified and experienced officers and responsible for the day-to-day activities of subproject package, HPTDB/13/2 implementation in the field, and will be under the direct administrative control of the PMU. Consultant teams are responsible for subproject planning and management and assuring technical quality of design and construction; supervising construction activities; and preparation and updating safeguard reports.

4. **Proposed subproject.** The major scope of this subproject package HPTDB/13/2 as per Detailed Project Report (DPR) is Restoration of Aghanjar Mahadev Temple Precinct and Restoration of Bhagsunag temple Precinct including improvements with appropriate design interventions in terms of improvements of street fixtures or furniture & landscaping (where required), toilets, signage & street lighting (for the safety of women and children in the nights), provision of pause points/viewing decks, railings, garbage disposal facilities and street lighting (for the safety of women and children in the nights) for the access to waterfall including surface treatment of the access path to provide better amenities to tourists, better urban spaces along the major spine of Dharamshala and Mcleodganj to enhance the overall tourist appeal but also facilitate the much required movement of traffic & pedestrians and promoting cultural tourism integrating the traditional arts, cuisine with the serene environment.

5. **Categorization.** An environmental assessment using ADB's Rapid Environmental Assessment (REA) checklist for urban development (**Annexure - 1**) was conducted. Results of the assessment as per DPR and preliminary design of subproject is unlikely to cause any significant adverse impacts. Thus it is classified as Environmental Category B as per ADB's SPS 2009 as no significant impacts are envisioned and this IEE is prepared.

6. **Purpose of the IEE.** This report gives an account of the initial environmental examination (IEE) of subproject package HPTDB/13/2 as per SAR and preliminary design. It has been prepared in accordance with ADB SPS's requirements for environment Category B projects and provides measures to (i) ensure the environmental sustainability of subproject (ii) integrate environmental considerations in to the project preparation process; and (iii) provide for environmental management during project implementation.

II. DESCRIPTION OF THE SUB-PROJECT

A. Location, Existing Condition and Need of the Subproject

7. Bhagsunag Temple Precinct is located at 32°14'39.70"N, 76°20'4.22"E is about 7km from Dharamshala and Aghanjar Mahadev Temple Precinct is located at 32°12'41.38"N, 76°22'21.87"E at about 4 km from Dharamshala on the Palampur Road or 12km from Chamunda Devi ji temple. Index map of project locations is shown in **Figure 1** below-

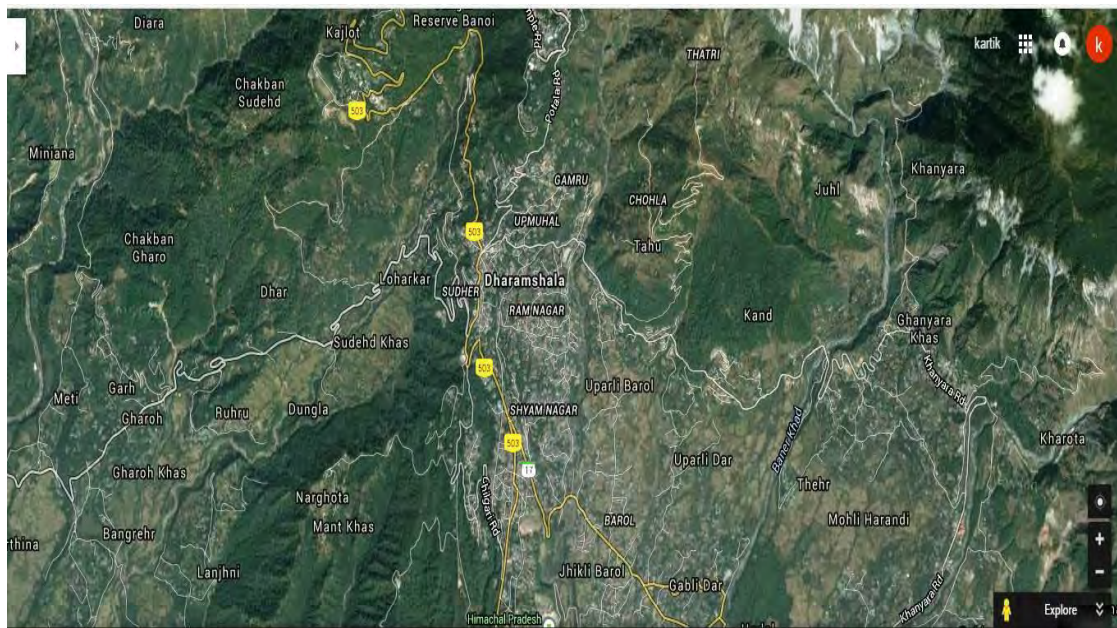


Figure 1: Index map of project locations

8. **Existing Conditions and Need of the Subproject.** The major tourist spots of Dharamshala, Mcleodganj, Bhagsunag, Dharamkot, Naddi and Triund are located in the upper reaches of Dharamshala. To reach these places one has to go via the main Dharamshala town, mostly through the Army /Cantonment limits. Today with the increasing number of tourists and the number of vehicles, all the urban spaces of the town are under tremendous stress. The existing spaces, such as Kotwali Bazaar including Fuwara Chowk, Sitting Area adjacent to Fuwara Chowk, Kacheri Market, Khara Danda Road, need proper planning and design interventions to accommodate the heavy influx.

Bhagsunag Temple

9. As the temple complex has witnessed several additions over the past decades, many structures have come up around the original temple structure. During the process of constructing these structures, an integrated approach for designing and planning was found lacking. The significant growth of these structures has created much harm which is evident while visiting the site; the original temple structure is deteriorating with time. During rainy days the roofs starts leaking.

- The bathing ponds don't have proper drainage system.
- The pilgrimage shrines are also not in good condition and needs renovation
- The open area in front of cafeteria is underutilized and landscaping is proposed.
- The path leading to the waterfall is a beautiful trail but there is no railing for safety, no proper surface of footpath, seating and garbage disposal.
- The main street leading up to the temple has shops on both sides. The road edges are not properly defined.
- Demarcating the property by erecting a Boundary wall around the Bhagsunag Temple in local material and traditional style of construction. This is needed to and to prevent vandalism. It must be included for the safety of the Temple asset and visitors.

Aghanjar Mahadev Temple

10. The temple complex faces the same problem. With the increasing number of visitors and the needs of facilities ,insensitive additions of structures around the original temple structure which that are not in harmony with original architectural style of the main temple.

- The original temple was built with stone and slate roofing. However as it is in good condition this can be retained as such.
- The other structures are built in RCC and brick work.
- At the entrance a large patch of the site is unused. Adjoining the temple complex there is a natural water stream.
- The toilet facilities are very poor with only one toilet common to both for male & female.
- Safety measures, all through the path leading to the river side temple has been considered in the proposal. Also by increasing the width as depending upon the site situation.

B. Proposed Subproject Components

11. The components of proposed subproject package HPTDB/13/2 are summarized in following table-

Sr. No.	Name of the Components
1.	Bhagsu Cultural Centre
2.	Bhagsu Nag <ul style="list-style-type: none"> 1) Cafeteria 2) Guard Room 3) Kund 3 Nos. 4) Bhagsu Plaza car parking 5) Bhagsu Nag ladies changing room 6) Toilet Bhagsu nag complex. 7) Toilet Bhagsu Chowk
3.	DC Office parking. Shopping Complex with DC Office Parking. Toilet Kacheri Road Dharamshala
4.	Aghanjar Mahadev <ul style="list-style-type: none"> 1) Rooms 3Nos. 2) Shop and entry with toilet 3 Nos. 3) Dormitory 4) Dhooni 5) New Temple 6) Temple Court 7) Parking 8) Cow Shed 9) Compound wall 10) Fencing 11) Toilet block 12) Signages1,2 13) Gate 2 Nos.
5.	Chowks <ul style="list-style-type: none"> 1) Fuwara Chowk 2) Sheela Chowk 3) Secret heart Chowk 4) Mcleodganj Road Chowk

Sr. No.	Name of the Components
	5) Plaza near Hospital Dharamshala
6.	Urban Element <ul style="list-style-type: none"> 1) Rain Shelter 3.50X2.5 meter 2) Bench Type-1 3) Bench Type-2 4) Bench Type-3 5) Bench Type-3a 6) Railing Type-1 7) Railing Type-2 8) Railing Type-3 9) Railing Type-4 10) Compound wall 11) Gate 12) Wicked Gate 13) Signage's Type 3 Pedestal Type 1 14) Signage's Type 1 Directive 15) Signage's Type 3 Pedestal type 2 16) Signage's type 3 Instructive 17) Signage Type 4 Informative 18) Dustbin 19) Paving Pattern 20) Rain Shelter near Hospital Dharamshala/ Bus stoppage near Hospital and landscaping
7.	Dhauladhar Convention Centre.
8.	M.C. Garden
9.	Tulip Garden <ul style="list-style-type: none"> 1) Maintenance Room 2) Ticket counter 3) Haats 4) Musical fountain 5) Tulip plantation 6) Parking 7) Water body 8) Public Toilets 9) Souvenir Shop 10) Outdoor cafeteria with kitchen 11) Mounds 12) Fencing 13) Compound walls 14) Office 15) Entrance Gate
10.	Viewing Deck pause point 2 Nos. (Hairpin bend and near Mahatma Gandhi Statue) Viewing Deck (on the way from Bhagsu to Mcleodganj road.)

12. Site layout plan for the proposed sub project components are shown in **Annexure 2**. Photo illustration of the subproject sites are given in **Annexure 3**.

13. The two major aspects of this proposed project under sub project package are as follows:

A. Development of Facilities and Restoration of Aghanjar Mahadev Temple Precinct:

14. The spirit of Aghanjar Mahadev is its divine and peaceful environment. The experience of being one with the divine is truly felt at this place. The old temple structures

also beautifully blends with the surrounding natural setting. The new constructions in the temple precinct are not in harmony with the surrounding environment and not even with the existing heritage structures. As the new blocks are constructed without any planning, the spatial organization is random and the circulation is uneven. Therefore, the main components for this restoration proposal are:

- Complete restoration of the old temple & *Samadhi* structures. The shrines restoration by cleaning the paint sand brings back the original masonry surface.
- Demolition of the newly constructed blocks, rehabilitation of newly designed structures that do not over power the main shrines. The said area lies under the ownership of the temple trust within their boundary. The block will consist of rooms for the pupils staying there and its verandah acts as the *langarhall*¹ during the festival time. This block will be constructed in RCC and brick. Dismantling of the structure, Reconstruction of the structure (in line with the temples architecture) with additional space with kitchen and Dining Hall (Langar Hall) for the inmates and the Pilgrims is also proposed in it.
- Restoration of the adjoining *kund*
- Restoration of the path leading to and the area around Gupteshwar Mahadev temple which further leads to the adjoining water body. The Bridge on the rear end of the complex will be strengthened and protective measures will be taken. The bridge leads to the Gupteshwar shrine which is located beneath a massive rock on the bank of the river. The steps leading from the main temple complex to the stream will be developed for its easy access
- Provision of connection to the toilet, bathing facilities and improving the facilities. Presently the toilet facilities are very poor with only one common toilet for males and females.
- Safety measures all through the path leading to the river side temple have been considered in the proposal. Also by increasing the width as depending up on the site situation.
- Parking facility in front of the Aghanjar Mahadev campus beside the road
- Demolition of old shops and construction of new ones
- Construction of a big entry gate at place of old small gate
- Pathway from gate to main temple with area development and lighting
- Compound wall/fencing around the campus
- Toilet, cow shed and signage's

B. Development of Facilities and Restoration of Bhagsunag temple Precinct:

15. Being a major tourist spot, the place requires properly planned spaces and amenities. There are some old building structures including the original temple building which needs to be renovated. With number of tourists increasing day by day the spatial planning requires fresh design interventions. There are many foreign tourists visiting this place every year. Therefore the spatial design, basic amenities and services need to be carefully planned. The pathway leading to the waterfall is a prominent feature of this place. Moving along the water stream up to the waterfall, the path is a beautiful trail in a scenic

¹Dining hall for the pilgrims

natural setting of Dhauladhar Mountains. Therefore, the main components for this restoration proposal are:

- Restoration of the old structure of shrine that houses the office presently and the old structure for the *samadhis*.
- Surface treatment of the shrine area to restore the architectural harmony with the historic precinct.
- Restoration of the sacred ponds. The existing bathing ponds do not have proper drainage system and have lost their sanctity because of their treatment in form of swimming pools. The original sanctity needs to be restored by treating the ponds such that they exist in harmony with the surroundings.
- Design interventions for the plaza & open spaces overlooking the valley
- Provision of proper toilet and bathing facilities. Demolition of existing toilet block and improvement/relocation of the existing bathing area is required. The RCC structure built on the valley side of the pond to be removed and the natural water stream from the pond should be allowed to flow down the valley thus creating a natural ambience to the temple precinct.
- Improvements to approach way from the parking lot and street lighting (for the safety of women and children in the nights) of the precinct. Improvement of the pathway from the precinct to the waterfall – surface treatment, secure railing provision, benches, dustbins and street lighting (for the safety of women and children in the nights). Also a proposal for regulating time for visitors to go to the waterfall will be included to ensure security.
- Demarcating the property by erecting a Boundary wall around the Bhagsunag Temple in local material and traditional style of construction. This is needed to and to prevent vandalism. It is included for the safety of the Temple asset and visitors.
- Provision of a multilevel parking
- Provision of Parking and Conference Hall adjoining to HPTDC Hotel Dhauladhar & improvement of existing accommodation.
- Proposal of a Cultural Centre which will include a museum, local crafts gallery and a small cafeteria with open terrace seating providing views of the valley. The site is right beside Hotel Bhagsu, the hotel run by Tourism Department, and therefore this proposal will also include an improvement of the tourist transit accommodation in tune with the design proposal for the cultural centre.
- Provision of street lighting (for the safety of women and children in the nights), and proper directive signage on identified roads:
- a) Developing landscaped areas along the roads where rest sheds already exist. Improvement and redesign (where necessary) of the toilets on all the above mentioned stretches.
- Provision of electronic advertisement boards/ digital billboards for better information service to visitors.

16. All sites for the proposed subproject package HPTDB/13/2 are owned by HP Government (The District Administration/ Municipal Corporation, Department of Tourism) thus no land acquisition is required. The NoC has been procured and MoU signed and attached at **Annexure 10 & 11** respectively. The sites are those already being used as

tourism site and are not within or adjacent to any protected area.

17. The design, material and scale will be compatible to the local architectural, physical, cultural and landscaping elements. Preference will also be given to the use of local material and labour as best as possible. For the conservation, local construction material available in the nearby region as best as possible suiting to those in existence. All painting (interior and exterior) will be with environment-friendly low volatile organic compound paints.

18. For retaining wall repair works, random rubble masonry will be used, with locally available stone to be laid in cement mortar by local skilled labour. The earth backfill, if any will be done from the site excavated material. Stone aggregate and sand are available within 40 km radius from sites. Also form work and skilled labour is locally available. For brick wall construction, bricks are also available within 50 km radius from the proposed site/region.

19. Water supply during construction will be provided by HP Irrigation and Public Health (IP&H) Department from their existing system or will be transported through mobile water tankers, if required. Solid waste generated at sites will be disposed at designated areas.

C. Implementation Schedule

20. The detailed design of the subproject has been done by the Design and Supervision Consultant (DSC) team. It is estimated that construction period will cover 24 months.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. ADB Policy

21. ADB requires the consideration of environmental issues in all aspects of ADB's operations, and the requirements for environmental assessment are described in ADB 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.

22. **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.

23. **Environmental Management Plan.** An EMP which addresses the potential impacts and risks identified by the environmental assessment is 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.

24. **Public Disclosure.** The IEE will be put in an accessible place (e.g., local government offices, libraries, community centres, etc.), and a summary translated into Hindi for other stakeholders. The following safeguard documents will be put up in 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

25. Implementation of the subproject package HPTDB/13/2 will be governed by the national and State of Himachal Pradesh 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.

26. The realm of environmental regulations and mandatory requirements for the proposed sub-project is shown in **Table- 1**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment and Forests (MoEF,GoI) specifies the mandatory environmental clearance requirements. Accordingly, projects and activities are broadly categorized in two categories²- Category A and Category B, based on the spatial

²All 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 and Forests (MoEF) 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,

extent of potential impacts and potential impacts on human health and; natural and man-made resources.

Table1: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance criteria
Conserving Prominent Temple Precincts & upgrading urban infrastructure for tourism in Dharamshala & Mcleodganj	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 sub-project 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. Hence, the categorization, 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 sub-project components into A, B or C and developing required level of environmental assessment for each component. Categorized as B and IEE prepared
	The Wildlife Conservation Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.	The proposed sites are more than 10 km away from the boundary of Shimla Water Catchment Wildlife Sanctuary; therefore this act is not applicable for this subproject.
	The Forest Conservation Act, 1980 and its subsequent amendments necessitate obtaining clearance from the MoEF for diversion of forest land for non-forest purposes.	The project does not involve any land diversion or tree cutting therefore, no clearance required. However, the whole area and its surroundings are interspersed with designated protected or reserved forests which have an associated eco-system value that plays a vital role in its unique natural heritage
	Water (Prevention and control of pollution) Act, 1974 and; Air (prevention and control of pollution) Act, 1981	Consent for Establishment (CFE) & Consent for Operation (CFO) from the HP PCB for setting up of diesel generators (if any), hot mix plant, wet mix plant, crusher plant (if exclusively for this project) to be obtained by the Contractor, prior to commencement of construction works at site. If contractor purchases the

including expansion and modernization of existing projects or activities as specified in subparagraph (ii) of paragraph 2, or change in product mix as specified in subparagraph (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 10km 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.

IEE: Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala, Mcleodganj

IDIPT (HP)

Sub-Project	Applicability of Acts/Guidelines	Compliance criteria
		construction materials (eg. Sand, gravel) from third party, he must ensure that materials are coming from approved quarry sites.
	The Noise Pollution (regulation and Control) Rules, 2000	The subproject shall put measures for abatement of noise including noise emanating from vehicular movements, blowing of horns, and sound producing instruments and ensure that the existing noise levels do not exceed the ambient air quality standards specified under these rules.
	Hazardous Waste (Management and Handling) Rules, 1989	Hazardous wastes like oil and lubricants generated shall be disposed off as per provisions of hazardous Waste.
	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. The Himachal Pradesh Ancient and Historical Monuments and Archaeological Sites and Remains Act, 1976;	Not applicable as neither any such monuments or Archaeological sites present at the site nor the proposed land is under influence of such any issue.
	Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005; Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Rules, 2006;	At the site or nearby, no ground water shall be used while construction, therefore, not applicable.
	Himachal Pradesh Policy on Ecotourism;	Shall be adopted.
	Himachal Pradesh Participatory Forest Management Regulations, 2001;	Not required.
	The Himachal Pradesh non-biodegradable garbage (control) Act, 1995;	Shall be adopted.
	The Himachal Pradesh Town and Country Planning Act, 1977;	Not applicable
	The Shimla Road users and Pedestrians (Public Safety and Convenience) act, 2007;	Shall be adopted.
	The BOCW Act 1996 Employer shall- <ul style="list-style-type: none"> • Provide and maintain, at suitable point, sufficient quantity of wholesome drinking water, such point shall be at least 6 meters away from any washing areas, urinals or toilets • Provide sufficient urinals and latrines at convenient place, easily accessible by workers • Provide free of charge, temporary living accommodations near to work sites with separate cooking place, bathing and lavatory facilities and restore the site as pre conditions after completing the construction works • Provide crèche with proper accommodation, ventilation, lighting, cleanliness and sanitation 	Contractors are required to follow all the provisions of BOCW Act.

Sub-Project	Applicability of Acts/Guidelines	Compliance criteria
	<p>if more than fifty female workers are engaged</p> <ul style="list-style-type: none"> • Provide first aid facilities in all construction sites <p>For safety of workers employer shall provide-</p> <ul style="list-style-type: none"> • Safe access to site and work place • Safety in demolition works • Safety in use of explosives • Safety in operation of transporting equipment's and appoint competent person to drive or operate such vehicles and equipment's • Safety in lifting appliance, hoist and lifting gears • Adequate and suitable lighting to every work place and approach • Prevention of inhalation of dust, smoke, fumes, gases during construction works and provide adequate ventilation in work place and confined space • Safety in material handling and stacking/un stacking • Safeguarding the machinery with fly-wheel of moving parts • Safe handling and use of plants operated by compressed air • Fire safety • Limit of weight to be lifted by workers individually • Safety in electric wires, apparatus, tools and equipment's • Provide safety net, safety sheet, safety belts while working at height (more than 1.6 mtrs as per OSHA) • Providing scaffolding, ladders and stairs, lifting appliances, chains and accessories where required • Safety in pile works, concrete works, hot asphalt, tar, insulation, demolition works, excavation, underground construction and handling materials • Provide and maintain medical facilities for workers <p>Any other matters for the safety and health of workers</p>	
	<p>Motor Vehicles Act, 1988</p> <p>No person will be allowed to drive a motor vehicle unless he holds an valid driving license issued to him authorizing him to drive the vehicle</p>	Valid and appropriate (LMV/HMV) driving licence of operators and drivers is required to operate or drive vehicle and equipment at construction site
	<p>The Petroleum Rules 2002</p> <p>All due precautions will be taken at all times to prevent escape of petroleum into any drain, sewer, and harbour, river or watercourse or over any public road or railway line.</p>	Do not allow any escape of diesel, lubricants in to drain or any nearby water course
	Gas Cylinder Rules 2004	All the safety in storage,

Sub-Project	Applicability of Acts/Guidelines	Compliance criteria
	These rules deal with Filling, possession, import and transport of cylinders, Safety relief devices, Marking on cylinders, Markings on valve, Identification colours, Labelling of cylinders, Restriction on delivery or despatch of cylinders, repairing of cylinders, Prohibition of employment of children and intoxicated persons, Prohibition of smoking, fires, lights and dangerous substances, General precautions, Special precautions against accidents, Competent person to be incharge of operations, Handling and use, Restrictions on filling, Loading, unloading and transport of cylinders, Storage of cylinders, ownership and record keeping etc.	transportation, handling, usage, maintenance, repairing of gas cylinders and other precautions should be taken and record should be kept maintained.
	<p>Labor Laws</p> <p>The contractor shall not make employment decisions based upon personal characteristics unrelated to job requirements. The contractor shall base the employment relationship upon equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline.</p> <p>The contractor shall provide equal wages and benefits to men and women for work of equal value or type.</p>	Annexure 13 provides applicable labor laws including amendments issued from time to time applicable to establishments engaged in construction of civil works.

27. The proposed subproject package HPTDB/13/2 does not require statutory clearances from MoEF. All no objection certificates, CFEs and other clearances will be obtained prior to award of contract.

IV. DESCRIPTION OF THE ENVIRONMENT

A Physical Environment

28. **Climate.** Dharamshala has a monsoon-influenced humid subtropical climate. Summer starts in early April, peaks in early June (when temperatures can reach 36 °C) and last till mid-June. From July to mid-September is the monsoon season when up to 3000 mm (120 inches) of rainfall can be experienced, making Dharamshala one of the wettest places in the state. Autumn is mild and lasts from October to the end of November.

29. The climate of the region is sub-tropical. Summer season extends from March to mid of July and the monsoon is from mid-July to mid-September. The winter is mild and starts from mid-December till mid-March. The maximum temperature goes upto 38°C, whereas the minimum temperature recorded is 3.5°C in winter. The annual average rainfall during the last five years is 1207 mm. Kangra district has extreme topographical variation ranging to altitude

400 m in parts like Milawan while area of Bara Bhargal is at the altitude of 5500 m above MSL. The average altitude at Kangra town is 750 m above MSL and 690 m in particular at the site.

30. **Geology and Soil.** The area forms a part of the Indo-Ganga alluvium. The Upper *Shivalik* and the Quaternary deposits constitute the main geological formations of the area. The Upper *Shivalik* is comprised of conglomerate beds, friable sandstone, silt stone and clay bed. Stray pebbles of lime stone and sand stone are also present. Sand stone is soft and friable. Lumps of clay and pellets are also met within the sand stone. The sandstone contains a large portion of mica flakes and concretions of clay susceptible to weathering.

31. The soil found in the districts of Kangra and Una is generally brown, alluvial and grey brown Podzolic. The soil is light textured with neutral pH and good fertility status.

32. **Land Use.** Total geographical area is of Dharamshala is 5,739 sq km, Forest area is 12367 sqkm, Cultivable land is 1175 sq km and Unusable area is 2197 sq km. In the absence of a master plan and unregulated commercial growth adjoining main roads, adhoc haphazard buildings are mushrooming in almost all neighbouring villages and towns:

33. **Water bodies.** Valleys are as in Kangra, Una and Hamirpur districts depend largely upon groundwater. Open wells, tube wells, infiltration galleries, and wells are modes of exploitation of groundwater. Traditional sources of water, such as springs, ponds, and ditches also supplement water requirements in rural areas. A number of hot springs exist in Kangra district.

34. There is natural water springs near the Bhagsunag Temple and Aghanjar Mahadev Temple, which are treated as sacred and water quality is very pure.

35. There is no water quality monitoring stations in Kangra. The quality of the rivers is expected to be good as water levels and flows are ranging from constant to turbulent.

36. **Ambient Air and Noise Quality.** There are no air quality and noise level monitoring stations in Kangra. The main source of air pollution and increased noise are vehicles. Ambient air quality and noise levels in the subproject sites are expected to be within Himachal Pradesh State Pollution Control Board standards. Air and noise quality monitoring will be done in silence zones before construction and during implementation periods as per EMP.

B. Ecological Environment

37. **Flora and fauna.** Subproject package HPTDB/13/2 is located in Kangra urban area or in its immediate surroundings, which were converted into urban use for years ago, and there is no natural habitat left at these sites. Animals and plants in the subproject sites are those commonly found in hilly areas of Dharamshala. Main tree species of the area are Pine, Cycus, Acacia, Jamun, Sisoo, Mango, Mulberry, Ficus, Kachnar, Amla, Prunus, Adatoda vesica, Mangifera, Dodonea, Woodfordia, Ziziphus, Maurraya, Euphorbia and grasses Saccharum, Cymbopogon, Eulopsis etc. And several wild species and sub tropical climbers are also found in these forests. No endangered/protected species of either flora or fauna are

found in the sites or its immediate surroundings.

38. **Protected areas.** There are no protected areas (wildlife sanctuaries, wetlands, mangroves, or estuaries) in or near the subproject sites. None of the subproject sites fall within or near to any such eco-sensitive areas.

C. Socio Cultural and Economic Environment

39. **Demographic Profile.** Population of Kangra district is 1,507,223 as of 2011 census. Urban population is 5.73% of the total in the district. Tribal population is 0.1%. Sex ratio is 1013 males per 1000 females. Population density is 263 persons per square kilometre. Literacy rate in the district is 86.49% out of which female literacy is 80.62%.

40. **Economy and Agriculture.** The district is predominantly agrarian and around eighty percent of its population depends on agriculture and allied activities for their livelihood. Tea cultivation has also been experimented in some parts of the district but has not played any significant role in the economy. There are a number of historical temples and tourist places in the district contributing to the growth of tourism industry. Adventure sport activities are carried out by Mountaineering Institute and Allied Sports to boost the tourism sector.

41. Tea cultivation was introduced into Kangra valley about 1850. The Palampur fair, established by government with a view to fostering commerce with central Asia, attracts a small concourse of Yarkandi merchants. The Lahaul is carry on an enterprising trade with Ladakhand countries beyond the frontier, by means of pack sheep and goats. Rice, tea, potatoes, opium, spices, wool and honey are the chief exports

42. **Industry.** Tourism and agriculture are the main stays of the district economy. Agriculture is the major activity of local people in the Kangra. Apart from agriculture, business from tourism activities is the main source of income of the Kangra town. There are no major industries in Kangra or Dharamshala.

43. **Physical Infrastructure and Services.** Department for Irrigation and Public Health (IPH) is responsible for water supply and sanitation. In the absence of an underground sewerage system in the district, there is a dependence on septic tanks. Local bodies in the districts are responsible for solid waste management. Many of the pilgrim temples and historic sites in the district are in elevated locations with good natural drainage. Key issues pertaining to the drainage in the cultural destinations include the choking of drains by deposited solids apart from improper drainage induced landslides during the monsoon. Himachal Pradesh Public Works Department (HPPWD) is responsible for construction and maintenance of roads.

V. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

44. The assessment of environmental impacts for the proposed interventions under this package has been carried out during the preparation of the DPR. An environmental assessment using ADB's Rapid Environmental Assessment (REA) checklist for urban development (**Annexure-1**) was conducted. The following are categories of impacts

assessed:

- **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.

45. **Land Acquisition and Resettlement Impacts.** Some of the lands of sub-project components come under influence of Forest Department for which statutory and necessary formalities are required. Most of the project sites are within the main city of Kangra (Dharamshala), which is a popular tourist destination. The area is administered under the district Administration. All the proposed subprojects are on government property and no any land acquisition is required therefore no any resettlement impact will be anticipated.

46. **Design considerations to avoid environmental impacts.** The following are design considerations to avoid environmental impacts:

- Incorporation of adequate drainage provisions
- 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.
- Use of local stone in the proposed walkways and built structures thus maintaining a rustic architectural character

47. 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, etc.) as defined in the management plan of the area.

A. Assessment of Environmental Impacts

48. **Determination of Area of Influence.** The primary impact for subproject is the proposed sites available for the restoration/construction of project components.

49. In the case of this subproject the components will involve straight forward construction and operation, and impacts will be mainly localized, short in duration and expected only during construction period.

B. Pre-construction Impacts and Mitigation Measures

50. **Consents, permits, clearances, no objection certificate (NOC), etc.** All the consents, permits, clearances and NOCs have been obtained during detailed design. Failure

to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works.

51. **Mitigation measures.** The following exercises are conducted during detailed design phase:

- Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.
- Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc.
- Include in detailed design drawings and documents all conditions and provisions if necessary

52. **Erosion control.** Most of the impacts will occur due to excavation and earth movements during construction phase. Prior to commencement of civil works, the contractor will be required to:

- Develop an erosion control and re-vegetation plan to minimize soil loss and reduce sedimentation to protect water quality.
- Minimize the potential for erosion by balancing cuts and fills to the extent feasible.
- Identify and avoid areas with unstable slopes and local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure).
- Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time.

53. **Utilities.** Interruption of services (water supply, toilets, bathing areas, etc.) will be scheduled and intermittently related to localized construction activities. To mitigate impacts, PIU/DSC will:

- Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase.
- Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services.
- Require contractor to obtain from the PIU and/or DSC the list of affected utilities and operators;
- If relocations are necessary, contractor along with PIU will coordinate with the providers to relocate the utility.

54. **Social and Cultural Resources.** There is a risk that any work involving ground disturbance can uncover and damage archaeological and historical remains. Although no such sites have been identified. For this subproject, excavation will occur in and around existing sites, RoWs and specified government land so no risk is foreseen to these structures. Nevertheless, the PIU/DSC will:

- Consult Archaeological Survey of India and/or State Department of Archaeology to obtain an expert assessment of the archaeological potential of the site.
- Consider alternatives if the site is found to be of medium or high risk.
- Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available.
- Develop a protocol for use by the construction contractors in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.

55. Sites for construction work camps and areas for stockpile, storage and disposal. The priority is to locate these near the subproject sites. The contractor will be required to meet the following criteria for the sites:

- 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, shortages of amenities, and crime).
- Disposal will not be allowed in to nearby water course or any nearby sensitive areas which may pollute surface water or can inconvenience the community.
- The construction camp, storage of fuel and lubricants should be avoided at the river bank. Any construction camp site will be finalized in consultation with DSC and PIU.

56. Sources of construction materials. Significant amounts of gravel, sand, and cement will be required for this subproject. Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution. The contractor will be required to:

- Use quarry sites and sources permitted by government.
- Verify suitability of all material sources and obtain approval from PIU/DSC.
- If additional quarries are required after construction has started, obtain written approval from PIU/DSC.
- Submit to PIU/DSC on a monthly basis documentation of sources of materials.

57. It will be the construction contractor's responsibility to verify the suitability of all material sources and to submit NOCs/approvals of the quarry sites and obtain the approval of PIU/DSC. If additional quarries are required after construction is started, then the contractor should obtain written approval of PIU.

58. Access. Hauling of construction materials and operation of equipment on-site can cause traffic problems and conflicts in ROWs. Construction traffic will access most work areas from the existing roads therefore potential impacts will be of short-duration, localized and can be mitigated. The contractor will need to adopt the following mitigation measures:

- Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.
- Schedule transport and hauling activities during non-peak hours.
- Locate entry and exit points in areas where there is low potential for traffic congestion.
- Keep the site free from all unnecessary obstructions.
- Drive vehicles in a considerate manner.
- Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours.
- Notify affected sensitive receptors by providing sign boards with information about the nature and duration of construction works and contact numbers for concerns/complaints.
- Provide free access to households and businesses/shops along the ROWs during the construction phase.

59. Summary of pre-construction activities is presented in **Table 2**. The responsibilities, monitoring program and costs are provided in detailed in the EMP. The contractor is required to update the information during detailed design phase. Sample waste/spoils management plan, traffic management plan, etc. are attached as **Annexures 4 & 5**. Site-specific plans will be developed as per detailed design.

Table 2: Summary of Pre-Construction Mitigation Measures

Parameters	Mitigation Measures
Consents, permits, clearances, no objection certificate (NOC), etc.	<ul style="list-style-type: none"> • Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. • Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc. • Include in detailed design drawings and documents all conditions and provisions if necessary
Erosion control	<ul style="list-style-type: none"> • Develop an erosion control and re-vegetation plan to minimize soil loss and reduce sedimentation to protect water quality. • Minimize the potential for erosion by balancing cuts and fills to the extent feasible. • Identify and avoid areas with unstable slopes and local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure). • Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time.
Utilities	<ul style="list-style-type: none"> • Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase. • Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. • Obtain from the PIU and/or DSC the list of affected utilities and operators; • Prepare a contingency plan to include actions to be done in case of unintentional interruption of services. • If relocations are necessary, contractor will coordinate with the providers to relocate the utility.
Social and	<ul style="list-style-type: none"> • Consult Archaeological Survey of India or State Department of

Parameters	Mitigation Measures
Cultural Resources	<p>Archaeology (i.e Language and Culture Department of GoHP) to obtain an expert assessment of the archaeological potential of the site.</p> <ul style="list-style-type: none"> • Consider alternatives if the site is found to be of medium or high risk. • Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. • Develop a protocol for use by the construction contractors in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.
Sites for construction work camps, areas for stockpile, storage and disposal	<ul style="list-style-type: none"> • 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, shortages of amenities, and crime). • Disposal will not be allowed near sensitive areas which will inconvenience the community. • Disposal will not be allowed in nearby river to check water pollution • The construction camp, storage of fuel and lubricants should be avoided at the river bank. The construction camp site for intake well should be finalized in consultation with DSC and PIU.
Sources of construction materials	<ul style="list-style-type: none"> • Use quarry sites and sources permitted by government. • Verify suitability of all material sources and obtain approval from PIU/DSC. • If additional quarries are required after construction has started, obtain written approval from PIU/DSC. • Submit to PIU/DSC on a monthly basis documentation of sources of materials.
Access	<ul style="list-style-type: none"> • Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites. • Schedule transport and hauling activities during non-peak hours. • Locate entry and exit points in areas where there is low potential for traffic congestion. • Keep the site free from all unnecessary obstructions. • Drive vehicles in a considerate manner. • Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours. • Notify affected sensitive receptors by providing sign boards with information about the nature and duration of construction works and contact numbers for concerns/complaints. • Provide free access to households and businesses/shops along ROWs during the construction phase.

C. Anticipated Construction Impacts and Mitigation Measures

60. **Construction Schedule and Method.** As per detailed design, construction activities will cover 24 months.

61. The infrastructures will be constructed manually according to design specifications. Excavations and trenches, if required, will be dug by small backhoe diggers supplemented by manual digging where necessary. Excavated soil will be placed nearby. Excavated materials will be reused to the maximum extent possible. Materials will be brought to site by

trucks and will be stored on unused areas within sites and nearby vacant areas. Any excavated road will be reinstated. The working hours will be 8 hours daily, the total duration of each stage depends on the soil condition and other local features.

62. Proposed roads are narrow and busy city roads. There will be no space for storage of huge quantity of construction material or plying construction machineries. Therefore contractor will be required to bring the required quantity of construction material for a single day only and the contractor will also need to remove all construction and demolition wastes on a daily basis.

63. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the subproject sites in built-up areas where there are a variety of human activities, will result to impacts to the environment and sensitive receptors such as residents, businesses, and the community in general. These anticipated impacts are short-term, site-specific and within relatively small areas.

64. **Erosion Hazards.** The sites is having uneven terrain therefore risk of erosion is very high but limited during construction activities and expected to have negative impact on the drainage and hydrology of the area. Runoff will produce a highly variable discharge in terms of volume and quality. Therefore the contractor will be required to:

- Save topsoil removed during excavation and use to reclaim disturbed areas, as soon as it is possible to do so.
- Use dust abatement such as water spraying to minimize windblown erosion.
- Provide temporary stabilization of disturbed/excavated areas that are not actively under construction.
- Apply erosion controls (e.g., silt traps) along the drainage leading to the water bodies.
- Maintain vegetative cover within unused land to prevent erosion and periodically monitor the area to assess erosion.
- Clean and maintain catch basins, drainage ditches, and culverts regularly.
- Conduct routine site inspections to assess the effectiveness of and the maintenance requirements for erosion and sediment control systems.

65. **Impacts on Water Quality.** Excavated materials may end up in drainages and water bodies adjacent to the subproject sites, particularly during monsoon season. Other risks of water pollution may be caused by: (i) poorly managed construction sediments, wastes and hazardous substances; and (ii) poor sanitation practices of construction workers. The contractor will be required to:

- Schedule civil works during non-monsoon season, to the maximum extent possible.
- Ensure drainages and water bodies within the construction zones are kept free of obstructions.
- Keep loose soil material and stockpiles out of drains, flow-lines and watercourses.
- Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets.

- Re-use/utilize, to maximum extent possible, excavated materials.
- Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).
- Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.
- Develop a spill prevention and containment plan, educate workers about the plan, and have the necessary materials on site prior to and during construction.
- Refuel equipment within the designated refuelling containment area away from drainages, *nallahs*, or any water body.
- Inspect all vehicles daily for fluid leaks before leaving the vehicle staging area, and repair any leaks before the vehicle resumes operation.

66. **Impacts on Air Quality.** There is potential for increased dust particularly during summer/dry season due to stockpiling of excavated materials. Emissions from vehicles transporting workers, construction materials and debris/materials to be disposed may cause increase in air pollutants within the construction zone, including construction camps. These are inherent impacts which are site-specific, low magnitude, short in duration and can be easily mitigated. The contractor will be required to:

- Conduct regular water spraying on earth piles, trenches and sand piles during summers.
- Conduct regular visual inspection along alignments and construction zones to ensure no excessive dust emissions.
- Spreading crushed gravel over backfilled surfaces if re-surfacing of disturbed areas cannot be done immediately.
- Maintain construction vehicles and obtain “pollution under control” certificate from HPSPCB.
- Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.

Noise and Vibration Impacts. Noise and vibration-emitting construction activities include earthworks, rock crushing, concrete mixing, movement and operation of construction vehicles and equipment, and loading and unloading of coarse aggregates. The significance of noise and vibration impacts will be high in areas where noise-sensitive institutions such as health care and educational facilities are situated. These impacts will be temporary, short-term, intermittent, and expected to be in the range of 80 to 100 dB (A) as per **Table 3** (typical noise levels of principal construction equipment).

Table 3: Typical Noise Levels of Principal Construction Equipment

CLEARING		STRUCTURE CONSTRUCTION	
Bulldozer	80	Crane	75-77
Front end loader	72-84	Welding generator	71-82
Jack hammer	81-98	Concrete mixer	74-88
Crane with ball	75-87	Concrete pump	81-84
		Concrete vibrator	76
EXCAVATION & EARTH MOVING		Air compressor	74-87
Bulldozer	80	Pneumatic tools	81-98

CLEARING		STRUCTURE CONSTRUCTION	
Backhoe	72-93	Bulldozer	80
Front end loader	72-84	Cement and dump trucks	83-94
Dump truck	83-94	Front end loader	72-84
Jack hammer	81-98	Dump truck	83-94
Scraper	80-93	Paver	86-88
GRADING AND COMPACTING		LANDSCAPING AND CLEAN-UP	
Grader	80-93	Bulldozer	80
Roller	73-75	Backhoe	72-93
		Truck	83-94
Paving		Front end loader	72-84
Paver	86-88	Dump truck	83-94
Truck	83-94	Paver	86-88
Tamper	74-77	Dump truck	83-94

Source: U.S. Environmental Protection Agency. Noise from Construction Equipment and Operations. Building Equipment and Home Appliances. NJID. 300.1. December 31. 1971

67. The contractor will be required to:

- Limit construction activities which produce excessive noise in proposed roads to **day time only**.
- Plan activities in consultation with the 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.
- Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers.
- Avoid loud random noise from sirens, air compression, etc.
- Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach.
- If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager:
 - Locate stationary construction equipment as far from nearby noise-sensitive properties as possible.
 - Shut off idling equipment.
 - Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
 - Notify nearby residents whenever extremely noisy work will be occurring.
- Follow Noise Pollution (Regulation and Control) Rules, day time ambient noise levels should not exceed 65 dB(A) in commercial areas, 55 dB(A) in residential areas, and 50 dB(A) in silence zone.³
- Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998.

68. **Impacts on Flora and Fauna.** As per detailed design, tree-cutting is not required.

³ Day time shall mean from 6.00 am to 10.00 pm. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by HPSPCB. Mixed categories of areas may be declared as one of the above mentioned categories by HPSPCB.

There are no protected areas in the direct and indirect impact zones and no diverse ecological biodiversity as vegetation and animals found in the construction zones are common in built up/urban areas. The contractor will be required to:

- Conduct site induction and environmental awareness.
- Limit activities within the work area.
- No tree cutting should be done in any case,
- If in extreme case any tree cutting is required obtain prior consent from concerned authority and replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut, if any. Replacement species must be approved by District Forest Department.

69. **Impacts on Physical Cultural Resources.** There may be inconvenience to tourists, residents, businesses, and other road users due to construction activities in the proposed area. This potential impact is site-specific, short-term and can be mitigated. The contractor will be required to:

- Ensure no damage to structures/properties near construction zone.
- Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or vehicle movement.
- Ensure workers will not use nearby/adjacent areas as toilet facility.
- Coordinate with Local Authority for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc.
- Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.
- Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts.
- Avoid working in peak tourist seasons and/or important religious festivals

70. **Impact due to Waste Generation.** Construction activities will produce excess excavated soils, excess construction materials, and solid wastes (such as removed concrete, demolished materials, wood, packaging materials, empty containers, oils, lubricants, and other similar items) which will generate solid waste. 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 Local Municipal Authority for beneficial uses of excavated soils/silts/sediments or immediately dispose to designated areas.
- Recover used oil and lubricants and reuse; or remove from the sites.

- Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, 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.

71. **Impacts on Occupational Health and Safety.** Workers need to be mindful of occupational hazards which can arise from construction works. Exposure to work-related chemical, physical, biological and social hazard is typically intermittent and of short duration, but is likely to reoccur. Potential impacts are negative and long-term but reversible by mitigation measures. Overall, the contractor should comply with IFC EHS Guidelines on Occupational Health and Safety (this can be downloaded from <http://www1.ifc.org/wps/wcm/connect/9aef2880488559a983acd36a6515bb18/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES>). The contractor will be required to:

- Disallow worker exposure to noise level greater than 85 dB(A) 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 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.
- Include in H&S plan measures such as: (i) type of hazards during excavation works; (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 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 qualified 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.
- 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.
- Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted.
- Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.
- Ensure moving equipment is outfitted with audible back-up alarms.

- Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.

72. Impacts on Socio-Economic Activities. Manpower will be required during the 24 months construction phase. This can help generate contractual employment and increase in local revenue. Thus potential impact is positive and long-term. As per detailed design, land acquisition and closure of roads are not required; therefore no negative impact is expected. However, the contractor will need to adopt the following mitigation measures:

- Leave space for access between mounds of soil.
- Provide walkways and metal sheets where required to maintain access to shops/businesses along trenches.
- Consult businesses and institutions regarding operating hours and factoring this in to work schedules.
- Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available.
- Avoid working in peak tourist seasons and/or important religious festivals

73. Special consideration for Dharamshala and Aghanjar Mahadev.

- During detail survey and public consultations, it was noted that pressure horns are prohibited in some areas of Dharamshala and Mcleodganj, therefore during construction contractor should not use pressure horns in these areas
- Spreading/throwing garbage in open place is prohibited in Dharmashala and punishable for Rs. 1000 for violation, therefore proper solid waste collection and disposal plan should be made and strictly followed by contractor during construction phase
- A big fair is observed during Shivratri festival at Bhagsu Nag temple and Aghanjar Mahadev temple, therefore construction activities should be restricted during these days and all the sites and pathways etc should be made clear before start of the fair/festival. Also tourist inflow is maximum during April to June and construction activities should be avoided during peak tourist season, if possible otherwise all the sites and pathways etc should be made clear for free traffic and pedestrian movement of tourists.
- Bhagsu Nag and Aghanjar Mahadev temple are the sacred places of worships for Hindus and all the sanctities should be maintained as per rituals of these temples.

74. Summary of Mitigation Measures during Construction. Table 4 provides summary of mitigation measures to be considered by the contractor during construction phase. The detailed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related implementation arrangements, capacity development and training measures, implementation schedule, cost estimates, and

performance indicators are provided in the EMP

Table 4: Summary of Mitigation Measures during Construction Phase

Potential Impact	Mitigation Measures
Erosion hazards	<ul style="list-style-type: none"> Save topsoil removed during excavation and use to reclaim disturbed areas, as soon as it is possible to do so. Use dust abatement such as water spraying to minimize windblown erosion. Provide temporary stabilization of disturbed/excavated areas that are not actively under construction. Apply erosion controls (e.g., silt traps) along the drainage leading to the water bodies. Maintain vegetative cover within road ROWs to prevent erosion and periodically monitor ROWs to assess erosion. Clean and maintain catch basins, drainage ditches, and culverts regularly. Conduct routine site inspections to assess the effectiveness of and the maintenance requirements for erosion and sediment control systems.
Impacts on water quality	<ul style="list-style-type: none"> Schedule civil works during non-monsoon season, to the maximum extent possible. Ensure drainages and water bodies within the construction zones are kept free of obstructions. Keep loose soil material and stockpiles out of drains, flow-lines and watercourses. Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets. Re-use/utilize, to maximum extent possible, excavated materials. Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites). Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989. Develop a spill prevention and containment plan, educate workers about the plan, and have the necessary materials on site prior to and during construction. Refuel equipment within the designated refuelling containment area away from drainages, nallahs, or any water body. Inspect all vehicles daily for fluid leaks before leaving the vehicle staging area, and repair any leaks before the vehicle resumes operation.
Impacts on air quality	<ul style="list-style-type: none"> Conduct regular water spraying on earth piles, trenches and sand piles. Conduct regular visual inspection along alignments and construction zones to ensure no excessive dust emissions. Spreading crushed gravel over backfilled surfaces if re-surfacing of disturbed ROWs cannot be done immediately. Maintain construction vehicles and obtain "pollution under control" certificate from HPSPCB. Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.
Noise and vibrations impacts	<ul style="list-style-type: none"> Limit construction activities in temple complexes and other important sites to day time only. Plan activities in consultation with the 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. Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers. Avoid loud random noise from sirens, air compression, etc. Require drivers that horns not be used unless it is necessary to warn other

Potential Impact	Mitigation Measures
	<p>road users or animals of the vehicle's approach.</p> <ul style="list-style-type: none"> If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager: (i) locate stationary construction equipment as far from nearby noise-sensitive properties as possible; (ii) shut off idling equipment; (iii) reschedule construction operations to avoid periods of noise annoyance identified in the complaint; and/or (iv) notify nearby residents whenever extremely noisy work will be occurring. Follow Noise Pollution (Regulation and Control) Rules, day time ambient noise levels should not exceed 65 dB(A) in commercial areas, 55 dB(A) in residential areas, and 50 dB(A) in silence zone.⁴ Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998.
Impacts on flora and fauna	<ul style="list-style-type: none"> Conduct site induction and environmental awareness. Limit activities within the work area. Replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut, if any. Replacement species must be approved by District Forest Department.
Impacts on physical resources	<ul style="list-style-type: none"> Ensure no damage to structures/properties near construction zone. Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints. Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or vehicle movement. Ensure workers will not use nearby/adjacent areas as toilet facility. Coordinate with PIU/DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc. Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites. Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts. Avoid working in peak tourist seasons and/or important religious festivals
Impacts on waste generation	<ul style="list-style-type: none"> 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 Town Municipal Authority for beneficial uses of excavated soils/silts/sediments or immediately dispose to designated areas. Recover used oil and lubricants and reuse; or remove from the sites. Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items). Prohibit disposal of any material or wastes (including human waste) into drainage, <i>nallah</i>, or watercourse.
Impacts on occupational health and	<ul style="list-style-type: none"> Comply with IFC EHS Guidelines on Occupational Health and Safety Disallow worker exposure to noise level greater than 85 dB(A) for duration of more than 8 hours per day without hearing protection. The use of hearing

⁴ Day time shall mean from 6.00 am to 10.00 pm. Silence zone is, an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by SPCB. Mixed categories of areas may be declared as one of the above mentioned categories by SPCB.

Potential Impact	Mitigation Measures
safety	<p>protection shall be enforced actively.</p> <ul style="list-style-type: none"> • 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. • Include in H&S plan measures such as: (i) type of hazards during excavation works; (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 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 qualified 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. • 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. • Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted. • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas. • Ensure moving equipment is outfitted with audible back-up alarms. • Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.
Impacts on socio-economic activities	<ul style="list-style-type: none"> • Leave space for access between mounds of soil. • Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints. • Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available. • "Mobility Plan" has to be chalked out in consultation with the District Administration prior to start of work. • Avoid working in peak tourist seasons and/or important religious festivals

75. The construction related impacts due to proposed subproject components are generic to construction activities, and are typical of small-scale construction projects. The potential impacts that are associated with construction activities can be mitigated to standard levels without difficulty through incorporation or application of the recommended mitigation measures and procedures.

D. Post-Construction Impacts and Mitigation Measures

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

- Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase.
- Use removed topsoil to reclaim disturbed areas.
- Re-establish the original grade and drainage pattern to the extent practicable.
- Stabilize all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees.
- Restore access roads, staging areas, and temporary work areas.
- Restore roadside vegetation.
- Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites.
- Monitor success of re-vegetation and tree re-planting. Replace all plants determined to be in an unhealthy condition.
- Request in writing from PIU/DSC that construction zones have been restored.

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

77. 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:

- Increased vehicular movement along the roads - speed restrictions, provision of appropriate road signage and well located rest points for pedestrians shall minimize impacts on safety of the people
- Increase demands for services – addressed through the subproject design
- Increase solid waste generation – Municipality to put in place solid waste management programs.

VI. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. ADB Disclosure Policy

78. 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 project was prepared based on opinions of all those consulted, especially at the micro level, by setting up dialogues with the local people and fishermen from whom information on site facts and prevailing conditions were collected.

79. 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 wild life authorities and NGOs, and secondly to discuss mitigating measures and get concurrence of stakeholders.

B. Process for Consultation followed

80. During project preparation (June 2014 to January 2016), consultations have been held with the HP Department of Tourism, tourists of Dharamshala and Mcleodganj and local administration, Municipal - Corporation, local community representatives, tourism officers, and tourist guides/photographers 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. Records of the consultations are provided in **Annexure-6**.

C. Plan for continued public participation

81. To ensure continued public participation, stakeholder engagement at main stages of work during the project design and implementation is proposed. A grievance redressal cell has been set up within the PIU/DSC at field office and PMU, Shimla 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 Himachal Tourism website.

82. The 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 semi-annual environmental monitoring reports.

83. For the benefit of the community, relevant information in the IEE (Executive Summary) will be translated in Hindi and made available at: (i) Office of the PMU; and, (ii) Office of the District Commissioner, Shimla District. These copies will be made available free of cost to any person seeking information on the same. Hard copies of the IEE will be available in the PMU/PIU as well as the district library at Shimla, 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 Tourism Department 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

84. The affected person/aggrieved party can give their grievance verbally or in written to the 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.

85. 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

86. **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 Himachal Pradesh, 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.

87. **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, 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.

88. **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).

89. The details are attached as per **Annexure 7**

B. Approach to GRC.

90. 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-8**.
- Telecom based: The Project Manager office no. is displayed at various construction sites so that general public can register their complaint through telephone / mobile phone to the PIU office.

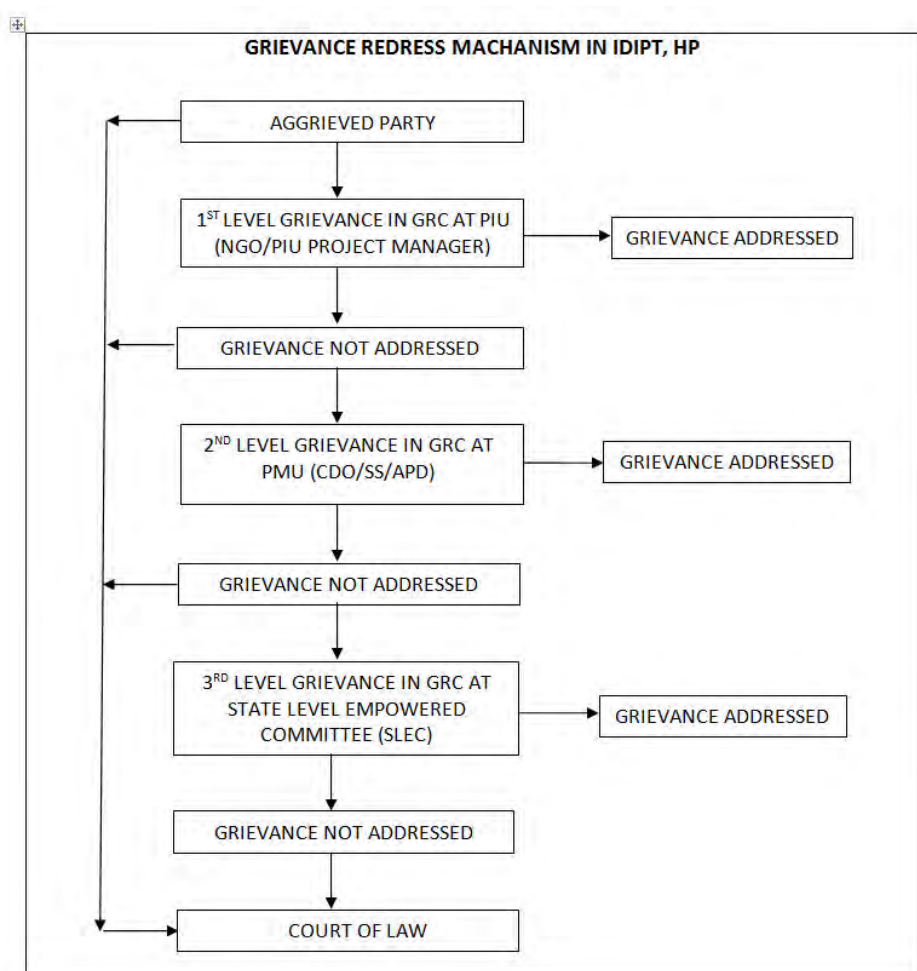


Figure 2: Grievance Redress Mechanism in IDIPT, Himachal Pradesh

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

91. 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 (**Table 5**).

92. A copy of the EMP must be kept on work sites at all times. This EMP will be included in the bid documents and will be further reviewed and updated during implementation. The EMP will be made binding on all contractors operating on the site and will be included in the contractual clauses. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

93. 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

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

- Department of Tourist and Civil Aviation, Government of H.P. is the Executing Agency (EA) responsible for overall management, coordination, and execution of all activities funded under the loan. Project Implementing Unit (PIU) is the Implementing Agency (IA) responsible for coordinating procurement and construction of 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) will be established in Kangra. 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 Kangra and DSC. The environmental related mitigation measures will also be implemented by the contractor.

95. 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
<ul style="list-style-type: none"> • Review the IEE document and ensure adequacy under Safeguard Policy Statement, 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
<ul style="list-style-type: none"> • Review 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, organise 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 • 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

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

on the experience gained from site supervision.

Box 3: Terms of Reference of Safeguards Specialist (Environment) of PMC

Support and Advise the PMU and Consultants team in-

- 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
- Management plan and mitigation measures
- 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

96. **Responsibility for preparation/updating IEE.** DSC will prepare the IEE and update, if required and submit to PMU for final review before submission to ADB. PMC will assist PMU and coordinate with DSC.

97. **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 Council.

98. **Responsibility for reporting.** PIU in coordination with DSC will submit monthly monitoring report to PMU on the basis PMU will submit to ADB semi-annual 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 preparing quarterly, semi-annual and annual progress reports. The sample field monitoring report and environmental monitoring report templates is attached as **Annexure – 9 & 10.**

B. EMP Tables

99. **Table 5 to 7** 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 5: Pre-Construction EMP Table

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
Consents, permits, clearances, no objection certificate (NOC), etc.	<ul style="list-style-type: none"> Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. 	Consents, permits, clearance, NOCs, etc.	PMU	EA to report to ADB in environmental monitoring report (EMR)	check CFEs, permits, clearance, prior to start of civil works	PMU
	<ul style="list-style-type: none"> Acknowledge in writing and provide report on compliance of all obtained consents, permits, clearance, NOCs, etc. 	Records and communications	PMU	EA to report to ADB in EMR	Acknowledge upon receipt Send report as specified in CFE, permits, etc.	PMU
	<ul style="list-style-type: none"> Include in detailed design drawings and documents all conditions and provisions if necessary 	Detailed design documents and drawings	Contractor	PMU and PMC PIU and DSC	Upon submission by contractor	PMU
Establishment of baseline environmental conditions prior to start of civil works	<ul style="list-style-type: none"> Conduct documentation of location of components, areas for construction zone (camps, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones). Include photos and GPS coordinates. Prior to start of civil works ambient air quality, ambient noise level, water quality will be generated (once at four sites except monsoon period). 	Records	PMU	PIU and DSC	Baseline data will be generated prior to start of civil work.	PMU
Erosion control	<ul style="list-style-type: none"> Develop an erosion control and re-vegetation plan to minimize soil loss and reduce sedimentation to protect 	Erosion control and re-vegetation plan covering construction	Contractor	PIU and DSC	Included in updated IEE report	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>water quality.</p> <ul style="list-style-type: none"> Minimize the potential for erosion by balancing cuts and fills to the extent feasible. Identify and avoid areas with unstable slopes and local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure). Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time. Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time. 	phase				
Utilities	<ul style="list-style-type: none"> Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of 	<p>List and maps showing utilities to be shifted</p> <p>Contingency plan</p>	<p>- DSC to prepare preliminary list and maps of utilities to be shifted</p>	PIU and DSC	Included in updated IEE report	<p>DSC – preliminary design stage</p> <p>Contractor – detailed design</p>

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>services during the construction phase.</p> <ul style="list-style-type: none"> Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. Obtain from the PIU and/or DSC the list of affected utilities and operators; If relocations are necessary, contractor will coordinate with the providers to relocate the utility. 	for services disruption	- During detailed design phase, contractor to (i) prepare list and operators of utilities to be shifted; (ii) contingency plan			stage
Social and Cultural Resources	<ul style="list-style-type: none"> Consult Archaeological Survey of India (ASI) or HP State Archaeology Department to obtain an expert assessment of the archaeological potential of the site. Consider alternatives if the site is found to be of medium or high risk. Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. Develop a protocol for use by the construction contractors 	Chance find protocol	<ul style="list-style-type: none"> - PMC to consult ASI or HP State Archaeology Department - PMC to develop protocol for chance finds 	PMU	Included in updated IEE report	PMU

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.					
Sites for construction work camps, areas for stockpile, storage and disposal	<ul style="list-style-type: none"> 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, shortages of amenities, and crime). Disposal will not be allowed near sensitive areas which will inconvenience the community. The construction camp, storage of fuel and lubricants should be avoided at the river bank. The construction camp site for intake well should be finalized in consultation with DSC and PIU. 	<p>List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal</p> <p>Waste management plan</p>	<p>- DSC to prepare list of potential sites</p> <p>DSC to inspect sites proposed by contractor if not included in pre-approved sites</p>	PIU/DSC	Monthly	DSC
Sources of construction materials	<ul style="list-style-type: none"> Use quarry sites and sources permitted by government. Verify suitability of all material 	Permits issued to quarries/ sources of materials	<p>Contractor</p> <p>PMC and DSC to</p>	PMU/PIU	Upon submission by contractor, monthly	PMC and DSC

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>sources and obtain approval from PIU.</p> <ul style="list-style-type: none"> If additional quarries are required after construction has started, obtain written approval from PIU. Submit to DSC on a monthly basis documentation of sources of materials. 		verify sources (including permits) if additional is requested by contractor			
Access	<ul style="list-style-type: none"> Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites. Schedule transport and hauling activities during non-peak hours. Locate entry and exit points in areas where there is low potential for traffic congestion. Keep the site free from all unnecessary obstructions. Drive vehicles in a considerate manner. Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours. Notify affected sensitive receptors by providing sign 	Traffic management plan	Contractor	PIU and DSC	Continuous during construction	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>boards with information about the nature and duration of construction works and contact numbers for concerns/complaints.</p> <ul style="list-style-type: none"> • Provide free access to households along the alignments of raw and clear water transmission routes during the construction phase. 					
Occupational health and safety	<ul style="list-style-type: none"> • 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. • Include in H&S plan measures such as: (i) type of hazards in the intake wells site; (ii) corresponding personal protective equipment for each identified 	Health and safety (H&S) plan	Contractor	PIU and DSC	Continuous during construction	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	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. <ul style="list-style-type: none"> • Provide medical insurance coverage for workers. 					
Public consultations	<ul style="list-style-type: none"> • Continue information dissemination, consultations, and involvement/participation of stakeholders during project implementation. 	- Disclosure records - Consultations	PMC and DSC	PMU and PMC	- During updating of IEE Report - During preparation of site- and activity-specific plans as per EMP - Prior to start of construction - During construction	PMU/PMC/DSC

Table 6: 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
Erosion hazards	<ul style="list-style-type: none"> • Save topsoil removed during excavation and use to reclaim disturbed areas, as soon as it is possible to do so. • Use dust abatement such as water spraying to minimize windblown erosion. • Provide temporary stabilization of disturbed/excavated areas that are not actively under 	Erosion control and re-vegetation plan	Contractor	PIU and DSC PIU to submit EMP monitoring report to PMU	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<p>construction.</p> <ul style="list-style-type: none"> • Apply erosion controls (e.g., silt traps) along the drainage leading to the water bodies. • Maintain vegetative cover within road ROWs to prevent erosion and periodically monitor ROWs to assess erosion. • Clean and maintain catch basins, drainage ditches, and culverts regularly. • Conduct routine site inspections to assess the effectiveness of and the maintenance requirements for erosion and sediment control systems. 				<p>monsoon season and if corrective action is required)</p> <p>- random inspection by PMU, PIU, PMC and/or DSC</p>	
Impacts on water quality	<ul style="list-style-type: none"> • During construction, surface water quality testing will be done at two sites (quarterly except monsoon period for 24 month at two sites) 	pH, TDS, DO, BOD, Total coliform and Oil & Grease	PMU/ PMC	PMC/DSC	- Data will be generated during the construction phase.	PMU
	<ul style="list-style-type: none"> • Schedule construction activities during non-monsoon season, to the maximum extent possible. 	Work schedule	Contractor	PIU and DSC PIU 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)	Contractor
	<ul style="list-style-type: none"> • Ensure drainages and water bodies within the construction zones are kept free of obstructions. 	Visual inspection				
	<ul style="list-style-type: none"> • Keep loose soil material and stockpiles out of drains and flow-lines. 	Visual inspection				
	<ul style="list-style-type: none"> • Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) 	Visual inspection				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	unless covered by tarpaulins or plastic sheets. <ul style="list-style-type: none"> • Re-use/utilize, to maximum extent possible, excavated materials. • Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites). • Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989. • Refuel equipment within the designated refueling containment area away from drainages, <i>nallahs</i>, or water body. • Inspect all vehicles daily for fluid leaks before leaving the vehicle staging area, and repair any leaks before the vehicle resumes operation. 	 condition in waste management plan condition in waste management plan condition in waste management plan condition in list of pre-approved sites for construction work camps, areas for stockpile, storage and disposal Vehicle inspection report			- random inspection by PMU, PIU, PMC and/or DSC	
Impacts on air quality	During construction ambient air quality testing will be done at four sites (quarterly except monsoon period for 24 month at four sites)	PM10, PM2.5, SO ₂ , NO ₂ ,	PMU/ PMC	PMC/DSC	- Data will be generated during the construction phase.	PMU

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<ul style="list-style-type: none"> Conduct regular water spraying on stockpiles. 	<ul style="list-style-type: none"> - Visual inspection - No complaints from sensitive receptors - Records 	Contractor	PIU and DSC	<ul style="list-style-type: none"> -daily inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during dry season and if corrective action is required) • - random inspection by PMU, PIU, PMC and/or DSC 	Contractor
	<ul style="list-style-type: none"> Conduct regular visual inspection in the construction zones to ensure no excessive dust emissions. 	Visual inspection				
	<ul style="list-style-type: none"> Maintain construction vehicles and obtain “pollution under control” certificate from HPSPCB. 	PUC certificates				
	<ul style="list-style-type: none"> Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project. 	CTE and CTO				
Noise and vibrations impacts	<ul style="list-style-type: none"> During construction noise quality testing will be done at four sites (quarterly except monsoon period for 24 month at four sites) 		PMU/ PMC	PMC/DSC	- Data will be generated during the construction phase	PMU
	<ul style="list-style-type: none"> Limit construction activities in temple complexes 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	<ul style="list-style-type: none"> -daily inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during noise-generating activities and if 	Contractors
	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle 	Report on ambient noise level				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<p>silencers and fitting jackhammers with noise-reducing mufflers.</p> <ul style="list-style-type: none"> • Avoid loud random noise from sirens, air compression, etc. • Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach. • If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager: <ul style="list-style-type: none"> • Locate stationary construction equipment as far from nearby noise-sensitive properties, such as the hospital, as possible. • Shut off idling equipment. • Reschedule construction operations to avoid periods of noise annoyance identified in the complaint. • Notify nearby residents whenever extremely noisy work will be occurring. 	<p>monitoring within direct impact zones</p> <p>zero incidence</p> <p>feedback from receptors within direct and direct impact zone</p> <p>- Complaints addressed satisfactory - GRM records</p>			<p>corrective action is required)</p> <ul style="list-style-type: none"> • - random inspection by PMU, PIU, PMC and/or DSC 	
Impacts on flora and fauna	<ul style="list-style-type: none"> • Conduct site induction and environmental awareness. • Limit activities within the work area. 	<p>Records</p> <p>Barricades along excavation works</p>	Contractor	PIU and DSC	- daily inspection by contractor supervisor and/or environment	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<ul style="list-style-type: none"> Replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut. Replacement species must be approved by District Forest Department. 	Number and species approved by District Forest Department			specialist - weekly visual inspection by DSC (more frequent if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	
Impacts on physical and cultural resources	<ul style="list-style-type: none"> Ensure no damage to structures/properties adjacent to construction zone. 	- Visual inspection - any impact should be addressed by project resettlement plan	Contractor in coordination with PIU and DSC for any structures within proposed site and construction zone	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
	<ul style="list-style-type: none"> Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints. 	- no complaints received - photo-documentation				
	<ul style="list-style-type: none"> Increase the workforce near the school and other sensitive receptors. 	- Records of workers deployment - Work schedule				
	<ul style="list-style-type: none"> Implement good housekeeping. Remove wastes immediately. 	- Visual inspection - No stockpiled/ stored wastes				
	<ul style="list-style-type: none"> Ensure workers will not use nearby/adjacent areas as toilet facility. 	- No complaints received - Sanitation facilities for use of workers				
	<ul style="list-style-type: none"> Coordinate with PIU/DSC for 	- Approved routes in				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc. <ul style="list-style-type: none"> • Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites. 	traffic management plan				
	<ul style="list-style-type: none"> • Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts. 	condition in chance find protocol				
Impact due to waste generation	<ul style="list-style-type: none"> • 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 excavated soils or immediately disposal to designated areas. • Recover used oil and lubricants and reuse; or remove from the site. • Avoid stockpiling and remove 	condition in waste management plan	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

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<p>immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items).</p> <ul style="list-style-type: none"> Prohibit disposal of any material or wastes (including human waste) into drainage, <i>nallah</i>, or watercourse. 					
Impacts on occupational health and safety	<ul style="list-style-type: none"> Comply with IFC EHS Guidelines on Occupational Health and Safety 	<ul style="list-style-type: none"> Visual inspection Records 	Contractor	PIU and DSC	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Disallow worker exposure to noise level greater than 85 dB(A) for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively. 	<ul style="list-style-type: none"> Visual inspection Work schedule Noise level monitoring in work area 				
	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Records Condition in H&S plan 				
	<ul style="list-style-type: none"> Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout 	<ul style="list-style-type: none"> Visible first aid equipment and medical supplies Condition in H&S 				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	the site as well as at construction camps.	plan				
	• Provide medical insurance coverage for workers.	Records				
	• Secure construction zone from unauthorized intrusion and accident risks.	- Area secured - Trenches barricaded				
	• 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				
	• Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted.	- Records - Condition in H&S plan				
	• Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.	- Visual inspection - Condition in H&S plan				
	• Ensure moving equipment is outfitted with audible back-up alarms.	- Construction vehicles - Condition in H&S plan				
	• Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance	- Visible and understandable sign boards in construction zone				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.	- H&S plan includes appropriate signs for each hazard present				
Impacts on socio-economic activities	<ul style="list-style-type: none"> Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints. 	Visible and understandable sign boards in construction zone	Contractor	PIU and DSC	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available. 	Employment records				

Table 7: 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.)	<ul style="list-style-type: none"> Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase. 	<p>Pre-existing condition</p> <p>Construction zone has been restored</p>	Contractor within defect liability period	<p>PIU and DSC</p> <p>PIU to submit EMP monitoring report to PMU</p>	<ul style="list-style-type: none"> visual inspection by contractor supervisor and/or environment specialist 	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<ul style="list-style-type: none"> Use removed topsoil to reclaim disturbed areas. 	-DO-	-DO-	-DO-	-DO-	-DO-
	<ul style="list-style-type: none"> Re-establish the original grade and drainage pattern to the extent practicable. 	-DO-	-DO-	-DO-	-DO-	-DO-
	<ul style="list-style-type: none"> Stabilize all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees. 	-DO-	-DO-	-DO-	-DO-	-DO-
	<ul style="list-style-type: none"> Restore access roads, staging areas, and temporary work areas. 	-DO-	-DO-	-DO-	-DO-	-DO-
	<ul style="list-style-type: none"> Restore roadside vegetation, if removed 	-DO-	PIU/PMU*	-DO-	-DO-	PMU
	<ul style="list-style-type: none"> Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites. 	-DO-	Contractor within defect liability period	-DO-	-DO-	Contactor
	<ul style="list-style-type: none"> Monitor success of re-vegetation and tree re-planting. Replace all plants determined to be in an unhealthy condition. 	Construction zone vegetation has been enhanced	PIU/PMU*	-DO-	-DO-	PMU
	<ul style="list-style-type: none"> Request in writing from PIU/DSC that construction zones have been restored. 	Certificate	PMU	PMC/PMU	-DO-	PMU
Environmental conditions	<ul style="list-style-type: none"> Ambient air quality- During construction ambient air quality testing will be done at four sites (quarterly except monsoon period for 24 month at four sites) 	PM10, PM2.5, SO ₂ , NO ₂ ,	PMU	PMU/PMC	Data will be generated after the work is completed	PMU

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<ul style="list-style-type: none"> Water testing- During construction surface water quality testing will be done at two sites (quarterly except monsoon period for 24 month at two sites) 	pH, TDS, DO, BOD, Total coliform and Oil & Grease	PMU	PMU/PMC	Data will be generated after the work is completed	PMU
	<ul style="list-style-type: none"> Noise testing- During construction noise quality testing will be done at four sites (quarterly except monsoon period for 24 month at four sites) 		PMU	PMU/PMC	Data will be generated after the work is completed	PMU

* The site will be handed over to the asset owner (Temple Samiti, HPTDC and District Administration) after the restoration of the site and consent form asset owner will be taken to maintain the area with provisions of required solid waste management and aesthetic value

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

100. **Table 8** summarizes site and activity-specific plans to be prepared as per EMP tables.

Table 8: 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	PMC/DSC	Contractor
Detailed Design Phase	Erosion control and re-vegetation plan	Mitigate impacts due to erosion	PMC/DSC	Contractor
Detailed Design Phase	List and maps showing utilities to be shifted	Utilities shifting	DSC during preliminary stage Contractor as per detailed design	Contractor
Detailed Design Phase	Contingency plan	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor
Detailed Design Phase	Chance find protocol	Address archaeological or historical finds	PMC/DSC	Contractor
Detailed Design Phase	List of pre-approved sites	Location/s for work camps, areas for stockpile, storage and disposal	PIU and DSC	Contractor
Detailed Design Phase	Waste management plan	Mitigate impacts due to waste generation	Contractor	Contractor
Detailed Design Phase	Traffic management plan	Mitigate impacts due to transport of materials and pipe laying works	Contractor	Contractor
Detailed Design Phase	H&S plan	Occupational health and safety	Contractor	Contractor
Detailed Design Phase	Spill prevention and containment plan	Mitigate impacts of accidental spills of oil, lubricants, fuels, concrete, and other hazardous materials	Contractor	Contractor

D. Environmental Monitoring Program

101. Through integration of mitigation measures in project design, impacts are mostly insignificant, temporary in nature and can be properly avoided or mitigated by following proposed mitigation measures given in the EMP of this IEE report.

102. **Table 9** 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. This has been updated during detailed design to ensure EMP and monitoring program is commensurate to the impacts of the subproject.

Table 9: Indicative Environmental Monitoring Program

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
1. Detailed Design Phase							
Consents, permits, clearances, no objection certificate (NOC), etc.	- Consents, permits, clearance, NOCs, etc. - Records and communications - Detailed design documents and drawings	n/a	Visual inspection	check CFEs, permits, clearance, Acknowledge upon receipt Send report as specified in CFE, permits, etc.	Obtained prior to start of civil works Conditions of consents, permits, clearance, NOCs, etc incorporated in detailed design	already covered under PMU and PIU	PMU
Establishment of baseline environmental conditions prior to start of civil works and monitoring during- construction time	Ambient air quality – PM10, PM2.5, SO ₂ , NO ₂ ,	Four locations proposed as under: 1. DC office parking 2. Aghanjar Mahadev Temple 3. Bhagsu Nag Temple 4. Fuwara Chowk	Collection of air samples (continuously 24 hours)	1. Prior to start of civil works (once at four sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at four sites) -First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at four sites except monsoon period)	1. Baseline data will be generated prior to start of civil work. 2. Data will be generated during the construction phase. 3. Data will be generated after the work is completed	7,800 per sample (total thirty two samples) Transportation charges extra (1,000/- per sample)	PMU

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	Noise levels – day time	Four locations proposed as under: 1. DC office parking 2. Aghanjar Mahadev Temple 3. Bhagsu Nag Temple 4. Fuwara Chowk	Use of noise meters (once)	1. Prior to start of civil works (once at four sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at four sites) -First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at four sites except monsoon period)	1. Baseline data will be generated prior to start of civil work. 2. Data will be generated during the construction phase. 3. Data will be generated after the work is completed	4,000 per sample (total thirty two samples) Transportation charges extra (1,000/- per sample)	PMU
	Water Testing- pH, TDS, DO, BOD, Total coliform and Oil & Grease	Two locations proposed as under: 1. Bhagsu Nag Kund 2. Water course at Aghanjar Mahadev	As per IS code	1. Prior to start of civil works (once at four sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at two sites)	1. Baseline data will be generated prior to start of civil work. 2. Data will be generated during the construction phase.	6,000 per sample (total sixteen samples) Transportation charges extra (1,000/- per sample)	PMU

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
				-First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at four sites except monsoon period)	3. Data will be generated after the work is completed		
Erosion control	Erosion control and re-vegetation plan covering construction phase	n/a	Checking of erosion control and re-vegetation plan	Upon finalization of detailed design	Included in updated IEE report The contractor will submit a plan before any excavation work will take place during construction phase.	already covered under PMU /PIU and Contractor	Contractor
Utilities	List and maps showing utilities to be shifted Contingency plan for services disruption	n/a	Checking of list and maps showing utilities to be shifted Checking of contingency plan for services disruption	Upon finalization of detailed design	included in updated IEE report Will be provided to contractor before start of civil work.	already covered under PMU/PIU /PMC/DSC and Contractor	PMU
Social and Cultural Resources	Chance find protocol	n/a	Checking of chance find protocol	Upon finalization of detailed design and during construction	included in updated IEE report Copy of the list will be provided to contractor, if any.	already covered under PMU/PIU and PMC/DSC	NA

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
Sites for construction work camps, areas for stockpile, storage and disposal	List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal	sites for construction work camps, areas for stockpile, storage and disposal	Visual inspection	Upon approval of site/s	included in updated IEE report The contractor will submit a plan before the civil work starts.		NA
	Waste management plan	n/a	Checking of waste management plan	Upon finalization of detailed design	included in updated IEE report The contractor will submit a plan before the civil work starts.	already covered under PMU/PIU and PMC/DSC	NA
Sources of construction materials	Permits issued to quarries/sources of materials	n/a	Checking of permits	Upon submission by contractor	Contractor's submission	already covered under PMU/PIU and PMC/DSC	NA
Access	Traffic management plan	n/a	Checking of traffic management plan as per detailed design (alignment, routes, etc)	Prior to start of civil works	Contractor's submission	contractor's cost	Contractor
Occupational health and safety	Health and safety (H&S) plan	n/a	Checking of H&S plan	Prior to start of civil works	Contractor's submission	contractor's cost	Contractor
Public consultations	- Disclosure records - Consultations	- locations of affected persons - locations of stakeholders	Documentation of (minutes of consultations, date/s, location/s, issue/s raised, photographs, etc.)	- During updating of IEE Report - During preparation of site- and activity-specific plans as per EMP - Prior to start of construction - During construction	Included in updated IEE	already covered under PMU/PIU and PMC/DSC	NA

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
2. Construction Phase							
Erosion hazards	Erosion control and re-vegetation plan	- Construction zone - storage areas	Visual inspection	- daily visual 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 PMU, PIU, PMC and/or DSC	- no erosion - erosion control in place - measures in erosion control and re-vegetation plan will be implemented	Contractor's cost	Contractor
Impacts on water quality	- Any construction related materials - visible seepage of paints, oils, silts, etc. from storage areas - complaints related to water quality	Adjacent bodies of water including drainages, canals/nallahs, etc.	Visual inspection	- daily visual 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 PMU, PIU, PMC and/or DSC	- no visible change in pre-construction quality of adjacent bodies of water including drainages, canals/nallahs, etc. - no disposal and/or seepage to adjacent bodies of water including drainages, canals/nallahs, etc.	Contractor's cost	Contractor
Impacts on air quality	- water spraying on stockpiles - excessive dust	- Construction zone - Sensitive	Visual inspection	- daily visual inspection by contractor	- no excessive dust emissions - no complaints from	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	emissions - vehicles "pollution under control" certificate from Himachal Pradesh SPCB - CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project - complaints related to air quality	receptors site/s		supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during summer season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	sensitive receptors - Valid pollution under control certificate/s. CFE, and/or CFO		
Noise and vibrations impacts	- work schedule (limit to day time only in temple complexes and other important areas) - activities with the greatest potential to generate noise (conducted during periods of the day which will result in least disturbance) - vehicle silencers and noise-reducing mufflers - complaints related to noise and vibrations	- Construction zone - Sensitive receptors site/s - silence zone/s	Visual inspection	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during machine operation and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	- no complaints from sensitive receptors	Contractor's cost	Contractor
Impacts on flora and fauna	- site induction and environmental awareness	- construction zone - sites approved	Visual inspection	- daily visual inspection by contractor	- all contractor's employees have undertaken site induction	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	<ul style="list-style-type: none"> - number of trees cut - number of trees replanted - survival rate of trees planted 	by Forest Department for replanting, if any		<ul style="list-style-type: none"> supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC 	<ul style="list-style-type: none"> and environmental awareness prior to mobilization - approved trees to be cut - approved tree species for replantation 		
Impacts on physical and cultural resources	<ul style="list-style-type: none"> - damage to structures/properties adjacent to construction zone - sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints - number of workforce near the school/s and other sensitive receptor/s - housekeeping practices, wastes around construction zones - toilet facilities for workers - transportation routes and schedule 	- construction zone	Visual monitoring	<ul style="list-style-type: none"> - daily visual 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 PMU, PIU, PMC and/or DSC 	<ul style="list-style-type: none"> - no damage to structures/properties adjacent to construction zone - sign boards understandable by local people - sufficient number of workforce near the school/s and other sensitive receptor/s - wastes managed according to waste management plan - clean and usable toilet facilities for workers - transportation routes and schedule followed - no complaints from sensitive receptors - chance find procedures followed, as necessary 	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	- chance find procedure						
Impact due to waste generation	<ul style="list-style-type: none"> - provisions of the waste management plan - quantity of excavated soils - quantity of used oil and lubricants - excess construction materials, and solid waste (removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items) 	- construction zone	Visual monitoring	<ul style="list-style-type: none"> - daily visual 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 PMU, PIU, PMC and/or DSC 	<ul style="list-style-type: none"> - wastes managed according to waste management plan - no complaints from sensitive receptors 	Contractor's cost	Contractor
Impacts on occupational health and safety	<ul style="list-style-type: none"> - IFC EHS Guidelines on Occupational Health and Safety - noise level and duration of exposure - PPEs, high visibility vests, hearing protection, etc. - conduct of H&S orientation training - qualified first aider and equipped first aid stations - medical insurance 	- construction zone	<ul style="list-style-type: none"> - visual monitoring - checking of records 	<ul style="list-style-type: none"> - daily visual 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 PMU, PIU, PMC and/or DSC 	<ul style="list-style-type: none"> - conditions in H&S plan - all workers oriented on H&S plan - use of PPEs, etc at all times - max of 80 dB(A) and 8 hours exposure - visible first aid equipment and medical supplies - areas secured - trenches barricaded - adequate potable drinking water - clean eating areas away from hazardous or noxious substances 	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	coverage for workers - security in construction zone - potable drinking water supply - clean eating areas - conduct of visitor orientation - audible back-up alarms for vehicles - sign boards in the construction zone - site accident records				- visible and understandable sign boards in construction zone		
Impacts on socio-economic activities	- % of locals in labor force - complaints/grievances	- construction zone	checking of records	- random inspection by PMU, PIU, PMC and/or DSC - during complaints/grievance redressal	- least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available - complaints/grievance addressed as per GRM	Contractor's cost	Contractor
3. Post-construction Phase							
Solid waste (debris, excavated soils, etc.)	- disturbed areas	- construction zone	visual inspection	upon completion of civil works prior to turn over to asset owner	- backfilled any excavation and trenches - reclaimed disturbed areas. - Re-established original grade and drainage pattern to the extent practicable. - stabilized all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
					<ul style="list-style-type: none"> - restored access roads, staging areas, and temporary work areas. - restored roadside vegetation, if removed - removed all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. - demolished buildings/ structures not required for O&M. - disposed in designated disposal sites. - success of re-vegetation and tree re-planting. Replaced all plants determined to be in an unhealthy condition. - documentation from PIU/DSC that construction zones have been restored. 	PMU cost	PMU

E. Capacity Building

103. 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 will 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 10 below. This training program is intended for the entire destination and is not just specific to this package.

Table10: Training Modules for Environmental Management (Common for Entire Project)

Program	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 Govt. 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	Environmental Specialist of the PMC and DSC
B. Construction Stage					
Module 1	Roles and Responsibilities of officials / contractors / consultants towards protection of environment Implementation Arrangements	Engineers and staff of line depts. of GoHP, and PMU/PIU (including the ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC and DSC
Module 2	Monitoring and Reporting System	Engineers and staff of implementing agencies and PMU/PIU (including ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC and DSC

F. EMP Implementation Cost

104. As part of good engineering practices in the project, there have been several measures as safety, signage, dust suppression, procurement of personal protective equipment, provision of drains, etc. 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.

105. This is a small construction project and it is not expected to cause much significant air, water and noise pollution. The main EMP cost will arise from monitoring of environmental

parameters (air, water and noise) and training.

106. 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 11** below.

Table11: Indicative EMP Budget

S.N.	Particulars	Stages	Unit	Total number	Rate (INR)	Cost (INR)	Source of fund
A. Monitoring Measures							
1.	Air quality monitoring- 24 hourly (PM10, PM2.5, SO2, NO2,) (Four Locations)	1. Prior to start of civil works (once at four sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at four sites) -First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at four sites except monsoon period)	Per sample	32	7,800	2,49,600	PMU
	Transportation & sampling cost			32	1000	32,000	
2.	Noise Levels -Day time by noise meter (Four Locations)		Per sample	32	4000	1,28,000	
	Transportation & sampling cost			32	1000	32,000	
3.	Water Tests- pH, TDS, DO, BOD, Total coliform and Oil & Grease-IS code (Two Locations)	Per sample	16	6000	96,000		
	Transportation & sampling cost		16	1000	16,000		
Sub- Total (A)						5,53,600	
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	
3	Training Session II	Construction	L.S			1,50,000	
Sub -Total (B)						4,50,000	
Total (A+B) INR						10,03,600	

IX. FINDINGS AND RECOMMENDATIONS

107. 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 including all necessary government permits and clearances.

108. The specific management measures laid down in the IEE will effectively address any adverse environmental impacts due to the sub-project. 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.

X.CONCLUSIONS

109. The IEE carried out for the sub-project show that the proposed sub-components will result in net environmental benefits, and that any adverse environmental 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.

110. 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 special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB SPS (2009).

Annexure I

Rapid Environmental Assessment (REA) Checklist

Subproject: Conserving Prominent Temple Precincts & upgrading urban infrastructure for tourism in Dharamshala & Mcleodganj.

Country/Project Title: India/Infrastructure development Investment program (IDIPT-HP)

Sector Division: Urban Division

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area...			
▪ Densely populated?	✓		Bhagsunag site is located in town centre and its vicinity which is the hub of business, education, entertainment and tourist activity. But Aghanjar site is away from the habitations.
▪ Heavy with development activities?		✓	Normal development activities observed.
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site		✓	Cultural heritage centres. Connected to other circuitous pilgrimage sites like Kangra, Jwalamukhi, Chamunda.
• Protected Area		✓	No protected area.
• Wetland		✓	Densely grown habitations seen in & around Bhagsunag area and scattered habitation near Aghanjar temple area. No wetland
• Mangrove		✓	No mangrove
• Estuarine		✓	Site is on a hilly area
• Buffer zone of protected area		✓	Not a buffer zone
• Special area for protecting biodiversity		✓	Not declared.
• Bay		✓	Site is on a hilly area.
B. Potential Environmental Impacts Will the Project cause...			
▪ impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services.		✓	Temporary. Minor impact is anticipated during construction phase for which adequate measures envisaged in the proposals.
Screening Questions	Yes	No	Remarks
▪ deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activity, and increased waste generation to the		✓	▪ Minor impacts cannot be ruled out. However, adequate measures proposed and included in ▪ DPR for handling the issues.
▪ degradation of land and ecosystems (e.g. loss of wetlands and wild lands, coastal zones, watersheds and forests)?		✓	▪ Not a cultivation land, not a watershed area, and hence no such impacts (land/eco-degradation) envisaged. Not a coastal zone or a forest area.
▪ dislocation or involuntary resettlement of people?		✓	▪ Not required as no land acquisition involved and all the project activities are restricted within the available land.

IEE: Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala, Mcleodganj

IDIPT (HP)

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable group? 		✓	<ul style="list-style-type: none"> No such impacts are anticipated. No such indigenous people exist in the area.
<ul style="list-style-type: none"> degradation of cultural property, and loss of cultural heritage and tourism revenues? 		✓	<ul style="list-style-type: none"> On completion of the subproject the cultural heritage value will enhance and thereby influx of tourists will increase and tourism revenue will grow.
<ul style="list-style-type: none"> occupation of low-lying lands, floodplains and steep hillsides by squatters and low-income groups, and their exposure to increased health hazards and risks due to 		✓	<ul style="list-style-type: none"> No such cases noticed and more over the project has no pollutive industrial activities.
<ul style="list-style-type: none"> water resource problems (e.g. depletion/ degradation of available water supply, deterioration for surface and ground water quality , and pollution of receiving waters? 	✓		<ul style="list-style-type: none"> Minor and negligible problems such as deterioration of surface water quality and pollution of nearby water course may emerge due to the construction activity for which proper measures are included in the proposals.
<ul style="list-style-type: none"> Air pollution due to urban emissions? 		✓	<ul style="list-style-type: none"> Though not directly, but during the construction phase anticipated if any, will be addressed properly by adopting suitable mitigation measures during implementation.
<ul style="list-style-type: none"> risks and vulnerabilities related to occupational health and safety due to physical, chemical and biological hazards during project construction and operation? 	✓		<ul style="list-style-type: none"> During execution stage, workers may face occupational health and safety related issues if personal protection measures are not used properly. No such impacts are anticipated during the operation stage. Contractor will be required to adopt safety measures such as use of personal protective wear, cautionary signage and proper material storage.
<ul style="list-style-type: none"> Road blocking and temporary flooding due to land excavation during rainy season? 		✓	<ul style="list-style-type: none"> Temporary. However caution shall need to be exercised for taking up construction activity during extreme weather conditions (like rain or snow) to avoid accidents and injury either to the general public or workers on site
<ul style="list-style-type: none"> noise and dust from construction activities? 	✓		<ul style="list-style-type: none"> Minor increase in noise levels and dust generation from construction activities is anticipated but shall be temporary in nature coinciding only with the duration of construction activities and will be of site specific. This shall be minimized by adopting suitable mitigation measures during implementation.
<ul style="list-style-type: none"> Traffic disturbances due to construction material transport and wastes? 		✓	<ul style="list-style-type: none"> During construction phase as transport of materials may create some temporary road blockage and traffic management plan will be chalked out. However, traffic diversion plan, if need arise, will be prepared by contractor in consultation with Engineer and local police assistance to avoid traffic disturbances

IEE: Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala, Mcleodganj
IDIPT (HP)

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> Temporary silt runoff due to construction? 	✓		<ul style="list-style-type: none"> Temporary silt run off possible, coinciding with rainy season. Majority works shall be carried out during dry periods to avoid such impacts. To avoid silt flow in drain during rainy seasons, silt barrier will be provided at the sides of the drains. Appropriate material storage will help mitigate temporary silt run-off. Other project components such as landscaping shall also help minimize silt run-off in the long term.
<ul style="list-style-type: none"> hazards to public health due to ambient, household and occupational pollution, Thermal inversion, and smog formation? 		✓	<ul style="list-style-type: none"> Not foreseen due to the nature of works involved
<ul style="list-style-type: none"> Water depletion and/or degradation? 		✓	<ul style="list-style-type: none"> Though minor and negligible, precautions will be included in the Environmental monitoring & planning schedule
<ul style="list-style-type: none"> overpaying of ground water, leading to Land subsidence, lowered ground water table, and salinization? 		✓	<ul style="list-style-type: none"> No ground water exploitation envisaged. Water for construction phase will be managed with line agencies consent.
<ul style="list-style-type: none"> contamination of surface and ground Waters due to improper waste disposal? 	✓		<ul style="list-style-type: none"> Contamination of surface and ground water cannot be ruled out as improper material handling and storage such as paints and fuels. Appropriate material storage and handling practice can help mitigate this risk for which instructions shall be caused to the Contractor. Besides adequate measures have been proposed like treatment facilities for waste water & solid waste disposal.
<ul style="list-style-type: none"> pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems? 		✓	<ul style="list-style-type: none"> No effective pollution predicted. There is no fishery or marine resource in the vicinity of the site. No disposal to receiving waters as waste water treatment and disposal system is proposed based on zero discharge principles.
<ul style="list-style-type: none"> large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)? 		✓	<ul style="list-style-type: none"> Negligible quantum only and measures included in project proposal and in the EMP
<ul style="list-style-type: none"> Social conflicts if workers from other regions or countries are hired? 		✓	<ul style="list-style-type: none"> Not applicable as the demand for labour category is much high.
<ul style="list-style-type: none"> 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 operation and construction? 		✓	<ul style="list-style-type: none"> The construction activity needs to be well planned & executed in a phased manner so as to minimize community health and safety risks especially with respect to seasonal challenges, mobility issues and impact on local businesses.

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 	✓		The subproject is located in seismic zone V. Due to the natural topography of hilly terrain landslides are a common phenomenon. Safety risks due to accidents and natural causes cannot be ruled out and can become a major hazard if the project execution is not carried out in a well-planned and phased manner. Proper measures will be included in the EMP.

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?	1	Extreme cold conditions is experienced in Dharamshala during winters and is also prone to landslides, though the proposed sites are not affected from landslides
	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)?	1	Works proposed does not need to address these parameters
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	Works proposed may be affected so appropriate materials and methodology should be adopted in planning phase
	Will weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	1	Works proposed may be affected and, which should be kept in mind during project planning
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?	1	Extreme climatic conditions will affect project outputs and these should be taken care of during project planning

Options for answers and corresponding score are provided below:

Response	Score
----------	-------

⁵If 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.

IEE: Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala, Mcleodganj

IDIPT (HP)

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): Medium

Other Comments: None

[illegible]

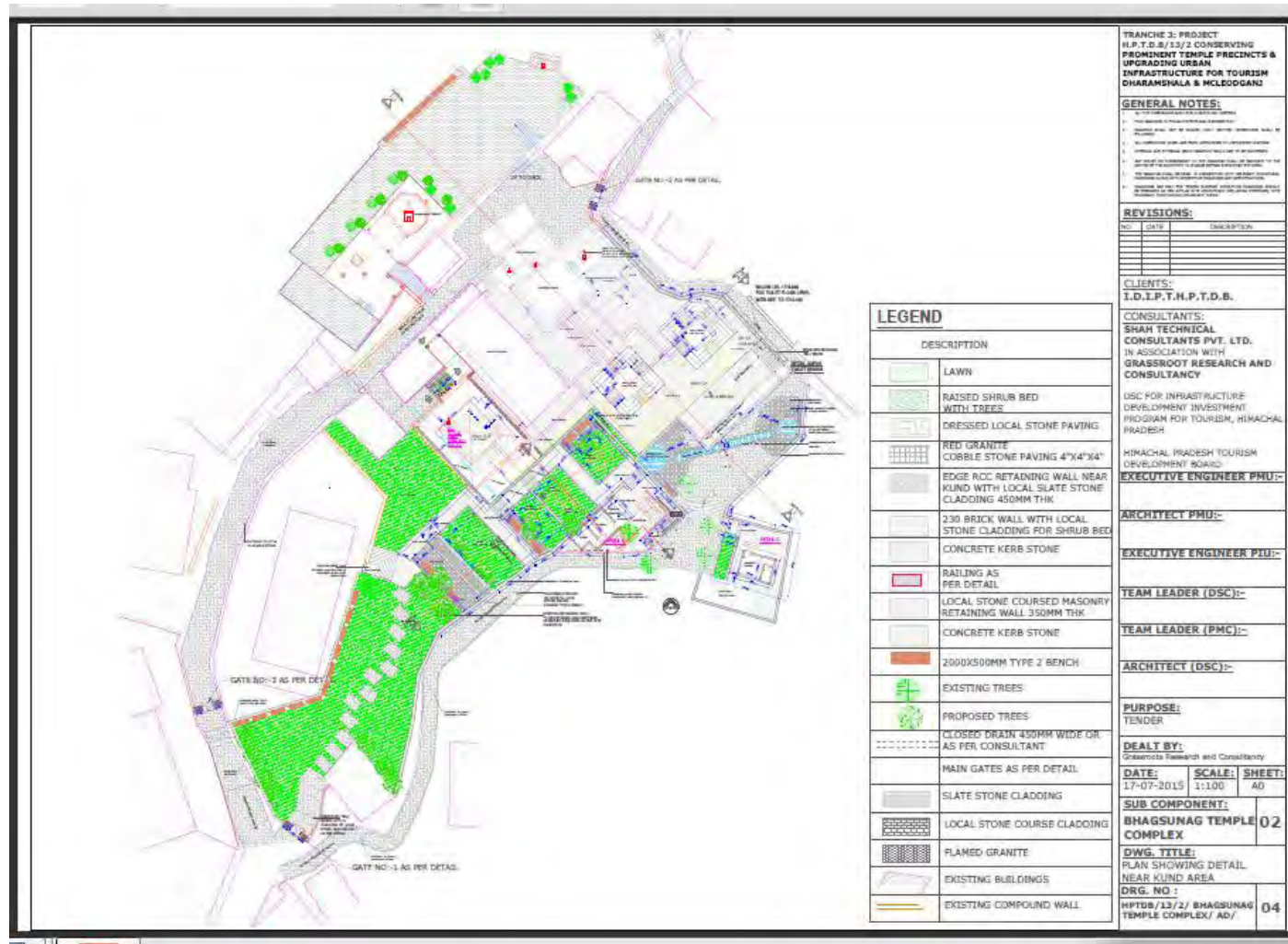
Layout Plan of Aghanjar Mahadev site



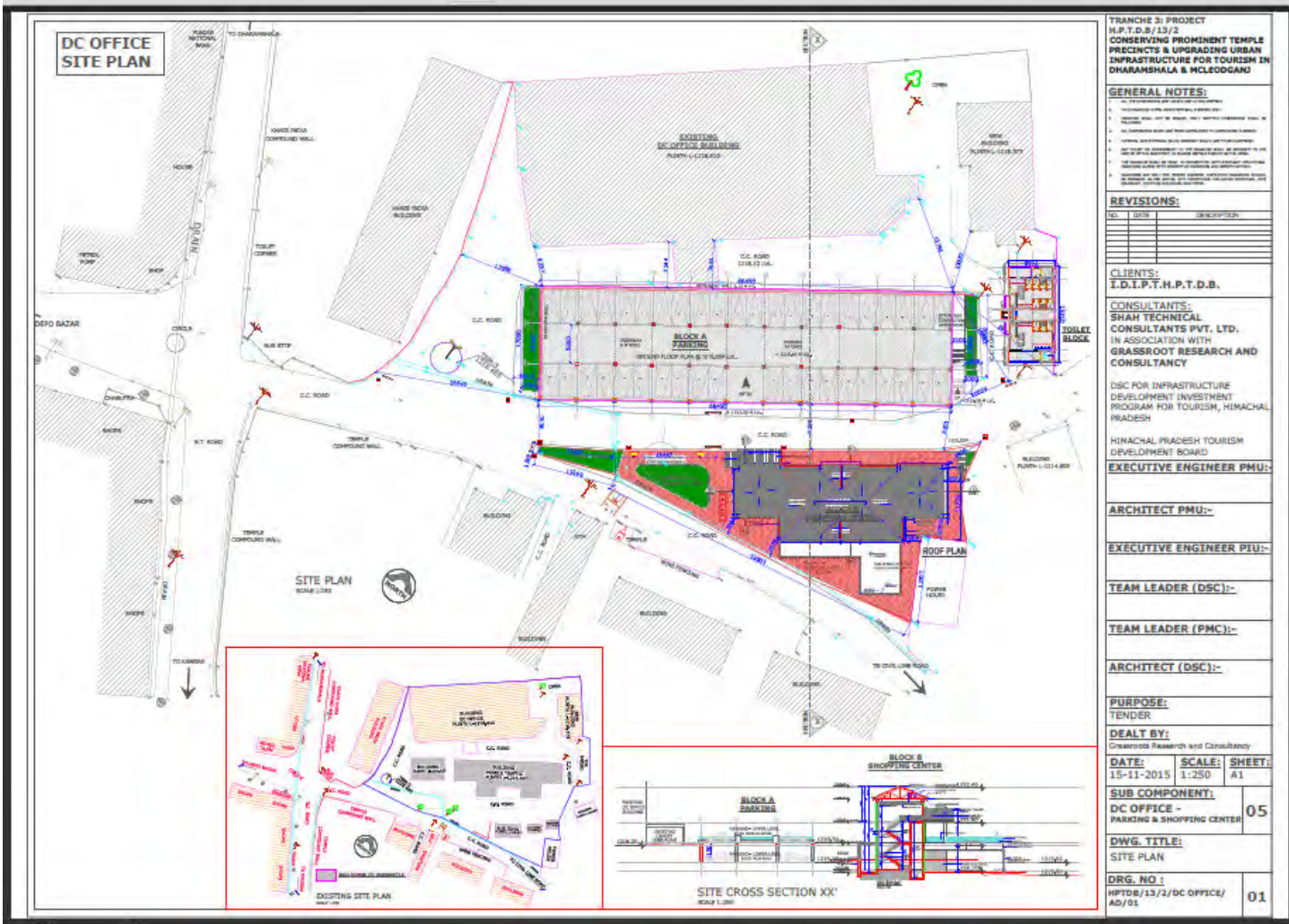
Layout Plan of Bhagsu Cultural Centre



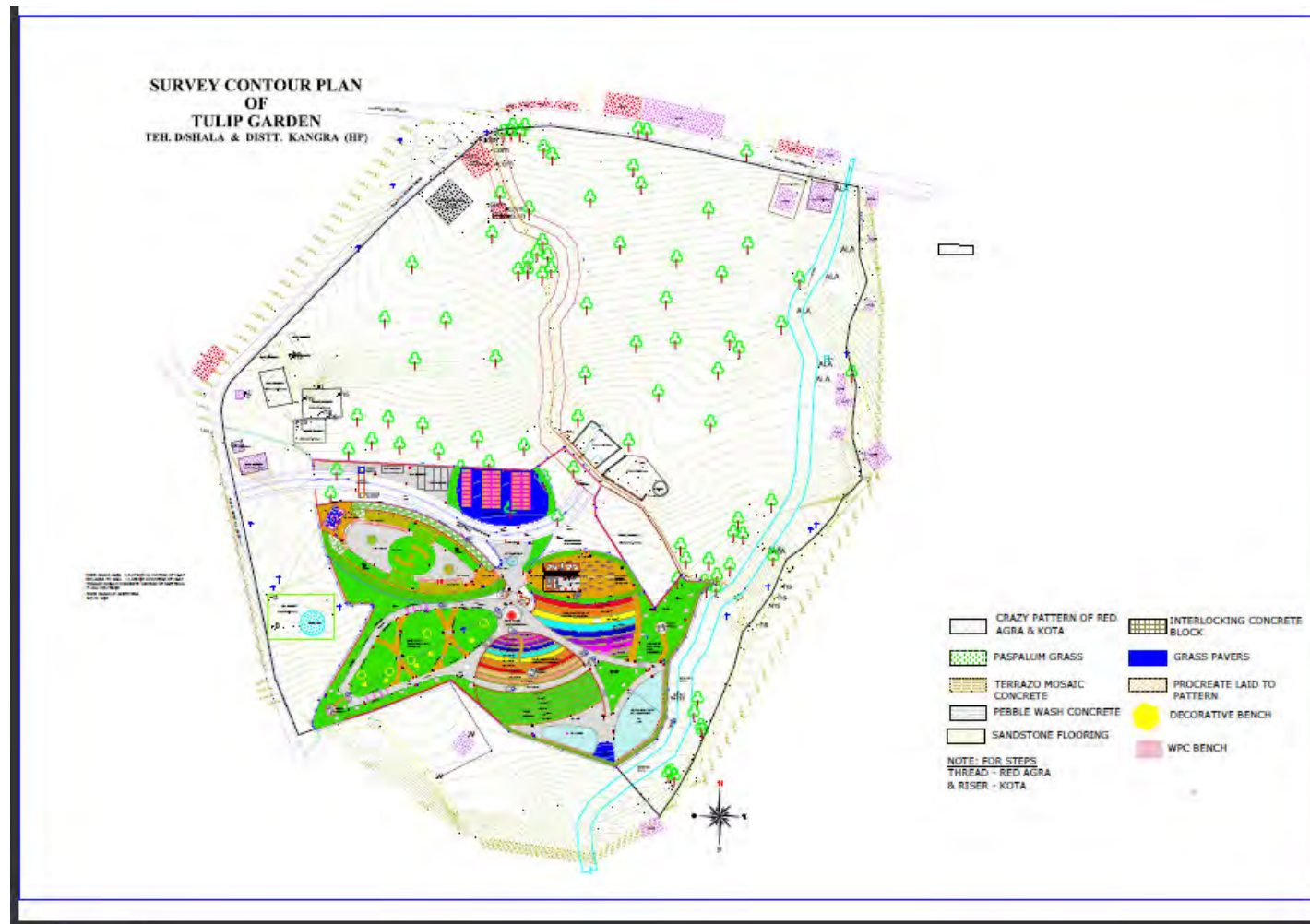
Layout Plan of Bhagsu Plaza site



Layout Plan of Bhagsu Temple Complex



Layout Plan of DC Office Site



Layout Plan of Tulip Garden site

Annexure-3

Photo Illustration of Proposed Sites



Proposed area for development near Bhagsu Nag Temple



Holy Kund (pond) near Bhagsu Nag Temple



Proposed area for development near Bhagsu Nag Temple



Main entrance of Bhagsu Nag Temple



Proposed site for Bhagsu Cultural Centre



Proposed site for development Fauwara Chowk



Proposed site for Convention centre at Dhauladhar



Proposed site for Parking and shopping complex at DC office



Proposed site for development at M.C. Garden



Proposed site of parking at Aghanjar Mahadev



Aghanjar Mahadev Temple



Steps leading to the Gupteshwar Mahadev temple from Aghanjar Mahadev Temple

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
- Manage 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.

Sample Traffic Management Plan (TMP)

A. Principles

1. One of the prime objectives of this TMP is to ensure the safety of all the road users along the work zone, and to address the following issues:

- (i) the safety of pedestrians, bicyclists, and motorists travelling through the construction zone;
- (ii) protection of work crews from hazards associated with moving traffic;
- (iii) mitigation of the adverse impact on road capacity and delays to the road users;
- (iv) maintenance of access to adjoining properties
- (v) Avoid hazards in
- (vi) addressing issues that may delay the project.

B. Operating Policies for TMP

2. The following principles will help promote safe and efficient movement for all road users (motorists, bicyclists, and pedestrians, including persons with disabilities) through and around work zones while reasonably protecting workers and equipment.

- (i) Make traffic safety and temporary traffic control an integral and high-priority element of every project from planning through design, construction, and maintenance.
- (ii) Inhibit traffic movement as little as possible.
- (iii) Provide clear and positive guidance to drivers, bicyclists, and pedestrians as they approach and travel through the temporary traffic control zone.
- (iv) Inspect traffic control elements routinely, both day and night, and make modifications when necessary.
- (v) Pay increased attention to roadside safety in the vicinity of temporary traffic control zones.
- (vi) Train all persons that select, place, and maintain temporary traffic control devices.
- (vii) Keep the public well informed.
- (viii) Make appropriate accommodation for abutting property owners, residents, businesses, emergency services, railroads, commercial vehicles, and transit operations.

C. Analyse the impact due to street closure, if required

3. Apart from the capacity analysis, a final decision to close a particular street and divert the traffic should involve the following steps:

- (i) approval from the PIU, local administration to use the local streets as detours;
- (ii) consultation with businesses, community members, traffic police, PWD, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction;
- (iii) determining of the maximum number of days allowed for road closure, and incorporation of such provisions into the contract documents;
- (iv) determining if additional traffic control or temporary improvements are needed along the detour route;
- (v) considering how access will be provided to the worksite;

- (vi) contacting emergency service, school officials, and transit authorities to determine if there are impacts to their operations; and
- (vii) developing a notification program to the public so that the closure is not a surprise. As part of this program, the public should be advised of alternate routes that commuters can take or will have to take as result of the traffic diversion.

D. Public awareness and notifications

5. As per discussions in the previous sections, there will be travel delays during the constructions, as is the case with most construction projects, albeit on a reduced scale if utilities and traffic management are properly coordinated. There are additional grounds for travel delays in the area, as most of the streets lack sufficient capacity to accommodate additional traffic from diverted traffic as a result of street closures to accommodate the works.

6. The awareness campaign and the prior notification for the public will be a continuous activity which the project will carry out to compensate for the above delays and minimize public claims as result of these problems. These activities will take place sufficiently in advance of the time when the roadblocks or traffic diversions take place at the particular streets. The reason for this is to allow sufficient time for the public and residents to understand the changes to their travel plans. The project will notify the public about the roadblocks and traffic diversion through public notices, ward level meetings and city level meeting with the elected representatives.

7. The PIU will also conduct an awareness campaign to educate the public about the following issues:

- (i) traffic control devices in place at the work zones (signs, traffic cones, barriers, etc.);
- (ii) defensive driving behaviour along the work zones; and
- (iii) reduced speeds enforced at the work zones and traffic diversions.

8. It may be necessary to conduct the awareness programs/campaigns on road safety during construction.

9. The campaign will cater to all types of target groups i.e. children, adults, and drivers. Therefore, these campaigns will be conducted in schools and community centers. In addition, the project will publish a brochure for public information. These brochures will be widely circulated around the area and will also be available at the PIU, and the contractor's site office. The text of the brochure should be concise to be effective, with a lot of graphics. It will serve the following purpose:

- (i) explain why the brochure was prepared, along with a brief description of the project;
- (ii) advise the public to expect the unexpected;
- (iii) educate the public about the various traffic control devices and safety measures adopted at the work zones;
- (iv) educate the public about the safe road user behaviour to emulate at the work zones;
- (v) tell the public how to stay informed or where to inquire about road safety issues at the work zones (name, telephone, mobile number of the contact person; and

- (vi) indicate the office hours of relevant offices.

E. Vehicle Maintenance and Safety

10. A vehicle maintenance and safety program shall be implemented by the construction contractor. The contractor should ensure that all the vehicles are in proper running condition and it comply with roadworthy and meet certification standards of GoI. All vehicles to be used at STWSSP shall be in perfect condition meeting pollution standards of GoI. The vehicle operator requires a pre state of shift checklist. Additional safety precautions will include the requirement for:

- Driver will follow the special code of conduct and road safety rules of Government of India.
- Drivers to ensure that all loads are covered and secured drivers to ensure operation equipment can't leak materials hauled
- Vehicles will be cleaned and maintained in designed places.

F. Install traffic control devices at the work zones and traffic diversion routes

10. The purpose of installing traffic control devices at the work zones is to delineate these areas to warn, inform, and direct the road users about a hazard ahead, and to protect them as well as the workers. As proper delineation is a key to achieve the above objective, it is important to install good traffic signs at the work zones. The following traffic control devices are used in work zones:

- Signs
- Pavement Markings
- Channelizing Devices
- Arrow Panels
- Warning Lights

11. Procedures for installing traffic control devices at any work zone vary, depending on road configuration, location of the work, construction activity, duration, traffic speed and volume, and pedestrian traffic. Work will take place along major roads, and the minor internal roads. As such, the traffic volume and road geometry vary. The main roads carry considerable traffic; internal roads in the new city areas are wide but in old city roads very narrow and carry considerable traffic. However, regardless of where the construction takes place, all the work zones should be cordoned off, and traffic shifted away at least with traffic cones, barricades, and temporary signs (temporary "STOP" and "GO").

12. The work zone should take into consideration the space required for a buffer zone between the workers and the traffic (lateral and longitudinal) and the transition space required for delineation, as applicable. For the works, a 30 cm clearance between the traffic and the temporary STOP and GO signs should be provided. In addition, at least 60 cm is necessary to install the temporary traffic signs and cones.

13. Traffic police should regulate traffic away from the work zone and enforce the traffic diversion result from full street closure in certain areas during construction. Flaggers/ personnel should be equipped with reflective jackets at all times and have traffic control batons (preferably the LED type) for regulating the traffic during night time.

14. In addition to the delineation devices, all the construction workers should wear fluorescent safety vests and helmets in order to be visible to the motorists at all times.

15. The PIU and contractor will coordinate with the local administration and traffic police regarding the traffic signs, detour, and any other matters related to traffic. The contractor will prepare the traffic management plan in detail and submit it along with the EMP for the final approval.

Public Consultations

During project preparation (June 2014 to – January, 2016), consultations have been held with the following;

- ✓ HP Department of Tourism,
- ✓ Tourists of Dharamshala and Mcleodganj and District administration,
- ✓ Municipal- Corporation,
- ✓ local community representatives,
- ✓ tourism officers, and tourist guides/photographers

The 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 have been discussed. The following key issues have been identified.

- a) The temples are under the Government management now, the authorities are interested in preserving the ancient temple sites, upgrade the spaces and facilities in response to the growing tourism in the region. Tourism is the main factor that drives the economy of Dharamshala & the government is required to make the best by developing the major tourist spots around the area.
- b) The two temple precincts are not only major destinations for outside tourist but also for local visitors. During the festivals such as Shivratri people throng in large number. Hence, the government also facing the challenges to handle situations & committed to preserve these temples of importance for the religious sentiments of the local people.
- c) Preserving the temple precincts & upgrading the facilities to world class standards will ensure increase in influx of tourist. Thus investing in the tourism industry of the region will help in generating more revenue on the other side.
- d) Apart from the restoration projects, the component of the project that deals with the upgrading of tourist facilities in Dharamshala and Mcleodganj is a part of the Dharamshala (Kangra valley) Tourism Action Plan. There is a dire need for upgrading and providing better & more facilities at the critical areas along the main road for making a world class tourist destination. Along with that upgrading of the spaces and facilities would also be beneficial to the locals of the town.

The details of Stakeholders Consultation are as under:

i. Consultations during preliminary design

1. Aghanjar Mahadev Temple Precint:

There is great dearth of additions/improvements in its beautiful natural settings. During consultations with the Pujari, the following suggestions/points emerged:

- Langar house needs to be improved.
- Community Centre to be developed by demolishing old structures (cow sheds).
- No commercial complex should be constructed. If any construction comes up, it should be in natural/ heritage form.
- Restoration of Kund.
- Toilets/ bathing blocks for women are under construction by Zila Parishad
- Illumination, landscaping, stairs leading to adjoining water body need to be taken up.



Consultation with the Head Pujari



Toilet/ Bathing Blocks under construction

2. MC Park near Shaheed Smarak:

This site has ample scope for works apart from those suggested. Works such as children's park, boundary walls, readjustment of swings, addition of swings, dustbins, landscaping, illumination, drinking water, toilets may be taken up.



M.C Park near Shaheed Smarak

3. Kacheri Market:

Approach road can be maintained, metaling of road, putting up of signages, toilets and rain shelters may be renovated. Beautification of chowk needs to be initiated.



Existing toilet Blocks



Existing vendors near Kacheri

4. Fuwara Chowk, Kotwali bazaar Junction:

It's a very congested area. During public consultation with the shop owners, the following suggestions emerged:

- The Fountain is non-functional and the stagnant water is a big source of vector borne diseases in that area. Hence, Fountain needs to be made functional.
- Lights, Signages and drinking water facilities need to be provided.
-



Public Consultation

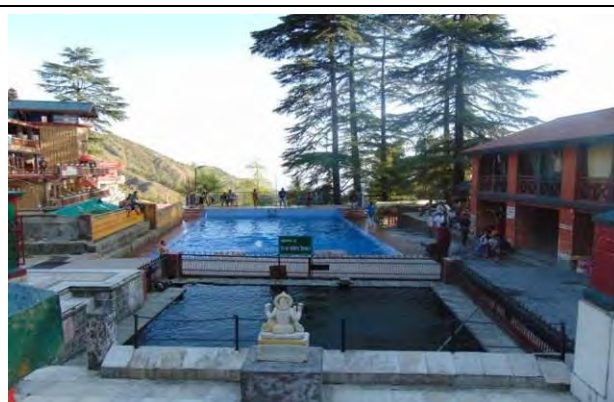


Fuwara Chowk

5. Bhagsu Nag Temple precinct:

During consultations with the tourists, the following points were highlighted:

- Toilet blocks to be renovated.
- Restoration of Bhagsu Temple as the roof is leaking leading to slippery paths for the tourists.
- Proper railings, improvements of the pathway, toilet and bathing facilities etc.



Pond at BhagsuNaag Temple



Old structure presently in use for office work

ii. Consultations During Detail Design

Date of consultation: 06.01.2016

Place	Persons consulted	Topics of discussion	Outcome
Existing parking at proposed Bhagsu Plaza site	1. Choukas Ram, tea shop 2. Ramesh, Subhas- drivers at taxi stand 3. Vinay Kumar- Parking contractor employee	Requirements of tourists and locals for development of tourism, suggestions for the project	There is extreme requirement of development of ample space for taxi stand, drinking water and rain shelter is required for tourists
Bhagsu Nag Temple campus	1. BihariLal, restaurant shop 2. Cheta, BihariLal, Pujari and sewadar, Bhagsunag Temple 3. Ritesh, Tourist	Requirements of tourists and locals for development of tourism, suggestions for the project	Requirement of bath rooms and toilets separate for ladies and gents, there is langar hall and kitchen to be demolished and needs to be relocated at other place
FuwaraChowk	1. Poonam, vendor 2. TriptaSahdev, shopkeeper 3. Rajnish, visitor	Present use of chowk space and requirements of tourists and locals for development of tourism, suggestions for the project	Presently space is being used as Ramlila play during Dussehera festival, two vendors are doing their business here, visitors come here to rest a while and having snacks, fountain is not working since long, beautification of the area is required
Proposed facilities and parking at DC office	1. Prabhat Kumar, stamp vendor 2. Navneet Gupta, Advocate	Existing status of the old building and use of space, requirements of tourists and locals for development of tourism, suggestions for the project	Presently the old building is having few government offices and housing the temporary sitting arrangements (Chambers) of advocates and stamp vendors. New building is being constructed and those will be shifted in to new space after allotment
AghanjarMahadev Temple	1. MadanLal, Satish Kumar- business of slate stone near temple 2. Balbir Kumar, Narayan Das, Sita Ram, Shopkeepers at temple campus 3. Subhash Karan Kapoor, former head of temple trust	Existing status of temple, tourist facilities and tourist inflow at temple, requirements of tourists and locals for development of tourism, suggestions for the project	Presently 3 shops, old gate and pathway to temple are in deteriorating stage and needs refurbishment, parking is required, peak tourist season is April-June, a fair is observed for two days during Shivratri festival, a popular and peaceful place for tourists and pilgrims

IEE: Conserving Prominent Temple Precincts & Upgrading Urban Infrastructure for Tourism in Dharamshala, Mcleodganj IDIPT (HP)

Place	Persons consulted	Topics of discussion	Outcome
Proposed site of Bhagsu Cultural Center, near tourism department	1. Mr.Ashwanisoni, Senior Manager, HPTDC, hotel Bhagsu 2. Ajit Singh, worker, HPTDC	Status and present use of land for Bhagsu cultural centre, requirement for facilities for tourists	Presently land is used as parking and some land is having small play area, land belongs to Tourism Department, parking is very much required for tourists

Photographs of Public Consultations during Detail Design



Consultations at Bhagsu Parking site



Consultations at Bhagsu Plaza



Consultations at Bhagsu Nag Temple site



Consultation at Bhagsu Nag Temple



Consultations at HPTDC, hotel Bhagsu



Consultations at Fuwara Chowk




Consultations at Proposed facilities and parking at DC office



Consultations at Aghanjar Mahadev Temple

Office Orders of GRC at PMU level

19



Infrastructure Development Investment Program for Tourism,
(ADB Loan No. 2676-IND)
Himachal Pradesh Tourism Development Board,
Department of Tourism and Civil Aviation, Himachal Pradesh.
PMU Office U. S. Club, Shimla-1.

TEL (0177)2659962. Fax. (0177) 2659925.

No: IDIPT-HP/2676-IND/GRC-PMU/2013-326-52. Dated: 2nd May, 2013.

OFFICE ORDER

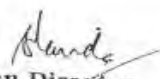
Following Grievance Redress Committee (PMU, IDIPT-HP) has been constituted for the registration of grievances/complaints/suggestions/comments/questions/ feedback etc. of the general public on the IDIPT-HP projects (ADB Loan No. 2676-IND) and further reviewing/recommending appropriate action on the same to the competent authority:-

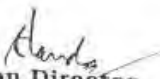
1. Executive Engineer, PMU, IDIPT-HP.
2. Community Development Officer, PMU, IDIPT-HP.
3. Deputy Director (Tourism), Shimla Division.
4. Representative of Line Agency, IDIPT-HP Projects.
5. Environment Safeguard Specialist, PMC.

Endst. No. As above.

Copy to the following along with a Grievance Registration Form for information and necessary action please:-

1. The Principal Secretary (Tourism) to the Govt. of HP, Shimla-2.
2. All the Deputy Commissioners in HP.
3. The Commissioner, MC, Shimla.
4. All the concerned members of the above Committee for initiating further necessary action at their level.
5. Executive Engineer, PIU, IDIPT-HP, Shimla.
6. Junior Engineers, PMU/PIU, IDIPT-HP, Shimla/ Kangra.
7. Team Leaders, PMC/ DSC.

d/c 
Mission Director
IDIPT-HP, Shimla.
Dated: 2nd May, 2013.

d/c 
Mission Director
IDIPT-HP, Shimla.

Office Orders of GRC at PIU Kangra level

9

Infrastructure Development Investment Program for Tourism,
(ADB Loan No. 2676-IND)
Himachal Pradesh Tourism Development Board,
Department of Tourism and Civil Aviation, Himachal Pradesh.
PMU Office U. S. Club, Shimla-1.

TEL (0177)2659962.

Fax. (0177) 2659925.

No: IDIPT-HP/2676-IND/GRC-PIU/2013- 363-92 Dated: 2nd May, 2013.

OFFICE ORDER

Following Grievance Redress Committee (PIU, IDIPT-HP) has been constituted for the registration of grievances/complaints/suggestions/comments/questions/ feedback etc. of the general public on the IDIPT-HP projects (ADB Loan No. 2676-IND) and further reviewing/ recommending appropriate action on the same to the competent authority:-

1. Executive Engineer/ Project Manager, PIU, IDIPT-HP.
2. Community Development Officer, PMU, IDIPT-HP.
3. Deputy Director (Tourism), Kangra Division at Dharamshala.
4. Representative of Line Agency, IDIPT-HP Projects.
5. Safeguard Specialist, Environment, DSC.

Endst. No. As above. 30

Copy to the following along with a Grievance Registration Form for information and necessary action please:-

1. The Principal Secretary (Tourism) to the Govt. of HP, Shimla-2.
2. All the Deputy Commissioners in H. P.
3. All the concerned members of the above Committee.
4. The Executive Engineer, PMU/PIU, IDIPT-HP, Shimla/ Kangra.
5. The Executive Officers, Municipal Councils, Kangra, Una, Bilaspur, HP.
6. The Junior Engineers, PMU/PIU, IDIPT-HP, Shimla/ Kangra. The JE (Civil), PIU, Kangra is directed to install a box of size-12"x18"10" outside of the PIU office with the words written on it "PIU-IDIPT-HP welcomes suggestions/ comments/questions/ feedback/ grievances/complaints etc. of the general public on the implementation of IDIPT-HP projects (ADB Loan No. 2676-IND)"
7. Team Leaders, PMC/DSC.

o/c Mission Director
IDIPT-HP, Shimla.
Dated: 2nd May, 2013.

Received by
Sunil Kumar
Dharmender Sharma
&
Jitender Chaudhary
Copies by
Sunil.

o/c Mission Director
IDIPT-HP, Shimla.

Infrastructure Development Investment Program for Tourism
(ADB Loan No. 2676-IND.)
Himachal Pradesh Tourism Development Board
Department of Tourism and Civil Aviation, Himachal Pradesh,
PMU Office U. S. Club, Shimla-1.

TEL (0177)2659962.

Fax. (0177)2659925.

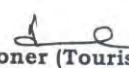
No.: IDIPT-HP/3223-IND/GRC-PIU /2015-

Dated: .04.2016.

Office Order

In supersession of this office order No. IDIPT-HP/2676-IND/GRC-PIU/2013-363-92 dated 02.05.2013 wherein the Grievance Redress Committee (PIU, IDIPT-HP) has been constituted for the registration of grievances/ complaints/ suggestions/ comments/ questions/ feedback etc. of the general public on the IDIPT-HP projects (ADB Loan No. 2676-IND). Now the said committee is re-structured as GRC, PIU, Kangra, HP for the registration of grievances/ complaints/ suggestions/ comments/ questions/ feedback etc. of the general public on the IDIPT-HP projects under ADB Loan No. 2676-IND as well as Loan No. 3223-IND and further reviewing/recommending appropriate action on the same to the competent authority as following:

1. The Project Manager, PIU, IDIPT-HP, Kangra.
2. The Deputy Director (Tourism), Kangra Division at Dharamshala.
3. The Community Development Officer, PMU/PIU, IDIPT-HP.
4. Representative of Line Agency, IDIPT-HP Projects under the PIU, Kangra.
5. The Safeguard Specialist, PMU/PMC/DSC.

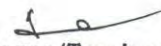

Commissioner (Tourism)-cum-
Mission Director,
IDIPT-HP

Dated: 04.05.2016.

Endst. No. As above. 644

Copy to the following alongwith a Grievance Registration Form and Grievance Redress Mechanism for information and necessary action please:

1. The Additional Chief Secretary (Tourism), to the Govt. of H.P., Shimla-2.
2. All the Deputy Commissioner in H.P.
3. All the concerned members of the above committee.
4. The Technical Consultant, PMU, IDIPT-HP, Shima.
5. The Executive Engineer, PMU, IDIPT-HP Shimla.
6. The Project Manager, PIU, IDIPT-HP, Dhaliara, Kangra, HP. He is directed to install a box for Loan No. 3223-IND as did for Loan No. 2676-IND.
7. The Asstt. Engineer, PIU, IDIPT-HP, Dhaliara, Kangra, HP.
8. The Team Leader, PMC/DSC, IDIPT-HP.


Commissioner (Tourism)-cum-
Mission Director,
IDIPT-HP

Annexure-8

Sample Grievance Redressal 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–9

Sample Field Environmental Monitoring Report Template

ADB LOAN NO.3223–IND

India: Infrastructure Development Investment Program for Tourism
Himachal Pradesh

ENVIRONMENTAL MONITORING CHECKLIST (Note: To be filled in separately for each package)				
Project no.				
Site location				
Date & Time of visit				
Stage	Pre-construction/Construction/Post construction phase			
Activity	Parameter monitored	Observation		Remark/s, if any
		Yes	No	
Activity 1: Signage & display	Is the content & design of project related signage on site found correct?			
	Is the signage/display appropriately located?			
	Is there proper cautionary & directional signage on site?			
	Has the surrounding population been informed about the nature and duration of the works?			Note: Give dates & method of communication
Activity 2: Ambient Air Quality	Is the emissions testing done as specified in the EMP?			Note: Give dates
	Is the testing record being maintained as specified?			
	Were there any fumes, bad odour or dust observed on site?			
	If yes, has this been communicated to the Contractor for him to take appropriate measures to redress the issue?			
	Is the dust suppression/sprinkling being done adequately/as prescribed in the EMP?			
	If not, has the contractor been informed to improve the situation?			
Activity 3: Solid Waste	Are litter bins provided on site for solid waste collection?			

Management & Debris Disposal	Is there any litter found lying around on site or nearby the site but originating from the site that creates unsafe or unhealthy working conditions (e.g. risk of slipping, falling over, or mosquito breeding)?			
	Is the frequency of waste removal from site adequate?			
	Is the mode of waste disposal appropriate e.g. recycling, composting, removal to MC bin etc.?			
	Are the debris/ muck from earthwork/excavation being properly disposed off in a pre-designated disposal site?			
	Is the demolition or construction waste being properly carried out & disposed off from site as specified in the EMP?			
Activity 4: Water & drainage	Is the water quality testing done as specified in the EMP?			Note: Give dates
	If standards were exceeded: has this been communicated to the Contractor directly after the results were available, for him to take appropriate action?			
	Is the testing record being maintained as specified?			
	Is there any water-logging at site?			
Activity 5: Noise	Is the noise testing done as specified in the EMP?			Note: Give dates
	If standards were exceeded: has this been communicated to the Contractor directly after the results were available, for him to take appropriate action?			
	Is the testing record being maintained as specified?			
	Is the generator set being housed in an insulated enclosure to prevent noise pollution on site?			
	Is there any other undue noise activity or noise			

	source observed on site?			
Activity 6: Site & operations management	Is the site being inspected by field staff on regular basis or as required by the EMP?			Note: Attach a copy of site inspection record
	Are the work areas properly barricaded or fenced?			
	Is there proper pedestrian and vehicular access to site?			
	Is the alternate mobility route/decongestion plan being followed on site, if applicable?			
	Is there proper storage arrangement for construction materials & supplies on site? e.g. preventing water logging or water pollution			
	Are the hazardous substances like fuel – (diesel, LPG, kerosene, oil) or paints or asbestos being properly stored and used on site/as specified in the EMP?			
	Are there adequate fire safety precautions being maintained onsite?			
	Are the machinery & other construction implements being maintained properly on site?			
	Are the vehicles carrying raw material/supplies and heavy equipment parked at the designated area within or near the site?			
	Is there any incidence of soil/water contamination from toxic substances observed on site? e.g. from oil spill or waste engine oil			Note: If yes, please specify date and describe incident, how was it resolved and how to avoid in future
	Is the oil /waste oil disposal being done safely and properly <u>away</u> from site?			Note: Safe disposal should be done on sealed ground preventing leakage and run-off, away from direct sunlight and combustible

Activity 7: Occupational Health & Safety	Is the OHS plan being followed and record being maintained as specified?			products.
	Is proper safety gear being used by workers on site? E.g. gloves, shoes, helmets & hearing protection equipment			
	Is there provision of safe drinking water on site?			
	Are there proper and clean toilets for workers on or near the site?			
	Is the provision for First Aid & Emergency Services available on site?			Note: Check the availability, accessibility and completeness of the first aid kit (e.g. are band-aids, disinfectant?).
	Is there any accident reported on site?			Note: If yes, please provide detailed report on any incident, accident, or fatality during the reporting period. Specify what and how it happened and what will be done to avoid a similar situation to occur again
	Is the accident record being properly maintained on site?			
	Is there any incidence of water borne disease or exposure to toxic substance on site?			
	Are disease preventive measures such as inoculation, sprays etc. being carried out on site?			
	Are there any labour camps established within or in close proximity to protected areas or heritage sites?			
As per Loan covenant 6 under Schedule 5 for HPIDIPT: "The State shall ensure that civil works Contracts under the projects follow all applicable labour laws of the Borrower and the State and that these further include provisions to the effect that Contractors				
	... (i) carry out HIV/AIDS awareness programs for labour and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and			Note: Give dates & a brief report on compliance where applicable

	safety measures			
	... (ii) follow and implement all statutory provisions on labour, health, safety, welfare, sanitation and working conditions.			Note: Attach an undertaking from the Contractor
Concluding remarks	Environmental compliance of this sub-project: <ul style="list-style-type: none"> <input type="checkbox"/> Fully compliant <input type="checkbox"/> Nearly compliant <input type="checkbox"/> Partially compliant <input type="checkbox"/> Non-compliant 			
Checked by				
Designation				

Sample EMR Template

Environmental Monitoring Report

Loan Number: -----

Reporting period: (month/year to month/year)

(Title of Project)

Prepared by: -----

Implementing Agency: -----

Executing Agency: -----

Date: (dd/ mm/ yyyy)

Project Title /Loan number /report reference number /date of report

TABLE OF CONTENTS

	(page no.)
1. Introduction	
2. Compliance status with National /State /Local statutory environmental requirements	
3. Compliance status with the environmental covenants as stipulated in the Loan Agreement	
4. Compliance status with environmental management and monitoring plans and environmental assessment and review framework/procedures as stipulated in the environmental documentation as agreed with ADB	
5. Approach and methodology engaged for environmental monitoring of the project	
6. Monitoring of environmental receptors/ attributes (e.g. ambient air, surface water, ground water, land, ecological aspects, noise, hazardous/toxic wastes, etc.)	
7. Any other environmental aspects, impacts observed during implementation which were not covered earlier	
8. Details of complaints received from public and actions taken thereof to resolve	
9. Follow-up actions and conclusions	

Project Title /Loan number /report reference number /date of report

1. Introduction

- overall project description;
- project objectives;
- environmental category;
- environmental performance indicators, if any;
- overall project progress, agreed milestones and implementation schedules;
- any other information useful for assessing environmental performance of the project

(Limited to 3/4 of a page)

2. Compliance status with National /State /Local statutory environmental requirements

- Tabular presentation of statutory environmental requirements for the project at national, state and local levels (applicable to the borrower, sub-borrowers, contractors, vendors, etc. as the case may be), and the status of compliance thereof.
- If the project is not in compliance with any of those requirements, the report would provide actions proposed for achieving compliance within an agreed time frame duly approved by the respective regulatory agencies.

(Limited to 1/2 to 1 page)

3. Compliance status with the environmental covenants as stipulated in the Loan Agreement

- Tabular presentation of environmental covenants as stipulated in the Loan Agreement and the status of compliance thereof.
- If the project is not in compliance with any of those requirements, the report would provide actions proposed for achieving compliance within a time frame to be reviewed and approved by the ADB.

(Limited to 3/4 of a page)

4. Compliance status with environmental management and monitoring plans as stipulated in the environmental documentation as agreed with ADB

- Tabular presentation of environmental management and monitoring plans and environmental assessment and review framework/procedures as agreed and the status of implementation thereof.
- The status chart would provide details of actions proposed to be taken by various agencies, including contractors/vendors for implementation, the current status of compliance.
- In case any corrective measures are warranted, the status chart would outline the corrective action plan with an agreed time frame duly agreed by all those agencies concerned for ADB's review and concurrence.
- In case of corrective measures are implemented based on the earlier monitoring, the status chart would elaborate clearly the improvements noticed and further steps required if any.

(Limited to 2 pages)

5. Approach and methodology engaged for environmental monitoring of the project

- Monitoring basis
 - rationale for selection of sampling/ monitoring locations,
 - selection of environmental receptors /attributes for monitoring,
 - linkage with environmental performance indicators agreed upon,
 - phases of project – design, construction, operation
- Standards /monitoring methods to be employed for assessment
- Monitoring Quality Control

(Limited to 1 page)

6. Monitoring of environmental receptors/ attributes (e.g. ambient air, surface water, ground water, land, ecological aspects, noise, hazardous/toxic wastes, etc.)

- Type of environmental receptor/attribute to be monitored (for each type)
 - Method of monitoring
 - Duration and frequency of monitoring
 - Equipment /instrumentation to be used for monitoring
 - Sampling locations/ sites for monitoring (linked with Appendix 1 – location map)
 - Reporting monitoring results (provide tabular presentation)
 - Detailed analyses of monitoring reports and conclusions (use histograms or any other methods)
 - Correlate the monitoring results with statutory requirements at national/state/local levels
 - Corrective actions proposed in case on non-compliance /improvements noticed due to corrective actions taken during the reporting period, and further actions required if any.
 - Recommendations /Suggestions.

(Limited to 2 pages)

7. Any other environmental aspects, impacts observed during implementation which were not covered earlier

(Limited to 1/2 page)

8. Details of Grievance Redress Committee and complaints received from public and actions taken thereof to resolve

(Limited to 1 page)

9. Follow-up actions and conclusions

(Limited to 1/2 to 1 page)

Signed by:

Monitoring agency:
(name, title, date)

Authorized signatory from Implementing Agency /Executing Agency:
(name, title, date)

APPENDIX 1

Location Map for Environmentally Sensitive Sites and Monitoring Stations

Annexure-11

No Objection Certificate (NoC)

Temple Trust for Tulip Garden works

प्रेषक,
उपमण्डल अधिकारी (न०)
धर्मशाला।

प्रेषित,
प्रोजेक्ट डायरेक्टर
आई० डी० आई० पी० टी० -हि०प्र०
यु० एस० क्लव० शिमला।

क्रमांक १२२ / एस०डी०ए० दिनांक १४ / ९ / २०१५

विषय-अनापति प्रमाण पत्र।

महोदय,
बाबा सिद्धगोरियां मन्दिर सिद्धवाडी तहसील धर्मशाला की जमीन का सौंदर्यकरण तथा
विकास करने हेतु **Asian Development bank** द्वारा प्रायोचित स्कीम के अन्तर्गत
Tulip Garden, पार्क व अन्य जन सुविधा प्रदान करने हेतु उक्त मन्दिर कमेटी की
७/९/२०१५ में हुई बैठक के प्रस्ताव संख्या १ अनुसार कोई आपत्ती न है।

भवदीय,

अध्यक्ष बाबा सिद्ध गोरियां मन्दिर
सिद्धवाडी।

Transcript

Land which are under the jurisdiction of Baba Didhgoria Mandir is issuing NOC for the beautification works of Tulip Garden.

NOC of Temple Trust Bhagsunath

कार्यालय मन्दिर अधिकारी श्री भागसूनाग मन्दिर न्यास स्थित भागसू जिला कांगडा
क्रमांक भा0न0म0न0 1/2014 183, दिनांक 27-8-14
सेवा में
सहायक आयुक्त मन्दिर एवं उपमण्डलाधिकारी (नॉ0) धर्मशाला
विषय :- अनापति प्रमाण पत्र ।
उपरोक्त विषय पर आपके कार्यालय पत्र संख्या 982 - 84 /उ0म0का0 दिनांक 4.8.2014 के सन्दर्भ तहसीलदार धर्मशाला की रिपोर्ट मय नकल जमावन्दी महाल खडौता व उपमहाल भागसूनाग की वर्णित भूमि की रिपोर्ट प्राप्त हुई है ।
जिसके अनुसार भूमि महाल खडौता अगंजर महादेव खन्धारा के खाता न0 100 मिन खतौनी न0 243 मिन खसरा न0 383.385.388 किता 3 रकवा 9-41-37 हैक्ट. मलकीयती सरकार हि0 प्र0 वखाना कारत कब्जा स्वयं मार्फत प्रबन्धक वराये निर्माण मन्दिर निर्माण शौचालय व स्नानागार में पानी की व्यवस्था हेतु व भूमि खाता न0 142 मिन खसरा न0 679.680.681.682.683.684.685.686.687.772.773.774.775.776.777.1488/778.780.692 किता 18 रकवा 5168.59 वर्ग मीटर में वराये मन्दिर भागसूनाग से जल प्रपात सम्पर्क मार्ग में कूड़ादान व बैठने के लिए बैंच आदि लगाने हेतु अनापति प्रमाण पत्र की सिफारिश की जाती है ।
भवदीय
मन्दिर अधिकारी
श्री भागसूनाग मन्दिर न्यास
स्थित भागसू जिला कांगडा

Transcript

Land revenue record of Bhagsunath temple premises has been obtained. As per record khata no-100 min khatauni no-243 khasra no-383,385,388 area 9-41-37 hec land are under the jurisdiction of Temple Trust, and the land of khasra no-679,680,681,682,683,684,685,686,687,772,773,774,775,776,777,1488/778,780,692 area 5168.59 sq meter are under the jurisdiction of Bhagsunath Temple Trust. Temple Trust are issuing NOC for the development works in both the temple premises.

**Temple Trust Officer
Bhagsunath Temple Trust, Kangra**

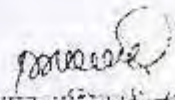
NOC OF SDM

कार्यालय उपमण्डल अधिकारी (ना0) धर्मशाला जिला कांगड़ा (हि0प्र0)

क्रमांक 1148 /उम0का0 दिनांक 27/09/2014

अनापत्ति प्रमाण पत्र

प्रमाणित किया जाता है कि कार्यालय उप निदेशक टूरिज्म कांगड़ा के पत्र संख्या 4-10/2005-DTO-DMA-365 दिनांक 09/06/2014 पर मॉर्गे गये अनापत्ति प्रमाण हेतु तहसीलदार धर्मशाला से छानवीन करवाई गई जिस के अनुसार महाल खडौला (अगड़ार महादेव खन्गार) के खाता न0 100मिन खतौनी न0 243 मिन खसरा न0 383-385-388 किता 3 रकवा 9-41-37 हैक्टर मलकीयती सरकार हि0 प्र0 वखाना काश्त कब्जा स्वयं मार्फत प्रबन्धक मन्दिर नगर शौचालय व स्नानागार में पानी की व्यवस्था हेतु व भूमि खाता न0 142 मिन खसरा न0 679-680-681-682-683-684-685-686-687-772-773-774-775-776-777-1478/778-780-692 किता 18 रकवा 5168.59 वर्ग मीटर में वराये मन्दिर भागसुन्गम से जल प्रपात सभके सामे में कुडादान व बैठने के लिये वैच आदि लगाने हेतु व महाल सिविल स्टेशन के खाता न0 436 मिन खतौनी न0 610 मिन खसरा न0 758-3696/759-3697/759-3699/759-760-761-762-763-787-788-789-757-3698/759-1776--1775-471 किता 10 रकवा 2864.98 वर्ग मीटर से नगर परिषद नजदीक शहीद स्मारक में घास लगाने व शैड व महिलाओं के लिये शौचालय निर्माण, बच्चों के पार्क में सुरक्षा दीवार निर्माण व उपायुक्त प्रॉगन में पार्किंग का निर्माण व प्रचार पटियां व रोशनी खम्बों का निर्माण कार्य करने हेतु तहसीलदार धर्मशाला का सिफारिश/रिपोर्ट के आधार पर उप निदेशक टूरिज्म कांगड़ा को केवल मौका पर कार्य हेतु अनापत्ति प्रमाण पत्र प्रदान किया जाता है।


उपमण्डल अधिकारी (ना0)
धर्मशाला

Transcript..

NoC

Offer of sub-divisional offer (civil)dharamshala ,distt-kangra (h.p.)
No.-1148 SDM. NOC 2/09/2014

It is to certify that NOC required by Deputy Director (tourism) Kangra H.P. vide high letter no. 4/10/2005-DTO-DMA-365dt.09/06/2014.and as per recommendation report of Tehasildar,Dharamshala Noc is hereby provided to Deputy Director Tourism ,Kangra to work on spot/site to contract toilet & arrange water supply for baths in Mohal kharota (Aganjhar Mahadev Khanyara) kata no.100 min. khatauni no. 243 min khasra no. 383-385-388 kita 3 land measuring 9-41-37 hect in the ownership of H.D. eavtes in the possession of manegment temple for providing installation of dust bins, banches to Bhagsunag temple water sources and link road in land in khasra no. 679-680-681-682-683-684-685-686-687-772-773-774-775-776-777-1478/778-780-692kita 18 land measuring 5168sg. mtrs. For construction of shed, ladies toilets, boundary wall in children park, grasses in municipal council near Shahid Smarak Cort of parking in Dupty Commissioner's complex, sign boards/signages and lighting poles etc. in Mohal civil station in khata no. 758-3696/759-3697/759-3699/759-760-761-762-763-787-788-789-757-3698/759-1776-1775-471kita 10 land measuring2864.98sg. mtrs.

Sd/-
Sub -Divisional Officer (C)
Dharamshala

Memorandum of Understanding (MoU)

MOU for Operation & Maintenance (Between IPTDB and Assets Owner)

I, Om Chand Sharma (name), agree to undertake the operation and maintenance for the assets which will be constructed, renovated, restored and etc. by the IPTDB under Tranche 3 of the IDIPT program together with other assets currently maintained by us. All works under Tranche 3 including but not limited to landscape works, pathways, railings, toilets, car parking and etc. will be maintained by us, with our own funds generated from operations or received from various sources.

Our annual total receipts are Rs. (Optional).

I have no objection for any work being taken up by IPTDB under Tranche 3 of the IDIPT program within the boundary premises and pathway, access to the premises from main road and etc. I assure you that the operation and maintenance of the assets will be done by us from our own resources.

The Name of Project: Conservation of prominent temple precincts Dharamshala & Mcleodganj.
(Bhagus Temple and Aghanjar Mahadev Temple)

Designation of the Temple Officer (Asset Owner)
Bhagus Temple
Temple Officer
Shree Bhagat Nag Temple Trust

MOU for Operation & Maintenance

(Between HPTDB and Assets Owner)

I, Lalit Kumar (name), agree to undertake the operation and maintenance for the assets which will be constructed, renovated, restored and etc. by the HPTDB under Tranche 3 of the IDIPT program together with other assets currently maintained by us. All works under Tranche 3 including but not limited to landscape works, pathways, railings, toilets, car parking and etc. will be maintained by us, with our own funds generated from operations or received from various sources.

Our annual total receipts are Rs. (Optional).

I have no objection for any work being taken up by HPTDB under Tranche 3 of the IDIPT program within the boundary premises and pathway, access to the premises from main road and etc. I assure you that the operation and maintenance of the assets will be done by us from our own resources.

The Name of Project- Upgradation of Urban Precincts to Facilitate Tourism : Dharamshala ,
Mcleodganj.


Executive Officer
Municipal Council
Dharamshala
Distt. Kangra (H.P.)

Designation of the

(Asset Owner)

Annexure 13

Salient Features of Major Labor Laws Applicable to Establishments Engaged in Construction/Civil Works

- (i) Workmen Compensation Act, 1923- The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- (ii) Payment of Gratuity Act, 1972-Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- (iii) Employees' PF and Miscellaneous Provisions Act, 1952-The Act provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - (a) Pension or family pension on retirement or death as the case may be;
 - (b) deposit linked insurance on the death in harness of the worker;
 - (c) payment of PF accumulation on retirement/ death etc.
- (iv) Maternity Benefit Act, 1951-The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- (v) Contract Labour (Regulation and Abolition) Act, 1970-The Act provides for certain welfare measures to be provided by the Contractor to contract labor and in case the Contractor fails to provide, the same are required to be provided by the Principal Employer by Law. The principal employer is required to take Certificate of Registration and the Contractor is required to take a License from the designated Officer. The Act is applicable to the establishments or Contractor of principal employer if they employ 20 or more contract labor.
- (vi) Minimum Wages Act, 1948- The employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employment.
- (vii) Payment of Wages Act, 1936- It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- (viii) Equal Remuneration Act, 1979-The Act provides for payment of equal wages for work of equal nature to Male and Female workers and not for making discrimination against Female employees in the matters of transfers, training and promotions etc.
- (ix) Payment of Bonus Act, 1965- The Act is applicable to all establishments employing 20 or more workmen. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs. 3,500/- per month or less. The bonus to be paid to employees getting Rs.2,500/-per month or above upto Rs.3,500/- per month shall be worked out by taking wages as Rs.2,500/-per month only. The Act does not apply to certain establishments. The newly set up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of the Act.

(x) Industrial Disputes Act, 1947-The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(xi) Industrial Employment (Standing Orders) Act, 1946-It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the employer on matters provided in the Act and get the same certified by the designated Authority.

(xii) Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996 - - Applicable to all construction works in the project, Contractor to obtain license from designated labour officer, Contractor shall register with Labour Department, GOR if Inter-state migrant workmen are engaged, Adequate and appropriate amenities and facilities shall be provided to workers including housing, medical aid, travelling expenses from home and back, etc.