

# Initial Environmental Examination

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India: Sustainable and Inclusive Tourism Development  
Project in Himachal Pradesh

Convention Centre at Dharamshala (Package No. SITDP-  
HP\_W05)

Prepared by Himachal Pradesh Tourism Development Board (HPTDB), Government of Himachal Pradesh  
for the Asian Development Bank.

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## CURRENCY EQUIVALENTS

(As of 5<sup>th</sup> July 2024)

Currency Unit – Indian rupee (₹)

₹ 1.00 – \$ 0.012

\$ 1.00 = ₹ 83.49

## ABBREVIATIONS

ADB	—	Asian Development Bank
BEE	—	Bureau of Energy Efficiency
BIS	—	Bureau of Indian Standards
BMPTC	—	Building Materials & Technology Promotion Council
BoCW	—	Building and Other Construction Works
BOD	—	Biological Oxygen Demand
CPCB	—	Central Pollution Control Board
CPHEEO	—	Central Public Health and Environmental Engineering Organization
CTE	—	Consent to Establish
CTO	—	Consent to Operate
DDMA	—	District Disaster Management Authority
DO	—	Dissolved Oxygen
DPF	—	Demarcated Protected Forest
DPR	—	Detailed Project Report
EA	—	Executing Agency
EAC	—	Expert Appraisal Committee
EARF	—	Environmental Assessment Review Framework
ECBC	—	Energy Conservation Building Code
EHS	—	Environmental Health & Safety
EIA	—	Environmental Impact Assessment
EMP	—	Environmental Management Plan
ESZ	—	Eco-sensitive Zone
GEC	—	Ground Water Estimation Committee
GoI	—	Government of India
GoHP	—	Government of Himachal Pradesh
HFL	—	High Flood Level
HMV	—	Heavy Motor Vehicle
HPSPCB	—	Himachal Pradesh State Pollution Control Board
HPTDB	—	Himachal Pradesh Tourism Development Board
HPTDC	—	Himachal Pradesh Tourism Development Corporation
IBAT	—	Integrated Biodiversity Assessment Tool
IEE	—	Initial environmental examination
IFC	—	International Finance Corporation
ILO	—	International Labour Organisation
IPH	—	Irrigation and Public Health Department
IUCN	—	International Union for Conservation of Nature and Natural Resources
JSV	—	Jal Shakti Vibhag
LED	—	Light Emitting Diode
LMV	—	Light Motor Vehicle

MDR	—	Major District Roads
MoEFCC	—	Ministry of Environment, Forest & Climate Change
MSL	—	Mean Sea Level
NEP	—	National Environment Policy
NGO	—	Non-Governmental Organization
NMA	—	National Monument Authority
O&M	—	Operations & Maintenance
PIU	—	Project Implementation Unit
PM	—	Particulate Matter
PMDSC	—	Project Management & Design Supervision Consultants
PMU	—	Project Management Unit
PUC	—	Pollution Under Control
REA	—	Rapid Environmental Assessment
RCC	—	Reinforced Cement Concrete
RHT	—	Rain Harvesting Tank
RTO	—	Regional Transport Officer
SEAC	—	State Expert Appraisal Committee
SEIAA	—	State Environment Impact Assessment Authority
SITDP	—	Sustainable and Inclusive Tourism Development Project
SPM	—	Suspended Particulate Matter
SPS	—	Safeguard Policy Statement
TCP	—	Town & Country Planning
TDS	—	Total Dissolved Solids
ToR	—	Terms of Reference
TSS	—	Total Suspended Solids
WHO	—	World Health Organization

## WEIGHTS AND MEASURES

dB (A)	– 'A' Weighted decibel
ha	– hectare
HP	– Horse Power
kld	– Kilo liter per day
km	– kilometer
km <sup>2</sup>	– square kilometer
lpcd	– liter per capita per day
µg/m <sup>3</sup>	– microgram per cubic meter
m	– meter
m <sup>2</sup>	– square meter
cum	– cubic meter (m <sup>3</sup> )
mg/l	– milligram per liter
kVA	– kilo volt ampere

## NOTE

In this report, "\$" refers to United States dollars.

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## EXECUTIVE SUMMARY

The Sustainable and Inclusive Tourism Development Project (SITDP) will support the integration of urban and tourism development of targeted tourism zones and selected urban local bodies in Himachal Pradesh, increasing economic competitiveness and growth, thereby contributing to state-wide poverty reduction. The proposed Project will cover the districts of Hamirpur, Kangra, Kullu, Mandi, and Shimla as distinct sustainable destinations, help implement Himachal Pradesh Tourism Policy 2019, and identify future investment opportunities. The Project is aligned with the following impact: Himachal Pradesh established as a leading sustainable tourism destination for inclusive economic growth.<sup>1</sup> The project outcome is inclusive and sustainable tourism promoted in five districts of Himachal Pradesh. The interventions will be at three levels: (i) tourist amenities at specific tourist sites spread across the districts beyond the main urban centers, thereby generating direct local employment and livelihoods, especially for women; (ii) district-level projects that integrate the proposed and past projects through improved connectivity, stronger industry ecosystems, community initiatives, and improved public sector destination management capacity; and (iii) state-level initiatives to enhance institutional capacity, improve sector governance and gender-responsive sector management.

**Location:** The proposed project Development of Convention Centre at Dharamshala is located at village Baghni in Dharamshala, Kangra district at an altitude of 1250 AMSL. The coordinates of the site are 32°11'5.39"N latitude and 76°21'37.84"E longitude. Dharamshala, the principal township of Kangra District, serves as its administrative headquarters. The project site is at a distance of 1 Km from the Vidhan Sabha and Chinmaya Tapovan, which are prominent locations in Dharamshala town. Dharamshala, the winter capital city of Indian state Himachal Pradesh, is located about 17 km North-East of Kangra town. It is located at a distance of 239 km from Chandigarh, 252 km from Manali, 322 km from Shimla and 514 km from New Delhi.

**Executing and Implementing Agencies:** The executing agency is the Department of Tourism and Civil Aviation (DOTCA), Himachal Pradesh. The implementing agency is Himachal Pradesh Tourism Development Board (HPTDB). Project Management Unit (PMU) is setup at Shimla to coordinate the overall execution. Project Management and Design Supervision Consultant (PMDSC) at Shimla provides assistance to PMU in execution. This project will be implemented by Project Implementation Unit<sup>2</sup> (PIU) established in Kangra, which shall be supported by Project Management & Design Supervision Consultant (PMDSC) from Shimla. 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 project implementation in the field, and will be under the direct administrative control of the PMU. Consultant teams are responsible for project planning and management and assuring technical quality of design and construction; supervising construction activities; and preparation and updating safeguard reports.

**Screening and Categorization:** Convention Centre at Dharamshala is classified as Environmental Category 'B' as per ADB's Safeguard Policy Statement (SPS), 2009, and accordingly this IEE has been prepared. As per the Government of India Environment Impact Assessment (EIA) Notification, 2006, this project requires environmental clearance as the total built up area is more than 20,000 sq m.

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<sup>1</sup> Government of Himachal Pradesh, Department of Tourism and Civil Aviation. 2019. [Himachal Pradesh Tourism Policy, 2019](#). Shimla.

<sup>2</sup> Three PIUs are proposed at Shimla, Kangra and Kullu.

**Project Scope.** The project includes construction of a Convention Centre at Dharamshala including a G+2 Convention Block with Restaurant, Exhibition Halls, Parking, Conference Hall, Meeting rooms, Business Lounge and a G+4 Hotel block with Swimming Pool, Gym, Spa, Multipurpose Hall, Rooms and Apartments. Sanitation facilities are provided in both the blocks.

**Description of the Environment.** Geographically Dharamshala is positioned at approximately 32° 13' North latitude and 76° 19' East longitude. The coordinates of the site are 32°11'5.80"N latitude and 76°21'37.44"E longitude. The slope of the town varies from area to area. The upper part of the town is situated at an altitude of 2100 meter and the lower part of the town is situated at an elevation of 1250 meter. Dharamshala consist of a compact land locked area and can be divided into two widely dissimilar tracts-the lower Dharamshala and the Upper Dharamshala. Lower Dharamshala is having administrative setup, market, residential areas etc. whereas upper Dharamshala is situated at higher altitude also known as Mcleodganj. There are no major rivers in Dharamshala. It has a monsoon influenced, humid subtropical climate (Koppen: Cwa). Summer starts in early April and peaks in May when temperatures can reach 36 °C, and lasts until the start of June. From June to mid-September is the monsoon season, when up to 3,000 mm 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. Autumn temperatures average around 16–17°C (61–63 °F). Winter starts in December and continues until late February. Snow and sleet are common during the winter in upper Dharamshala (including Mc Leodganj, Bhagsu Nag and Naddi). The project area falls in Very High Damage Risk Zone (MSK IX or More) i.e. Zone-V.

Site is vacant and there are no trees at site. The project site is not located in any type of forest land. There are few protected forest blocks, which are located within 5 km area of the project site, however they are away from the project site.

There is no protected area (Wildlife Sanctuaries, National Parks, Tiger/Elephant Reserves, Conservation reserves, etc.) in or near the project site. The project site does not fall within or near any eco-sensitive areas. There are no notable monuments or places of historical, archaeological, or cultural value in and around the proposed site. Screening with Integrated Biodiversity Assessment (IBAT) indicates presence of 1 Protected area; Pong Dam Lake Wildlife Sanctuary and 07 Key Biodiversity areas; Chamba Valley, Sarah Valley, lower Dharamshala, Dhauladhar Wildlife Sanctuary and Mcleod Gunj, Kalatop Khajjar Wildlife Sanctuary, Kugti Wildlife Sanctuary, Nargu Wildlife Sanctuary and Pong Dam Lake WLS within 50 km radial distance; however, none are located close to the project area. The nearest notified protected area is Pong Dam Lake Sanctuary situated at a distance of 27.8 km from the project site. Total 42 species of threatened category are found in 50 km radius as a result of IBAT analysis but not within the project area of influence (PAI). There is no Rare, Endangered or Threatened (RET) Species found in the proposed site area. Regarding the conservation status of the fauna, none of the animal species identified from the site belonged to the threatened categories identified by the International Union for Conservation of the Nature and Natural Resources (IUCN). Most of them are common and widely distributed. Significant flora and fauna has not been noticed in and around the site. Tree species found in the surroundings include *Cassia fistula* (Amaltas), *Mangifera indica* (Mango), *Azadirachta indica* (Neem), *Delbergia sissoo* (Shisham), *Calotropis procera* (Aak) and *Pinus roxburghii* (Chil) etc. Some of the faunal species are *Acridotheres tristis* (Common Myna), *Columba livia* (Rock pigeon), *Psittaculopogon virens* (Great Barbet), *Psittacula kramera* (Rose Ringed Parakeet), *Dicrurus macrocerus* (Black drongo), *Dicrurus leucophaeus* (Ashy drongo), *Funambulus palmarum* (Squirrel), *Hystrix indica* (porcupine), *Lepus timidus* (hare), *Ochotona roylei* (Himalayan mouse hare), *Rattus rattus* (house rat), *Mus musculus* (house mouse), *Macaca mullata* (Rhesus monkey), *Pteropus* sp. (Indian flying fox).

**Potential Environmental Impacts and Mitigation measures:** In this draft IEE, the associated environmental impacts and proposed mitigation measures are covered based on location, design, construction and operation stages of the project. Potential negative impacts have been identified in relation to pre-construction, construction and operation stages of the improved infrastructure, but no permanent environmental impacts were identified as being due to either the project design or location. There is no notable tree cover at site and no tree cutting is proposed. Potential impacts during construction are temporary and are common impacts of construction and there are well developed methods to mitigate the same. Construction activities will be confined to the selected sites and the interference with the general public and visitors is minimal. Site clearance will be strictly confined to the actual work area, no clearance of top soil or vegetation will be done outside the site. Temporary containment drains, silt fence will be used to contain silt laden runoff from site. During excavation, waste will be properly disposed off as per norms of waste management at designated site. In these works, the temporary negative impacts arise mainly from construction dust and noise, hauling of construction material, waste and equipment on local road (traffic, dust, safety etc.), occupational health and safety of aspects of workers as per the site conditions.

These are common impacts of construction in urban areas, and there are well developed methods for their mitigation. Measures such as conducting work to avoid/ minimizing inconvenience by best construction methods will be employed. Additional required quantity of soil will be procured from authorized source having valid environmental clearance certificate or with approval of asset owner. In the operational phase, all facilities and infrastructure will operate with routine maintenance, which should not affect the environment. During the construction phase, impacts also arise from the invasive nature of work at site and along the roads. However, as most of the individual elements are relatively small and involve straight forward construction, the potential environmental impacts (i) will be mainly localized, temporary and not greatly significant; (ii) will not cause direct impact on flora and fauna (iii) are common impacts of construction, and there are well developed methods for their mitigation that are suggested in the EMP.

**Environmental Management Plan:** An Environmental Management Plan (EMP) has been developed to provide mitigation measures to reduce all negative impacts to accessible levels, along with the delegation of responsibility to appropriate agency. Various design related measures are already included in the project design. During construction, the EMP includes mitigation measures such as (i) proper planning and scheduling of construction works considering monsoons; (ii) proper storage of excavated earth and disposal (iii) barricading, dust suppression and noise abatement measures; (iv) traffic management measures for transportation of vehicles and machinery and for hauling activities; (iv) ensure access will not be impacted during the material hauling activities and access will be given to local public without disturbing their movement and (v) finding beneficial use of excavated materials to the extent possible to reduce the disposal quantity (vi) spill and sediment control measures to avoid water and soil pollution, etc. EMP will guide the environmentally sound construction of the project. EMP includes a monitoring program to measure the effectiveness of EMP implementation measures and include observation on and off-site document checks and interview with workers and beneficiaries. The EMP will be included in civil work bidding and contract documents and implementation shall be binding on the contractors.

The contractor will be required to submit to PIU, for review and approval, a site-specific environmental management plan (SEMP) including (i) proposed sites/ locations for construction work camps, storage areas, hauling roads, lay down areas, disposal areas for solid and hazardous wastes; (ii) specific mitigation measures following the approved EMP; and (iii) monitoring program as per EMP. No works will be allowed to commence prior to approval of SEMP by the PIU. A copy of the EMP/ approved SEMP will be kept on site during the construction period at all times.

**Information Disclosure, Consultation and Participation:** 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 project. The consultations aimed to gather insights and opinions on various topics related to proposed project development. The executive summary of IEE report in local language (Hindi) will be made available at public locations in the town and site. The IEE report will also be disclosed to a wider audience via the ADB and the DOTCA websites. The consultation process will continue during project implementation.

The tourists, business people and residents of Dharamshala and Kangra Town will be the major beneficiaries of the project. The benefits to the tourists and population of the area will be positive and large as the proposed project will provide better facilities to tourists/ visitors. Improvement in tourist related infrastructure and facilities shall result in enhanced tourism experience and help in increasing the volume and retention of tourists. By way of tourist/ visitor movement at the site, local economy will improve.

**Grievance Redress Mechanism:** A project-specific Grievance Redress Mechanism (GRM) will be established to receive, record and redress project related grievances in a timebound and effective manner. Details of GRM is included in this IEE.

**Monitoring and Reporting:** The PMU, PIU, PMDSC and Contractor are responsible for environmental monitoring. The contractor shall engage environment officer for managing EHS issues. Contractor shall submit monthly monitoring reports on environmental management to PIU and PMDSC. These reports would be consolidated by PMDSC including its own observation on quarterly basis. Environment Specialist of PMDSC submits quarterly and Semiannual Environmental Monitoring report to PMU. On the basis PMU submits semi-annual reports on implementation of the EMP to ADB and facilitates 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 upon acceptance. The Semiannual Environmental Monitoring reports shall be submitted to ADB till the project completion report (PCR) is issued by ADB. Any major accidents having serious environmental consequences will be reported immediately.

The cost of environmental budget for the various environmental management measures proposed in the EMP, capacity building programs and the cost of the environmental monitoring is given in the IEE. There are few other environmental measures such as safety, signages, personal protective equipment and the cost for which have been accounted in the engineering cost. Therefore, these items have not included in the EMP budget. Only those items not covered under the budget for construction are considered in this IEE report. Total estimated cost for implementation of EMP is INR 14,90,000/-.

**Conclusion and Recommendations:** The proposed project is unlikely to cause significant adverse impacts, and 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 project as Category "B" is confirmed. The project is covered by the Gol EIA Notification, 2006 and hence requires prior environmental clearance as the built-up area of project area is more than 20,000 sq m. The processing of requisite environmental clearance (EC) as per EIA notification is under process. The contractor needs to ensure compliance with all conditions mentioned in the requisite EC. The work shall only be commenced after getting the requisite EC and updating of draft IEE report incorporating EC conditions under the project. Prior to start of construction all requisite permissions and NOCs will be required from the concerned departments in compliance with environmental regulations of the country.

The Executing Agency shall ensure that EMP is included in Bill of Quantity (BOQ) and forms part of bid document and civil works contract. The IEE will be updated by the PMU during the implementation phase to reflect any changes, amendments and the implementation of such scope due to changes, amendments would be carried out only after the updated IEE report is reviewed and approved by ADB. The updated IEE shall supersede the earlier version of IEE and shall be contractually applicable to the contractor.

## I. INTRODUCTION

### A. Background

1. The Sustainable and Inclusive Tourism Development Project (SITDP) will support the integration of urban and tourism development of targeted tourism zones and selected urban local bodies in Himachal Pradesh, increasing economic competitiveness and growth, thereby contributing to state-wide poverty reduction. The proposed Project will cover the districts of Hamirpur, Kangra, Kullu, Mandi, and Shimla as distinct sustainable destinations, help implement Himachal Pradesh Tourism Policy 2019, and identify future investment opportunities. The Project is aligned with the following impact: Himachal Pradesh established as a leading sustainable tourism destination for inclusive economic growth.<sup>3</sup> The project outcome is inclusive and sustainable tourism promoted in five districts of Himachal Pradesh. The interventions will be at three levels: (i) tourist amenities at specific tourist sites spread across the districts beyond the main urban centers, thereby generating direct local employment and livelihoods, especially for women; (ii) district-level projects that integrate the proposed and past projects through improved connectivity, stronger industry ecosystems, community initiatives, and improved public sector destination management capacity; and (iii) state-level initiatives to enhance institutional capacity, improve sector governance and gender-responsive sector management. The expected outputs are summarized below:

2. **Output 1:** Tourism sites and facilities conserved and improved with integrated adaptation measures. To improve the condition of key tourist attractions across the state, the project will enhance the condition of amenities at key landmarks and sites, focusing on heritage and accessibility. It will expand and develop cultural centers in Kangnidhar (Mandi) and Deotisdh (Hamirpur) to (i) promote their heritage and historical significance; (ii) restore the historic Naggar Castle (Kullu), adhering to conservation principles; (iii) enhance public open spaces for improved recreational benefits and develop leisure facilities in Palampur and Nagrota Bagwan (Kangra); and (iv) upgrade/construct way-side amenities<sup>[1]</sup>, such as Dhundi, Naduan, Kunha, in Kullu, Hamirpur, and Kangra districts, respectively. The project will incorporate green solutions and universal access, ensuring accessibility for all, especially for the elderly, women, children, and people with disabilities (EWCD).

3. **Output 2:** Green, climate-resilient and sustainable tourism facilities developed. The project will focus on the promotion of green and sustainable tourism facilities to diversify offerings and boost the local economy. The project will develop: (i) five wellness centres at Nagrota Bagwan (Kangra), Manali and Kullu town (Kullu), Nadaun (Hamirpur) and Banoti (Shimla); (ii) tourist recreation facilities at Dharamshala (Kangra), Manali (Kullu) and Shimla town (Shimla); (iii) adventure sports centre with health centre at Nadaun (Hamirpur); and (iv) water park complex at Nadaun (Hamirpur); and associated infrastructure (like equipment, jetties, etc.) in all five districts. Other initiatives for product diversification include: (i) facilities for events and conventions center for meetings, incentives, conferences, and exhibitions tourism at Dharamshala and Nagrota Bagwan (Kangra); (ii) green mobility (EV-based) hop-on hop-off bus services connecting key places of interest at all five districts with priority entry/sitting preferences for women and people with special needs to ensure safe and accessible public transport facilities; (iii) mountain terrain biking trails and services in all five districts with active engagement of women and youth; and (iv) clean energy

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<sup>3</sup> Government of Himachal Pradesh, Department of Tourism and Civil Aviation. 2019. [Himachal Pradesh Tourism Policy, 2019](#). Shimla.

(roof top solar) installed on buildings, resulting in reduction of greenhouse gas emissions.

4. **Output 3:** Institutional capacity, community engagement and private sector participation across tourism value-chain enhanced. To complement the infrastructure investments, the project will support key initiatives aimed at improving the enabling environment and government's capacity for sustainable tourism service delivery. It will (i) improve the operational capacity of HPTDB through process enhancements, data driven governance, benefit monitoring, improving financial management and preparation of long-term business plans; creation of a GESI cell, and training and upskilling of HPTDB's staff; (ii) strengthen district tourism councils with adequate representation women's representation to serve as destination management organizations, with capacity to prepare strategic and spatial destination development perspective plans, and instituting IT-enabled systems for operator registration, accreditation and certification; (iii) establish the Himachal Pradesh Conventions Bureau to promote MICE tourism; (iv) engage with the HPTDB to develop a tourism brand strategy and marketing plan, and develop and launch a portfolio of curated tourism products across the five districts; (iv) strengthen the tourism industry ecosystem and host communities through human resource development planning that includes certified training and skills development for micro, small and medium enterprises (MSMEs), including women-led enterprises; (v) mainstreaming community-based tourism and developing skilled community members in tourism services delivery with focus on promoting women-led CBT through additional support to reduce care workload; (vi) establish business linkage trust fund for women to establish/improve business; (vii) establish public-private partnerships framework and contracts to enable sustainable O&M; (viii) strengthen the Centre of Excellence for Hospitality and Tourism (CoEHT), making it a hub for training and skill development and certification; and (xi) provide training to MSMEs to adopt digital tools in tourism service provision.

5. **Proposed project.** Convention Centre at Dharamshala, in Kangra district is proposed under Sustainable and Inclusive Tourism Development Project in Himachal Pradesh.

## B. Purpose of the Initial Environment Examination Report

6. As per ADB's Safeguard Policy Statement, 2009, ADB requires the consideration of environmental issues in all aspects of the Bank's operations. Using rapid environmental assessment (REA) checklist (Annexure 1), the project is unlikely to cause significant adverse impacts and classified under Category B as per ADB SPS requirements. This IEE has been conducted to examine the likely impacts from the proposed interventions and accordingly mitigation, management and monitoring measures have been developed. The document also presents the Environmental Management Plan for inclusion of the measures into the tender documents for bidding by the contractor.

7. **Extent of IEE:** The IEE is prepared based on detailed design prescribed within detailed project report (DPR), field reconnaissance survey, secondary sources of information and stakeholder consultation. Assessment is carried out for all components of environment covering ecology, air, soil, water, noise and socio-economic aspects. Stakeholder consultation was an integral part of the IEE. This IEE will be further updated during implementation if there are any changes in project scope, design or sites and updates will supersede the earlier version.

## C. Report Structure

8. The report contains the following sections:

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Initial Environmental Examination (IEE)

#### Executive Summary

- i. Introduction
- ii. Description of the project
- iii. Analysis of Alternatives
- iv. Policy, Legal and Administrative Framework
- v. Description of the Environment
- vi. Anticipated Environmental impacts and Mitigation Measures
- vii. Consultation, Participation & Information Disclosure
- viii. Grievance Redress Mechanism
- ix. Environmental Management Plan and
- x. Conclusion & Recommendations

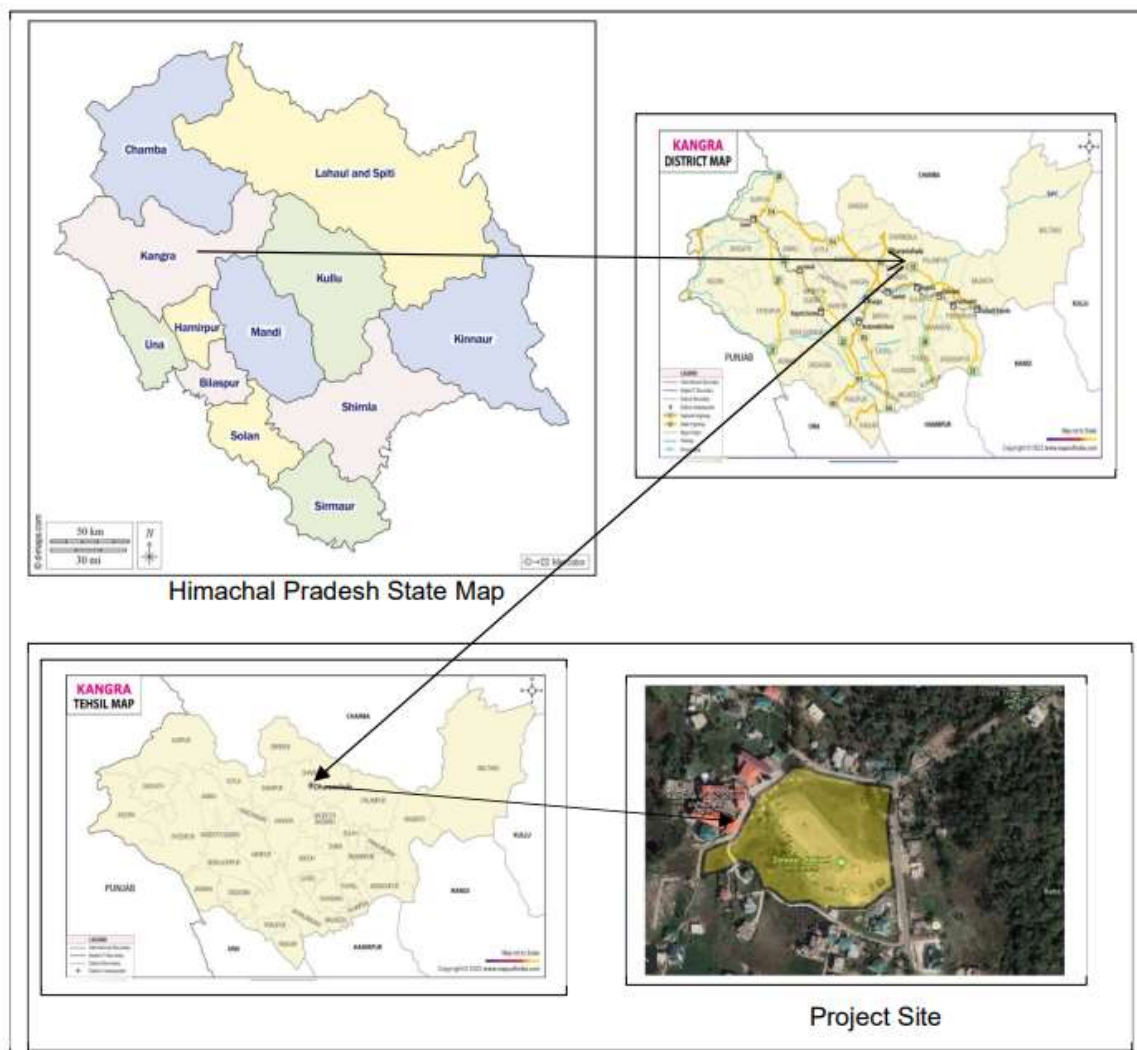
## II. DESCRIPTION OF THE PROJECT

### A. Project Location

9. The Convention Centre is proposed at Dharamshala near village Baghni, Panchayat - Mohal Mauja, Sidhbaari in Kangra District at an altitude of 1250 above mean sea level. Village Panchayat Sidhbari is located about 0.02 km in NNE direction of project site. The coordinates of the project site are 32°11'5.80"N latitude and 76°21'37.44"E longitude. The town is famous for religious sites as well as historical spots. Dharamshala, the principal township of Kangra District, serves as its administrative headquarters. Dharamshala is located about 17 km north east of Kangra town.

10. **Connectivity.** Nearest railway station is at Nagrota Railway Station at a distance of 8.78 Km towards SSE direction from the project site. Nearest Airport is Kangra Airport (9.95 km, WSW). Dharamshala is at a distance of 5.04 Km towards NE direction from the project site. Kangra is at a distance of 12.33 Km towards SW direction from the project site. Dharamshala is located at a distance of 239 km from Chandigarh, 252 km from Manali, 322 km from Shimla and 514 km from New Delhi. The location of project site and surroundings are shown in Figure- 1 and 2.

**Fig 1: Location Map of Project Site at Dharamshala**



**Fig 2: Location Map of Project Site on Google & its environs**



### Need of the Project

11. Dharamshala is a popular tourist destination in Himachal Pradesh. It is known for its scenic beauty, cultural significance, and spiritual heritage. Dharamshala also has some world-famous tea gardens, bird watching spots, international film festival held annually in McLeodganj, International cricket stadium and trekking spots. It is also a popular destination for Indian and foreign students. As a result, demand for a Convention Center was always there but emphasis was not given to provide for the same. Recently, Dharamshala was announced as one of the hundred Indian cities to be developed as a smart city under 'Smart Cities Mission'. Hence the demand for a Convention Centre has increased manifold and the project will augment the Government's initiative. Dharamshala, being one of the focal cities in the world for Buddhism, also feels the need of a proper Buddhist inspired landscape that would be very unique to the region. Dharamshala has its own uniqueness in Himachal Pradesh as one can experience different hues of culture, customs & traditions in all corners of the district. Several arts and crafts are popular in this district. Small souvenir shops run by the locals, selling their local craft would provide them a chance for economic growth and also give an international face to their skills.

### B. Proposed Project Component

12. Project site Convention Centre is proposed in Dharamshala. The project component of Convention Centre is given in Table 1.

**Table 1: Project Component of Convention Centre, Dharamshala**

<p><b>Convention Block – B1+B2+G+2</b>                  Surface Parking 170 cars (Total=610 cars)  <b>(Basement -2)</b>                  Sub Station, Engineering Staff and Parking for 202 Cars.  <b>Basement -1</b>                  Housekeeping, Staff Office, Laundry, Kitchen, VIP Dining, Restaurant (Capacity 330 peoples) and Parking for 158 Cars.  <b>Ground floor</b>                  Exhibition Halls, 4 Nos, Capacity (5500 peoples)                  VIP Lounge, Green Rooms, CRD, Convention Support Staff &amp; Floor Manager</p>
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<p><b>First floor</b>                  Space for offices, Conference Hall 1 &amp; II and Toilet Blocks.</p> <p><b>Second floor</b>                  Meeting Rooms 6 nos (Capacity 260 peoples), Business Lounge (Capacity 40 peoples)</p> <p><b>Hotel block – B1+B2+G+4</b></p> <p><b>Basement -1</b>                  BOH, Firefighting Pump Room</p> <p><b>Basement -2</b>                  Swimming pool, BOH, Gym, Spa</p> <p><b>Ground Floor</b>                  Reception, Dining Facility, Kitchen &amp; Services, Bar, Multipurpose Hall</p> <p><b>First Floor to 4th Floor</b>                  Suite 4 Nos, Super deluxe room 36Nos, Deluxe Room 40 Nos.</p> <p><b>Residential Block</b>                  Apartments (8nos)</p>
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13. The total built up area of the Convention Centre is 48161.3sq.m. There is a requirement of prior environmental clearance as per EIA Notification, 2006 and subsequent amendments.  
<sup>4</sup>The area statement and flood wise details of the Convention Centre is given in Table 2.

**Total Plot Area = 24,179 SQM**  
**Total FAR @ 1.75 = 42,313.25 SQM**  
**Total Coverage 48.00% = 11,603.81 SQM**

**BLOCK – A: 39,712.43 SQM**  
**BLOCK – B: 7,334.30 SQM**  
**BLOCK – C: 1,114.57 SQM**  
**TOTAL BUILT UP AREA – 48161.3 Sqm**

**Table 2: Floor wise details and Area Statement of Convention Centre**

1.	<b>Plot area</b>	<b>24179 Sqm</b>
	<b>Convention Centre (BLOCK A)</b>	
	Basement2	9,718.93
	Basement1	9,718.93
	Ground	10,223.81
	First	8,664.08
	Second	1,386.68
	<b>Built up area</b>	<b>39,712.43</b>
2.	<b>Hotel Block (BLOCK B)</b>	
	Basement2	1,032.70
	Basement1	927.25
	Ground	1,032.70
	First	1,045.40
	Second	1,098.75
	Third	1,098.75
	Fourth	1,098.75
<b>Built up area (BLOCK C)</b>	<b>7,334.30</b>	
3.	<b>Staff Residence</b>	
	Ground	270.82
	First	281.25
	Second	281.25
	Third	281.25
	<b>Built up area</b>	<b>1,114.57</b>
<b>TOTAL BUILT UP AREA</b>		<b>48161.3 Sqm</b>

<sup>4</sup> Application Submission for Environment Clearance is Under Process.

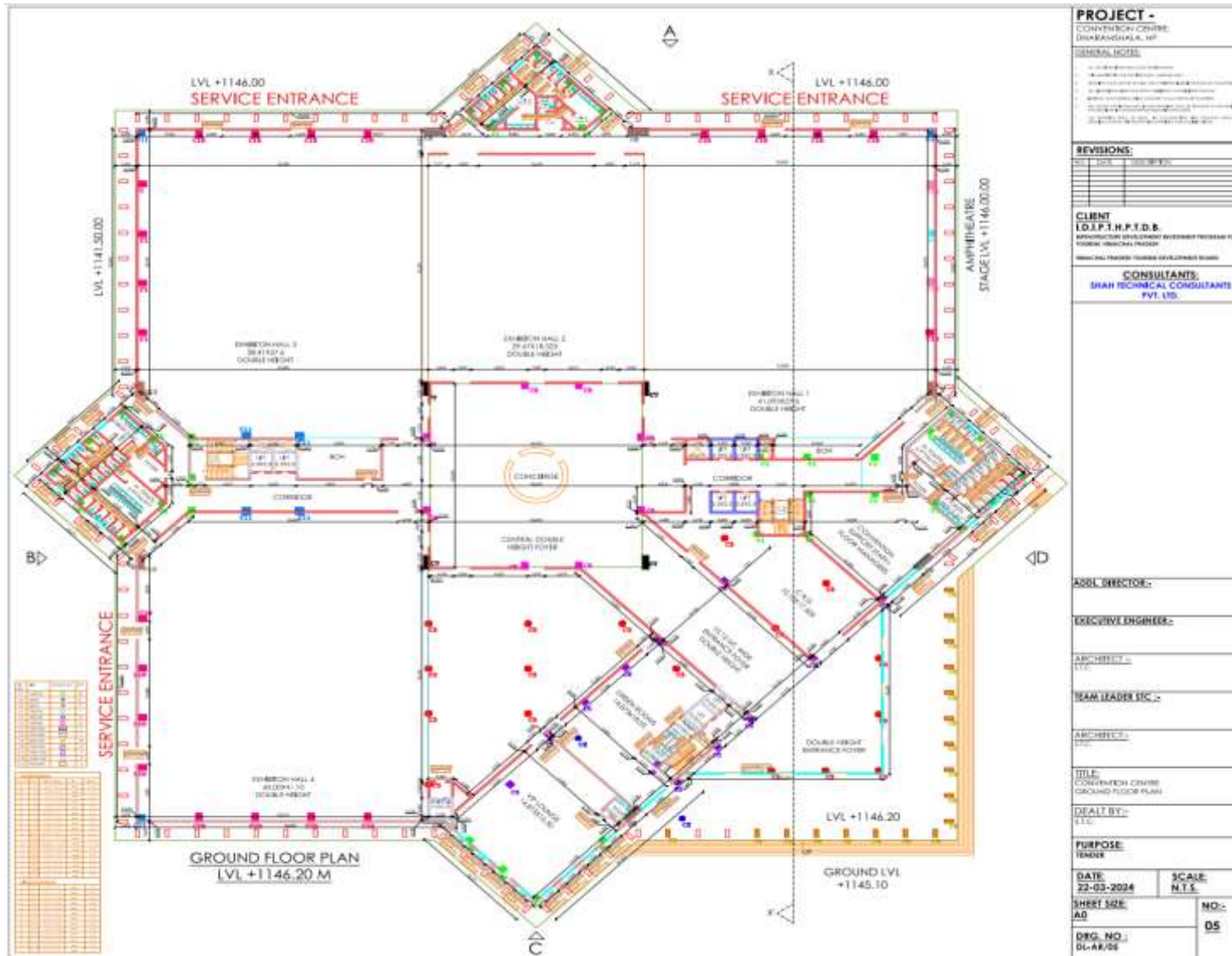
14. Estimated cost of the project is approximately **Rs. 161.91 Crore.**

15. Site plan & layout plan for the proposed project is given in Figure-3 and 4 and site photographs is provided in Figure-5 below:

**Fig. 3: Site Plan - Convention Centre, Dharamshala, H.P.**



**Fig. 4: Ground Floor Plan - Convention Centre, Dharamshala, H.P.**



**Fig. 5: Photographs of Project Site, Dharamshala, H.P.**



16. The site for proposed Convention Centre is a vacant land (Khasra numbers 1281/676/1, 1281/676/2/1, 1281/676/3) which belongs to the Department of Tourism & Civil Aviation, Government of Himachal Pradesh. The proposed construction of Convention Centre in Dharamshala is planned to occupy a total land area of 24,179 square meters. NOCs/permission is given in Annexure-19.

17. Technical designs of the Convention Centre are based on the National Building code of India, relevant Indian standards and Local Byelaws. The design considerations also include Code of practice for earthquake resistant design and construction of buildings. The physical infrastructure facilities such as water supply, sewerage, storm drainage, solid waste management, power requirements etc., are based on relevant standards and guidelines of CPHEEO. Latest BIS standard, Indian Electricity rules and requirements of the Electricity Supply Authority concerned shall be followed to design the electrical system. Designing and planning shall be done keeping in view efficient use of electricity, ease of maintenance, safety of human life and property from fire and shock, energy conservation, reliability and flexibility of the system. Compliance of the Standard Operating Procedures and Documentary Requirements Consents/ Registrations/ Authorizations HPSPCB, July 2022 (Annexure-18) shall be ensured by the HPTDB.

18. The design and material 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 of natural resources, local construction material (available in the nearby region) shall be used as best as possible suiting to those in existence. All painting (interior and exterior) will be with environment-friendly low volatile organic compound paints.

19. **Construction Material:** Approximately 11389 tons of cement, 4171 tons steel, 25660 m<sup>3</sup> sand, 25611 m<sup>3</sup> stone/aggregates, 93 m<sup>3</sup> timber and 585 tons other material will be used in construction. Required construction material will be procured from the authorized dealers located near the project site. Stone/ aggregates will be procured from the existing sites which are operating in the vicinity of the proposed project site. Material shall be procured from authorized sources (quarry/ stone crusher) having valid environmental clearance, CTE and CTO from the HPSPCB. Given the small magnitude of the project, there is no requirement for opening new sites for extraction of materials. However, if new site is required to be opened for extraction of materials, necessary licenses or approvals of environmental clearance and CTE & CTO shall be obtained from concerned agencies such as SEAC/SEIAA, State Pollution Control Board and Mining Department. For employment generation in the area, preference will be given to local people during construction work.

20. **Water Requirement and Sourcing:** Based on the project scope, there is a requirement of approximately 28973 KL of water during construction period. Approximately 15945 KL water will be required for construction and curing purpose, 2520 KL water will be required for water sprinkling for dust suppression, 302 KL water will be required for drinking purpose and 10206 KL water will be required for domestic purposes. Water supply during construction work will be provided by IPH-Jal Shakti Vibhag, Dharamshala or will be purchased through mobile water tankers by the contractor.

21. **Quantity of Construction waste:** There will be generation of Construction waste from the earth work, RCC and PCC work, etc. The construction material like RCC, excavated earth, brickworks & tiles etc. will be reused as backfilling material, subbase material for parking areas and access pathways. The estimated quantity of construction waste from the project site is given in the Table 3.

**Table 3: Estimated Amount of Construction Material Usage, Waste Generation and Utilization**

Sr. No	Description of Item	Unit	Qty of Construction based material	Unit	Total wastage Qty to be generated during Construction	Methodology of Utilisation of the waste
1	Earth work in Excavation work of site development & foundations of structures	Cum	199000	Cum	199000	About 40% of the excavated material will be used in filling work around foundation and required to raise the plinth level above Ground level and remaining shall be disposed in the Dumping Site.
2	Coarse Aggregate (Coarse and Fine)	Cum	49000	Cum	2500	The waste material may be dry or Mixed from RCC and PCC work will be utilised under Path way, Under floors etc.
3	Wood Work	Cum	92	Cum	5	The scrap qty. will be handed over to local Vendors.

4	Steel work	Mt	4100	Mt	125	The scrap qty. will be handed over to local Vendors.
5	Stone work	Cum	336	Tonne	17	The material obtained by dressing of Raw stones, will be utilised in sub base of road / filling under floors.
6	Brick work	Tonne	660	Tonne	33	The Bricks bats, will be utilised in sub base of road / filling work behind retaining structures.
7	Marble tile work	Tonne	585.00	Tonne	30	The material obtained due to breakage and cutting, will be utilised in sub base of road/ filling under floors or filling work behind retaining structures.

22. **Quantity of Municipal Solid waste:** About 18 kg/day solid waste will be generated during construction and about 180 kg solid waste will be generated during operation phase. During operation phase, 2 Nos. of organic waste composter machine having capacity of 50 kg/day shall be provided. Organic waste shall be composted and the compost shall be used in the green belt. Other solid waste generated at site will be disposed at designated area in coordination with the Municipal Corporation, Dharamshala. No liquid waste will be generated by the project, waste water generated from labor camp will be disposed in septic tank via soak pit. Detail is given in table 4.

**Table 4: Solid Waste Generation during construction**

S.No	Description of Item	Unit	Factor	Estimated % of waste generated kg/ Capita/Day	Estimated Manpower at site (Nos) per day	Qty of Waste Generated/ day	Disposal of waste
1	Residential	Kg	0.30-0.60	0.3	60	18	Waste bins shall be provided at different places for dry and wet waste of adequate capacity during construction. Biodegradable waste will be disposed through organic waste composters and dry waste will be sent to concerned agency.

23. **Rain water Harvesting Details:** Rain water harvesting is proposed at project site at Convention Centre site. 4 Nos. of Underground Rain water harvesting tanks of 75 KL capacity

is proposed at Convention Centre site. This rain water harvested will be used for recharging ground water.

24. **Water requirement during Operation phase:** During the Operation phase water will be required for domestic purposes and landscaping of green belt proposed in the Convention Centre. The daily water requirement for the proposed convention center project is 654 KLD (Fresh water: 369 KLD). Criteria of water demand are given in Table 5. Water will be sourced from IPH-JSV. To reduce the water consumption, recycling/reuse of the treated water from the STP will be done in toilet flushing and landscaping of the green belt in summer season. Disinfection of water will be done by UV and Chlorination system. Monitoring of the treated water will be undertaken regularly to ensure the water quality is within permissible levels for irrigation. Details of water Usage and Recycling during operational phase is given in Table 5.

**Table 5: Water Usage during Operation**

**Water demand Calculation (Non- Monsoon):**

Details	Water (KLD)
Water Requirement for domestic purpose	369 KLD
Wastewater generated from Domestic use (@ 85%)	314 KLD
Water Requirement for Flushing Purpose	246 KLD
Wastewater generated from Flushing (@100%)	246 KLD
Total Wastewater Generated	560 KLD *
Recycled Water available for use @ 95 % of waste water	285 KLD ** (STP capacity: 300 KLD)
Use of Recycled Water	1.Flushing – 246 KLD 2.Horticulture – 39 KLD <b>Total: 285 KLD</b>

\* For 100% occupancy

\*\* Water requirement for the proposed Convention Center will be 654 KLD, However STP will be designed based on the average occupancy of 50% i.e.: ~300 KLD. Although a collection Tank of 560 KLD is proposed to be constructed.

**Water demand Calculation (Monsoon):**

Details	Water (KLD)
Water Requirement for domestic purpose	369 KLD
Wastewater generated from Domestic use (@ 85%)	314 KLD
Water Requirement for Flushing Purpose	246 KLD
Wastewater generated from Flushing (@100%)	246 KLD
Total Wastewater Generated	560 KLD*
Recycled Water available for use @ 95 % of waste water	285 KLD**(STP capacity: 300 KLD)
Use of Recycled Water	Flushing – 246 KLD <b>Total: 246 KLD</b> The rest of the recycled water i.e 39 KLD will be stored in treated water storage tank.
<i>During monsoon season 39 KLD of recycled water (i.e for horticulture/ Gardening) will be stored in treated water storage tank</i>	

25. **Details of STP.** 300 KLD Sewage treatment plant (STP) based on Moving Bed Biofilm Reactor (MBBR) technology is proposed at Convention Centre site.

26. **Disposal of Sludge:** Approximately 28 kg of sludge per day will be generated from the STP. Sludge from STP can be used as manure in landscaping/ plantation after sludge digestion.

27. **Energy Efficiency Measures:** The detailed designs for the project components shall comply with Energy Conservation Building Code (ECBC) guidelines. Design shall ensure that environmental sustainability principles including energy efficiency, waste minimization, etc. are complied. Design includes determination of interior lighting power allowance (W) as per ECBC, building orientation to maximize natural light, minimize heat ingress and cost for air conditioning, installation of BEE certified equipment, use of energy efficient lights (LED), Occupancy sensors/ Control devices in common areas like Lobby, Toilets, Staircase etc. (Each control device shall be activated either manually by the occupant or automatically by sensing an occupant. Use of occupancy sensors in toilets, Staircase to have an automatic control of ON/OFF of lighting is recommended by Green Building Norms). Solar lights shall be used for common areas.

28. **EV Charging Details.** Total number of EV charging station shall be 12 nos., 6 dual gun chargers having 60 kw.

29. **Solar Power Plant-** 124 kWp (2 units) shall be installed at project to site.

24. **Power Requirement:** During construction phase, temporary electric connection shall be taken by the contractor from Himachal Pradesh State Electricity Board (HPSEB). DG set will be used as standby during power cuts. The total power requirement during operation phase is 642 KW. 2 nos. of DG sets of 380 kVA and 2 Nos. of 320 KVA are proposed at Convention Centre site. DG sets shall have adequate stack height as per HPPCB norms and acoustic enclosure arrangement.

30. **Water Efficiency Measures:** Installation of water efficient technology such as low-flow showers and toilets will be used. Treated water from STP shall be reused in flushing and watering the proposed green belt/ landscaping during the dry season.

31. **Sustainable Tourism Practices:** Sustainable tourism aims to mainstream sustainability in tourism and ensure a more resilient, inclusive, resource efficient tourism while safeguarding natural and cultural resources. It entails optimal use of environmental resources and helps to conserve natural resources and biodiversity. During operation phase, all the tourist related activities shall be planned and implemented in consultation with HPTDB. Resource efficiency in the project shall be achieved by implementing resource management practices such as water conservation (reusing and recycling of water where possible; use of treated water to irrigate parks and gardens, reuse in toilets/ flushing), Improving infrastructure and maintenance (e.g. reducing leakages), encouraging installation of water efficient technology such as low-flow showers and toilets, waste management and energy efficiency to ensure the sustainability of local resources during implementation & operation of project.

32. **Safety of Tourists:** Increase in the number of tourists in the tourist destinations also increase issues of their safety and vulnerability to disasters. Other safety features include:

- Emergency procedures to include paramedics and ambulance at the project site.
- Speed restrictions, vehicle entry restrictions, provision of appropriate road signage, pedestrians' safety etc., shall minimize impacts on safety of the tourist/ visitors.
- Proper Signages with Dos and Don'ts and deployment of Security Personnel at the gate to prevent such risks, especially for young children.
- Requisite self-illuminated signage boards (e.g. Exit/ Toilet etc.) with maintenance free battery backup for guidance purpose in general areas, as per regulation.

33. **Fire Safety:**

- Fire alarms shall be installed at strategic locations and shall be kept in a functioning

state. (As per NBC 2016 Part IV Table 7)

- The Fire Protection System comprises Fire extinguishers, First aid Hose reel, wet riser, Down comer, Yard hydrant, Automatic sprinkler system, Fire alarm system, Underground water tank (150 KL) and Terrace water tank (10 KL)
- Emergency fire response plan shall be prepared. Ensure that there a fire assemble point. All emergency numbers (Police, Fire Brigade, etc.) must be readily available and displayed.
- Ensure that adequate firefighting equipment is provided and such equipment is regularly serviced and maintained. Employees should be trained on firefighting methods and techniques. (Signage: Provide adequate fire hazard signs such as 'No Smoking' and 'Exit Direction' signs. Such signs should be clearly displayed).

### **C. Type of Contract & Project Implementation Schedule**

34. The type of contract will be an item rate contract in which the contractor would carry out the work as per drawings and specifications. Bill of quantities (BOQ) is prepared where the quantities of items to be carried out are precisely worked out and the contractor must quote a unit price against each item of work. The cost of environmental budget for the various environmental management measures proposed in the EMP, capacity building programs and the cost of the environmental monitoring is given in this IEE report (Table 27). There are few other environmental measures such as safety, signages, personal protective equipment and the cost for these items have been accounted in the engineering cost. Therefore, these items have not been included in the EMP budget. Only those items not covered under the engineering cost are considered in this IEE report. Processing of requisite environmental clearance (EC) as per EIA notification is under process. The contractor needs to ensure compliance with all conditions mentioned in the requisite EC and all the measures listed in the EC are binding upon the contractor. The work shall only be commenced after getting the requisite EC and updating of draft IEE report incorporating EC conditions under the project.

35. The overall project schedule will be about 36 months out of which the total construction time will be 36 months. Commissioning and handing over process shall be after completion of construction. Detailed project report (DPR) has been prepared and approved.

### III. ANALYSIS OF ALTERNATIVES

36. In this chapter analysis of alternatives has been carried out for 'with' and 'without' project, location selection, project implementation scheduling and materials usage in the detailed design and construction of Convention Centre.

37. Convention Centre at Dharamshala is a greenfield project. The project comprises construction of Convention Centre. The project site Convention Centre is to be developed on vacant and unused land. The criteria for location selection involved ease of access, encumbrance free land availability, minimum tree cover, etc. Environmental management measures such as provision of sewage treatment plant, storm water drains, bio-composter, solar PV system, landscaping etc. are considered as part of the initiatives. Nevertheless, alternative methods technologies and designs were compared against technical, economic, social and environmental criteria for the project components in order to maximize environmental benefits and to minimize impacts. Analysis of alternatives comprised (i) consideration of "no project scenario" and (ii) alternative locations and designs for various project components.

#### A. No Project Scenario

38. Tourism in the state contribute a major part of economy and growth. The tourism sector of Himachal Pradesh contributes approx.7% of the state GDP. From the year 2014-15 to 2021-22, the tourist footfall at District Kangra 2333367 (2014-15) and 410843 (2021-22). Due to pandemic COVID-19, there was a sharp decline in tourist footfalls in the years 2020 and 2021. However, with the reduction in number of active cases of COVID-19, tourist footfalls to the destination saw recovery to previous levels by the year 2022-23. Tourist footfall recorded in district Kangra during the year 2023 was 676836. Dharamshala is a well-known tourist destination in the district Kangra, Himachal Pradesh.

39. With the projected increase in tourist footfall, it is necessary to improve facilities at the various tourist locations and ensure their operation with proper waste management system, water conservation to the possible extent. Compared to the Without Project alternatives, the with project alternatives will contribute towards improved accessibility and environmental conditions at the site leading to improved tourism experience, which will ultimately increase tourist footfalls and revenue generation for the State.

#### B. Convention Centre Location Alternatives

40. Various locations for proposed project were evaluated. The considerations for the project site finalization were availability of vacant encumbrance free government land, good natural setting of the site, easy connectivity, ease of access, proximity to tourism destinations and facilities, tourist footfall and positive projections of footfall in the area, technical considerations like slope, etc., and less ecological impacts like tree cutting etc. Himachal Pradesh being a hilly state with more than 68% of forest area, it is almost inevitable to avoid forest and protected areas. However, the project planning has considered this as a key consideration and avoided project citing in any forest area or near any protected / Eco sensitive areas. Based on the above considerations, the proposed site for Convention Centre was selected.

#### C. Design alternatives

41. Engineering solutions selected are appropriate option in terms of cost, durability, climate resilience, environmental impacts and O&M capacities of project owners. To minimize environmental footprint the design alternatives presented in Table 6 have been considered for all the project. Details are given in Table 6.

**Table 6: Design alternative considered in each component of project**

Design element	Design alternative 1	Design alternative 2	Selected alternatives	Advantage of Considered Design
Parking area & Internal road	Cement paver blocks	Use of asphalt/ concrete	Cement paver block on sand bed	<ul style="list-style-type: none"> <li>• Paver block can be used in any weather conditions</li> <li>• Cost effective, not many skilled labors required</li> <li>• The impact of emission from the hot mix plants can be avoided in case of block usage</li> <li>• Paver block does not need special maintenance as compared to concrete or asphalt surfaces.</li> <li>• Paver blocks are very durable and if they are adequately interlocked they can easily last for about 20 years.</li> <li>• Paver blocks can withstand hefty vehicular load as well</li> <li>• Paver block is slip resistant and skid resistant.</li> </ul>
Solid waste management	Landfilling/ open disposal in and around the site	Organic waste composter	Organic waste composter	<ul style="list-style-type: none"> <li>• The use of composting unit is quite helpful to further improve the ecological footprint or tourist/ visitors since organic waste can be decomposed through composting instead of littering.</li> <li>• Compost generated from organic waste at site can be used as manure.</li> </ul>
Waste water/ sewage treatment	Traditional septic tank via soak pit	Sewage Treatment Plant (MBBR based)	Sewage Treatment Plant (MBBR based)	<ul style="list-style-type: none"> <li>• The selected option is Waste water treatment by MBBR technology</li> <li>• It is relatively simple to operate and results in high reduction of BOD and produce low amount of sludge.</li> <li>• Decreases the</li> </ul>

				fresh water demand for toilets and green belt irrigation. <ul style="list-style-type: none"> <li>• With MBBR technology the treated water is suitable for reuse.</li> </ul>
Treated water Reuse	In flushing	Irrigation of Green Belt	In both flushing and green belt	<ul style="list-style-type: none"> <li>• There is generation of 314 KLD amount of waste water. Utilization of treated water for flushing and greenbelt shall reduce the fresh water usage and will prevent any treated water disposal from the project.</li> </ul>

**D. Material Usage and Sustainability considerations**

42. In terms of design, materials (steel bars, cement and bricks) will be appropriately selected (as per approved design specification) considering that the area is within the seismic zone V classification. There will be no use of asbestos containing sheets or pipes. Further, to conserve natural resources, wherever applicable treated wastewater will be recycled through double plumbing piping system for flushing, and irrigation of green areas. The STP design will ensure quality of treated water for the above-mentioned usages. The treated waste water quality shall conform to the CPCB standards or latest discharge standards (Annexure-7) which is more stringent. To reduce the carbon foot prints, usage of solar power for lighting of open areas and garden has been planned besides energy efficient lighting and appliances.

**E. Conclusion**

43. The analysis of alternatives identified that for tourism promotion and economic development of the area implementation of the project is essential for the region and the State in general. While there are no alternative location options for the identified tourism assets, design alternatives considered under the project addresses the issues of impact on environment and biodiversity, waste treatment (by solid waste composting and sewage treatment) associated with the destination. Apart from these alternatives' approaches, there are several mitigation measures taken as part of the impact assessment and management measures for addressing the issues during construction and operation phases.

44. The project site is found to be environmentally viable based on screening checklist (REA) in and compliance with the project eligibility criteria, no adverse impacts anticipated except some minor impacts which will be mitigated by adopted proposed mitigation measures during construction as given in Chapter-Anticipated Impact and Mitigation Measures and Environmental Management Plan (EMP).

## IV. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

### A. ADB Policy

45. ADB SPS requires that during the design, construction, and operation of the project necessary compliance to all applicable laws and international conventions / treaties along with pollution prevention and control technologies and practices consistent with international good practice, are ensured.

46. ADB uses a classification system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence. Each proposed project is scrutinized as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following four categories:

- **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An EIA is required to address significant impacts.
- **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.
- **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.
- **Category FI.** A proposed project is classified as category FI if it involves investment of ADB funds to or through 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.

47. The environmental impacts of Convention Centre at Dharamshala project have been identified and assessed as part of the planning and design process. An environmental assessment using ADB's REA checklist for (see Annexure 1) was conducted, and results of the assessment show that the project is unlikely to cause significant adverse impacts. Thus, this IEE has been prepared in accordance with ADB SPS's requirements for environment category B projects.

48. **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.

49. **Public Disclosure:** The IEE will be put in an accessible place (e.g. local government offices, libraries, community centers 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.

- i. Final or updated EIA and or IEE upon receipt; and
- ii. Environmental monitoring reports submitted by the Project Management Unit (PMU) during project implementation upon receipt.

50. **Consultation and Participation:** ADB SPS, 2009 requires borrower to conduct meaningful consultation<sup>5</sup> with affected people and other concerned stakeholders, including civil society, and facilitate their informed participation. The consultation process and its results are to be documented and reflected in the environmental assessment report.

51. **Grievance Redress Mechanism:** ADB SPS, 2009 require borrowers to establish a mechanism to receive and facilitate resolution of affected people's concerns, complaints, and grievances about the project's performance. The grievance mechanism shall be scaled to the risks and adverse impacts of the project.

52. **Monitoring and Reporting:** Borrower shall monitor, measure and document the implementation progress of the EMP. If necessary, the borrower shall identify the necessary corrective actions, and reflect them in a corrective action plan. Borrower shall prepare and submit to ADB semi-annual environmental monitoring reports that describe progress with implementation of the EMP and compliance issues and corrective actions, if any. For projects likely to have significant adverse environmental impacts during operation, reporting will continue at the minimum on an annual basis until ADB issues a project completion report.

53. **Unanticipated Environmental Impacts:** Where unanticipated environmental impacts become apparent during project implementation, ADB SPS, 2009 requires the borrower to update the environmental assessment and EMP or prepare a new environmental assessment and EMP to assess the potential impacts, evaluate the alternatives, and outline mitigation measures and resources to address those impacts.

54. **Occupational Health and Safety<sup>6</sup>:** ADB SPS, 2009 requires the borrower to ensure that workers<sup>7</sup> are provided with a safe and healthy working environment, taking into account risks inherent to the sector and specific classes of hazards in the project work areas, including physical, chemical, biological, and radiological hazards. Borrower shall take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during the course of work, including: (i) identifying and minimizing, so far as reasonably practicable, the causes of potential hazards to workers; (ii) providing preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) providing appropriate equipment to minimize risks and requiring and enforcing its use; (iv) training workers and providing them with appropriate incentives to use and comply with health and safety procedures and protective equipment; (v) documenting and reporting occupational accidents, diseases, and incidents; and (vi) having emergency prevention, preparedness, and response arrangements in place.

55. **Community Health and Safety:** ADB SPS, 2009 requires the borrower to identify and assess risks to, and potential impacts on, the safety of affected communities during the design, construction, operation, and decommissioning of the project, and shall establish preventive measures and plans to address them in a manner commensurate with the identified risks and impacts. The borrower shall ensure to apply preventive and protective measures for both occupational and community health and safety consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines. PMU shall also adhere to necessary protocols

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<sup>5</sup> Per ADB SPS, 2009, meaningful consultation means a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues

<sup>6</sup> In case where responsibility is delegated to project contractors during construction phase, borrower shall ensure that the responsibilities on occupational health and safety are included in the contract documents.

<sup>7</sup> Including non-employee workers engaged by the borrower/client through contractors or other intermediaries to work on project sites or perform work directly related to the project's core functions

in response to emerging infectious diseases such as the corona virus disease (COVID-19) consistent with the guidelines of relevant government healthcare agencies and the World Health Organization.

56. **Physical Cultural Resources:** Borrower is responsible for siting and designing the project to avoid significant damage to physical cultural resources. ADB SPS, 2009 requires that such resources likely to be affected by the project are identified, and qualified and experienced experts assess the project's potential impacts on these resources using field-based surveys as an integral part of the environmental assessment process. When the proposed location of a project component is in areas where physical cultural resources are expected to be found as determined during the environmental assessment process, chance finds procedures shall be included in the EMP.

57. **Core Labor Standards:** ADB is committed to due consideration of Core Labor Standards (CLS) in the design and implementation of projects. A CLS handbook<sup>8</sup> has been developed by ADB with cooperation of International Labor Organization (ILO). The HPTDB PMU will ensure compliance to applicable CLS of ADB-ILO during project implementation including:

- i. Freedom of association and the effective recognition of the right to collective bargaining.
- ii. Elimination of all forms of forced or compulsory labor.
- iii. Effective abolition of child labor
- iv. Elimination of discrimination in respect of employment and occupation.

## B. National and State Laws

58. The implementation of the projects will be governed by Government of India and State of Himachal Pradesh and other applicable environmental acts, rules, regulations, and standards. These regulations impose restrictions on the activities to minimize or mitigate likely impacts on the environment. It is the responsibility of the project executing and implementing agencies to ensure projects are consistent with the legal framework, whether applicable international, national, state or municipal or local. Key standards include those related to drinking water quality, air quality, effluent discharge, and protected areas. Compliance is required in all stages of the projects including design, construction, and operation and maintenance.

59. **Environmental assessment:** The Government of India EIA Notification of 2006 (replacing the EIA Notification of 1994) sets out the requirement for environmental assessment in India. This states that environmental clearance is required for specified activities/projects, and this must be obtained before any construction work or land preparation (except land acquisition) may commence. Projects are categorized as A or B depending on the scale of the project and the nature of its impacts.

60. **Category A** projects require environmental clearance from the central Ministry of Environment, Forests and Climate Change (MoEFCC). The proponent is required to provide preliminary details of the project in the prescribed manner with all requisite details, after which an Expert Appraisal Committee (EAC) of the MOEFCC prepares comprehensive terms of reference (TOR) for the EIA study. On completion of the study and review of the report by the EAC, MoEFCC considers the recommendation of the EAC and provides the environmental clearance if appropriate.

61. **Category B** projects require environmental clearance from the State Environment Impact Assessment Authority (SEIAA). The State level EAC categorizes the project as either B1 (requiring EIA study) or B2 (no EIA study) and prepares TOR for B1 projects within 60 days.

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<sup>8</sup> [Core Labor Standards Handbook \(adb.org\)](https://www.adb.org/documents/core-labor-standards-handbook)

On completion of the study and review of the report by the EAC, the SEIAA issues the environmental clearance based on the EAC recommendation. The Notification also provides that any project or activity classified as category B will be treated as category A, if it is located in whole or in part within 10 km from the boundary of protected areas, notified areas or inter-state or international boundaries.

62. The project is covered in the ambit of the EIA Notification, 2006 as built up area is more than 20000 sq. meter. The project is listed in category “B” Schedule 8 (a) of MoEF&CC. and hence Environmental Clearance is required. No EIA study is required for the project.

### C. Environmental Regulatory Compliance

63. **Applicable environmental regulations:** Besides EIA Notification 2006, there are various other acts, rules, policies and regulations currently in force in India that deal with environmental issues that could apply to infrastructure development. The specific regulatory compliance requirements of the project are shown in Table 7.

**Table 7: Summary of Applicable Regulation**

Project	Applicability of Acts/ Guidelines	Compliance criteria
Convention Centre, Dharamshala, H.P.	The Environment Protection Act, 1986	Applicable
	EIA notification, 2006 (and its subsequent amendments) provides for categorization of projects into category A and B, based on extent of impacts.	Applicable The project is covered in the ambit of the EIA Notification, 2006 as built up area is more than 20,000 sq. meter. The project is listed in Schedule 8 (a) of MoEF&CC. and hence Environmental Clearance is required. The contractor needs to ensure compliance with all conditions mentioned in the requisite EC. The work shall only be commenced after getting the requisite EC and updating of draft IEE report incorporating EC conditions under the project.
	Water (Prevention and control of pollution) Act, 1974 and;  Air (Prevention and Control of Pollution) Act, 1981	Applicable Consent to Establish (CTE) from the HPPCB prior to establishing Tourism unit/ Hotel and CTO thereafter. (including STP and DG Set). Consent to Establish (CTE) & Consent to Operate (CTO) from the HPPCB 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 construction materials (e.g. Sand, gravel) from third party, he must ensure that materials are coming from approved quarry sites.
	The Noise Pollution (regulation and Control) Rules, 2000	Applicable  The project 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 and 2016.	Applicable Hazardous wastes like oil and lubricants generated shall be disposed off as per provisions of Hazardous Waste Rules.
	The Himachal Pradesh non-biodegradable garbage (control) Act, 1995;	Applicable
	The Himachal Pradesh Town and Country Planning Act, 1977;	Applicable
	<p>The BOCW Act 1996 Employer shall-</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Provide sufficient urinals and latrines at convenient place, easily accessible by workers</li> <li>• 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</li> <li>• Provide crèche with proper accommodation, ventilation, lighting, cleanliness and sanitation if more than fifty female workers are engaged</li> <li>• Provide first aid facilities in all construction sites</li> <li>• For safety of workers employer shall provide-                         <ul style="list-style-type: none"> <li>• Safe access to site and work place</li> <li>• Safety in demolition works</li> <li>• Safety in use of explosives</li> <li>• Safety in operation of transporting equipment's and appoint competent person to drive or operate such vehicles and equipment's</li> <li>• Safety in lifting appliance, hoist and lifting gears</li> <li>• Adequate and suitable lighting to every work place and approach</li> <li>• Prevention of inhalation of dust, smoke, fumes, gases during construction works and provide adequate ventilation in work place and confined space</li> <li>• Safety in material handling and stacking/un stacking</li> <li>• Safeguarding the machinery with fly-wheel of moving parts</li> <li>• Safe handling and use of plants operated by compressed air</li> <li>• Fire safety</li> <li>• Limit of weight to be lifted by workers</li> </ul> </li> </ul>	Applicable Contractors are required to follow all the provisions of BOCW Act.

	<p>individually</p> <ul style="list-style-type: none"> <li>• Safety in electric wires, apparatus, tools and equipment</li> <li>• Provide safety net, safety sheet,</li> <li>• safety belts while working at height</li> </ul>	
	<p><b>Motor Vehicles Act, 1988</b>                  No person will be allowed to drive a motor vehicle unless he holds a valid driving license issued to him authorizing him to drive the vehicle</p>	<p>Applicable                  Valid and appropriate (LMV/HMV) driving license of operators and drivers is required to operate or drive vehicle and equipment at construction site</p>
	<p><b>The Petroleum Rules 2002</b>                  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>	<p>Do not allow any escape of diesel, lubricants in to drain or any nearby water course</p>
	<p><b>Gas Cylinder Rules 2004</b>                  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 dispatch 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 in-charge of operations, Handling and use, Restrictions on filling, Loading, unloading and transport of cylinders, Storage of cylinders, ownership and record keeping etc.</p>	<p>All the safety in storage, transportation, handling, usage, maintenance, repairing of gas cylinders and other precautions should be taken and record should be kept maintained.</p>
	<p><b>Solid Waste Management Rules, 2016-</b> As per this Act following provisions are made-  <b>Responsibility of Solid Waste Generator</b>                  (i) Segregate and store the waste generated in three separate streams namely biodegradable, non-biodegradable and domestic hazardous wastes in suitable bins and handover segregated wastes to authorized waste pickers or waste collectors as per the direction or notification by the local authorities from time to time;                  (ii) Store separately construction and demolition waste, as and when generated, in his own premises and shall dispose off as per the Construction and Demolition Waste Management Rules, 2016; and                  (iii) No waste generator shall throw, burn or bury the solid waste generated by him, on streets, open public spaces outside his premises or in the drain or water bodies.</p>	<p>Contractor to follow all the rules during construction works</p>

	<p><b>Construction and Demolition (C&amp;D) Waste Management Rules, 2016-</b> Following rules are applicable on contractor during construction works-</p> <ul style="list-style-type: none"> <li>(i) segregate construction and demolition waste and deposit at collection center or handover it to the authorized processing facilities</li> <li>(ii) Shall ensure that there is no littering or deposition so as to prevent obstruction to the traffic or the public ordains.</li> <li>(iii) Large generators (who generate more than 20 tons or more in one day or 300 tons per project in a month) shall submit waste management plan and get appropriate approvals from the local authority before starting construction or demolition or remodeling work</li> <li>(iv) Large generators shall have environment management plan to address the likely environmental issues from construction, demolition, storage, transportation process and disposal / reuse of C &amp; D Waste.</li> <li>(v) Large generators shall segregate the waste into four streams such as concrete, soil, steel, wood and plastics, bricks and mortar, large generators shall pay relevant charges for collection, transportation, processing and disposal as notified by the concerned authorities.</li> </ul>	<p>Contractor to follow all the rules during construction works</p>
	<p><b>Labor Laws</b>                  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. The contractor shall provide equal wages and benefits to men and women for work of equal value or type.</p> <p><b>Contract Labour (Regulation and Abolition) Act, 1970</b>                  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</p>	<p>Applicable labour laws including amendments issued from time to time applicable to establishments engaged in construction of civil works.</p>

	<p>designated Officer. The Act is applicable to the establishments or Contractor of principal employer if they employ 20 or more contract labor.</p> <p><b>Workmen Compensation Act, 1923</b></p> <p>The Act provides for compensation in case of injury by accident arising out of and during the course of employment.</p>	
	<p><b>Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979</b></p> <p>The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The inter-state migrant workmen, in an establishment to which this act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.</p>	Applicable
	<p><b>Right to Equality,</b></p> <p>Right to Equality ensures equal rights for all the citizens. The Right to Equality prohibits inequality on the basis of caste, religion, place of birth, race, or gender. It also ensures equality of opportunity in matters of public employment and prevents the State from discriminating against anyone in matters of employment on the grounds only of religion, race, caste, sex, descent, place of birth, place of residence or any of them.</p>	Applicable
	<p><b>The Sexual Harassment of Women at workplace (Prevention, Prohibition and Redressal) Act, 2013</b></p> <p>Whereas sexual harassment results in violation of the fundamental rights of a women to equality under article 14 and 15 of the Constitution of India and her right to life and to live with dignity under article 21 of the Constitution and right to practice any profession or to carry on any occupation, trade or business which includes a right to safe environment free from sexual harassment.</p>	Applicable
	<p><b>Child Labor (Prohibition and Regulation) Act, 1986</b></p> <p>The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of child labor is prohibited in Building and Construction Industry.</p>	Applicable
	<p><b>Minimum Wages Act, 1948</b></p> <p>The employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions</p>	Applicable

	of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employment	
	<b>Payment of Wages Act, 1936</b> It laid 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.	Applicable
	<b>Equal Remuneration Act and Rules, 1976</b> 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.	Applicable

#### D. Compliances to Regulatory Requirements

20. The Project requires Environmental Clearance from the SEIAA, HP. The project requires to obtain consents and permissions from competent authorities. All no objection certificates (NOC), CTE and CTO and other clearances will be obtained during pre-construction stage. Other permission will be required during construction period and will be taken by Contractor such as Utility Shifting *i.e.* water supply, sewerage pipeline, electric cables, poles, telephone lines etc. and road cutting from concerned department/ authority, excavation, clearing of vegetation, construction waste disposal sites from Municipal Corporation or any concerned authority, pollution control board, power corporation, Traffic department, Development Authority etc. as required time to time. Sourcing/ procurement of construction material from authorized/ approved agencies/ vendors/ quarries will be taken by contractor.

21. The specific requirements are mentioned as under for which the contractor should comply with before initiating the construction works are presented in Table 8.

**Table 8: NOCs to be taken by Contractor during pre-construction and construction Phases**

S.No.	Activity	Statutes under which clearance is required	Implementation
1	Land for project activity	Allotment and approval for specific use	PIU
2	Establishment & operation of Hospitality unit	Consent to establish under Air Act, 1981 and Water Act, 1974 prior to construction and Consent to operate under Air Act, 1981 and Water Act, 1974 before operation (including DG sets and STP)	PIU/PMU
3	Establishment of Construction camp/s	Allotment and approval for specific use	Contractor
4	NOC for disposal of excess earth at all the sites	Construction & Demolition Waste Management Rules, 2016	Contractor
5	Tree Cutting, if any	State Forest Department/ Concerned Department	PIU
6	Hot mix plants, Crushers, Batching plants and DG Set at site	Consent to establish and consent to operate under Air Act, 1981 from HPSPCB	Contractor
7	Storage, handling and transport of hazardous materials	Hazardous Wastes (Management and Handling) Rules. 2016 Manufacturing, Storage and Import of Hazardous	Contractor

		Chemicals Rules, 1989 from HPPCB	
8	New Sand mining, quarries and borrow areas	Environmental clearance under EIA Notification, 2006	Contractor/ Third Party
9	Use of vehicles and equipment	Pollution under control certificate (PUC) form RTO	Contractor
10	Permission for use of water for construction and operation purposes	From Municipal Corporation/ Jal Shakti Vibhag (JSV)/ Irrigation and Public Health (IPH) Department	Contractor

22. PMU will be overall responsible for supervision in getting all clearance and provide details to ADB through semi-annual report. PMU will ensure availability of all necessary regulatory clearances including the Environmental Clearance, and other approvals prior to commencement of works. The work shall only be commenced after getting the requisite Environment Clearance and updating of draft IEE report incorporating EC conditions under the project. The contractor needs to ensure compliance with all conditions mentioned in the requisite EC. Respective PIUs, with support of project consultants and contractors, are responsible for obtaining the regulatory permissions, ensuring compliance with terms & conditions stipulated therein, and timely renewals are the responsibilities of the facility owners (including contractors where the contractors own the facility)/ permits and ensuring conditions/ specifications/ provisions incorporated in the project design, cost and implantation. The PIUs shall report to PMU the status of compliances to clearances/ permits as part of the regular progress reporting.

## V. DESCRIPTION OF THE ENVIRONMENT

23. This section presents a brief description of the existing environment around the Convention Centre project site at Dharamshala including its physical resources, ecological resources, socio-economic development, and social and cultural resources. Broad aspects on various environmental parameters such as geography, climate and meteorology, physiographic, geology, seismology, ecology, socio-cultural and economic development parameters that are likely to be affected by the proposed project are presented. Secondary information was collected from the official websites and reports of government agencies including the Forest Department, Archaeological Survey of India (ASI), Himachal Pradesh State Pollution Control Board, Central Ground Water Board for relevant information on forest cover, location of ASI sites, surface and ground water, etc. and meteorological data from web sources.

### A Physical Environment

#### 1. Location, Area and Connectivity

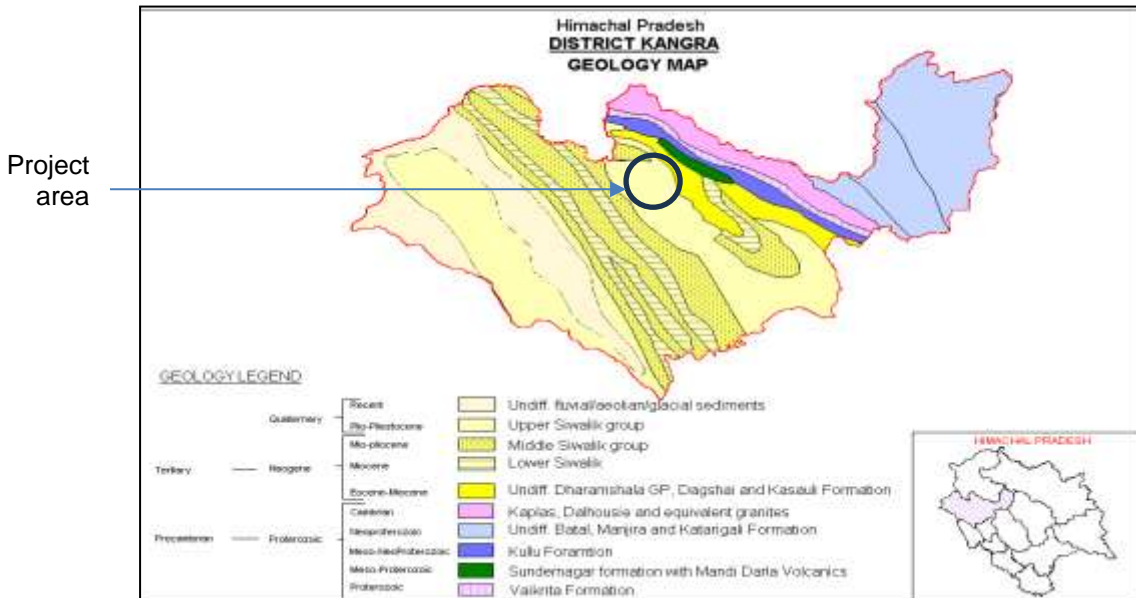
24. The project Convention Centre at Dharamshala, District-Kangra, Himachal Pradesh. The coordinates of the site are 32°11'5.80"N latitude and 76°21'37.44"E longitude. The slope of the town varies from area to area. The upper part of the town is situated at an altitude of 2100 meter and the lower part of the town is situated at an elevation of 1250 meter. Total area of Dharamshala municipal corporation is 27.6 km<sup>2</sup>. Dharamshala is well connected through road, rail and air with different parts of Himachal Pradesh and other states. Dharamshala does not have railway line but nearest broad guage railway station is in Pathankot. Nearest narrow guage railway station is at Kangra, which connects to Pathankot. Dharamshala is accessible through NH-503, SH-17 and major district road (MDR) 45 and other local roads. Major cities connected through Dharamshala are Palampur, Mubarikpur, Pathankot, Mcleodganj etc. Buses ply daily between Dharamshala and major cities such as Chandigarh, Delhi and Shimla. Dharamshala can be reached by Gaggal Airport about 15km distance from town. Direct flights operate to and from Delhi and Chandigarh only.

#### 2. Topography, Soils and Geology

25. **Topography.** The project site has flat topography. There are no major rivers in Dharamshala. The project site is located an altitude of about 1165 m above mean sea level.

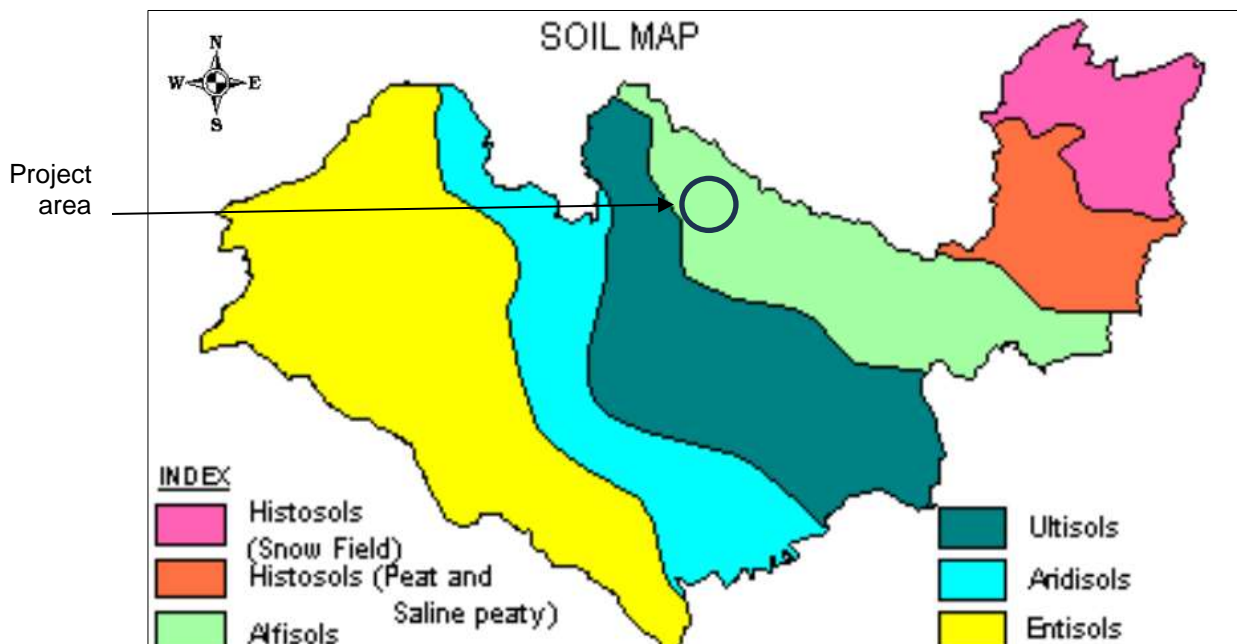
26. **Geology and Soil.** Geologically, the Dharamshala town is situated on the rocks of Dharamshala Group (Dagshai-Kasuali Group) which consist of sandstone with alternating bands of clays, shale and siltstones. The rock formation is highly jointed. The major part of the Dharamshala town area and Mcleaodganj hill slopes are covered with overburden material, glacial and debris deposits and consists of clay with small rock fragments of silt stone. Geological map of district is given in Figure 6.

**Fig. 6: Geological map of District Kangra district**



27. **Soils.** The soil is fertile and mostly rice, wheat and tea are grown here. The Dhauladhar range remains snow clad almost all through the year. Six types of soil found in the district but Alfisols (sub mountain) soil is found in the area. Soil Map of District Kangra is given in Figure-7.

**Fig. 7: Soil Map of District Kangra**



28. **Drainage.** The area is drained by N-S and NE-SW trending streams, which flow in the south and southwestern direction. The important perennial channels are Churan Khad in the east and Banoi Khad in the West. Both these channels are fed by water from snow covered high ranges of Dhauladhar mountains.

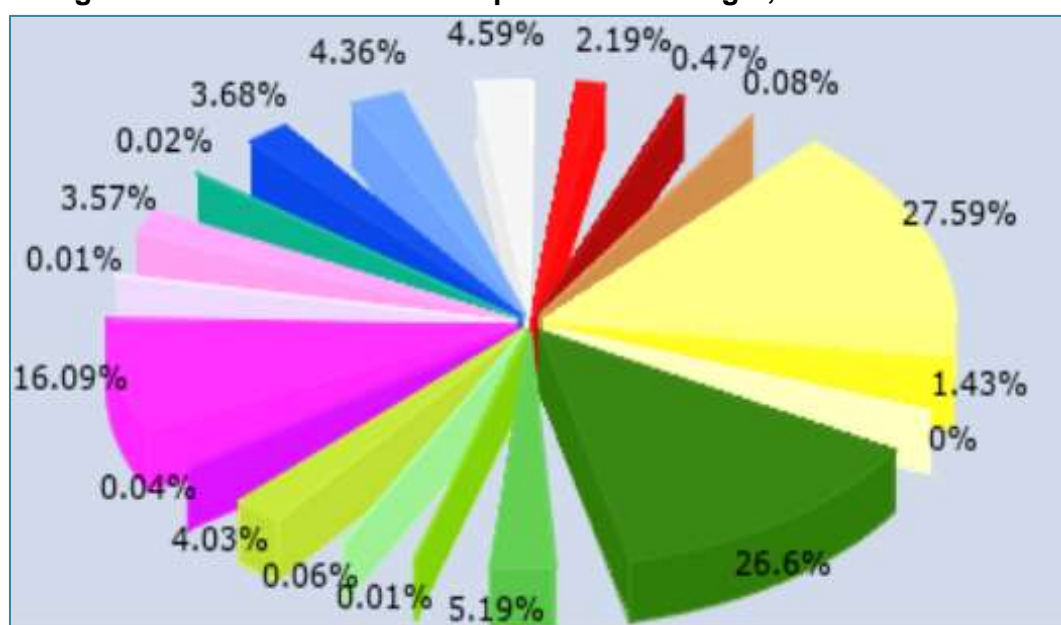
29. **Land Use/ Land Cover.** Major land use of the district is under Agriculture crop land (27.59%) followed by forest, evergreen/ semi evergreen (26.6%), Barren/ unculturable/ wastelands, scrub land (16.09%), forest deciduous (5.19%), snow and glacier (4.59%) & others (11.9%) etc. About 4.36% of the area of district are wetland/ water bodies/ reservoir/ lakes/ ponds & 3.68% are water bodies/ wetlands/ river/stream/ canals. Details of the land use pattern of the district is provided in Table 9 and Figure 8. The land use around the site comprises Built-up urban, forest and waterbody.

**Table 9: Land Use/ Land Cover of District Kangra, Himachal Pradesh**

LULC Class	Area (Sq.Km)	LULC Class	Area (Sq.Km)
Builtup,Urban	125.48	Builtup,Rural	27.11
Builtup,Mining	4.32	Agriculture,Crop land	1583.12
Agriculture,Plantation	81.82	Agriculture,Fallow	0.26
Forest,Evergreen/ Semi evergreen	1526.73	Forest,Deciduous	297.6
Forest,Forest Plantation	0.76	Forest,Scrub Forest	3.7
Grass/Grazing	231.11	Barren/unculturable/ Wastelands, Gullied/Ravinous Land	2.15
Barren/unculturable/ Wastelands, Scrub land	923.42	Barren/unculturable/ Wastelands, Sandy area	0.37
Barren/unculturable/ Wastelands, Barren rocky	204.7	Wetlands/Water Bodies, Inland Wetland	1.03
Wetlands/Water Bodies, River/Stream/canals	211.37	Wetlands/Water Bodies, Reservoir/Lakes/Ponds	250.42
Snow and Glacier	263.53		

Source: <https://bhuvan-app1.nrsc.gov.in>

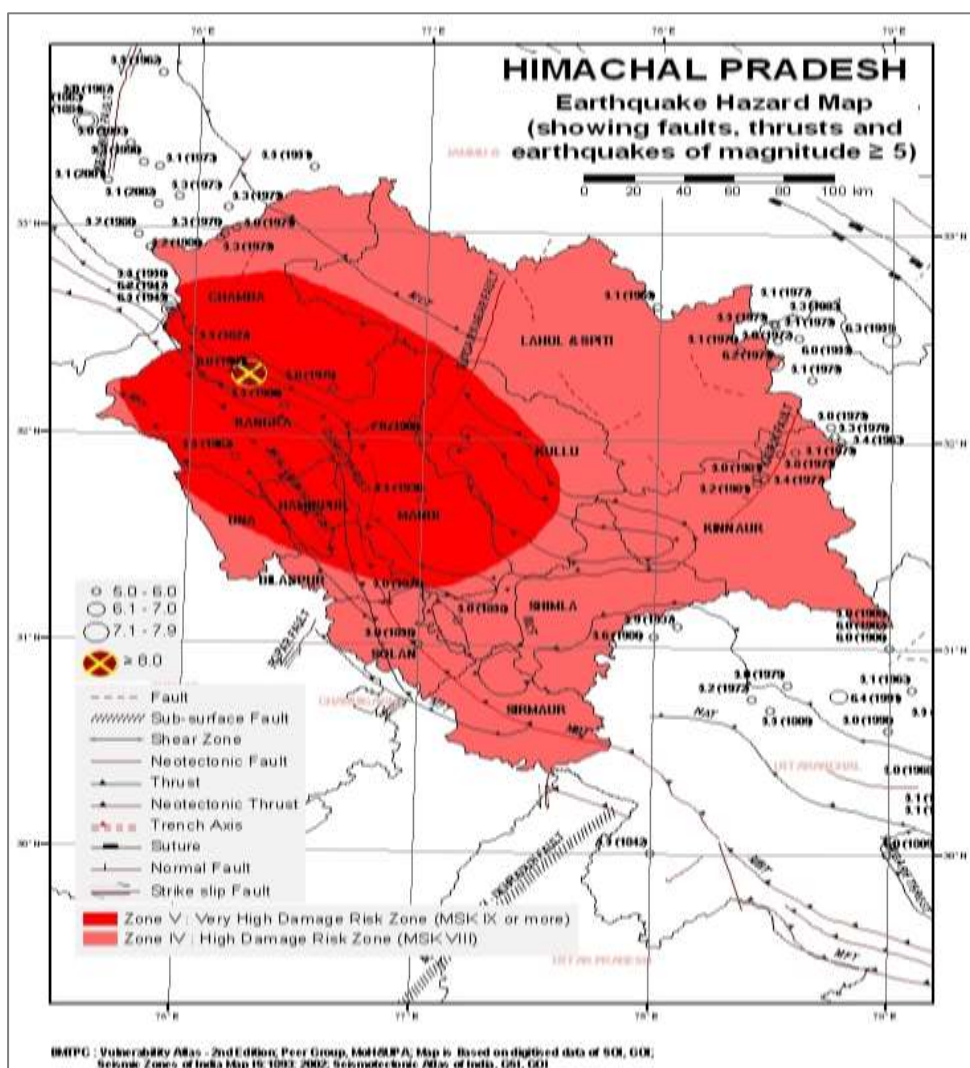
**Fig. 8: Land Use/Land Cover Map of District-Kangra, Himachal Pradesh**



### 3. Seismology

30. From seismicity point of view, the state of Himachal Pradesh which forms a part of NW Himalayas is very sensitive. During the last century the state has been shaken by a number of micro as well as macro earthquakes. Some of the prominent earthquakes that rocked the state are Kangra earthquake 1905 (M=8.0) in which 18,815 people were killed, Kinnaur earthquake 1975 (M=6.7) in which 60 people lost their lives and Dharamshala earthquake 1986 (M5.7). Besides these major earthquakes the state has been rocked by about 250 earthquakes with magnitude 4.0 and 62 earthquakes with magnitude more than 5.0. As per the earthquake hazard map of state, the areas falling in districts Chamba, Kangra, Mandi, Kullu, Hamirpur, Bilaspur are very sensitive as they fall in Very High Damage Risk Zone (MSK IX or More) i.e., Zone-V, whereas the rest of the areas falls in High Damage Risk Zone (MSK VIII). The project area falls in Very High Damage Risk Zone (MSK IX or More) i.e. Zone V. Earthquake hazard map of the State is provided at Figure-9.

**Fig. 9: Earthquake Hazard Map of the State of Himachal Pradesh**



31. **Landslides Hazard.** The hills and mountains of Himachal Pradesh are liable to suffer landslides during monsoons and also in high intensity earthquakes. The vulnerability of the geologically young and unstable steep slopes in various Himalayan ranges, has been swiftly increasing in recent decades due to deforestation, road cutting, terracing and changes in agriculture pattern requiring more intense watering. Landslides Hazard Risk map & table of

landslide prone areas of the State of Himachal Pradesh is provided in Figure 10 & Table 10. The landslide proneness of the project district as compiled by the BMTPC is given in Table 10. The project site has a flat terrain and is not landslide prone.

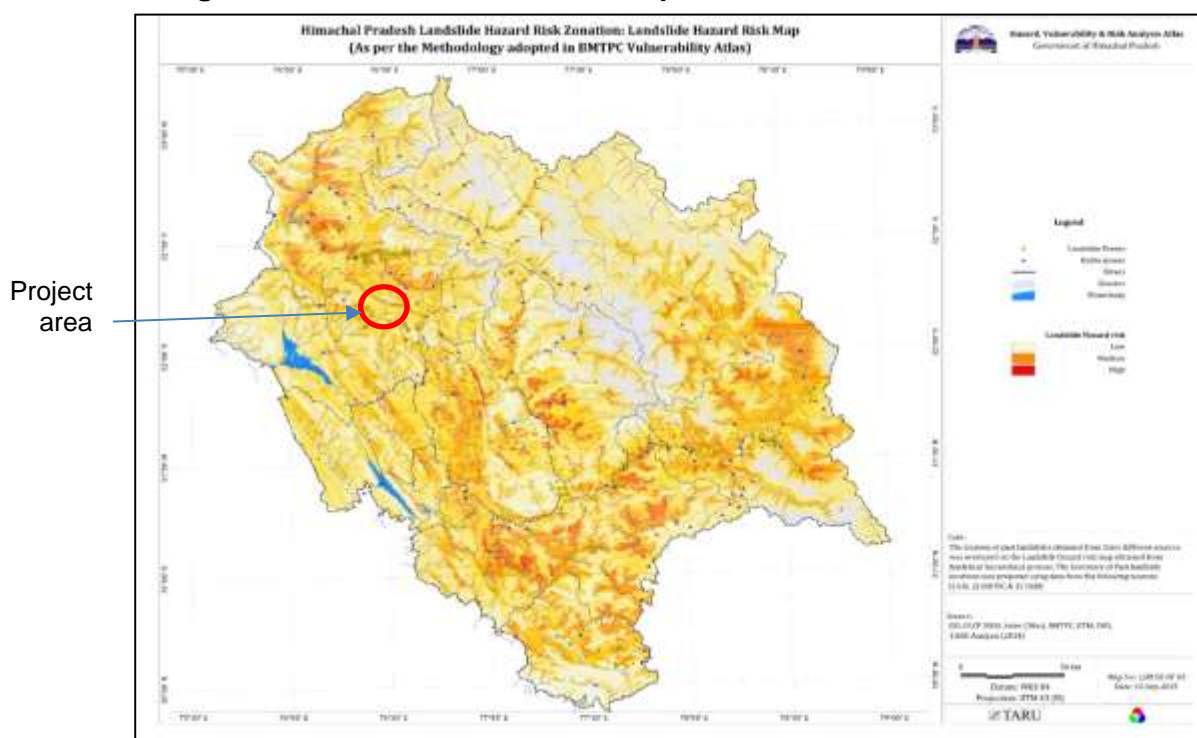
**Table 10: Landslide Prone Areas of Himachal Pradesh**

District	Severe to very High	High	Moderate to Low	Unlikely	Total Area
Bilaspur	216	842	83	1	1142
Chamba	2120	3829	351	70	6370
Hamirpur	0	851	204	45	1100
<b>Kangra</b>	<b>123</b>	<b>3698</b>	<b>1233</b>	<b>557</b>	<b>5611</b>
Kinnaur	868	4956	498	0	6322
Kullu	1820	3512	65	3	5401
Lahaul & Spiti	127	11637	1825	2	13591
Mandi	968	1978	826	98	3870
Shimla	893	3345	767	14	5019
Sirmaur	95	1805	614	228	2742
Solan	556	1118	157	79	1910
Una	2	678	517	311	1508

Source: BMTPC, Landslide Hazard Zonation Atlas of India.

(Area in square kilometer)

**Fig. 10: Landslides Hazard Risk Map of the State of Himachal Pradesh**



Source: <https://hpsdma.nic.in>

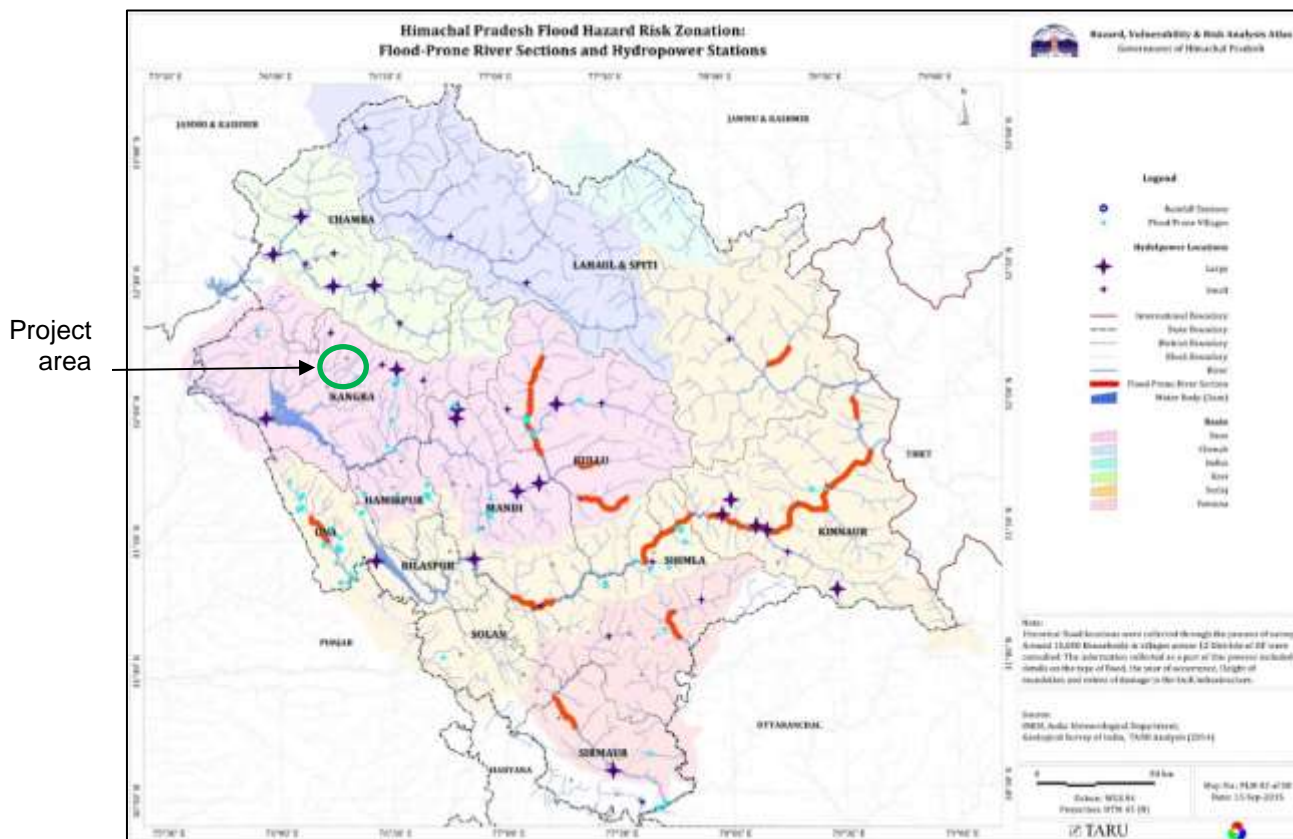
32. **Flood Hazard.** Floods are another form of natural disaster which the state experiences every year. Due to the diverse topography of the area, the flood problem in the state is largely isolated in nature. High monsoon rains in the area of the Shivalik and lower and mid Himalayan ranges cause extensive floods during rainy seasons. In the upper reaches of the Beas and Satluj valley the main problems are flash floods and bank erosion because of the steep slopes of rivers and high river flows due to heavy rains. The rivers of importance from flood damage angle are:

- River Satluj and its tributaries like Spiti, Sangle khad, Ali khad, Gambhar khad, Sirkhad,

- and Swan River
- River Beas and tributaries like Uhl and Suketi khads.
- River Ravi and its tributaries like Siul
- River Yamuna and its tributaries like Pabbar, Giri and Bata.

33. Flood Hazards risk map of the State of Himachal Pradesh is provided in Figure-11. There is no river nearby the project site and no flood risk is envisaged.

**Fig. 11: Flood Hazard Risk Map of the State of Himachal Pradesh**



Source: <https://hpsdma.nic.in>

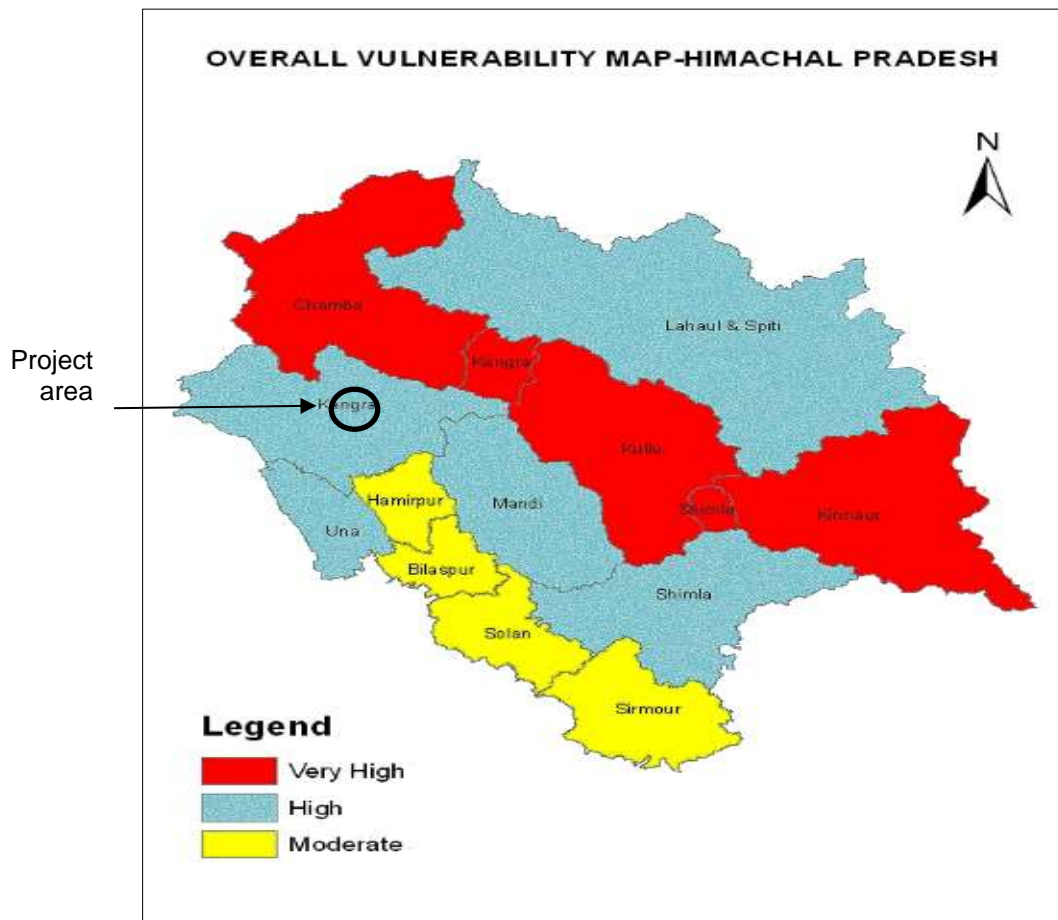
34. **Hazard Vulnerability.** The overall vulnerability of the state on the basis of the matrix clearly suggests that the district Chamba, Kinnaur Kullu and part of Kangra and Shimla falls in very highly vulnerable risk. Similarly, district Kangra, Mandi, Una, Shimla and Lahaul and Spiti falls in highly vulnerable risk status. The district Hamirpur, Bilaspur, Solan and Sirmour falls in moderate vulnerable risk status. Based on the vulnerability atlas, project area comes under highly vulnerable in view of natural hazards. Hazard vulnerability status & map of the State of Himachal Pradesh is given in below Figure 12 & 13, respectively.

**Fig. 12: Hazard Vulnerability of H.P.**

HAZARD VULNERABILITY OF HIMACHAL PRADESH							
DISTRICTS	E.Q	LANDSLIDE	FLOODS	AVALANCHE	INDUSTRY	CONST. TYPE & DENSITY	OVERALL VULNERABILITY
Kangra	VII	M	L	--	M	VII	II
Chamba	II	II	II	M	M	II	VII
Hamirpur	VII	L	L	--	--	II	M
Mandi	VII	M	M	--	M	II	II
Kullu	II	II	II	M	II	II	VII
Bilaspur	II	M	L	--	M	VII	M
Una	M	L	II	--	II	M	II
Sirmour	M	M	L	--	II	M	M
Solan	L	L	L	--	II	M	M
Kinnaur	II	II	II	VII	II	M	VII
L&Spiti	L	M	L	VII	--	M	II
Shimla	L	M	L	--	II	M	II

Source: <https://hpsdma.nic.in>

**Fig. 13: Overall Vulnerability Map, H.P.**

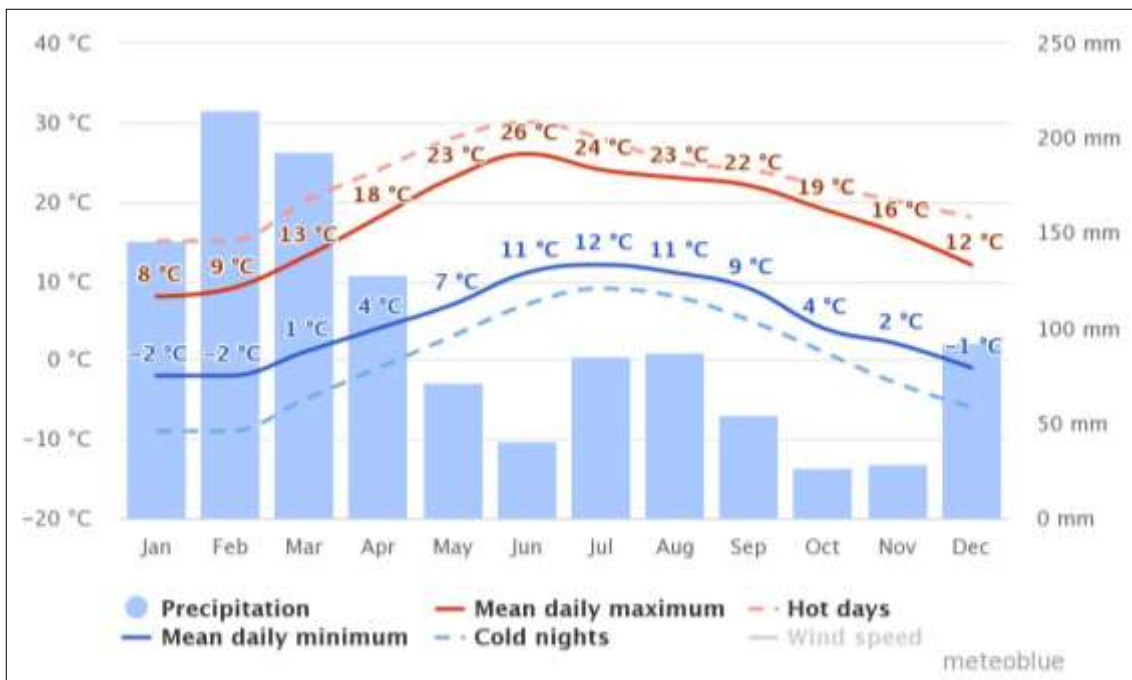


Source: <https://hpsdma.nic.in>

#### 4. Climatic Conditions

35. **Climate.** Dharamshala has a monsoon influenced, humid subtropical climate. Summer starts in early April and peaks in May when temperatures can reach 36 °C and lasts until the start of June. Monsoon season is from June to mid-September and up to 3,000 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. Autumn temperatures average around 16–17°C. Winter starts in December and continues until late February. Snow and sleet are common during the winter in upper Dharamshala (including McLeodganj, Bhagsu Nag and Naddi). Lower Dharamshala receives little frozen precipitation except hail. Winter is followed by a short, pleasant spring until April. Historically, the Dhauladhar mountains used to remain snow-covered all year long. The average ambient temperature remains 13°C, varies from -5.2°C to 29.7°C. The station pressure varies from 814 hPa to 803 hPa, averaged around 823 hPa. Average temperature and precipitation of Dharamshala is given in Figure-14.

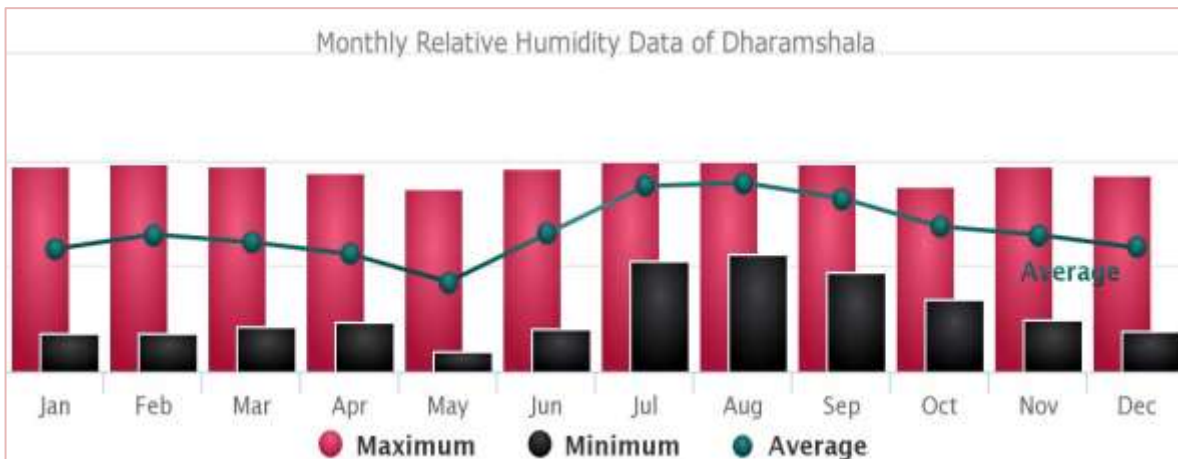
**Fig. 14: Average Temperature and Precipitation of Dharamshala**



Source: [https:// www.meteoblue.com](https://www.meteoblue.com)

36. **Humidity.** The average Relative Humidity of Dharamshala is around 66% although it varies from around 42% during Summer (May) to 89% during the Monsoon (August). The most humid month of the year is August with humidity variation from 55.6% to 99.9%. The least humid month is of the year is May, with humidity variation from 9.6% to 86.5%. Relative humidity data of Dharamshala is given in Figure-15.

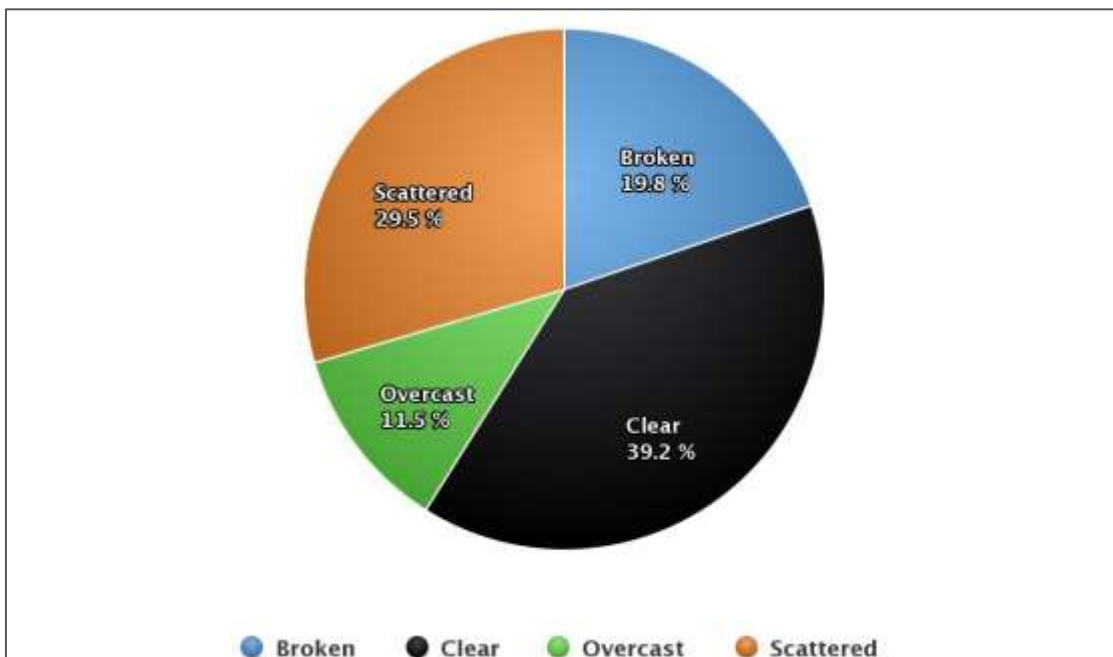
**Fig. 15: Relative humidity of Dharamshala**



Source: <https://www.indianclimate.com/relative-humidity-data>

24. **Cloud Cover.** The average Cloud Cover of Dharamshala is around 3/10<sup>th</sup> although it varies from around 1/10<sup>th</sup> during Post-Monsoon (October) to 7/10<sup>th</sup> during the Monsoon (August). The cloudiest month of the year is August with cloud cover varies from 0/10<sup>th</sup> to 10/10<sup>th</sup>. The clearest sky month is of the year is October, with cloud cover varies from 0/10<sup>th</sup> to 10/10<sup>th</sup>. Cloud cover in Dharamshala is given in Figure-16.

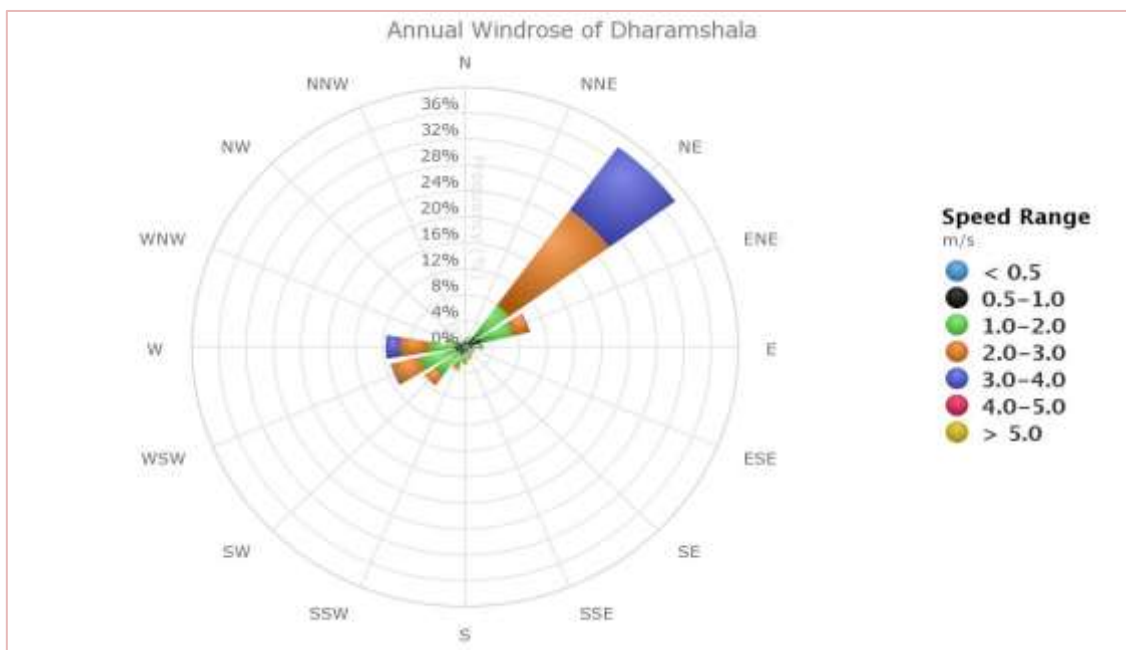
**Fig. 16: Cloud Cover in Dharamshala**



Source: <https://www.indianclimate.com>

25. **Wind Speed & Direction.** The average wind speed in Dharamshala is 2 m/s with the maximum wind speed of around 4 m/s. Windrose of Dharamshala shows that predominantly wind blow from the NE - about 38.03% of all wind directions. Approximately 18.14% (max) of the time wind blows from the NE at speeds between 2 and 3 m/s. Further, at Dharamshala much of the time winds blow at speeds between 1 and 2 m/s - which is 34.01% of the time. About 4.57% of time winds were CALM i.e., wind speeds less than 0.5m/s. Wind rose of Dharamshala is given in Figure 17.

**Fig. 17: Wind Rose of Dharamshala, H.P.**



Source: <https://www.indianclimate.com>

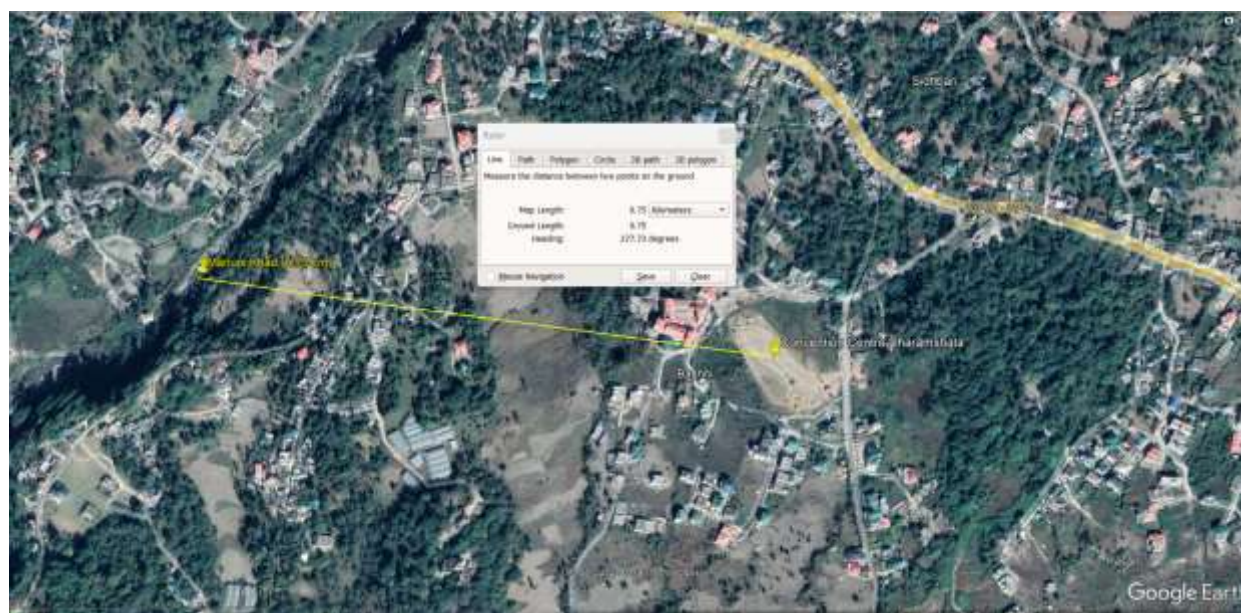
## 5. Surface Water.

26. There are no major rivers in Dharamshala and the city extract its water supply from the various streams and waterfalls that come down from glaciers near the city. A major water body at Dharamshala is the Dall Lake that is surrounded by pine trees. Dharamshala has a natural gift in form of perennial streams that originate from glaciers in Dhauladhar mountains and flow in vicinity of the town. Ganj stream is the major source of water for Dharamshala, besides two tube wells at Dari locality. Details of waterbodies in the vicinity is provided in Table 11 and the google map showing location of the nearest waterbody is given in Figure 18. Manuni Khad is the nearest khad at a distance of 0.74 km in the west direction.

**Table 11: Details of Waterbodies in the Project Area**

Water Bodies	
Manuni Khad	~ 0.74 km towards West direction from the project site
Nod Khad	~ 2.41 km towards East direction from the project site
Churan Khad	~ 3.75 km towards West direction from the project site
Banoi Khad	~ 4.08 km towards NW direction from the project site
Bhagan Khad	~ 5.82 km towards SE direction from the project site
Bahl Khad	~ 5.85 km towards WNW direction from the project site
Gaj Khad	~ 8.77 km towards NW direction from the project site
Bhated Khad	~ 9.61 km towards WSW direction from the project site

**Fig. 18: Google Map of Manuni Khad and Project Site**



## 6. Ground water & its Quality

27. The ground water sources in the Dharamshala tehsil are rainfall and seepage etc. Rainfall is the major source of groundwater recharge, apart from the influent seepage from the rivers, irrigated fields and inflow from upland areas, whereas discharge from ground water mainly takes place from wells and tube wells; effluent seepages of ground water in the form of springs and base flow in streams etc. The minimum and maximum ranges of the results are tabulated below and are within the permissible limit of safe drinking water set by Bureau of Indian Standard (BIS). Ground water quality in the district is good, both for irrigation and domestic purpose. The ground water quality result is given in Table 12.

**Table 12: Ground water quality in Project area**

	pH	EC μS/cm at 25°C	HCO <sub>3</sub>	Cl	SO <sub>4</sub>	NO <sub>3</sub>	F	Ca	Mg	Na	K	Total hardness as CaCO <sub>3</sub>
	mg/l											
Min	7.55	120	37	7.09	Tr	Tr	Tr	10	3.6	6.3	0.6	45
Max	8.46	910	513	110	71	28	0.54	112	56	105	38	370

Tr=Trace, All the value given in mg/l except pH

(Source: CGWB Information Booklet, District- Kangra- Sept. 2013)

28. **Hydrogeology.** The hydrogeological framework of Kangra district is essentially controlled by the geological setting, distribution of rainfall and snowfall, which facilitates circulation and movement of water through inter connected primary and secondary porosity of the rocks constituting the aquifers. Based on the geological diversities and relative ground water potentialities of different geological formations, the district can broadly be divided into two hydrogeological units.

29. **Fissured Formation.** These formations consist of schist, quartzite, slate, phyllites, limestone, granites, gneisses, sandstone, conglomerate and shales. These rocks are generally massive and consolidated, devoid of primary porosity and permeability. Secondary porosity and permeability have developed due to the tectonic activities along the fractured joints and fault zones. Weathered zone rarely form an aquifer because of less thickness of the weathered mantle.

30. The ground water in such areas is discharged through the springs in the topographically favourable areas. The thrust zones (Main boundary fault/ Palampur thrust) and other faults at lower topography are the important areas for ground water development. Springs located along the thrust zone in Dharamshala and Palampur areas are having a discharge of more than 40 lps, indicative of high potentialities.

31. **Porous Formation.** Quaternary sediments as fluvio-glacial and fluvial deposit occurs as valley fill deposit overlying the older rocks. Morainic and fluvio-glacial deposits are distributed in Kangra Palampur valley and in the higher altitude areas, which fluvial deposits occur either along Beas River or its tributaries in low altitude areas.

32. **Ambient Air Quality.** Project site is located in Dharamshala, District-Kangra characterized mainly by urban areas and intermittently traversed by few semi-urban settlements and in its immediate surroundings, which were converted into urban use for years ago. Sources of air pollution in the project area are mainly vehicular emission, dust emanation due to use of unpaved shoulders/ deteriorated roads by vehicles and domestic fuel burning. Air quality monitoring will be done before & during execution of the proposed project. Baseline data of ambient air would be generated prior to commencement of works. There are no pollution sources like industrial activities etc. near the project sites except vehicular emissions.

33. Based on the ambient air quality data of Dharamshala as recorded by Himachal Pradesh Pollution Control Board on different location during the year 2019-2020 clearly depicts that all the parameter of ambient air were found well within permissible limits of Standards as per National Ambient Air Quality Standards (NAAQS), 2009. Details of ambient air quality data of different station in Dharamshala are given in Table-13.

**Table-13: Result of Ambient Air Quality of Dharamshala, H.P.**

Station -1: Kotwali Bazar												
Month	SO2 in µg/m3		NOx in µg/m3		RSPM in µg/m3		NH3 in µg/m3		O3 in µg/m3		PM2.5 µg/m3	
	A.M	A.S.	A.M	A.S.	A.M	A.S.	A.M.	A.S.	A.M.	8-hour Standard	A.M.	A.S.
Apr-19	2	50	6.3	40	35	60	0.4	100	2	100	15.6	40
May-19	2	50	6.5	40	37	60	0.4	100	2	100	--	40
Jun-19	2	50	6.4	40	41	60	0.4	100	2	100	--	40
Jul-19	2	50	1.4	40	33.3	60	0.4	100	1	100	12	40
Aug-19	2	50	6.9	40	30.4	60	0.2	100	2	100	--	40
Sep-19	2	50	6.6	40	41	60	0	100	2	100	--	40
Oct-19	2	50	7.3	40	37	60	0.4	100	2	100	--	40
Nov-19	2	50	6.5	40	26	60	0.4	100	2	100	--	40
Dec-19	2	50	6.8	40	41	60	0.4	100	2	100	--	40
Jan-20	2	50	6.9	40	40	60	0	100	2	100	--	40
Feb-20	2	50	6.5	40	44	60	0.3	100	2	100	15.8	40
Mar-20	2	50	7.7	40	31	60	0.2	100	2	100	10.8	40
Station-2: Dari, Dharamshala												
Month	SO2 in µg/m3		NOx in µg/m3		RSPM in µg/m3		NH3 in µg/m		O3 in µg/m		PM2.5 µg/m3	
	A.M	A.S.	A.M	A.S.	A.M	A.S.	A.M.	A.S.	A.M.	8-hour Standard	A.M.	A.S.
Apr-19	2	50	6.5	40	35	60	0.4	100	2	100	15.1	40
May-19	2	50	6.8	40	39	60	0.4	100	2	100	14.1	40

Jun-19	2	50	7.4	40	41	60	0.4	100	2	100	14.6	40
Jul-19	2	50	4.1	40	33.9	60	0.4	100	1	100	14.2	40
Aug-19	2	50	5	40	28.4	60	0.2	100	1.5	100	--	40
Sep-19	2	50	5.5	40	38	60	0	100	1	100	15.9	40
Oct-19	2	50	6.2	40	30	60	0	100	2	100	21.7	40
Nov-19	2	50	6.1	40	39	60	0.4	100	2	100	18.9	40
Dec-19	2	50	3.2	40	45	60	0.4	100	2	100	19.1	40
Jan-20	2	50	6.4	40	37	60	0	100	2	100	15	40
Feb-20	2	50	6.6	40	45	60	0.3	100	2.1	100	15.7	40
Mar-20	2	50	7	40	36	60	0.2	100	2	100	12.4	40

Source: dharamshala.pdf (hppcb.nic.in)

34. **Noise Level.** Project site located in Dharamshala, District-Kangra characterized mainly by urban areas and intermittently traversed by few semi-urban settlements and in its immediate surroundings, which were converted into urban use for years ago. No sources of noise pollution in the project area except vehicular road is located near the site (<100m). Noise monitoring will be done before & during execution of the proposed project. Baseline data would be generated prior to commencement of works.

35. Noise monitoring data is available for the area monitored by HPSPCB. As per noise level data recorded during the year 2019 at different location in Dharamshala by Himachal Pradesh Pollution Control Board clearly depicts that noise level found within permissible limits of Standards. Noise monitoring results is given in Table 14.

**Table-14: Result of Noise Monitoring of Dharamshala, H.P.**

Name of Regional Office: Dharamshala							
Area/ Zone			Silence	Residential	Commercial	Industrial	
Limit in dB(A)	Day Time		50	55	65	75	
	Night Time		40	45	55	70	
Week/Month & Year	Location	Detail of Sampling	Silence	Residential	Commercial	Industrial	
			Zonal Hospital Dharamshala	Office Complex Dari	Kotwali Bazar, Dharamshala	Industrial Area, Nagrota	
Month and Year:			<b>Jan-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	44.8	51.2	56.1	66.4
		Night Time		32.9	40.3	51.2	61.2
2 <sup>nd</sup> week	Dharamshala	Day Time		47.3	47.9	58.3	56.7
		Night Time		36.8	45.8	48.1	48.9
3 <sup>rd</sup> week	Dharamshala	Day Time		46.6	49.9	55.4	51.3
		Night Time		38.5	43.2	49.5	49.8
4 <sup>th</sup> week	Dharamshala	Day Time		48.2	45.9	60.2	70.3
		Night Time		37.8	37.4	52.1	64.4
Month and Year:			<b>Feb-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	39.8	40.3	51.6	55.7
		Night Time		31.2	36.1	46.4	44.8
2 <sup>nd</sup> week	Dharamshala	Day Time		43.1	44.4	50.3	52.4
		Night Time		29.5	35.8	43.7	50.8
3 <sup>rd</sup> week	Dharamshala	Day Time		41.7	42.6	49.6	56.3
		Night Time		28.1	34.5	41.3	51.8
4 <sup>th</sup> week	Dharamshala	Day Time		46.2	50.1	61.3	71.4
		Night Time		36.6	42.3	51.5	65.7
Month and Year:			<b>Mar-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	41.4	39.2	52.3	56.7
		Night Time		30.2	35.9	44.2	48.8
2 <sup>nd</sup> week	Dharamshala	Day Time		45.7	52.2	59	64.8
		Night Time		33.1	36.5	45.8	52.6

Sustainable and Inclusive Tourism Development Project in Himachal Pradesh  
 Project: Convention Centre at Dharamshala, District Kangra, H.P.

3 <sup>rd</sup> week	Dharamshala	Day Time		44.7	48.7	55.3	61.5
		Night Time		33.6	40.5	51.3	55.3
4 <sup>th</sup> week	Dharamshala	Day Time		39.9	48.6	58.7	69.8
		Night Time		37.8	41.5	52.4	68.3
Month and Year:			<b>Apr-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		43.2	44.6	51.8	57.4
		Night Time		33.2	34.6	46.8	51.7
2 <sup>nd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	44.4	53.8	60	62.5
		Night Time		35.3	37.4	46.8	55.3
3 <sup>rd</sup> week	Dharamshala	Day Time		47.1	49.2	58.3	65.8
		Night Time		34.6	41.4	49.7	61.6
4 <sup>th</sup> week	Dharamshala	Day Time		45.2	47.2	56.8	70.2
		Night Time		34.7	40	53.1	69.2
Month and Year:			<b>May-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		47.2	48.4	57.1	66.3
		Night Time		38.3	40	49.4	55.6
2 <sup>nd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	46.3	51.2	62.4	68.3
		Night Time		33.4	38.5	44.4	57.9
3 <sup>rd</sup> week	Dharamshala	Day Time		46.7	50.7	59.6	69.2
		Night Time		37.3	43	48.5	62.1
4 <sup>th</sup> week	Dharamshala	Day Time		46.2	47.7	53.8	60.8
		Night Time		33.3	41.5	47.7	65.8
Month and Year:			<b>Jun-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		48.5	51.1	58.9	68.4
		Night Time		35.6	39.8	50.1	57.4
2 <sup>nd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	47.7	52.4	63.2	69.2
		Night Time		36	37.7	43.8	59.2
3 <sup>rd</sup> week	Dharamshala	Day Time		48.1	54	56.9	68.9
		Night Time		34.2	41.7	46.3	63.5
4 <sup>th</sup> week	Dharamshala	Day Time		43.8	49.2	51.5	62.4
		Night Time		32.9	40	48.8	66.7
Month and Year:			<b>Jul-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		46.2	49	51.9	61.4
		Night Time		32.4	36.5	48.2	56.3
2 <sup>nd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	48.1	50.3	61.1	65.4
		Night Time		33.7	35.8	42.3	59
3 <sup>rd</sup> week	Dharamshala	Day Time		44.3	48.1	55.6	67.8
		Night Time		36.2	43.3	51.4	62.7
4 <sup>th</sup> week	Dharamshala	Day Time		44.4	47.5	50	65.2
		Night Time		31.9	39.6	43.8	59.9
Month and Year:			<b>Aug-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		48.6	51.3	56.4	64.2
		Night Time		34.9	39.8	47.3	58
2 <sup>nd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	49.1	53.4	62.3	66.7
		Night Time		34.6	38.9	41.2	65.7
3 <sup>rd</sup> week	Dharamshala	Day Time		47.4	49.7	59.3	67.1
		Night Time		37.2	40	50.1	61.1
4 <sup>th</sup> week	Dharamshala	Day Time		43.5	46.2	52.1	68.9
		Night Time		32.9	40.1	51.6	63.7
Month and Year:			<b>Sep-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		<b>50.2</b>	53.4	58.9	65.3
		Night Time		35.1	42.3	48.9	55.6
2 <sup>nd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	47.7	51.2	60	67.3
		Night Time		36.3	41.2	47.2	66.6
3 <sup>rd</sup> week	Dharamshala	Day Time		44.7	46.4	60.1	68.3
		Night Time		37.5	41.8	49.3	64.8
4 <sup>th</sup> week	Dharamshala	Day Time		45.6	47.3	60	62.4
		Night Time		31.6	39.6	48.3	61.3
Month and Year:			<b>Oct-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		47.2	50.1	59.2	66.4
		Night Time		34.7	41.3	46.1	53
2 <sup>nd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	46.3	53.7	61.5	71.3
		Night Time		37.5	43.2	51.4	67.2

3 <sup>rd</sup> week	Dharamshala	Day Time	Noise Level in dB(A)	43.2	44.5	56.1	61.3	
		Night Time		31.2	34.8	46.4	62.3	
4 <sup>th</sup> week	Dharamshala	Day Time		48.9	54.2	62.3	72.1	
		Night Time		38.6	43.5	53.2	68.9	
Month and Year:				<b>Nov-19</b>				
1 <sup>st</sup> week	Dharamshala	Day Time		45.2	49.4	55.8	64	
		Night Time		33.5	40.3	44.6	52.1	
2 <sup>nd</sup> week	Dharamshala	Day Time		45.2	53.1	62.4	70.2	
		Night Time	36.2	44.7	52.3	65.1		
3 <sup>rd</sup> week	Dharamshala	Day Time	45.6	47.8	58.9	66.6		
		Night Time	33.7	37.4	45.2	63.9		
4 <sup>th</sup> week	Dharamshala	Day Time	47.6	53.1	61.3	69		
		Night Time	37.4	41.6	50.8	67.9		
Month and Year:			<b>Dec-19</b>					
1 <sup>st</sup> week	Dharamshala	Day Time	46.7	50.2	57	65.3		
		Night Time	34.8	42.3	47.4	62.5		
2 <sup>nd</sup> week	Dharamshala	Day Time	47.1	52.3	61.2	71.4		
		Night Time	38	43.7	51.1	66.6		
3 <sup>rd</sup> week	Dharamshala	Day Time	43.2	47	57.2	68.9		
		Night Time	35.5	41.3	46.7	65.4		
4 <sup>th</sup> week	Dharamshala	Day Time	48.7	52.1	57.2	70		
		Night Time	31.4	42.2	51.4	68.6		

Source: Dharmshala.pdf (hppcb.nic.in)

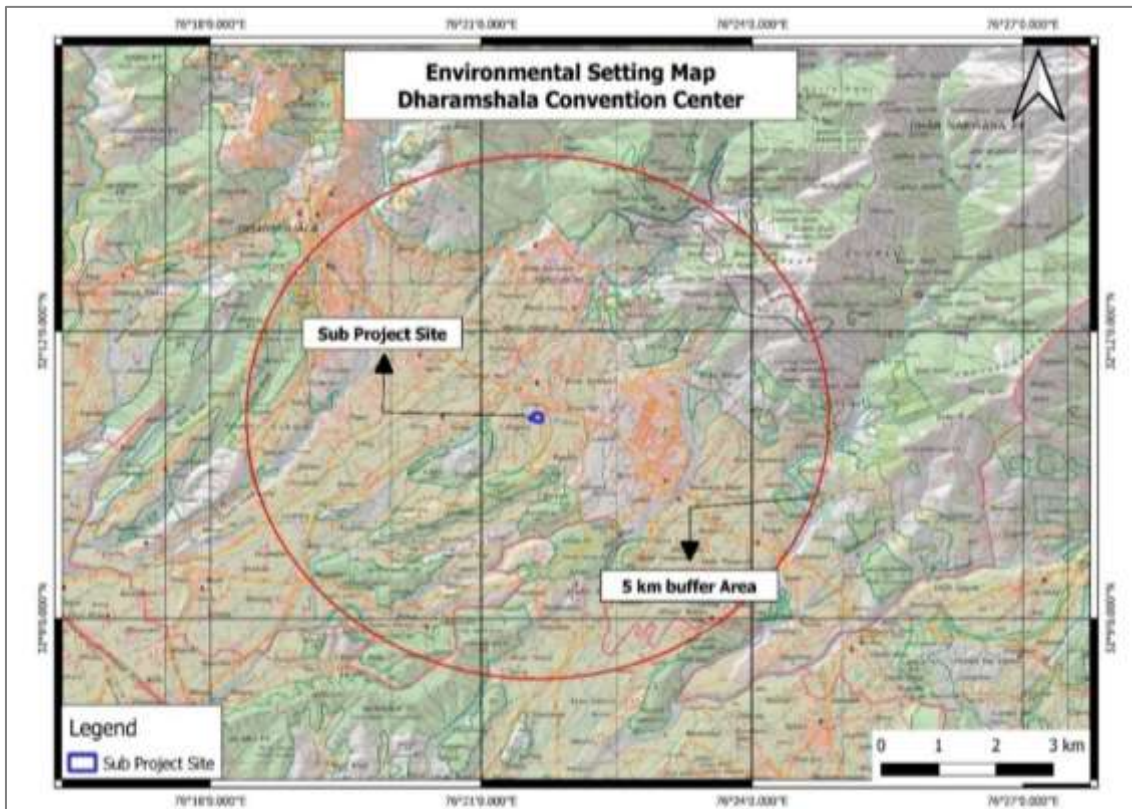
## B. Ecological Environment

36. **Forest & Wildlife.** The project site is not located in any type of forest land. There are few protected forest blocks, which are located within 5 km from the boundary of the project site, however they are away from the project site. An environmental setting map showing nearby forests & other features is provided below in Figure-19 & 20. Details of surrounding forest areas is given in table 15.

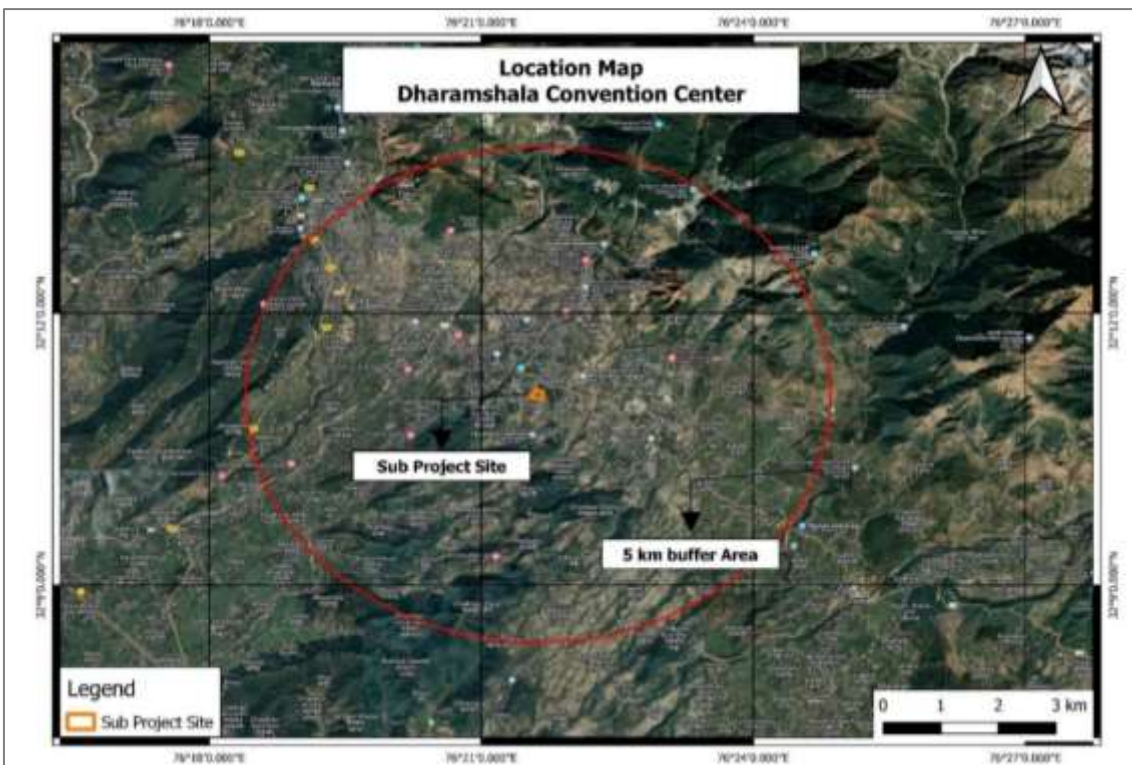
**Table 15: Details of Forest Areas in Project Surroundings**

Forest	
Kuned P/F	~ 0.68 km towards West direction from the project site
Rasain P/F	~ 0.90 km towards South direction from the project site
Yol P/F	~ 1.28 km towards SSW direction from the project site
Dhar Narwana P/F	~ 1.97 km towards NE direction from the project site
Ghiana P/F	~ 2.97 km towards SW direction from the project site
Kanhiara P/F	~ 3.31 km towards North direction from the project site
Naina Devi P/F	~ 3.64 km towards SW direction from the project site
Sukar P/F	~ 3.39 km towards West direction from the project site
Sihnal P/F	~ 4.57 km towards WNW direction from the project site
Rumehr P/F	~ 4.84 km towards SE direction from the project site
Ronkhar P/F	~ 5.12 km towards SSW direction from the project site
Dharmkot P/F	~ 6.05 km towards WSW direction from the project site
Naddi P/F	~ 6.21 km towards NW direction from the project site
Chili Narwana P/F	~ 6.24 km towards ESE direction from the project site
Lhla P/F	~ 7.53 km towards SE direction from the project site
Kharti P/F	~ 8.76 km towards ESE direction from the project site

**Fig-19: Environmental Setting Map**



**Fig-20: Google Map Showing Environmental Setting of Project**



37. **Protected Areas:** The list of protected areas (National Parks and Wildlife Sanctuaries) in Himachal Pradesh is given in Table 16 and map showing wildlife protected areas in the State of Himachal Pradesh is given in Figure-21. There is no protected area (Wildlife Sanctuaries, National Parks, Tiger/ Elephant Reserves, Conservation reserves, etc.) in or near the project site. The project site does not fall within or near any eco-sensitive areas and is not partly or fully in core or buffer zones of the above-mentioned protected areas. The nearest protected area is Pong Dam Lake WL Sanctuary at about 27.8 km (WLS) & 26.5 km (Proposed ESZ) from the Convention Centre site. Map on google earth is provided in Figure 22.

**Table 16: List of Protected Areas in Himachal Pradesh**

S. No.	Sanctuaries	District	Area (km <sup>2</sup> )
1	Bandli	Mandi	32.11
2	Chail	Solan	16
3	Chandra Tal	Lahaul & Spiti	38.56 +(11.53 for Consideration)
4	Churdhar	Sirmour	55.52
5	Daranghati	Shimla	171.50
6	Dhauladhar	Kangra	982.86
7	Gamgul-Siyabehi	Chamba	108.40
8	Kais	Kullu	12.61
9	Kalatop-Khajjiar	Chamba	17.17
10	Kanawar	Kullu	54.27
11	Khokhan	Kullu	14.94
12	Kibber	Lahaul & Spiti	2220.12
13	Kugti	Chamba	379
14	Lipa Asrang	Kinnaur	31
15	Majathal	Solan	30.86
16	Manali	Kullu	29
17	Nargu	Mandi	278
<b>18</b>	<b>Pong Dam Lake</b>	<b>Kangra</b>	<b>207.59</b>
19	Rakchham-Chitkul	Kinnaur	304
20	Renuka	Sirmour	4
21	Rupi-Bhaba	Kinnaur	503
22	Sechu-Tuan Nalla	Chamba	390.29
23	Sainj	Kullu	90
24	Shikari Devi	Mandi	29.94
25	Shimla Water Catchment	Shimla	10
26	Simbalbara	Sirmour	27.88
27	Talra	Shimla	46.48
28	Tirthan	Kullu	61
29	Tundah	Chamba	64
30	Water Supply Catchment	Shimla	10
<b>National Parks</b>			
1	Great Himalayan National Park	Kullu	765
2	Pin Valley National Park	Lahaul & Spiti	675
3	Inderkilla National Park	Kullu	104
4	Khirganga National Park	Kullu	710
5	Simbalbara National Park	Nahan	27.88

S. No.	Sanctuaries	District	Area (km <sup>2</sup> )
<b>Conservation Areas</b>			
1	Shilli Conservation Reserve	Solan	1.49
2	Shri Naina Devi Conservation Reserve	Bilaspur	17.01
3	Darlaghat Conservation Reserve	Solan	0.67

**Fig. 21: Map showing Wildlife Protected Areas in the State of Himachal Pradesh**



24. **Flora and Fauna.** Project site is located in Dharamshala characterized mainly by urban/ rural areas and intermittently traversed by few semi-urban settlements and in its immediate surroundings, which were converted into urban use for years ago, and there is no natural habitat at the proposed site. Site is vacant and unused land. There is no tree at project site. Shrubs and bushes exist which need to be clear prior to start of work. Vegetation in the surrounding area is sparse and comprises mostly of artificially planted trees and shrubs. As per data of Forest Department, Dharamshala, tree species found in the are include *Cassia fistula* (Amaltas), *Mangifera indica* (Mango), *Azadirachta indica* (Neem), *Delbergia sissoo* (Shisham), *Calotropis procera* (Aak) and *Pinus roxburghii* (Chil) etc.

25. Fauna reported in the project area includes *Acridotheres tristis* (Common Myna), *Columba livia* (Rock pigeon), *Psittopogon virens* (Great Barbet), *Psittacula kramera* (Rose Ringed Parakeet), *Dicrurus macrocerus* (Black drongo), *Dicrurus leucophaeus* (Ashy drongo), *Perdix perdix* (Grey Partridge), *Dendrocitta vagabunda* (Indian Treepie), *Sus scrofa* (Wild boar), *Funambulus palmarum* (Squirrel), *Hystrix indica* (porcupine), *Lepus timidus* (hare), *Ochotona roylei* (Himalayan mouse hare), *Rattus rattus* (house rat), *Mus musculus* (house mouse), *Macaca mullata* (Rhesus monkey), *Pteropus sp.* (Indian flying fox). No endangered species of fauna is reported from the project site as listed in IUCN.

26. **Screening via Integrated Biodiversity Assessment Tool (IBAT)** and biodiversity assessment report prepared for the project site which indicates presence of 01 Protected area;

Pong Dam Lake Sanctuary and 07 Key Biodiversity areas; Chamba Valley, Sarah Valley, lower Dharamshala, Dhauladhar Wildlife Sanctuary and Mcleod Gunj, Kalatop Khajjar Wildlife Sanctuary, Kugti Wildlife Sanctuary, Nargu Wildlife Sanctuary and Pong Dam Lake WLS within 50 km radial distance; however, none are located close to the project area. The nearest notified protected area is Pong Dam Lake Sanctuary situated within 50 km aerial distance from the project coverage area (Figure 22). Total 42 species of threatened category are found in 50 km radius as a result of IBAT analysis but not within the project area of influence (PAI). There is no Rare, Endangered or Threatened (RET) Species found in the proposed site area. Regarding the conservation status of the fauna, none of the animal species identified from the site belonging to the threatened categories identified by the International Union for Conservation of the Nature and Natural Resources (IUCN). Most of them are common and widely distributed. IBAT report is given as Annexure-17. Figure 22 shows the location of different Protected Areas from the Project areas of Convention Centre at Dharamshala

**Fig. 22: Map showing Distance of Pong Dam Lake Sanctuary from Convention Centre at Dharamshala**



27. **Migratory Birds/ nesting or breeding area.** There are no migratory birds seen within or near the project site. No nesting/ breeding grounds exist within or near the project site. No movement of reptiles or any other endangered animals seen within project site or nearby area.

28. **Wetland.** No designated wetland is in Dharamshala and no project component is falling within or near any wetland areas.

### C. Economic Environment

24. **Demographic Profile.** Baghni is a medium size village in Panchayat Sidhbari located in Dharmshala Tehsil of Kangra district, Himachal Pradesh with total 354 families residing. The Baghni village has population of 1514 of which 752 are males while 762 are females as per Population Census 2011.

25. In Baghni village population of children with age 0-6 is 172 which makes up 11.36 % of total population of village. Average Sex Ratio of Baghni village is 1013 which is higher than Himachal Pradesh state average of 972. Child Sex Ratio for the Baghni as per census is 977, higher than Himachal Pradesh average of 909.

26. Baghni village has higher literacy rate compared to Himachal Pradesh. In 2011, literacy rate of Baghni village was 84.28 % compared to 82.80 % of Himachal Pradesh. In Baghni Male literacy stands at 88.72 % while female literacy rate was 79.91 %.

27. Schedule Caste (SC) constitutes 22.19 % while Schedule Tribe (ST) were 13.80 % of total population in Baghni village.

28. Work Profile. In Baghni village out of total population, 524 were engaged in work activities. 57.44 % of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 42.56 % were involved in Marginal activity providing livelihood for less than 6 months. Of 524 workers engaged in Main Work, 15 were cultivators (owner or co-owner) while 0 were Agricultural labourer.

24. As per 2011 Census, Dharamshala Municipal Council Area had a population of 22,579 and its Out Growth (OG) had a population of 8,185 which together make a total urban population of 30,764 with growth rate of 60.87 percent during 2001-11, whereas, the Urban Area population grew at a rate of 49.40% only during the same period. In 1981, the share of urban population in the Municipal Area of the town was 65.53 per cent. This share declined to 42.55 in 1991 and further to 36.87 in 2001 before increasing again to 49.40 per cent in 2011.

25. **Sex Ratio.** As per census data, sex ratio in Dharamshala Municipal Area increased to 894 in 2011 as compared to 824 in 2001. About 9.5% of the population was under six years old. Literacy rate was 75.62%; male literacy being 79.16% as compared to female literacy of 71.32%

26. Dharamshala was established as a municipality in 1987 having an area of 27.6 Sq. Km. Dharamshala Municipal Council was upgraded to the status of Municipal Corporation in September 2016 thus becoming the second Municipal Corporation in Himachal Pradesh after Shimla. Dharamshala Planning Area had a population of 62,279 as per census 2011. Out of the total population of Dharamshala Planning Area, Dharamshala Urban Area (Municipal Area + Outgrowth) holds 49.40%.

27. **Literacy Rate.** The literacy level represents the quality of life of the population and their accessibility to educational facilities. The average literacy rate of Kangra District is 85.67% wherein the Dharamshala Planning Area is 87.33%. The male literacy rate is 91.33% as compared to the female literacy rate of 83.10%. In Dharamshala Planning area, the literacy rate is higher than the district average.

28. **Household.** According to the Census 2011, there are 14999 households and 62279 population in Dharamshala Planning Area. So based on this, the current average household size works out to be 4.15.

29. **Occupational Structure.** As per 2011 census, total workers constitute 34.42% of the total population with a total 21434 numbers of persons. Planning Area workforce participation rate is lower than the State average of 51.85%. Out of the total Planning Area population, main workers constitute 28.41%, marginal workers constitute 6.01% whereas non-workers constitute 65.58% population. Details are given in Table 17.

**Table-17: Occupational Structure of Dharamshala**

Planning	Total Workers	Main Worker	Marginal Worker	Non- Workers
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Area	Total	% of total population	Total	% of Total Population	Total	% to total population	Total	% of total population
<b>2001</b>								
<b>Total</b>	16562.00	31.96	14131.00	27.24	2431.00	4.69	35253.00	67.96
<b>Rural</b>	8371.00	30.43	6390.00	23.23	1981.00	7.20	19142.00	69.57
<b>Urban</b>	8247.00	33.86	7797.00	32.01	450.00	1.85	16111.00	66.14
<b>2011</b>								
<b>Total</b>	21434.00	34.42	17693.00	28.11	3741.00	6.01	40845.00	65.58
<b>Rural</b>	10572.00	33.35	7995.00	25.37	2577.00	8.18	20943.00	66.45
<b>Urban</b>	10862.00	35.51	9698.00	31.52	1164.00	3.78	19902.00	64.69

Source: Development Plan, 2035, Department of Town and Country Planning, Govt. of HP

30. **Economic Profile.** Economic profile of the region is mostly dependent on tertiary sector including tourism activity. Dharamshala is a hilly town surrounded by hills and forests. The major occupation of people is either activities related to tourism or activities related to service sector. The number of tourists increased from the last decade, this is may be due to better connectivity and facilities available in the area.

31. Temperate & Chir pine forests are predominant in the area. Wheat, Rice, Maize, Paddy, and Potato is the main agricultural crops. Tea is also a major produce in the area. Stone fruits are the main horticultural crops. Sheep, goat, cow are domestic animals. Due to development of Planning Area during the past decades, involvement of people in primary sector has been reduced.

32. Population participation in secondary sector is the lowest in Planning Area. Construction labour required for construction works are mostly coming from nearby areas whereas there are very less manufacturing units in Planning Area. These are may be the reasons for less involvement of people in this sector.

33. Trade and commerce activity is also one of the important economic generating activities in Planning Area. However, in most areas, there are only small retail stores with basic supplies near housing and tourist areas. Some of the major commercial areas are:

- Kotwali bazar
- Dari bazar
- Mc Leodganj market

34. The commercial city centre, Kotwali Bazar, is located in lower Dharamshala. These interspersed nodes of built fabric have small retail stores with basic supplies near housing however, most residents must drive or use public transportation to the city level market at Kotwali Bazar for most supplies and shopping. Mcleodganj known for handicrafts, thangkaskas, carpets, garments and other souvenirs.

35. Dharamshala being an important tourist destination, there are some informal and local markets which are very vibrant in nature and also major tourist attraction points. These markets mainly sell goods related to handicrafts, food products and daily need items.

36. **Tourism Potential.** The State Government has formed the Himachal Pradesh Tourism Development Corporation to promote economically, culturally and ecologically sustainable tourism in the State. The potential of Himachal Pradesh to be a major tourist resort is established. The area/ region is blessed with natural landmarks, places of worship and other tourist attractions, Buddhist tourism has heavy influence also in places. As an industry, tourism play a pivotal role in contributing about 2% of the domestic output directly to the economy. The tourist inflow is increasing annually and the Government has come up with calling for the Adventure sport activities are carried out by Mountaineering Institute and Allied Sports to boost the tourism sector.

37. As per the tourist arrival data, approximately 25 lakh tourists visited Kangra district in a year. During peak season maximum tourist arrival was accounted in the month of April, when approximately 3,08,001 tourists visited the district *i.e.*, about 10,267 tourists per day. It is assumed that out of the above, about 80-90% tourists *i.e.* 9,240 persons visit the Planning Area per day.

38. **Kangra Tea.** Kangra tea is a tea from the Kangra district in Himachal Pradesh, India. Both Black tea and Green tea have been produced in the Kangra Valley since the mid-19th century. Kangra tea was given the Geographical Indication status in 2005. Kangra tea is known for its unique color and flavor. While the Black tea has a sweet lingering after taste, the green tea has a delicate woody aroma. The unique characteristics of the tea is attributed to the geographical properties of the region.

39. Tea was first grown in the Kangra region in the mid-19th century. After a feasibility survey in 1848 showed the area of being suitable for tea plantation, a Chinese variety of *Camellia sinensis* was planted across the region. The production turned out to be successful in Palampur and Dharamshala, despite failing in other locations. By the 1880s, the Kangra tea was considered to be superior to tea from other places. In 1882, the Kangra District Gazette described Kangra tea as "superior to that produced in any other part of India. In 1886 and 1895, the tea received gold and silver medals at international conventions held in London and Amsterdam.

40. Tea tourism is slowly beginning to gain ground in and around Kangra. Several of the tea estates and tea factories in Palampur and Dharamshala offer factory tours as well as home stays for those interested in learning more about the tea. The Dharamshala Tea Company offers guided tours of its factory and tea gardens, starting from its factory in Mann Tea Estate. Similarly, the Palampur Cooperative Tea Factory offers factory tours and homestays.

41. **Physical Infrastructure and Services.** Department of 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. Himachal Pradesh Public Works Department (HPPWD) is responsible for construction and maintenance of roads.

**Water Supply.** Dharamshala town depends on springs and streams originating high above in the Dhauladhar hills for its water supply. These include the Glenmore Spring, the Bhagsunag spring, the Charan Khad, the Bather khad, and the Gajeu khad. The flow in these springs and khads depends on a variety of factors including levels of rainfall and snowfall, rate of snowmelt, land use in the catchment.

42. The entire water supply system in Dharamshala town is divided into 7 zones (as per IPH Department). To supply water in Dharamshala, there are intake chambers, spring sources and tube wells. Existing intake chambers are at Gajeu Khad for surface water, at Bathed Khad. Existing spring sources are at Bhagsu near Charan Khad and one near Dhoop Nallah. At present, water treatment plant is at Dharamkot of 1.29 MLD.

43. **Sewerage and Sanitation.** In Municipal Corporation area, the sewerage system has a total length of 72.8 km with an area coverage of 60% and population coverage of 67% through almost 3000 household connections. The city has a sewage treatment capacity of 5.15 MLD at Chelian. A large number of households (2000) are also served by septic tanks. I&PH department, is responsible for treating sewage generated in Municipal Area. Existing sewer network needs to be strengthened since it is degraded at places. I&PH department has already planned for the augmentation and improvement work of sewerage network in the area.

44. **Solid Waste Management.** The solid waste management in the area is limited to street sweeping and open collection of solid wastes dumped in heaps on the roadside. Total waste generated in Municipal area is approximately 16 tons per day (TPD) out of which only 6 TPD

of municipal waste is collected and transported from household sector. Additional 0.84 tons per day (TPD) of commercial waste, 0.9 TPD from slaughter house and hospitals, and 2.2 TPD of silt are collected and transported. At present, waste is dumped in the dumping site near MDR-45 road. As per the final report on 'Characterization of Municipal Solid Waste (MSW) from Dumping Sites of Dharamshala, Sundernagar, Mandi and Shimla in Himachal Pradesh'- May 2016, disposal site is located 3 km from the city. 0.250 kg/capita/day waste is generated in Dharamshala. Municipal area is generating approximately 12.4 Tons (27.47 m<sup>3</sup>) of waste per day, which goes up to 50 tons of MSW per day in peak season. Household sector generates highest quantity of waste in Municipal area. Sector wise solid waste collection and transportation to disposal site in Dharamshala are shown in Table-18.

**Table-18: Sector wise Solid Waste Collection and Transportation of Disposal site at Dharamshala**

Sector	Quantity of Waste (TPD)
Household	5.63
Commercial	0.84
Industrial	-
Slaughter house and hospitals	0.9
Drying silt	2.2
Construction & Demolition waste	-
Others	-

Source: Development Plan- 2035, Department of Town and Country Planning, Govt. of HP

45. **Electricity.** As per the data available from HPSEB Department, in urban area, there are 22145 domestic connections, 95 industrial connections, 3955 commercial connection, 293 non-domestic noncommercial connections, 146 WIPS, 44 number of street lighting connections, 6 bulk supply connections and 129 temporary connections. Power consumption in Dharamshala was more than 57 million units in 2014 with a peak demand of 26.46 MVA; of which residential consumptions accounted for almost 87%.

46. **Health Facilities.** A Government hospital of 300 beds is present in the city. Apart from this, there are small hospitals, dispensaries, welfare centers etc. in the city also.

47. **Education Facilities.** In Dharamshala Planning Area, 63% of the educational facilities are of government and 37% of the facilities are of private. There are 69 government and 41 private educational facilities of different hierarchy in Planning Area. Apart from elementary and basic education there are number of higher education facilities in the area, which cater to the city population as well as to the surrounding areas.

#### D. Social and Cultural Environment.




25. Dharamshala, nestled in the Kangra Valley of Himachal Pradesh, is a popular tourist destination known for its stunning landscapes and cultural significance. McLeod Ganj, often referred to as "Little Lhasa," has many monasteries, temples. The impressive monastery has larger than life images of the Buddha, Padmasambhava and Avaloktshwara. Bhagsunag Waterfall is a scenic spot near McLeod Ganj, ideal for trekking and relaxation. Triund Hill provides breathtaking views of the Dhauladhar range, making it a favorite trekking destination. Kangra Fort, one of the oldest forts in India, offers a glimpse into the region's rich history and panoramic views of the surrounding valleys. 10km from Dharamshala on the banks of the rivulet Bindusaras, is Chinmaya Tapovan ashram complex established by the late Swami Chinmayananda, a noted exponent of the Gita. The complex includes a 9-meter-high image of Lord Hanuman, a magnificent Rama Temple, a meditation hall, a school, and a health and recreation centre. Besides these, the Dhauladhar ranges offer an enormous variety of trekking and rock climbing between May and October.

26. There are no heritage sites notified by Archaeological Survey of India (ASI) within 300m distance from the project site. Rock inscription ASI protected site is located about 2.85 km distance in NW of site. Lord Elgin Tomb is located about 7.9 km in NW direction. Buddhist Stupa is located about 8.5 km in WSW direction. Fort Kotla is located about 35.5 km in WNW direction. Ruined Fort (Kangra Fort) is located about 16 km in SW direction. Rock cut temple is located about 27.7 km in SW direction. Rock inscription is located about 7.5km in SE direction. Sidh Nath temple located about 34.7 km in SE direction. Temple Baijnath is located about 35 km in SE direction.

**E. Environmental Settings of Investment Program Component Sites**

27. Site environmental features of all project sites and photographs are presented in the Table 19.

**Table 19: Existing Site features Convention Centre**

Project Components	Environmental Features	Photographs
Convention Centre, Dharamshala, District-Kangra, H.P.	Project is a greenfield project proposed on a vacant land which is under the ownership of HP Government. (Dept. of Tourism and Civil Aviation Coordinates of Project site- Convention Centre Latitude: 32°11'5.80"N Longitude: 76°21'37.44"E Topography of the area is almost flat	 Flat land
	Electric line passes through the site which need to be shifted before start of work. No other utility exists/ proposed on the proposed site. Surrounding land use is mixed type built-up rural/urban, waterbody and forest etc. Shivji White Tempe is located about 0.38 km in NW direction. Adhunik Public School is located about 0.01 km in North direction. Govt. Senior Secondary School, Sidhbari is located about 0.57 km in NW direction of project site. Sidhbari is located about 0.02 km in NNE direction. Nearest Highway (SH-27) exist about 0.17 km in NE direction. Manuni Khad is located about 0.74 km in West direction from the project site. No ASI protected monument within 300m radius of project site. Nearest Protected Forest is Kuned PF located about 0.68 km towards west direction of project site. No protected area / Eco sensitive area exists near the project site. Flora and Fauna in surroundings include tree species found in the district such as Cassia fistula (Amaltas), Mangifera indica (Mango), Azadirachta indica (Neem), Delbergia sissou (Shisham), Calotropis	 Site view Front road   IPH rest house near the site

	<p>procera (Aak) and Pinus roxburghii (Chil) etc. Some of the faunal species are Acridotheres tristis (Common Myna), Columba livia (Rock pigeon), Psiolopogan virens (Great Barbet), Psittacula krameria (Rose Ringed Parakeet), Dicrurus macrocerus (Black drongo), Dicrurus leucophaeus (Ashy drongo), Funambulus palmarum (Squirrel), etc.</p>	
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## VI. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### A. Environmental Impacts

28. The environmental impacts on environmental components due to implementation of various developments proposed at Convention Centre precinct and their surroundings has been assessed for project planning and implementation period. The anticipated impacts in the project and the mitigation/ management measures identified are presented in this chapter.

29. Screening of potential environmental impacts are categorized into four categories considering project phases. These are as follows:

- Location impacts. Includes impacts associated with site selection and include loss of on-site biophysical array and encroachment either directly or indirectly on adjacent environments. It also includes impacts on people who will lose their livelihood or any other structure by the development of that site.
- Design impacts. Includes Impacts arising from project design, including the technology used, scale of operations, waste production, discharge specification, pollution sources and ancillary services etc.
- Preconstruction impacts include impact which are anticipated during site preparation, material testing for identification of borrow/ quarry locations, setting up construction and worker's camps etc.
- Construction impacts. Includes impacts caused by earthworks, machinery, vehicles and workers. Construction site impacts include erosion, dust, noise, traffic congestion and waste production etc.
- Operation and Maintenance (O&M) impacts. Includes impacts arising from the operation and maintenance activities of the infrastructure facility. These include routine management of operational waste streams and occupational health and safety issues etc.

### B. Planning and Design Phase – Design and Location

30. The proposed project site is vacant government land, Govt. of H.P. and no any land acquisition is required. Therefore, no resettlement impact is anticipated. There are no significant ecological resources in the surroundings proposed site. There are no heritage sites notified by ASI and State Archaeological department with the project delineated area or in the immediate vicinity (300m distance). No significant impacts can arise due to project location as Convention Centre component will not impinge upon any area of ecological, archaeological or historical importance. The project site will also not require change in land use as it is already in possession of Govt. of HP.

31. **Integration of EMP in bidding documents and contracts.** Lack of awareness by contractors on ADB SPS requirements may result in insufficient budget and non-integration of EMP in the design. The PMU will incorporate the costs of implementing OHS and the EMP as well as specific provisions requiring contractors to comply with all other conditions required by ADB into the bidding and contract document. Once the Contractor is selected, the PMU/PIU with support from PMDSC will inform contractors of their responsibilities in EMP implementation, in compliance with ADB and government requirements, self -monitoring and reporting procedures.

32. The project site is located within Seismic Zone-V (Very high damage risk zone) and even a small magnitude earthquake may damage the building of the project. The design of the building follows relevant codes (IS: 1893 (Part I)-2002: Indian Standard Criteria for Earthquake Resistance Design of Structures (5th Revision) and IS:4326-1993: Indian Standard Code of Practice for Earthquake Resistance Design and Construction of Buildings (2nd Revision) for the earthquake resilient structure. The physical infrastructure facilities in the

project such as water supply, sewerage, storm drainage, solid waste management, power requirements etc., are based on relevant standards and guidelines of CPHEEO.

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

- Adoption of design compatible with the natural environment and suitable selection of materials to enhance the aesthetic appeal and blend with the natural surroundings.
- The use of sustainable materials, such as low VOC paints and locally sourced materials. Incorporation of adequate drainage provisions and reducing stormwater runoff by efficient landscaping (grass joint pavers etc.)
- Avoiding usage of asbestos containing materials
- Ground water recharge through rainwater harvesting.
- 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.
- Compliance of Green Building Guidelines - maximum provisions for cross ventilation and natural lighting, landscaped green areas, and roof top solar panels.
- Ensure water demand can be met sustainably and reused wherever possible. Waste-water recirculation from STP for usage in toilet flushing & landscaping. Ensure the treated water meets discharge standards for reuse in landscaping and flushing.
- Native tree species in the proposed landscape
- Solid waste segregation and management at site. Composting of biodegradable waste and use of compost in gardening in the Convention Centre premises.

34. **Design of STP.** 300 KLD STP is proposed in the Convention Centre. The STP is based on Moving Bed Biofilm Reactor (MBBR) technology. MBBR system consists of an activated sludge aeration system where the sludge is collected on recycled plastic carriers which have an indoor large surface for optimal contact with air and bacteria. The bacteria/activated sludge grow on the interior surface of the carriers. The bacteria break down the organic matter from the waste water. The aeration system keeps the carriers with activated sludge in motion. Only the additional amount of bacteria growth, the surplus sludge will come break away the carriers and can flow with the treated water towards the ultimate separator. The Multi Grade Filter (MGF) and Activated Carbon Filter (ACF) along with disinfection of the water shall result in treated water quality which will be suitable for reuse in flushing tank of toilets and gardening/irrigation of the landscaped/ green areas. Treated water quality as per above is suitable for reuse in all applications. The treated water from STP will meet the discharge standards specified by the NGT.

35. The sludge generated per day is expected to be about 28 kg per day. Provision of sludge drying beds, pressure sand filter would be used to enhance dewatering of sludge. The STP sludge will be used as manure in landscaping of the green belt in the Convention Centre and remaining shall be disposed of in consultation with the local body. Periodic testing of dried sludge will be conducted to ensure that it does not contain pathogens and heavy metals and is suitable for reuse as manure in the ornamental landscaping in the Convention Centre.

### **C. Impact during Pre-Construction Phase**

36. The proposed site is owned by Department of Tourism and Civil Aviation, GoHP, there are no issues arising due to land acquisition or involuntary resettlement. No tree cutting is required at site. Based on the environmental screening of the site, there are no significant adverse environmental impacts during the design and pre-construction phases. Clearing of shrubs and bushes is required at the project location. Based on the environmental screening of the site, there are no adverse environmental impacts during the design and pre-construction phases.

**37. Consents, Permits, clearances, no objection certificate (NOC), etc.**

- HPTDB to obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works including CTE and CTO for the construction and operation of Convention Centre from the HPSPCB
- Contractor to obtain necessary consents, permits, license etc., required for construction, and submit copies to PIU; PIU to acknowledge in writing
- PMU to update IEE and EMP prior to starting of works to reflect any changes in project design during design verification and detailed field survey, and submit to ADB for clearance and disclosure.
- Contractor to prepare SEMP based on the updated EMP, and approved by PIU prior to commencement of works.
- Include in detailed design drawings and documents, all the conditions and provisions stipulated in permits, consents issued by regulatory agencies, if any.
- Contractor to conduct pre-construction (baseline) environmental monitoring as indicated in EMP budget tables. The monitoring results shall be referred as baseline quality for key environmental parameters of air, water and noise).
- Continue consultation with the local communities during detailed design, and implementation and provide information in the language that is understandable to the local community regarding project activities and the anticipated impacts as part of the project information dissemination.

**38. Utilities:** Electric poles and lines within the project location need to be shifted. HPSEB has given NOC for the shifting of utilities subject to the condition that HPTDB shall bear the cost of rerouting/ undergrounding. There is also a tubewell at the corner of the site for which JSV has given NOC subject to the condition that tubewell and its rising main shall not be damaged during construction works. (Annexure 19). To mitigate the adverse impacts due to relocation of the utilities and construction works, the contractor in collaboration with line agencies and ULB will:

- Identify the locations and operators of these utilities to prevent unnecessary disruption of services during construction phase; and
- Instruct construction contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services
- In case of interruption of the water supply from the JSV tubewell, the Contractor will discuss this with JSV in advance so that alternate water supply arrangements are made for the concerned area.

**39. Site selection of construction work camps, stockpile areas, storage areas, and disposal areas.** Residential areas will not be considered for setting up construction camps 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). Extreme care will be taken to prevent disposals near forest areas, water bodies, khads or in areas which will cause inconvenience to the community. Construction sites, including disposal sites, will be selected by Contractor in compliance with these conditions and the same will be reflected in Site Environmental Management Plan (SEMP) which is to be prepared by Contractor prior to start of construction and approved by PIU.

**40. Site selection of Sources of construction materials.** Significant amounts of gravel, sand, and cement will be required for this project. 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 Mines and Geology Department.
- 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.
- Contractor will identify sources of water for construction purposes and obtain necessary permissions as required, and approval of PIU before use. Details of material sources and water sources will be provided in the SEMP.

41. **Erosion control.** Most of the impacts will occur due to excavation and earth movements during construction phase. There are chances of soil erosion during proposed works of basement, therefore 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
- 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, 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.

132. **Construction and Demolition Waste Disposal.** Prior to the commencement of works, contractor shall identify a debris disposal site in consultation with the PIU and DSC. Contractor shall undertake an assessment of the reuse of excavated earth and will ascertain the quantity of serviceable/ recyclable waste. Efforts will be made to utilize maximum amount of waste in landfilling, development of walkways, construction of retaining walls, etc.

133. **Disposal of Soil:** The project is likely to generate soil from excavations, which needs to be disposed of safely. The following measures should be considered for disposal of surplus and/or waste soil:

- The excavated soil should be removed from construction area at the earliest for beneficial reuse such as land raising / filling of excavated areas.
- Soil should be covered with tarpaulin sheets during the transportation.
- Soil transportation should not be done during the peak hours and should avoid narrow and heavy traffic routes and important religious or tourist sites

#### **D. Impact during Construction Phase**

42. All the proposed activities to be undertaken at the site will be approved by PMU. The construction phase impacts due to proposed project components are generic to the proposed development activities. The EMP emphasizes on the construction impacts and necessary mitigation measures to be strictly followed by the contractor and supervised by the PIU.

#### **Site selection of sources of materials:**

43. **Sources of materials:** Based on preliminary assessment during DPR preparation Approximately 11389 tons of cement, 4171 tons steel, 25660 m<sup>3</sup> sand, 25611 m<sup>3</sup> stone/ aggregates, 93 m<sup>3</sup> timber and 585 tons other material will be required for this project of Convention Centre site. Asbestos containing materials (ACMs) will not be used in the project. The construction contractor will be required to:

- Use material sources permitted by government;

- Ensure that the loading and unloading of the materials and the transportation of the materials from source to construction site does not cause impact on health and safety of the workers and the community; and
- Submit to PIU on a monthly basis documentation of sources of materials. If contractor is purchasing ready mix concrete, asphalt/macadam and aggregates from third party, contractor will assure that all the parties/ suppliers are having CTE/CTO from HPPCB and will collect the copy of these certificates and submit to PIU/ consultants.

44. **Impact due to stock piles of construction materials:** Improper stockpiling of construction materials in and around the sites could obstruct movement of vehicles along access roads. Hence, due consideration will be given for proper material storage on construction sites. Stockpiles will be covered to protect from dust and erosion. Stockpiles of materials should always be away from nallah/ drain at safest distance (50m) with proper cover and barricade. Waste materials will be disposed off at identified/ designated and approved location or may be auctioned by department.

45. **Disposal of construction/ demolition waste:** Work is proposed on flat terrain. The construction/ demolition waste could lead to untidy conditions at site and may find its way to the river, khads, local drains/ nallah; siltation and obstruction to natural flow in these nallah/ drains. In the proposed project, it shall be mandatory for the contractor to ensure proper disposal of the construction/ demolition waste at the disposal site as designated by the PIU/ Nagar Panchayat or reuse in cutting and filling or leveling at site. Measures such as Silt traps, stone bunds, gunny bags with the local available material will be used at site to control the velocity of water and silt/ sediments. The excavated materials available from foundations of the structures will be consumed in backfilling of structures & levelling of site (to raise the plinth level above the ground level) including roads & paths. Priority will be given to use maximum at site itself filling and surplus waste will be disposed as per norms of C&D waste disposal. Sample outline of Spoil Management Plan is given as Annexure-11.

46. **Quarry and Borrow pits operations:** Since the civil works are of a small size, all construction material will be procured from local market. There will not be any need for direct procurement of stone dust and sand building material from quarries. Material will be procured from licensed quarry with valid environmental clearance certificate. In case of material purchase from stone crusher, crusher should have valid CTE & CTO from State Pollution Control Board.

47. **Ambient Air Quality:** Dust generation is anticipated during transportation/ hauling of materials, excavation and construction activities as road of site of Convention Centre is paved. Dust and gaseous emission will also be generated during the construction period from machineries such as mixers, vehicles, engaged in transportation of construction vehicles engaged in transportation of construction materials, loading and unloading of material etc. Nearby habitation *i.e.* Sidhbari is located at distance of about 20m in NNE direction from project site Convention Centre, Dharamshala. The road near the project site is metaled road so there will be less chance of dust pollution, but dust pollution and gaseous pollution will generate during loading and unloading activities, movement of vehicles and equipment etc. Pollutants of primary concern at this stage include respirable suspended particulate matter (PM10 & PM2.5) and gaseous emission such as SO<sub>2</sub>, NO<sub>x</sub> & CO etc. Based on extent of construction activities, impact at this stage will be temporary and restricted to the close vicinity of the construction site only. Monitoring of ambient air quality will be taken up as part of environmental monitoring plan of EMP.

48. **Increase in noise and vibration levels:** Noise levels in the immediate proximity of project site are expected to increase somewhat during construction. However, these will be largely imperceptible as civil works will be confined to relatively small areas. There is no requirement of blasting or piling in this project. The proposed site of Convention Centre site is located approx. 20m from habitation and Adhunik Public School located approx. 10m distance

in NE direction of project site so adequate provision of noise abatement will be taken during construction. Site will be properly barricaded during construction. The duration of construction will also be relatively brief. Transportation of construction materials will be confined to day-time, depending upon extent of construction activity. The increase in noise levels is expected <5 dB (A). This increase will be felt up to a distance of 100-200m only. This noise will be intermittent in nature, and will last only during the construction phase. It may be mentioned that construction noise will be intermittent in nature and noise levels outside boundary of project sites are not anticipated to exceed the stipulated limits of residential areas, sensitive areas and commercial areas etc. Necessary monitoring of noise levels will be taken up as part of environmental monitoring plan of EMP.

**49. Impacts on biodiversity during construction phase:** No major impacts expected on the biodiversity during the construction phase as the site is existing government vacant land. There is no notable tree cover at site except shrubs and bushes at site. No need of tree cutting envisaged. However, tree cutting will be absolute minimum and design layout will try to save maximum trees. Prior permission will be obtained from the Forest department for tree cutting. Clearing of shrubs & bushes will be required from the site. No other flora will be disturbed by the project activity. There are no rare, endangered and threatened species of flora and fauna observed in or around the proposed site. Manuni Khad is approx. 0.74 km. from the Convention Centre site. No impact on the aquatic fauna is envisaged due to the project as no interventions involving the khad water are proposed and khad is quite remote.

**50. Ground water and Soils:** Ground water will not be extracted and used for construction purpose. The contractor will arrange water from the market through water tanker. It will be supplied by the authorized vendor. In case of using ground water necessary permission is required from competent authority prior start of work. The chance of ground water contamination is not expected during the construction phase since there will be proper disposal of the waste water by providing septic and soak pit. During construction, measure will be taken to avoid any soil pollution/ contamination by way of oil leakages due to improper refueling at site or leakages from machineries and equipment deployed at site.

**51. Surface Water:** Impact on Manuni Khad and mitigation measure. No major impact anticipated on Manuni Khad as it is quite away approx. 0.74 km from project site. No waste water will be discharge outside of the area or not connected to surface water drain/ river. No Khad is located in its immediate vicinity, hence no impact anticipated. No oil and grease will be released into nearby water course. Oils and fuels should be stored and handled well away from surface water to avoid possible contamination. All the excavation related activities should be avoided during monsoon months. The construction work shall be scheduled during dry season so that silting and sedimentation can be avoided. The stockpiles, construction materials have to be kept at least 50m away from the water body. The construction camp should be located away from surface water body >500m distance in consultation with PIU.

**52. Impact on Physical & Cultural Resources:** The proposed project will not have any impact on any religious structure or any other structure of historical and/ or cultural significance. 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 including removal of wastes immediately. Prohibit stockpiling of materials that may obstruct/ slow down pedestrians and/ or vehicular 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.

53. **Disturbance to traffic during construction phase:** At the time of construction, there will be some temporary inconvenience due to transportation of building material. However, since the scale of works is relatively small, the inconvenience caused will be relatively minor and limited only to the construction phase. Traffic management plan will be required during construction. Sample traffic management is enclosed as Annexure-12. All vehicles and construction equipment operating for the contractor and the consultant will obtain and maintain "Pollution Under Control" (PUC) certificates for deployed vehicles. To control noise, ensure periodic services of all vehicles engaged in construction. To control dust emission, vehicles deployed for sand and aggregates haulage, will be covered with tarpaulin to prevent spillage of material. Regular water sprinkling during excavation, loading and unloading points, vehicular movement during raw material transportation will prevent spread of dust. Periodic ambient air quality monitoring will be conducted to ensure that emission to comply with the air emission standards specified by the Government of India and ambient air quality standards specified by the CPCB. The contractor will submit ambient air quality monitoring results as a compliance of EMP.

54. **Waste during Construction:** C&D waste will be generated (earthwork in excavation work of site development & foundations of structures, aggregates, coarse and fine in RCC and PCC work and wood work, stone and brick work etc.) during construction. The construction waste could lead to untidy conditions at site and may find its way to the local drains/ khad, etc. The excavated earth work will be used in the construction of embankment wall, filling, internal pathways, structure foundation and landscaping etc. The chance of soil cutting is minimum as the area is flat terrain and cutting is only expected during structure foundation. All the waste will be properly disposed as per norms of C&D Waste Management Rules, 2016. Debris during construction material can be reused in the subject to the approval of the PIU Engineer during the construction. A sample outline of Spoil Management Plan is given as Annexure-11. Waste generated during construction will be disposed off as per law and to the satisfaction of the Engineer. The clean-up and restoration of temporary acquires sites/operations will be implemented by the contractor prior to demobilization. The contractor will clear all temporary structures and dispose off all garbage from construction site. All construction zones used and affected by the project will be left clean and tidy, at the contractors' expense as per the satisfaction the Engineer.

55. The contractor is likely to engage local labor for various construction activities. However, in case of migrant labor has to be engaged, the contractor will establish properly designed labor camp with all basic amenities such as potable drinking water supply, rest shelter and sanitation facilities (septic tanks and soak pit). Dust bins for wet and dry waste will be placed in adequate numbers. Labour camp will be located minimum 500 m away from the habitation and waterbody. Contractor shall ensure proper disposal of waste during construction and no waste shall be dumped in the nearby river. However, the EMP lays down some measures to address likely adverse impacts associated with the labor camp.

- 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. Sample outline Spoil Management Plan is given as Annexure-11.
- Coordinate with Local Municipal Authority/ Nagar Panchayat for beneficial uses of excavated soils/ silts/ sediments or immediately dispose to designated areas.

- Excavated soil emerging at sites is suitable for use at other sites under the project for levelling and filling purpose. Additional quantity of soil if required is being procured from authorized source or with approval of asset owner.
- 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 water course-river.

56. **Storm water runoff:** During construction there will be chances of storm water entering into the water bodies through storm water drains. No river/ khad is exist in immediate vicinity of project site. During construction, impact on storm water during monsoon season cannot be avoided. However, the activities shall be planned in view of the monsoon season. Activities involving excavation and stacking of loose earth will increase the chance of silt laden runoff during monsoon and might pollute the nearby water course. Such activities shall be taken up prior to monsoon season. Storm water will be managed by providing drain along the boundary to collect the storm water to avoid pollution of nearby water body and siltation by silt traps arrangement in drains.

57. **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. Ensure COVID-19 appropriate behavior and compliance with protocols in project implementation as per the applicable government regulations and relevant guidelines published by WHO, ILO, IFC, ADB etc.

58. The contractor will be required to:

- Comply with all National, State and local labor laws.
- Follow ADB's Interim Advisory Note on Protecting the Safety and Well-Being of Workers and Communities from COVID-19 (2020).
- Follow and ensure implementation of the Standard Operating Procedure- Health and Safety Plan to Stop the SPREAD of COVID-19 prepared by Sustainable and Inclusive Tourism Development Project in Himachal Pradesh (Annexure-14).
- Follow best practice health and safety guidelines: IFC's General EHS Guidelines<sup>9</sup>, IFC's EHS Guidelines on Occupational Health and Safety<sup>10</sup> WHO Interim Guidance (and its updates) on Water, Sanitation, Hygiene and Waste management for the COVID19 virus<sup>11</sup>.
- 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 including. 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.

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<sup>9</sup> [Final - General EHS Guidelines APRIL 29.doc \(ifc.org\)](#),

<sup>10</sup> [\\*Final - General EHS Guidelines APRIL 29.doc \(ifc.org\)](#)

<sup>11</sup> [WHO-2019-nCoV-IPC WASH-2020.4-eng.pdf](#)

- 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 always provided. 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 public as appropriate.
- Proper training, induction/ orientation and supervision are mandatory and part of appropriate control measures.

**59. Establishment and Operation of Construction Camps and Workers Facilities:** It is likely that the contract may employ workers from outside project area, and therefore may provide temporary workers accommodation during the construction phase. Proper provision and maintenance of facilities is necessary for proper living conditions and avoid health, environment and safety issues. Workers camps may also adversely impact on surrounding communities. Operation of construction camps can cause temporary air and noise pollution from machine operation, water pollution from waste water generation. Potential impacts are negative but short-term and reversible by mitigation measures. The construction contractor will be required to:

- Consult PIU before locating project offices, sheds, and construction plants.
- Minimize removal of vegetation and disallow cutting of trees.
- Provide drinking water, water for other uses, and sanitation facilities for employees;
- Provided temporary rest and eating area at all work sites.
- Ensure conditions of livability at work camps are maintained at the highest standards possible at all times; living quarters and construction camps shall be provided with standard materials (as far as possible to use portable ready to fit-in reusable cabins with proper ventilation); thatched huts, and facilities constructed with materials like GI sheets, tarpaulins, etc., shall not be used as accommodation for workers; accommodation shall meet the IFC standards for workers accommodation<sup>12</sup> which include: provision of safe housing, availability of electricity, plumbing, water and sanitation, adequate fire protection and dormitory/room facilities; accommodation shall be in the range from 10 to 12.5 cubic meters (volume) or 4 to 5.5 square meters (surface) per worker, a minimum ceiling height of 2.10 meters; a reasonable number of workers are allowed to share the same room– (standards range from 2 to 8 workers); workers with accompanying families shall be provided with a proper and safe accommodation (IFC benchmark standards for workers accommodation). Prohibit employees from poaching wildlife and cutting of trees for firewood.
- Trained employees in the storage and handling of materials which can potentially cause soil contamination.

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<sup>12</sup> [Workers' accommodation: processes and standards \(ifc.org\)](http://www.ifc.org)

- Recover used oil and lubricants and reuse or remove from the site.
- Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas.
- Remove all wreckage, rubbish, or temporary structures which are no longer required; and
- Report in writing that the camp has been vacated and restored to pre-project conditions before acceptance of work.

60. **Impacts on Socio-Economic Activities:** Manpower approx. 60 numbers will be required during 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 or road side users 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

61. **Community Health and Safety:** Hazards posed to the public/ tourist, specifically in high pedestrian areas in flat terrain may include traffic accidents and vehicle collision with pedestrians. Potential impact is negative but short-term and reversible by mitigation measures. At the project site, the construction contractor will be required to:

- Plan routes to avoid times of peak-pedestrian/ vehicle movement during work in roads/streets/ markets areas.
- Liaise with PIU in identifying risk areas on route cards/maps.
- Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure.
- Provide road signs and flag persons to warn of on-going trenching activities.

## E. Environmental Impacts during Operation Phase

62. Most of the impacts will occur due to excavation and earth movements during construction phase only. During post construction phase, 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. Planation of shrubs and grasses on downward slopes to control further soil erosion.
- 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 plantations. Replace all plants determined to be in an unhealthy condition by new ones.

63. Since only proposed intervention will be undertaken at the proposed project site at Dharamshala, there will not be any adverse environmental impact during operation as adequate facilities have been provided in the proposed project site. The design also provides for adequate parking, shops/ kiosks accommodation and safe disposal of waste water and solid waste. The solid waste generated at project sites during operation phase will be segregated and its disposal will be integrated with MC Dharamshala town waste disposal system. Around 314 KLD sewage shall be generated from the Convention Centre. Sewerage Network is available in vicinity of the site. The waste water generated during operation phase will be treated in Sewage Treatment Plant. Domestic waste will be segregated into wet and dry waste. Wet waste will be treated in the bio-composter at the Convention Centre and dried waste will be sent to concerned agency or tied up with Municipal Corporation, Dharamshala for final disposal.

64. There will not be any increases in vehicular traffic on account of proposed intervention as adequate parking will be considered in design. Provision of alternative power arrangement such as diesel gensets (DG) taken during power failure. The generators will be silent and will comply with emission norms as stipulated by CPCB with type approval certificate. 2 nos. of DG sets of 380 kVA and 2 Nos. of 320 KVA are proposed at Convention Centre site. DG sets shall have adequate stack height as per HPPCB norms and acoustic enclosure arrangement.

65. **Swimming Pool water Quality.** In the proposed Hotel Block at the Convention a robust disinfection plan shall be implemented for its swimming pool and water recycling system to ensure a safe and hygienic environment for guests. The primary disinfection strategy will involve automated chlorination, which maintains optimal chlorine levels to effectively kill bacteria, viruses, and algae. Regular water testing will be conducted to monitor chlorine concentration and pH levels, ensuring they remain within the recommended range. To enhance water safety, secondary disinfection methods such as UV radiation and ozone treatment will be integrated, providing an additional layer of microbial protection. The water recycling system will incorporate advanced filtration techniques to remove particulate matter and contaminants. Post-filtration, the water will undergo chemical treatment and, if necessary, advanced purification processes like reverse osmosis to ensure it is free from impurities and safe for reuse. This approach not only maintains high water quality standards but also promotes sustainability by reducing water consumption. Routine maintenance and strict adherence to health and safety guidelines will be ensured by HPTDC.

66. **Waste water generation and management:** Waste water will be treated by installing Sewage Treatment Plant of adequate capacity of 150 KLD at the site based on MBBR. Treated water from STP will be reuse in flushing at the site. Regular maintenance and effective operation of STP needs to be undertaken as part of Convention Centre operation and maintenance. This is because there is apprehension of noise and odour generation from STP if not maintained and operated properly. Generated sludge from STP will be reused in landscaping of the green belt at site (after proper sludge digestion) or disposed in MC disposal site. There will be no waste water discharge from the project operations and all waste shall be utilized in flushing and irrigation of green belt.

67. **Treatment efficiency:** The treated effluent from the STP will meet the applicable latest discharge standards of CPCB/ NGT order (Annexure-7). Treated water will be reuse in flushing and landscaping.

68. **Noise and odour generation from STP.** There is an apprehension of noise and odour generation from STP if not maintained and operated properly. HPTDC/O&M Agency shall undertake regular maintenance and effective operation of STP as part of the Convention Centre Operation and maintenance. Regular monitoring shall be undertaken to confirm that the treated water from STP will meet the discharge standards specified by the CPCB.

69. **Sludge Disposal:** Approx. 28 kg of sludge per day will be generated from the STP. Generated sludge from STP will be reused in landscaping of the green belt at site (after proper sludge digestion). As per discussion with HPSPCB, they suggested that sludge from STP can be used as a manure in landscaping/ plantation.

70. **Impact of Spa Operations:** During the operation of wellness activities, small quantity of oil (approx.1 litre) will be generated from spa which will be disposed properly. There will be generation of waste oil due to operations of massage and therapy. The type of therapy provided will be decided by the O&M Partner. Based on the design maximum 8 persons can utilize these equipment and services in a single day operation. The waste oil generated does not exceed 1-1.5 liters per day from full day operation of Spa/ Massage therapy. This waste oil shall be collected in the connected sinks with the equipment. This collected waste oil is sent back to the supplier for recovery and possible reuse for other purposes. The steam condensed water in day's operation will not exceed 3-5 liters per day from all the steam generating equipment. This water is not polluted and can be safely discharged to the STP along with floor washings.

71. All the equipment handling oil are wiped with cotton/cotton rags before washing with water. This ensures no discharge of any oily waste directly to the STP. The solid waste generation is in terms of cotton rags, paper tissues and waste herbal products. These are collected in dust bins and shall be disposed off along with other wastes of Wellness Centre. The solid waste generation at the respective Spa centre will not exceed 34 kg per day at full capacity operations. The solid waste generated will be segregated and will be disposed off with the municipal waste. The dustbins in adequate numbers will be provided at each site of project.

72. **Storm water Management:** Storm water runoff will be properly considered and proposed a drain all around the site for better management of storm water. Most of the storm water produced on site will be harvested for ground water recharge. Thus, proper management to ensure that it is free from contamination. Contamination of storm water is possible from the following sources:

- Diesel and oil spills in the diesel power generators and fuel storage area
- waste spills in the solid and hazardous waste storage area
- Oil spills and leakage in vehicle parking area Oil & grease interceptor will be installed in parking area to arrest oil and grease and this keep the area from free of any contamination of water and soil.
- Silts from soil erosion in garden

**Storm water management practices include:**

- Regular inspection and cleaning of storm drains
- Covered waste storage areas
- Provision of silt traps in storm water drain

73. **Safety Measures:** The design of the proposed intervention includes structural and seismic safety required by India's latest Building Codes (in Seismic Zone-V) very high damage risk zone. The other safety feature is explained below:

- The project site will be equipped with firefighting system with fire alarms, portable fire extinguishers and smoke detectors.
- Separate staircase proposed in case of any mishap etc.
- During natural calamities, the operation will be stopped. The staff will be safely evacuated as per the Disaster Management Plan (DMP) of Himachal Pradesh.

74. **Socio-economic Impacts:** The establishment and operation of proposed intervention will have positive development impact since it will be an added facility for the tourists visiting Dharamshala town. Thus, proposed interventions will increase tourist satisfaction, quality services in wellness, employability of local youth in the operations of facilities and improve the socio-economic condition of people residing in/ near the town.

75. **Impact on Land and Ecology:** The sustainable tourism acknowledges presence of adequate green area accompanied by healthy environment. In addition, they help to control air pollution, soil erosion as well as support local biodiversity thus, improving the aesthetic value of entire project. The proposed tourism project will have positive impact on land environment. To enhance the aesthetics of the project sites, plantation of shrubs/ trees and landscaping with native species will be taken up in vacant space. No impact on the flora or fauna is envisaged on account of the operations of the site. The existing road which will be used as approach to the site will be maintained. However, the road within the project area will be paved.

76. **Emergency Plan for Accident and Natural Hazards:** For operation phase onsite emergency plan will be prepared by the Municipal Corporation & Local Administration for minor accidents and fire. For natural calamities the Disaster Management Plan will be followed. The Disaster Management Plan has been prepared by the respective Department of GoHP as per provisions of Disaster Management Act, 2005 of Govt. of India.

77. **Guidelines for sustainable tourism practices in the project:** Guidelines of sustainable tourism in Himachal Pradesh<sup>13</sup>. During the operation of different activities relevant rules of the GOHP shall be followed.

#### **F. Description of Planned Mitigation Measures:**

78. Screening of environmental impacts is based on the magnitude and duration of the impact. Table-20 provides the potential environmental impacts and the mitigation measures including the institutional responsibilities for implementing the same.

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<sup>13</sup> ([himachaltourism.gov.in](http://himachaltourism.gov.in))

**Table-20: Summary of Environmental Impacts and Mitigation Measures**

S.No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
<b>1</b>	<b>Location Impacts</b>				
1.1	Lack of sufficient planning to assure long term sustainability of the Convention Centre building and ensure protection specially from earthquake and other natural disasters	Permanent	Major	The design of Convention Centre building has been completed considering earthquake coefficient of zone-V. The design of the building follows relevant codes (IS: 1893 (Part I)-2002: Indian Standard Criteria for Earthquake Resistance Design of Structures (5th Revision) and IS:4326-1993: Indian Standard Code of Practice for Earthquake Resistance Design and Construction of Buildings (2nd Revision) for the earthquake resilient structure.	PMU and PIU
1.2	Extraction of Construction material	Permanent	Major	The construction materials shall be procured from the sources having environmental permits and clearance as per prevailing environmental framework.	Contractor and PIU
<b>2</b>	<b>Design and Pre-construction Impacts</b>				
2.1	Consents, permits, clearances, no objection certificates (NOC), etc.	Permanent	Major	Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. Acknowledge in writing and provide report on compliance with all obtained consents, permits, clearance, NOCs, etc. Include in detailed design drawings and documents all conditions and provisions if necessary	PIU
2.2	Layout of components to avoid impact on the aesthetics of the site	Permanent	Major	The project components will not have any adverse impacts on aesthetics of site as these involve construction of site on building and infrastructure. Measures to protect physical, cultural and natural aesthetics of site without disturbing the surroundings.	PMU/PIU
2.3	Slope stability related issues	Permanent	Minor	The Convention Centre site is a relatively flat land. Slope stability related issues have been taken care in building design.	PMU and PIU

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2.4	Increased storm water runoff from alterations of the site's natural drainage patterns due to landscaping, excavation works, construction of parking lots, and addition of paved surface.	Permanent	Moderate	Design of proposed Convention Centre will allow efficient drainage at the site and maintain natural drainage patterns.	PMU and PIU
2.5	Integration of energy efficiency and energy conservation programs in design of Convention Centre	Permanent	Moderate	Following measures have been included in the design to enhance energy efficiency: Usage of recyclable materials like wood substitutes. Installation of BEE certified equipment Usage of energy efficient lighting fixtures (LED). Usage of solar lights	PMU and PIU
<b>3</b>	<b>Construction Impacts</b>				
3.1	Construction Camps - Location, Selection, Design and Layouts	Temporary	Moderate	Construction camp at Convention Centre site will be located within the site as far as possible or contractor will hire a house to accommodate construction workers. The construction camp, if established at project site will not affect the day-to-day activities of local residents in the vicinity of site. Adequate sanitation facilities shall be provided at camp site and no waste water will be discharged outside.	Contractor and PIU
3.2	Traffic management plan during construction	Temporary	Moderate	Prior to commencement of site activities and mobilization on ground, the contractor will prepare a traffic management plan for safe passage of local traffic during construction phase. This will include alternative access routes, traffic regulations, signages, etc. The contractor will get these plans approved from the Engineer in-charge of PIU. The contractor will disseminate the traffic management plan around the project site.	Contractor and PIU
3.3	Impacts on flora and fauna	Temporary	Moderate	Following mitigation measures are planned: PMC will conduct site induction and environmental awareness programs at the project site. The contractor will limit activities within the work areas. Storage of construction materials will be within the project site plot.	Contractor and PIU

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				PIU will prepare site specific landscape and shrubs and tree plantation plans at the end of construction period. These plans will be implemented.	
3.4	Site clearance activities, including delineation of construction areas	Temporary	Moderate	The commencement of site clearance activities will be undertaken with due permission from the Environment Specialist of the PIU/ PMU to minimize environmental impacts. All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures.	Contractor and PIU
3.5	Drinking water availability	Temporary	Major	Sufficient supply of potable water will be provided and maintained at construction site. If the drinking water is obtained from an intermittent public water supply, then storage tanks will be provided.	Contractor and PIU
3.6	Waste disposal	Permanent	Major	Location of disposal site for construction waste will be finalized by the Environmental Specialist of the PIU and PMU/PMDSC. PMU will confirm that disposal of the material will not impact the water body or environmentally sensitive areas. A sample outline of Spoil Management Plan is enclosed as Annexure-11.	Contractor and PIU
3.7	Stockpiling of construction materials	Temporary	Moderate	Stockpiling of construction materials should not impact or obstruct the local drainage and stockpile will be covered to protect from rain and erosion.	Contractor and PIU
3.8	Soil Erosion	Temporary	Moderate	There may be requirement for temporary slope protection during construction at the excavated areas. These requirements should be met. Adequate measures will be taken up at this site so that there is no soil erosion causing risks in the near vicinity.	Contractor and PIU
3.9	Soil and Water Pollution due to fuel and lubricants, construction waste	Temporary	Moderate	The fuel storage and vehicle cleaning area at project site will be stationed such that water discharge does not drain into the local drain. Soil and water pollution parameters will be monitored as per monitoring plan.	Contractor and PIU
3.10	Siltation of water bodies due to spillage of construction wastes	Temporary	Moderate	No disposal of construction wastes will be carried out into any water body near the project site.	Contractor and PIU

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				Extraneous construction wastes will be transported to the pre-identified disposal site for safe disposal in scientific manner.	
3.11	Generation of dust	Temporary	Moderate	The contractor will take every precaution to reduce the levels of dust at construction site. The site will be properly barricaded with prefabricated MS sheets.	Contractor and PIU
3.12	Emission from Construction Vehicles, Equipment and Machinery	Temporary	Moderate	Vehicles, equipment and machinery used for construction will conform to the relevant Standard (vehicular emission standards of Government of India and CPCB specified standards for equipment and machinery) and will be regularly maintained to ensure that pollution emission levels comply with the relevant requirements.	Contractor and PIU
3.13	Noise Pollution	Temporary	Moderate	Noise limits for construction equipment used in this project will not exceed 75 dB (A). The site will be properly barricaded with prefabricated MS sheets.	Contractor and PIU
3.14	Material Handling at Site	Temporary	Moderate	Workers employed on mixing cement, lime mortars, concrete, etc., will be provided with personal protective gears/equipment's (PPEs) such as gloves, jackets, shoes, hats, goggles and ear plug etc. Workers, who are engaged in welding works, will be provided with welder 's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles and clothing.	Contractor and PIU
3.15	Disposal of Construction Waste	Temporary	Moderate	Safe disposal of the construction waste will be ensured in the pre-identified/ approved disposal locations. In no case, any construction waste will be disposed off round the project site and especially in vacant plots in the locality.	Contractor and PIU
3.16	Safety Measures During Construction	Temporary	Moderate	Adequate safety measures for workers during handling of materials at the project site will be taken up. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, accidental injury etc. First aid treatment will be made available for all injuries likely to be sustained	Contractor and PIU

				during the course of work. The Contractor will conform to all anti-malaria instructions given to him by the Engineer.	
3.17	Clearing of Construction of Camps and Restoration	Temporary	Major	Contractor will prepare site restoration plan for approval by the Engineer. The construction camp site restoration plans are to be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left clean and tidy, at the Contractor 's expense, to the entire satisfaction of the Engineer.	Contractor and PIU
3.18	Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	Temporary	Major in case of natural calamity and minor in case of accidents or mishaps at construction site	The onsite emergency plan will be prepared by the contractor in consultation with PIU and PMC. For natural calamities, disaster management plan prepared by the GoHP under the provisions of Disaster Management Act 2005 will be followed.	Contractor
<b>4</b>	<b>Operation and Maintenance impacts</b>				
4.1	Influx of visitors due to proposed intervention in the area	Temporary	Moderate	<p><b>Sustainable tourism practices:</b></p> <ul style="list-style-type: none"> <li>• Promote sustainable tourism practices such as responsible tourism, that contribute to the conservation of environment and local culture.</li> <li>• For operation stage, all the tourist related activities to be conducted for visitors/ tourists at site shall be planned and implemented in consultation with HPTDB.</li> <li>• <b>Resource management.</b> Implement resource management practices such as water conservation, waste management and energy efficiency to ensure the sustainability of local resources.</li> </ul> <p><b>Water:</b></p>	Operation & Maintenance Agency

				<ul style="list-style-type: none"> <li>• Ensure that a ground water extraction permission for the project is obtained and compliances.</li> <li>• Ensure that a proper surface water permission from concerned department is obtained.</li> <li>• Conduct water quality monitoring to ensure the quality of water.</li> </ul> <p><b>Electricity:</b></p> <ul style="list-style-type: none"> <li>• Only energy saving light, equipment to be installed at site.</li> <li>• Consider the use of solar energy</li> </ul>	
4.2	Water Environment and Storm Water Management	Temporary	Moderate	<ul style="list-style-type: none"> <li>• Contractor shall ensure proper storm water management at site by providing covered storm water drainage network.</li> <li>• No sewage shall be directly led to the water bodies; project includes sewage collection and treatment facility and it is proposed that treated wastewater will be reused within the site for landscaping.</li> <li>• Separate solid waste bins will be provided for organic and plastic waste within the project premises &amp; disposed at regular intervals. The organic waste will be decomposed in nearby/ proposed waste composter and plastic waste will be sold to recyclers/ MC waste disposal vehicles.</li> <li>• Covered waste storage areas</li> <li>• Regular inspection and cleaning of storm drains</li> <li>• Provision of silt traps in storm water drains</li> </ul>	Operation & Maintenance Agency
4.3	Waste oil generation on account of Massage and Spa and its safe disposal	Temporary	Moderate	Waste oil from the equipment shall be collected and stored in jerry cans and sent back to the suppliers for recycle or reuse. All the equipment handling oil shall be wiped with cotton/cotton rags before washing with water to ensure no	Operation & Maintenance Agency

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				discharge of any oily waste directly to the STP. The solid waste generation in terms of cotton rags, paper tissues and waste herbal products shall be collected in dust bins and disposed off along with other wastes of Spa centre	
4.4	Environmental Conditions Air and noise quality etc.	Temporary	Moderate	<p>Air, water, and noise levels will be monitored periodically as per the Environmental Monitoring Plan prepared.</p> <ul style="list-style-type: none"> <li>• The DG set should have acoustic enclosure to attenuate noise &amp; vibration.</li> <li>• The stack height of the DG set should comply with the CTO conditions</li> <li>• All the internal road should be maintained and kept in good condition to prevent dust and erosion. Any runoff from roads must be managed to avoid erosion and pollution related problems</li> </ul>	Operation & Maintenance Agency
4.5	Solid Waste Management	Temporary	Moderate	<ul style="list-style-type: none"> <li>• For waste collection, adequate capacity of bins for dry and wet waste will be available at different locations</li> <li>• The recyclable waste will be collected at designated site/ location and sold to recycling vendors periodically</li> <li>• Ensure good housekeeping at site</li> <li>• Awareness campaigns, hoarding and signage on clean environment, healthy lifestyle, good practices etc. shall be maintained/ displayed</li> </ul>	Operation & Maintenance Agency
4.6	Unhygienic conditions due to poor maintenance of sanitation facilities and irregular solid waste collection	Temporary	Major	<ul style="list-style-type: none"> <li>• The implementing agencies will carry out maintenance of the toilets, and carry out the regular collection and disposal of wastes to the local disposal sites. The generated sewerage will be properly treated by providing Sewage Treatment Plant at site of 150 KLD capacity based on MBBR technology.</li> <li>• Treated water shall be complied will all the relevant norms/ standards of discharging/ using as given by CPCB/ compliance of conditions of CTO.</li> </ul>	Operation & maintenance Agency

				<ul style="list-style-type: none"> <li>• Ensure the sewerage system is maintained and serviced by qualified personnel in accordance with operating procedure.</li> <li>• Treated water will be reuse in flushing/ landscaping and other useful purposes etc. Sludge will be use after digestion in landscaping/ gardening as a manure.</li> </ul>	
4.7	Impact on Land and Ecology			<ul style="list-style-type: none"> <li>• Integrate existing trees, shrubs and vegetation as far as possible into the design to avoid need to remove them;</li> <li>• Preference should be given to native species of plants in consultation with forest department</li> </ul>	Operation & maintenance Agency
4.8	Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	Temporary	Major in case of natural calamity and minor in case of accidents or mishaps at Construction site	The management of site will prepare on-site emergency plan for possible minor accidents and mishaps during operation phase. For natural calamities, the disaster management plan prepared by DDMA will be followed.	Management of Operation & maintenance State Government for Onsite Emergency Plan and DDMA, Kangra for Disaster Management Plan

## VII. CONSULTATION, PARTICIPATION & INFORMATION DISCLOSURE

### A. Overview

79. The active participation of stakeholders including local community in all stages of project preparation and implementation is essential for successful implementation of the project. It ensures that the project is designed, constructed and operated with utmost consideration to local needs, ensures community acceptance and will bring maximum benefits to the people. Public consultation and information disclosure are a must as per the ADB policy.

### B. Public Consultation

80. The Public Consultation and disclosure program are a continue process throughout the project implementation including project planning, design and construction. 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 tourist along with the asset owner.

81. As per ADB safeguard requirement, public consultation is to be carried out before and after impact identification.

### C. Consultation during Project Preparation

82. **Stakeholder/ Public Consultation.** During project preparation, consultations have been held with the HP Department of Tourism and local administration, Municipal-Corporation, local community representatives, issues pertaining to the selection of project and identification of key issues including addressing the current gaps in provision of services and improvement of urban infrastructure. Formal and informal discussions were held with different stakeholders. The issues pertaining to the selection of projects and identification of key issues including addressing the current gaps in provision of improvement of tourist infrastructure were discussed. Details of the consultation are given in Table and records of the consultations in planning/design phase are provided in Annexure-16.

**Table-21: Consultation Details**

<b>Place:</b>	Dharamsala
<b>District:</b>	Kangra
<b>Date:</b>	18.01.2022.
<b>Participants:</b>	List enclosed (Annexure 16)
<b>Objective:</b>	
1.	<p><b>Issue Discussed:</b></p> <p>During the meeting regarding “<b>Convention Centre and Budha theme park at Dharamshala</b>”, a concept was presented to the stakeholders.</p> <p>A proposal was presented which had a 3 storied building with a basement. The basement majorly includes covered parking for visitors and tourists. Also, the lowest section of the auditorium, its green rooms and the kitchen-dining facilities exist on the basement level. These facilities are towards the South west section, which is the naturally lower area of the site, giving ample light and ventilation.</p> <p>The ground floor is accessed by a double height entrance foyer. To enter the building, a visitor/tourist shall go to the Central Registration Department where he/she shall get an entry pass. With that pass he can visit any corner of the building. The ground floor houses the main Convention Centre (for 1050 people), 2 multimedia rooms which will have all audio video arrangements to showcase latest products or briefs of objects being displayed</p>

	<p>in the exhibition halls. There are 4 double height exhibition halls on the ground floor. These have removable partitions, so that the capacity of these 4 halls can be altered as per requirement. These facilities have been planned on the ground floor as these involve the major flow of people.</p> <p>The first floor is dedicated as the research center. This area includes a meditation centre, classrooms, libraries and a research centre. This centre will be highly fundamental for locals wanting to study on various aspects of Himalayan life. This space overlooks the front entrance, which will be adorned by landscape inspired from Zen architecture.</p> <p>The second-floor houses state of the art meeting rooms and business lounges. The meeting rooms can hold gatherings varying from 10-100 people.</p>
2.	<p><b>Outcome:</b>                  Stakeholders agreed to the proposal and its concept with some changes which were agreed to be incorporated</p>
3.	<p><b>Recommendation &amp; Suggestions:</b></p> <ol style="list-style-type: none"> <li>1. It was recommended that the staff residential block not be included in this proposal and the operator shall be responsible for staff as per his needs.</li> <li>2. It was recommended to add a small dining room in the basement floor of the Convention center for the daily staff.</li> <li>3. It was recommended that the number of rooms in the hotel block be increased to 50, thereby increasing the revenue generated to maintain the entire project.</li> <li>4. It was recommended that PV panels be included in the cost of construction of the project.</li> </ol>

83. **Consultations during preparation of IEE.** Consultations with several stakeholders like officials of Department of Tourism, tourists/ visitors required during preparation of IEE. The main objectives of the consultation program to inform stakeholders on adverse environmental and social impacts, efforts to minimize and mitigate negative impacts while making people aware of the proposed project benefits. General public in the project area were also consulted during visits to the project sites. Views expressed were incorporated into the IEE and in the planning and development of the project. Record of consultation is given as Annexure-16.

**D. Consultation during Implementation**

84. To ensure continued public participation, stakeholder engagement at main stages of work during the project design and implementation is proposed. Regular consultations will be done during construction phase and will be regularly reported through semi-annual environmental monitoring reports. A grievance redressal cell will be set up within the PIU/PMDSC 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 project location, information regarding grievance redress mechanism shall be published in local newspapers. This information will also make available on the executing agency’s website.

85. 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.

**E. Information Disclosure**

86. 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, Kangra 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 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.

## VIII. GRIEVANCE REDRESS MECHANISM

87. The Project will have a common grievance redress mechanism (GRM) to receive, evaluate, and facilitate the resolution of social, environmental, or any other project-related grievances. The GRM will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the Project. The GRM has been developed in consultation with stakeholders. The public awareness campaign will generate awareness of the Project and its grievance redress procedures. The campaign will ensure that the poor, vulnerable, and others know about the GRM.

88. The GRM will provide an accessible, inclusive, gender-sensitive, and culturally appropriate platform for receiving and facilitating the resolution of affected persons' grievances related to the Project. The multi-channel and multi-tier GRM for the Project is outlined below, with each tier having time-bound schedules and responsible persons identified to facilitate and address grievances at each stage. Public awareness campaigns will ensure that awareness of grievance redress procedures is generated through the campaign.

89. Affected persons will have the flexibility of conveying grievances and/or suggestions by dropping grievance redress/suggestion forms in complaint/suggestion boxes that will be installed by project PIUs or by e-mail, by post, or by writing in complaints register or by sending a WhatsApp message on the dedicated number, e-mail to the PIU or by dialing the number of the PIU/PMU.

90. Besides the Project's grievance redress mechanism, the state also has a comprehensive online public grievance monitoring system called Samgr eSamadhan where the public can file grievances through a dedicated web portal ([esamadhan.nic.in](http://esamadhan.nic.in)). The affected persons can also lodge their complaints through this online portal.

91. Information to the stakeholders about the GRM. The stakeholders, including affected persons, beneficiaries and citizens, workers engaged during construction activities under the loan will be informed about the GRM under the Project and of the state through public consultations, disclosures, and distribution of public information booklets (PIB). In the case of illiterate persons, the information will be provided verbally during meetings with them.

92. Who can complain. A complaint can be registered by stakeholders directly or indirectly affected by the Project. A representative can register a complaint on behalf of the affected person or group, provided that the affected person or group identifies the representative and submits evidence of the authority to act on their behalf.

93. What the Grievance/Complaint should contain. Any comments, complaints, queries, and suggestions pertaining to safeguard compliance - environment, involuntary resettlement, indigenous people, design/construction-related issues, compensation, service delivery, or any other issues or concerns related to the Project. The complaint must contain the complainant's name, date, address/contact details, location of the problem area, and the problem.

94. Where and how to file a Complaint. The complaint can be filed online and offline. The people can submit their complaints at the contractor's site office or at the PIU/PMU office. In addition, they can also have grievances/suggestions/queries submitted through phone or e-mails or, the state grievance portal, or social media (on a dedicated WhatsApp number). The information about the GRM will also be displayed on the HPTDB website. Contact numbers and names of the concerned staff and contractors will be posted and displayed at all construction sites.

95. Grievance redress /Problem solving through participatory Process. The PMU and PIUs will make efforts to resolve the problems and conflicts amicably through a participatory process with the community. In case of immediate and urgent grievances in the complainant's perception, the contractor and supervision personnel from the PIU will provide the most easily accessible or first level of contact to resolve grievances quickly

96. Grievance Redressal Committee. The GOHP will establish the grievance redressal committees (GRC) at the site, PIUs, and PMU levels to provide a mechanism to resolve conflict and disputes concerning compensation payments, environmental safeguards related issues and cut down on lengthy litigation. The following will be the composition of the GRCs. The composition of the GRCs at all three levels is provided in the Table 22.

**Table 22: Composition of GRC at Three Level**

Site Level GRC (Level 1)	PIU level GRC (Level 2)	PMU level GRC (Level 3)
1. Assistant Engineer/Junior Engineer, PIU, of the concerned project site	1. Project Manager, Concerned PIU	1. Project Director, PMU
2. Field Engineer of PMDSC	2. Assistant Engineer, PIU	2. Deputy Project Director, PMU
3. Social and Community Organizer, PIU	3. Asstt. Social and Community Development Officer	3. Executive Engineer, PMU,
4. Safeguard support staff of PMDSC,	4. Social and/or Environment Safeguards Specialist, PMDSC	4. Environment Specialist, PMU
5. A representative from the affected community, as and when required.	5. Construction Manager, PMDSC	5. Safeguard Specialist (Environment), PMU
	6. Representative of line departments (PWD, ULB, etc.)/ temple trust as and when required and	6. Representatives from the line departments (ULB, PWD, etc.) / temple trust as and when required
	7. A representative from the affected community, as and when required.	

**GRC = grievance redress committee, PIU = project implementation unit, PMDSC = project management design and supervision consultant, PMU = project management unit, PWD = public works department, ULB = urban local body.**

97. Site level GRC (First Level). The site level GRC will comprise an assistant engineer, PIU, a junior engineer. PIU, and safeguards and community organiser, PIU, a field engineer of PMDSC, safeguard support staff of PMDSC, and a representative from the affected community (as and when required). The contractor's site engineer and environment health safety cum social supervisor will jointly support in meetings, consultations, and site-level grievance resolution. The effort will be made to resolve issues on-site, in consultation with each other, and within five days of receipt of a complaint/grievance.

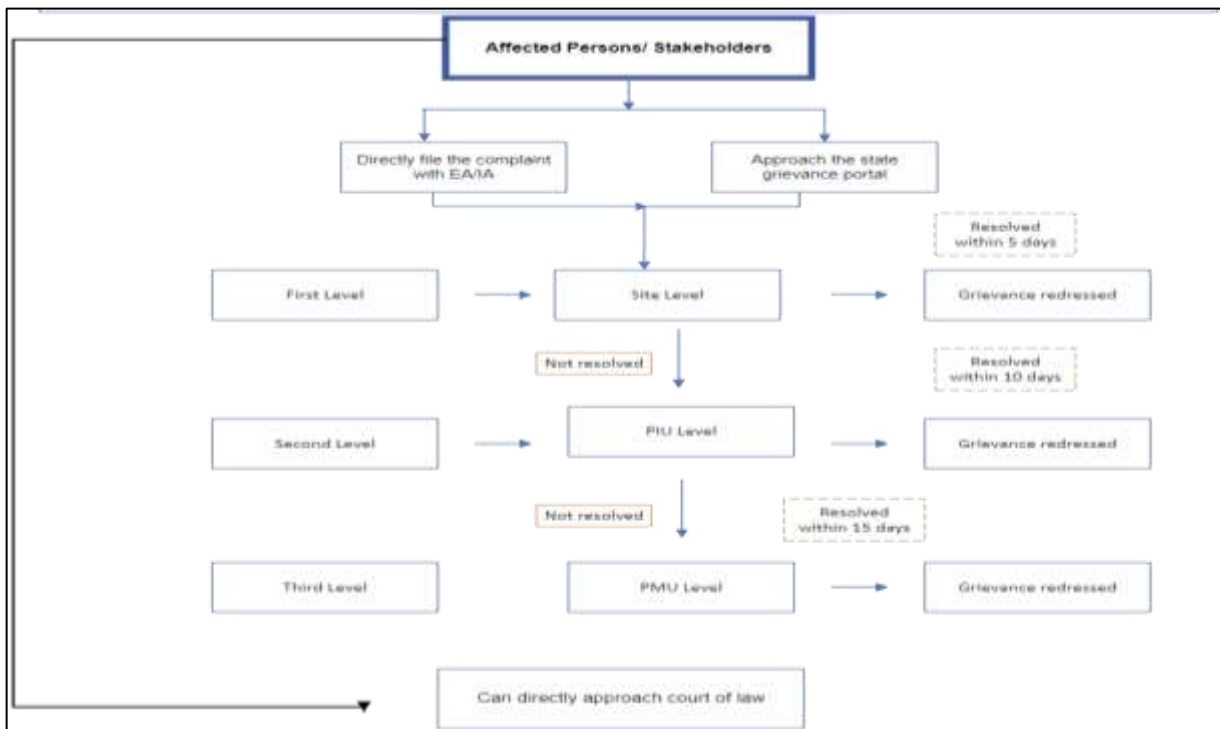
98. PIU level GRC (Second Level). All grievances that cannot be redressed within seven days at the first level will be brought to the notice of GRC headed by the executive engineer at the concerned PIU, and will include the assistant engineer, assistant social and community development officer, social and/or environment safeguards specialist, PMDSC, and construction manager, PMDSC The PIU level GRC will also co-opt the representative of line departments (PWD, ULB) and a representative from the affected community, as and when required. GRC will review the grievance and act appropriately to resolve it within 10 days of receipt at this level.

99. PMU Level GRC (Third Level). In case the grievances are not addressed at the PIU level within 10 days of receipt, the same shall be brought to the notice of the PMU-level GRC. The PMU-level GRC will be comprised of the project director as chairperson, deputy project director, executive engineer, environment specialist, safeguards specialist (gender and social), and a

representative from the line department (ULB, PWD, etc). The community shall have at least one female member. GRC will resolve grievances within 15 days.

100. The complainant will be informed in writing about the resolution of their complaint or the decision of the grievance redress committees. The complainants are free to approach the court of law at any time of their own will at any stage, and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM. GRM will continue to function throughout the Project. The grievance redress process is shown in the figure 23.

**Fig. 23: Grievance Redress Mechanism in SITDP Himachal Pradesh**



EA= executing agency; IA = implementation agency

Source: Asian Development Bank.

101. ADB Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB’s operational policies and procedures. In the event that the established GRM is not in a position to resolve the issue, the affected person also can use the ADB Accountability Mechanism through directly contacting (in writing) the complaint receiving officer (CRO) at ADB headquarters. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department (ADB India Resident Mission in this case). The complaint can be submitted in any of the official languages of ADB’s developing member countries. The ADB Accountability Mechanism information will be included in the project-relevant information to be distributed to the affected communities as part of the Project GRM.<sup>14</sup>

102. Documentation. PMU, with the support of PIUs, will be responsible for the timely registration of grievances, related disclosure, and communication with the aggrieved party.

<sup>14</sup> <http://www.adb.org/Accountability-Mechanism/default.asp>.

PMU will also ensure that all the details from submission to resolution are well recorded and documented. The environmental and social safeguard specialists of PMU will be responsible for maintaining the records and coordinating with the affected persons regarding complaints related to their respective domain areas. The chair of each GRC will be responsible for informing the complainant in writing about the resolution of their complaint or the decision of the GRC.

103. Record keeping. PIUs will keep records of grievances received, including contact details of the complainant, the date the complaint was received, the nature of the grievance, agreed corrective actions, the date these were affected, and the final outcome. The number of grievances recorded and resolved and the outcomes will be displayed/disclosed in the PMU and PIU offices, and reported in monitoring reports submitted to ADB on a semi-annual basis.

104. Periodic review and documentation of lessons learned. The project director, PMU, will periodically review the functioning of the GRM in each site and record information on the effectiveness of the mechanism, especially on the Project's ability to prevent and address grievances.

105. Cost. All costs related to the resolution of grievances (meetings, consultations, communication, and reporting/ information dissemination, as well as costs incurred by affected persons to attend GRC meetings, if any) will be borne by PMU.

## IX. ENVIRONMENTAL MANAGEMENT PLAN

106. 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.

107. 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.

108. 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

109. 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. Himachal Pradesh Tourism Development Board (HPTDB) is the Implementing Agency (IA) responsible for coordinating procurement and construction of the project.
- The Project Management Design & Supervision Consultant (PMDSC) assists PMU in managing the project including procurement and assures technical quality of design and construction.
- A Project Implementation Unit (PIU) is established in Kangra. This PIU will look into progress and coordination of day-to-day construction works with the assistance of PMDSC.
- The Design Consultant has prepared the DPR of the project. The PMDSC will carry out construction supervision during project implementation. Their responsibility will also include EMP implementation supervision.
- The contractor will be responsible for execution of all construction works. The contractor will work under the guidance of the PIU Kangra and PMDSC. The environmental related mitigation measures will also be implemented by the contractor.
- Contractor will appoint a qualified environmental engineer to implement the mitigation measures as per the EMP.

110. The contractor's conformity with contract procedures and specifications during construction will be carefully monitored by the PIU. Safeguard Specialists will be deputed in PMU and PMDSC, who will monitor the environmental performance of contractors.

111. **Responsibility for preparation/ updating IEE.** PMDSC is responsible for preparation & updating of IEE, if required and submit to PMU for final review before submission to ADB. PMDSC will assist & coordinate to PMU.

112. **Responsibility for Monitoring.** During construction, PMDSC's Environmental Specialist and the designated representative engineer of the PIU will monitor the contractor's

environmental performance on day-to-day basis while PMDSC expert will randomly monitor the performance for corrective measures if required. During the operation phase, monitoring will be the responsibility of the EA.

113. **Responsibility for Reporting.** Environmental Specialist of PMDSC in coordination with PIU will prepare and submit quarterly and semi-annual environmental monitoring report to PMU. PMU will review these reports with assistance of PMDSC Environmental Specialist and submit to ADB semi-annual reports on implementation of the EMP. This will facilitate 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. PMDSC environmental expert will help in preparing quarterly, semi-annual and annual progress reports.

114. **Environmental Management & Monitoring Plan (EMP).** Table-23 shows the potential adverse environmental impacts, proposed mitigation measures, monitoring parameters, frequencies, responsible parties and implementation arrangements during pre-construction, construction, post construction & operation phase of the project. This EMP will be included in the bid documents & contract agreement. Same will be further reviewed and updated during project implementation.

**Table 23: Environmental Management Plan (EMP)**

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
<b>Location Impacts</b>						
Lack of sufficient planning to assure long term sustainability of the Convention Centre building and ensure protection specially from earthquake and other natural disasters	The design of Convention Centre building has been completed considering earthquake coefficient of zone-V. The design of the building follows relevant codes (IS: 1893 (Part I)-2002: Indian Standard Criteria for Earthquake Resistance Design of Structures (5th Revision) and IS:4326-1993: Indian Standard Code of Practice for Earthquake Resistance Design and Construction of Buildings (2nd Revision) for the earthquake resilient structure.		PMU and PIU	PMDSC	Prior to start of civil work and Continuous during construction	PMU
Extraction of Construction material	The construction materials shall be procured from the sources having environmental permits and clearance as per prevailing environmental framework.		Contractor	PMDSC	Prior to start of civil work and Continuous during construction	Contractor
<b>Pre-Construction Phase</b>						
Site Specific Environmental Protection measures	<ul style="list-style-type: none"> <li>Preparation of site specific EMP by the contractor.</li> <li>Same shall be approved by PMDSC/PMU</li> </ul>	Approved Site Specific EMP	Contractor	PMDSC	Prior to start of civil work and Continuous during construction	Contractor
Consents, permits, clearances, No objection certificate (NOC), etc.	<ul style="list-style-type: none"> <li>Secure all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.</li> </ul>	Consents, permits, clearance, NOCs, etc.	PIU/ Contractor	PMDSC	EA to report to ADB in Six monthly Environmental Monitoring Report (EMR)	Contractor/ PMU

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
Establishment of baseline environmental conditions prior to start of civil works	<ul style="list-style-type: none"> <li>Prior to start of civil works ambient air quality, ambient noise level, water &amp; soil quality data will be generated.</li> </ul>	Records	DSC/ Contractor	PMDSC	Baseline data will be generated prior to start of civil work.	Contractor/ PMDSC
Utility Shifting	<ul style="list-style-type: none"> <li>Identify the utilities and prepare a utility shifting plan</li> </ul>	Approved Utility Shifting Plan	DSC/ Contractor	PIU & PMDSC	Prior to start of civil work.	PMU/ Contractor
Sites for construction camps, areas for stockpile, Storage and disposal	<ul style="list-style-type: none"> <li>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).</li> <li>Disposal will not be allowed near sensitive areas which will inconvenience the community.</li> <li>The construction camp, storage of fuel and lubricants should be avoided near the water bodies.</li> </ul>	List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal Waste management plan	PMDSC to prepare list of potential sites PMDSC to inspect sites proposed by contractor if not included in pre-approved sites	PIU/PMDSC	Monthly	Contractor
Sources of construction materials	<ul style="list-style-type: none"> <li>Use quarry sites and sources permitted by government.</li> <li>Verify suitability of all material sources and obtain approval from PIU.</li> <li>If additional quarries are required after construction has started, obtain written approval from PIU.</li> </ul>	Permits issued to quarries/ sources of materials	Contractor PIU & PMDSC is to verify sources (including permits) if additional is requested by contractor	PMU/PMDSC	Upon submission by contractor, monthly	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<ul style="list-style-type: none"> <li>Submit to PMDSC on a monthly basis documentation of sources of materials.</li> </ul>					
Traffic Management	<ul style="list-style-type: none"> <li>Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.</li> <li>Schedule transport and hauling activities during non-peak hours.</li> <li>Locate entry and exit points in areas where there is low potential for traffic congestion.</li> <li>Keep the site free from all unnecessary obstructions.</li> <li>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.</li> <li>Notify affected sensitive receptors by providing sign boards</li> </ul>	Traffic Management Plan	Contractor	PIU and PMDSC	Prior to start of civil work. Continuous during construction	Contractor
Occupational Health and Safety	<ul style="list-style-type: none"> <li>Comply with IFC EHS Guidelines and National/State Occupational Health and Safety regulations.</li> <li>Develop comprehensive site-specific Health and Safety (H&amp;S) Management Plan.</li> </ul>	Health and Safety (H&S) Management Plan.	Contractor	PIU and PMDSC	Prior to start of civil work. Continuous during construction	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
Public Consultations	<ul style="list-style-type: none"> <li>Continue information dissemination, consultations, and involvement/participation of stakeholders during project implementation.</li> </ul>	<ul style="list-style-type: none"> <li>- Disclosure records</li> <li>- Consultations</li> </ul>	PMDSC/ Contractor	PMU and PMDSC	Prior to start of civil work. Continuous during project implementation	PMDSC/ Contractor
<b>Construction Phase</b>						
Soil erosion and surface runoff	<ul style="list-style-type: none"> <li>Save top soil removed during excavation and use to reclaim disturbed areas, as soon as it is possible to do so.</li> <li>Use dust abatement such as water spraying to minimize windblown erosion.</li> <li>Provide temporary stabilization of disturbed/excavated areas that are not actively under construction.</li> <li>Apply erosion controls (e.g., silt traps) along the drainage leading to the water bodies.</li> <li>Clean and maintain catch basins, drainage ditches, and culverts regularly.</li> <li>Conduct routine site inspections to assess the effectiveness of and the maintenance requirements for erosion and sediment control systems.</li> </ul>	Erosion control and re-vegetation plan	Contractor	DSC & PMC	<ul style="list-style-type: none"> <li>- daily visual inspection by contractor supervisor and/or environment specialist</li> <li>-weekly visual inspection by PMDSC (more frequent during monsoon)</li> <li>- Random inspection by PMU, PIU and/or PMDSC</li> </ul>	Contractor
Public inconvenience due to disturbance to public utility	<ul style="list-style-type: none"> <li>Approval /implementation of utility shifting by concerned department.</li> <li>Advance notice to the public about the time and the</li> </ul>	Approved Utility Shifting Plan. Disruption to other commercial and	PIU/ Contractor	PMDSC	Throughout construction period	PMU/ Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
services-Water & Power supply, sanitation, etc.	<p>duration of the utility disruption.</p> <ul style="list-style-type: none"> <li>Use of well trained and experienced machinery operators to reduce accidental damage to the public utilities - pipelines</li> <li>Restore the utilities immediately to overcome public inconvenience</li> </ul>	public activities /public complaints				
Noise and Vibrations	<ul style="list-style-type: none"> <li>Selection of construction techniques and machinery to minimize ground disturbance.</li> <li>Construction equipment to be well maintained.</li> <li>Construction techniques and Machinery selection to minimize ground disturbance.</li> <li>Proper maintenance and turning off plants not in use</li> <li>Limit construction activities during day time.</li> <li>Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers.</li> <li>Avoid loud random noise from sirens, air compression, etc.</li> <li>Locate stationary construction equipment as far from nearby noise-sensitive properties, such as the hospital, as possible.</li> <li>Shut off idling equipment.</li> </ul>	<p>Construction techniques and machinery.</p> <p>Noise &amp; Vibration Testing (Quarterly).</p> <p>Work schedule</p>	Contractor	PMDSC	Throughout construction period (Noise & Vibration Testing as per Environmental Monitoring Plan)	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<ul style="list-style-type: none"> <li>Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.</li> <li>Notify nearby residents whenever extremely noisy work will be occurring.</li> <li>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</li> </ul>					
Impact on Air Quality	<ul style="list-style-type: none"> <li>Conduct regular water sprinkling at dust generation sites e.g.haul roads, stockpiles, etc.</li> <li>Maintain construction vehicles and obtain “pollution under control” certificate.</li> <li>Obtain CTE and CTO for hot mix plants, crushers, diesel generators, etc.</li> <li>Construction materials should be stored in covered areas to avoid dust emissions and such materials should be transported in covered trucks.</li> </ul>	Valid PUC, CTE & CTO. Ambient Air Quality Testing (Quarterly). Visual inspections	Contractor	PMDSC	Throughout construction period (Ambient Air Quality Testing as per Environmental Monitoring Plan)	Contractor
Impact on Water Quality	<ul style="list-style-type: none"> <li>Ensure drainages and water bodies within the construction zones are kept free of obstructions.</li> </ul>	Water Quality Testing (Quarterly). Visual inspections.	Contractor	PMDSC	Throughout construction period (Water Quality Testing as per Environmental Monitoring Plan)	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<ul style="list-style-type: none"> <li>Keep loose soil material and stockpiles out of drains and water bodies.</li> <li>Minimize construction activities involving significant ground disturbance during the monsoon season. Provide drains and retention ponds if required.</li> <li>Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 2016.</li> <li>Implementation of Waste Management Plan</li> </ul>	Waste Management Plan				
Impact on Flora and Fauna	<ul style="list-style-type: none"> <li>Construction workers prohibited from harvesting wood in the project area during their employment.</li> <li>No tree cutting without permission of competent authority,</li> <li>Replant trees in the area using minimum ratio of 3 new trees for every 1 tree cut. Replacement species must be approved by District Forest Department.</li> <li>Conduct site induction and environmental awareness.</li> <li>Limit activities within the work area.</li> </ul>	Illegal wood/vegetation harvesting (area in m2, number of incidents reported). Tree Cutting permission. Number and species approved by District Forest Department	Contractor	PMDSC	Throughout construction period	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
Impacts on Physical & Cultural Resources	<ul style="list-style-type: none"> <li>• Ensure no damage to structures/properties near construction zone.</li> <li>• Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.</li> <li>• Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or vehicle movement.</li> <li>• Ensure workers will not use nearby/adjacent areas as toilet facility.</li> <li>• Coordinate with PIU/PMDSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc.</li> <li>• Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.</li> <li>• Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately</li> </ul>	Visual inspection. No complaints received. Photographs	Contractor	PMDSC	Throughout construction period	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	until such time chance finds are cleared by experts. <ul style="list-style-type: none"> <li>Avoid working in peak tourist seasons and/ or important religious festivals</li> </ul>					
Impacts due to Waste generation	<ul style="list-style-type: none"> <li>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.</li> <li>Excavated soil emerging at some sites is suitable for use at other sites under the project for levelling and filling purpose. Additional quantity of soil if required is being procured from authorized source or with approval of asset owner.</li> <li>Coordinate with Town Municipal Authority for beneficial uses of excavated soils/silts/sediments or immediately dispose to designated areas.</li> <li>Recover used oil and lubricants and reuse; or remove from the sites.</li> <li>Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste</li> </ul>	Waste Management Plan. Visual inspection. Photographs	Contractor	PMDSC	Throughout construction period	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<p>(removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items).</p> <ul style="list-style-type: none"> <li>Prohibit disposal of any material or wastes (including human waste) into drainage, nallah, or watercourse.</li> <li>Consider prohibition on Spreading/throwing garbage in open place in Dharamshala and punishable for violence, therefore proper solid waste collection and disposal plan should be made and strictly followed by contractor during construction phase.</li> </ul>					
Impacts on occupational Health and Safety	<ul style="list-style-type: none"> <li>Comply with IFC &amp; National/State EHS Guidelines on occupational Health and Safety</li> <li>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.</li> <li>Develop comprehensive site-specific health and safety (H&amp;S) plan.</li> <li>Provide H&amp;S orientation training to all new workers to ensure that they are apprised</li> </ul>	<p>Site-specific health and safety (H&amp;S) plan. Records. Visual inspection. Noise exposure monitoring in work area. Visible first aid equipment and medical supplies.</p>	Contractor	PMDSC	Throughout construction period	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<p>of the rules of work at the site, personal protective protection, and preventing injury to fellow workers.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide medical insurance coverage for workers.</li> <li>• Secure construction zone from unauthorized intrusion and accident risks.</li> <li>• Provide supplies of potable drinking water.</li> <li>• Provide clean eating areas where workers are not exposed to hazardous or noxious substances.</li> <li>• Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.</li> <li>• Ensure moving equipment is outfitted with audible back-up alarms.</li> <li>• 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</li> </ul>					

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	to, and easily understood by workers, visitors, and the general public as appropriate. <ul style="list-style-type: none"> <li>Health Awareness camps &amp; Medical Checkup camps for workers</li> </ul>					
Impacts on Socio-economic Activities	<ul style="list-style-type: none"> <li>Provide signboards for pedestrians to inform nature and duration of construction works.</li> <li>Display contact numbers for concerns &amp; grievances.</li> <li>Preference to local employment as far as feasible.</li> <li>Continuous Public Consultation.</li> <li>Awareness camps &amp; training to workers for dealing with local people.</li> </ul>	Records. Visual inspection. Consultation Records	Contractor	PMDSC	Throughout construction period	Contractor
<b>Post-Construction &amp; Operation Phase</b>						
Site Cleanup & Restoration	<ul style="list-style-type: none"> <li>Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase.</li> <li>Use removed topsoil to reclaim disturbed areas.</li> <li>Re-establish the original grade and drainage pattern to the extent practicable.</li> <li>Stabilize all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees.</li> </ul>	Visual inspection. Pre-existing condition. Construction zone has been restored. Construction zone vegetation has been enhanced	Contractor	PMDSC	Post construction period	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<ul style="list-style-type: none"> <li>Restore access roads, staging areas, and temporary work areas.</li> <li>Restore roadside vegetation.</li> <li>Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&amp;M. Dispose in designated disposal sites.</li> <li>Monitor success of re-vegetation and tree re-planting. Replace all plants determined to be in an unhealthy condition.</li> </ul>					
Influx of visitors due to proposed intervention in the area	<p><b>Sustainable tourism practices:</b></p> <ul style="list-style-type: none"> <li>Promote sustainable tourism practices such as responsible tourism, that contribute to the conservation of environment and local culture.</li> <li>For operation stage, all the tourist related activities to be conducted for visitors/ tourists at site shall be planned and implemented in consultation with HPTDB.</li> <li>Resource management. Implement resource management practices such as water conservation, waste management and energy efficiency to ensure the</li> </ul>	Water conservation measures (ZLD), energy efficient equipment, Waste segregation, recycle, proper disposal, permissions for usage of ground water and surface water, if applicable.	Operation & Maintenance Agency	PMU		Contractor up to Defect Liability Period and thereafter PMU

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<p>sustainability of local resources.</p> <p><b>Water:</b></p> <ul style="list-style-type: none"> <li>• Ensure that a ground water extraction permission for the project is obtained and compliances.</li> <li>• Conduct water quality monitoring to ensure the quality of water.</li> </ul> <p><b>Electricity:</b></p> <ul style="list-style-type: none"> <li>• Only energy saving light, equipment to be installed at site.</li> <li>• use of solar lights</li> </ul>					
Water Environment and Storm Water Management	<ul style="list-style-type: none"> <li>• Contractor shall ensure proper storm water management at site by providing covered storm water drainage network.</li> <li>• No sewage shall be directly led to the water bodies; project includes sewage collection and treatment facility and it is proposed that treated wastewater will be reused within the site for flushing and landscaping.</li> <li>• Separate solid waste bins will be provided for organic and plastic waste within the project premises &amp; disposed at regular intervals. The organic waste will be decomposed in</li> </ul>	Storm water drains, maintenance of STP	Operation & Maintenance Agency	PMU		Contractor up to Defect Liability Period and thereafter PMU

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<p>nearby/ proposed waste composters and plastic waste will be sold to recyclers/ MC waste disposal vehicles.</p> <ul style="list-style-type: none"> <li>Covered waste storage areas</li> <li>Regular inspection and cleaning of storm drains</li> <li>Provision of silt traps in storm water drains</li> </ul>					
Waste oil generation on account of Massage and Spa and its safe disposal	<ul style="list-style-type: none"> <li>Waste oil from the equipment shall be collected and stored in jerry cans and sent back to the suppliers for recycle or reuse. All the equipment handling oil shall be wiped with cotton/cotton rags before washing with water to ensure no discharge of any oily waste directly to the STP. The solid waste generation in terms of cotton rags, paper tissues and waste herbal products shall be collected in dust bins and disposed off along with other wastes of Spa centre.</li> </ul>	Waste from Spa and Massage operations	Operation & Maintenance Agency	PMU		Operating Agency
Safety risks/ Measures	<ul style="list-style-type: none"> <li>All safety features provided as part of construction at site will be maintained.</li> <li>The project site will be equipped with firefighting system with portable fire extinguishers and smoke detectors.</li> <li>Separate staircase proposed in case of any mishap etc.</li> </ul>		Operation & Maintenance Agency	PMU		Contractor up to Defect Liability Period and thereafter PMU

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	<ul style="list-style-type: none"> <li>During natural calamities, the operation will be stopped. The staff will be safely evacuated as per the Disaster Management Plan (DMP) of Himachal Pradesh.</li> </ul>					
Environmental Conditions Air and noise quality etc.	<ul style="list-style-type: none"> <li>Air, water, and noise levels will be monitored periodically as per the Environmental Monitoring Plan prepared.</li> <li>The DG set should have acoustic enclosure to attenuate noise &amp; vibration.</li> <li>The stack height of the DG set should comply with the CTO conditions</li> <li>All the internal road should be maintained and kept in good condition to prevent dust and erosion. Any runoff from roads must be managed to avoid erosion and pollution related problems</li> </ul>	Monitoring results and relevant standards	Contractor up to Defect Liability Period and thereafter PMU/PIU	PMU	Quarterly. Post Construction & Operation Phase	Contractor up to Defect Liability Period and thereafter PMU
Solid Waste Management	<ul style="list-style-type: none"> <li>For waste collection, adequate capacity of bins for dry and wet waste will be available at different locations</li> <li>The recyclable waste will be collected at designated site/location and sold to recycling vendors periodically</li> <li>Ensure good housekeeping at site</li> <li>Awareness campaigns, hoarding and signage on</li> </ul>	Waste segregation, display of suitable signages	Operation & Maintenance Agency	PMU		Contractor up to Defect Liability Period and thereafter PMU

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	clean environment, healthy lifestyle, good practices etc. shall be maintained/ displayed					
Unhygienic conditions due to poor maintenance of sanitation facilities and irregular solid waste collection	<ul style="list-style-type: none"> <li>The implementing agencies will carry out maintenance of the toilets, and carry out the regular collection and disposal of wastes to the local disposal sites. The generated sewerage will be properly treated by providing Sewage Treatment Plant at site of 300 KLD capacity based on MBBR technology.</li> <li>Treated water shall be complied will all the relevant norms/ standards of discharging/ using as given by CPCB/ compliance of conditions of CTO.</li> <li>Ensure the sewerage system is maintained and serviced by qualified personnel in accordance with operating procedure.</li> <li>Treated water will be reuse in flushing/ landscaping and other useful purposes etc. Sludge will be use after digestion in landscaping/ gardening as a manure.</li> </ul>	Maintenance schedule of Buildings and STP	Operation & Maintenance Agency	PMU		Contractor up to Defect Liability Period and thereafter PMU
Impact on Land and Ecology	<ul style="list-style-type: none"> <li>Preference should be given to native species of plants in consultation with forest department</li> </ul>	Landscaping Plan	Operation & Maintenance Agency	PMU		Contractor up to Defect Liability Period

<b>Parameters</b>	<b>Mitigation Measures</b>	<b>Parameter/ Indicator of Compliance</b>	<b>Responsible for Implementation</b>	<b>Responsible for Supervision</b>	<b>Frequency of monitoring</b>	<b>Source of Funds</b>
						and thereafter PMU
Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	The management of site will prepare on-site emergency plan for possible minor accidents and mishaps during operation phase. For natural calamities, the disaster management plan prepared by DDMA will be followed.	Health & Safety Plans	Operating Agency	PMU		Operating Agency

## B. Environmental Monitoring & Reporting

115. Through integration of mitigation measures in project design, impacts are mostly insignificant, temporary in nature and can be properly avoided or mitigated. The objectives of environmental monitoring are: ensure effective implementation of EMP; comply with all applicable environmental, safety, labour and local legislation; ensure that public opinions and obligations are taken in to account and respected to the required satisfaction level; and modify the mitigation measures or implementing additional measures if required. The environmental monitoring plan contains:

- All performance indicators
- Environmental monitoring programme
- Necessary budgetary provisions

116. **Performance Indicators.** The physical, biological and social components identified to be particularly significant in affecting the environment at critical locations have been suggested as Performance Indicators. The Performance Indicators shall be evaluated under three heads as:

- Environmental condition indicators to determine efficiency of environmental management measures in control of air, noise and water pollution.
- Environmental management indicators to determine compliance with the suggested environmental management measures.
- Performance indicators that have been devised to determine efficiency and utility of the proposed mitigation measures.

117. The Performance Indicators and monitoring plans prepared are presented in the Table 24.

**Table-24: The Performance Indicators and Monitoring Plans**

Performance Indicators	Target	Achievement in Semi-annually and annually
Budget	Environmental Budget (EMP Budget)	Expenditure till date
<b>Performance Indicators of Monitoring Plan</b>		
Ambient Air Quality	Total Number of samples as per Environmental Monitoring Plans	Total Number of samples collected
Noise Level	Total Number of samples as per Environmental Monitoring Plan	Total Number of samples collected
Water Quality	Total Number of samples as per Environmental Monitoring Plan	Total Number of samples collected
Soil	Total Number of samples as per Environmental Monitoring Plan	Total Number of samples collected
Safety of Workers	List of PPE as per the number labours	List of PPEs actually provided in the project
<b>Performance Indicators of Environmental Management Plan</b>		
Permissions/ NoCs/ Consents requirement	Target timeline to obtain the permit/NoC/ consents and its validity	List of Permission and NoCs/ consents obtained till date and status of its validity.
Public Consultation	Total Number of planned Public Consultation with timeline and coverage of people.	Number of public consultation conducted till date and actual coverage of the people.
Grievance redressal	Total number of complaints received, its timeline to response and resolution	Actual number of complaints resolved in percentage, response time.
Issues raised in public consultation	Target to attend the issues raised in the Public Consultation	Status of compliance to the issues of Public consultation

Information disclosure	List of information and locations where information to be disclosed	Actual locations where information has been disclosed.
Education of site staff on Environmental training	Total Number of staffs to be trained	No of staff actually
Capacity Building	Total number of sessions to be covered Total Number of contractors, PIUs and PMDSCs to be covered	Number of Sessions completed and Number of contractors, PIUs and PMDSCs.
Implementation of EMP mitigation Measures	All items of Environmental Management Plan with timeline	Implementation status of EMP items till date
Reporting	List and number of Report to be submitted	List and number of reports submitted

118. Progress of implementation of the EMP shall be monitored through a measurable set of indicators for performance assessment and parameters for environmental quality. During the progress of implementation, the monitoring provides information on any corrective action required for achieving the performance requirements as envisaged in the EMP. Regular reporting of the environmental indicators and their performance will be carried out at all stages of project pre-construction, construction and operation stage during the loan period. Annual/ semi-annual reporting of the environmental performance will be carried out to fulfil the ADB requirements which need a description of progress with implementation of the EMP and compliance issues and corrective actions, if any. The environmental monitoring programme has been detailed out in Table 25. Monitoring of environmental monitoring components such as air, noise, soil and water are required for successful implementation of the environmental monitoring program and is contingent to the following:

- Contractor has to submit a proposed schedule of subsequent periodic test to be carried out for approval.
- Monitoring by the environmental officers of supervision consultant of all the environmental monitoring tests and subsequent analysis of results.
- Where indicated by testing results and any other relevant on-site conditions, supervision consultant to instruct the contractor to:
  - Verify testing result with additional testing as/ if required.
  - Require recalibration of equipment etc. as necessary and
  - Request the contractor to stop, modify or defer specific construction equipment, processes etc. as necessary, that are deemed to have contributed significantly to monitoring readings in excess of permissible environmentally “safe” levels.
- All issues related to negative environmental impacts of the contractor’s facilities, plant and equipment are to be controlled through:
  - The contractor’s self-imposed quality assurance plan
  - Regular/ periodic inspection of contractor’s plant and equipment.
  - Monthly appraisal of the contractor.
  - Other environmental impacts are to be regularly identified and noted on the monthly appraisal inspection made to review all aspects of the contractor’s operation. The officer is to review all monthly appraisal reports and through the team leader is to instruct the contractor to rectify all significant negative environmental impacts.

119. Table-25 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.

**Table-25: Environmental Monitoring Plan**

Environmental component	Project stage	Parameters to be monitored	Location	Frequency	Standards	Implementation	Supervision
<b>1.Air Quality</b>	A. Pre-construction stage (The project once assigned to contractor)	PM10, PM2.5, SO2, NOx, CO	Project Site and nearby receptor areas in downwind, upwind & cross wind directions	One time	National Air quality standards of CPCB	Contractor by CPCB/HPSPCB / NABL approved laboratory	PMDSC/ PMU
	B. Construction Stage	PM10, PM2.5, SO2, NOx, CO	Project Site and nearby receptor areas in downwind, upwind & cross wind directions	Quarterly except monsoon	National Air quality standards of CPCB	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMDSC/ PMU
	C. Operation Stage	PM10, PM2.5, SO2, NOx, CO	Project Site and nearby receptor areas in downwind, upwind & cross wind directions	Six monthly	National Air quality standards of CPCB	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMU
<b>2.Water Quality</b>	A. Pre-construction stage (The project once assigned to contractor)	Color, Odor, pH, Turbidity, TDS, Calcium, Chloride, Total hardness, total alkalinity	Drinking water samples from the project site & nearby areas, Surface water from the water courses of nearby areas.	One time	National water quality standards of CPCB	Contractor by CPCB/HPSPCB / NABL approved laboratory	PMDSC/ PMU
	B. Construction Stage	Color, Odor, pH, Turbidity, TDS, Calcium, Chloride, Total hardness, total alkalinity	Drinking water samples from the labour camps & nearby areas, Surface water from the water	Quarterly	National water quality standards of CPCB	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMDSC/ PMU

Environmental component	Project stage	Parameters to be monitored	Location	Frequency	Standards	Implementation	Supervision
			courses of nearby areas.				
	C. Operation Stage	Color, Odor, pH, Turbidity, TDS, Calcium, Chloride, Total hardness, total alkalinity	Drinking water samples from the project site & nearby areas, Surface water from the water courses of nearby areas.	Six monthly	National water quality standards of CPCB	Contractor by CPCB/ HPSPCB approved laboratory	PMU
<b>3.Noise/ Vibration</b>	A. Pre-construction stage (The project once assigned to contractor)	Noise level in dB (A)	Project Site and nearby sensitive receptors	A single time	CPCB standards for Noise and vibrations	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMDSC/ PMU
	B. Construction Stage	Noise level in dB (A)	Project Site and nearby sensitive receptors	Quarterly	CPCB standards for Noise and vibrations	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMDSC/ PMU
	C. Operation Stage	Noise level in dB (A)	Project Site and nearby sensitive receptors	Six monthly	CPCB standards for Noise and vibrations	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMU
<b>4. Soil</b>	A. Pre-construction stage (The project after assign to contractor)	pH, Texture, Nitrogen, Phosphorus, Potassium, Sodium, Chloride, Organic Carbon, Lead, Moisture Content, Water Holding Capacity, etc.	Project Site, nearby productive agricultural lands & forest areas	A single time	Indian Standards (IS 2720)	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMDSC/ PMU
	B. Construction Stage	pH, Texture, Nitrogen, Phosphorus, Potassium, Sodium, Chloride, Organic Carbon, Lead,	Project Site, Batching/Crushing plant site, nearby productive	Quarterly	Indian Standards (IS 2720)	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMDSC/ PMU

Environmental component	Project stage	Parameters to be monitored	Location	Frequency	Standards	Implementation	Supervision
		Moisture Content, Water Holding Capacity, etc.	agricultural lands & forest areas				
	C. Operation Stage	pH, Texture, Nitrogen, Phosphorus, Potassium, Sodium, Chloride, Organic Carbon, Lead, Moisture Content, Water Holding Capacity, etc.	Project Site, nearby productive agricultural lands & forest areas	Six monthly	Indian Standards (IS 2720)	Contractor by CPCB/HPSPCB/ NABL approved laboratory	PMU
<b>5. Treated Water quality of STP</b>	Operation Stage	pH, BOD, COD, TSS	Outlet of STP	Quarterly	CPCB standards of discharge	Contractor by CPCB/ NABL/ HPSPCB approved laboratory	PMU

### C. Institutional Arrangements

120. Department of Tourism and Civil Aviation, Government of Himachal Pradesh is the executing agency and HPTDB is the implementing agency. A Project Management Unit (PMU) is established within the Himachal Pradesh Tourism Development Board (HPTDB), Department of Tourism and Civil Aviation as the Project Director and Principal Secretary, Department of Tourism and Civil Aviation, GoHP.

121. At PMU, Safeguards Specialist Environment will be the nodal officer for environmental safeguards and will be responsible for ensuring compliance with ADB's Safeguards Policy Statement (SPS), 2009 during the project implementation, including the monitoring and reporting. PMU will engage a qualified and experienced consultant, designated as Environmental Safeguard Specialist to support project coordinator in environmental safeguards tasks. Project manager or assistant project manager of PIU will be designated as safeguards focal in each PIU. PMDSC team will include an Environmental Safeguard Specialist and other support staff in PIUs will provide all necessary support and expert guidance to PMU and PIUs. Contractor will appoint an Environmental Health and Safety officer.

122. **Project Management Unit (PMU).** The PMU will be responsible for planning management, coordination, supervision and progress monitoring. The PMU has the responsibility of fulfilling environmental requirements of the government and ensuring effective implementation of the environmental management provisions in the IEEs, EMPs and civil works contracts. The following are key environmental safeguard task and responsibility of the Environmental Safeguard Officer at the PMU:

- Ensure project compliance with the statutory environmental requirements, ADB SPS, 2009 and loan covenants.
- Ensure that draft IEEs prepared based on preliminary design are updated to reflect the final project detailed designs and are approved by ADB and disclosed prior to bid invitation (for works contracts).
- Ensure that IEEs including EMPs are included in the bidding documents and contracts
- Ensure that baseline monitoring as suggested in the EMPs are conducted and baseline data/ values established prior to commencement of works.
- Coordinate with design engineer to avoid potential environmental impacts.
- Ensure that SEMPs are submitted by contractor and cleared by PIU prior to commencement of works.
- Ensure that construction works are not commenced until all applicable government clearances, permits (including those required by Construction Contractor) are obtained.
- Oversee and ensure that contractors comply with labour laws and rules.
- Ensure that the IEEs including EMPs are updated in case of any change in project scope design or location during implementation.
- Confirm compliance with all measures and requirements set forth in the IEEs, the EMPs and any corrective or preventive actions set forth in safeguard monitoring reports.
- Finalize environmental sections quarterly progress report and environmental monitoring reports for submission to ADB.
- Ensure availability of budget for safeguards activities.
- Ensure adequate awareness campaigns, information disclosure among affected communities and timely disclosure of final IEEs/ EMPs and SEMRs, including corrective action plans, if any in project website and in a form accessible to the public.
- Assist in setting up of grievance redress mechanism (GRM), identifying grievance redressal committee (GRC) member and developing capacity of GRC members, PIUs, consultants and contractors in addressing environmental safeguard-related issues/ concern/ complaints.
- Ensure any grievance brought about through GRM are redressed in a timely manner.

- Organize periodic capacity building and training programs on safeguards for PMU, PIU and contractor.

123. **Project Implementation Unit (PIU).** The PIU will be responsible for the day-to-day activities of project implementation in the field and will have direct supervision of contractor. PIU will oversee and monitor the day-to-day progress and implementation including environmental safeguards. The following are the key environmental safeguards tasks and responsibilities of the PIU with the DSC:

- Promptly report to PMU on any changes in project design/location/scope during the design verification and implementation phase and coordinate with PMC to update the IEEs and EMPs.
- Liaise with local offices of regulatory agencies and ensure that clearances/ approvals are obtained timely;
- Review and approve contractor SEMP.
- Oversee implementation of SEMP by contractor.
- Ensure that contractor comply with labour legislation and standards; ensure that workers are accommodated, paid and treated according to the requirements.
- Ensure strict implementation of occupational health and safety requirements.
- Review monthly reports from contractors on EMP implementation, and support PMU in preparing quarterly progress reports and SEMR.
- Ensure continuous public consultation and awareness.
- Coordinate grievance redress process and ensure timely actions by all parties; and
- Support all other environmental safeguards related activities and tasks of the PMU as may be needed.
- Recommend issuance of construction work completion certificate to the contractor upon verification of satisfactory post construction clean up.

124. **Project Management and Design Supervision Consultant (PMDSC).** The PMU and PIU will be supported by PMDSC environmental specialist. Key task of will include, but limited to, the following:

- Assist in preparing, updating, reviewing, implementing, monitoring, and reporting of all tasks related to environmental safeguards as required.
- Monitoring of EMP implementation, regulatory compliance, grievance redress reporting etc.
- Provide all necessary support and expert guidance to environmental officer in managing environmental safeguards tasks.
- Update the IEE and EMP as needed to reflect detailed design, change in design verification and / or implementation of projects.
- Assist in public consultation, feedback and reporting.
- Ensure that relevant provision of EMPs including cost of implementing the EMPs are fully included in bid and contract documents, particularly in the bill of quantities and cost line items.
- Identify statutory clearance/ permission/approvals required and assist in obtaining them;
- Assist in including standards/ conditions of regulatory clearances and consents, if any in the project design.
- Conduct training, capacity building activities for PMU, PIU and Contractor.
- Ensure compliances with ADBs disclosure requirements as the SPS.
- Assist PMU/ PIU in reviewing and approving contractor SEMP and other associated plans;
- Carry out site verification, and monitor EMP implementation and ensure compliance by the contractor.
- Ensure that contractor comply with labour legislation; ensure that workers are paid and treated according to the labour legislation.
- Identify any non-compliances or unanticipated impacts and recommend corrective actions

- Prepare environmental safeguard sections in quarterly reports.
- Prepare semi-annual environmental monitoring reports.
- Assist in operating GRM effectively.
- Advise contractor on appropriate actions on grievances, ensure timely resolution and proper documentation; and
- Support all other environmental safeguards related activities and task of the PMU and PIU as may be needed.

125. **Contractor.** The approved draft of IEE and EMP are to be included in bidding and contract documents. The PMU and PIU will ensure that bidding and contract document include specific provisions requiring contractors to comply with (i) all applicable laws and regulations relating to environmental, health and safety; (ii) all applicable labour laws and core labour standards on (a) prohibition of child labour as defined in national legislation, international treaties for construction and maintenance activities; (b) equal pay for equal work of equal value regardless of gender, ethnicity or caste; (c) no discrimination in respect of employment and occupation; (d) allow freedom of association and effectively recognize the right to collective bargaining, and (e) elimination of forced labour; and (iii) the requirement to disseminate information on sexually transmitted diseases including HIV/ AIDS, to employees and local communities surroundings the project sites. The contractor will be required to appoint a full time Environmental Health and Safety officer on site to implement the EMP and will assist contractor in the following:

- Prepare SEMP and submit to PMU/ PIU for approval prior to start of construction.
- Comply with the measures forth in the IEE, the EMP and SEMR (A sample SEMR is given as Annexure-9).
- Ensure implantation of SEMP and report to PIU/ PMC on any new or unanticipated impacts
- Ensure that necessary pre-construction and construction permits are obtained
- Ensure to adequately record the site condition and other infrastructure prior to starting to transport materials and construction; and
- Conduct orientation, daily briefing session, tool box talks to workers on environmental, health and safety
- Provide appropriate workers facilities at the workplace and labour camp as per the requirements and contractual provisions.
- Carry out site inspections on a regular basis and prepare site inspection checklist/ reports. A sample site inspection checklist is given as Annexure-8.
- Record EHS incidents and undertake remedial actions
- Conduct environmental monitoring (air, noise etc.) as per the monitoring plan
- Prepare monthly EMP monthly reports and submit to PIU
- Comply with labour legislations and ensure implement labour legislations requirements (Annexure-10).
- Work closely with PIU and PMDSC to ensure communities are aware of project related impacts, mitigation measures and GRM; and
- Receive, record, and redress grievances in an effective and timely manner.
- Provide PIU/ PMU with a written notice of any unanticipated environmental impact that arise during construction, implementation or operation of the project that were not considered in the IEE, the EMP.
- Site clearance and restoration after the completion of works.

#### **D. Capacity Building and Training**

126. Safeguard focal of PIU will be trained by Environmental Safeguard Specialist by PMDSC on safeguard issues related to the project, EMP, SEMP and GRM. The Environmental Specialist of the PMDSC 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 programme, implementation techniques, monitoring methods and tools. The estimated cost is Rs. 2,00,000/- (excluding training of contractor which is a part of EMP) implementation cost during construction) to be covered by the project capacity building program. The details cost and specific module are being customized for the available skill set after assessing the capabilities of the target participants and the requirements of the project by the Environmental Safeguard Specialist of PMDSC. Details is given in Table 26.

**Table 26: Outline Capacity Building Program on EMP implementation**

Description	Total Participants and Venue	Estimate (Rs.)	Cost and Source of Funds
1. Introduction and Sensitization to Environmental Issues (1 day) -ADB Safeguard Policy Statement -Government of India and GoHP state applicable laws, regulations and policies including but not limited to core labour standards, OHS etc. -Incorporation of EMP into the project design and contracts - Monitoring, reporting and corrective action planning	All staff and consultants involved in the project  At PIU-PMU (Combined for all projects)	1,00,000	Included in the overall project cost
2. EMP Implementation (1/2 day) -EMP mitigation and monitoring measures -roles and responsibilities -public relations-consultation -grievances redress -Monitoring and corrective action planning -Reporting and disclosure -Construction site standard operating procedures (SOP) -Health & safety, especially health risk from COVID-19 -Chance find (archaeological) protocol -Traffic Management Plan -Waste management plan -Site clean-up and restoration	PIU staff, Contractor staff and consultant involved in the project  At PIU office	1,00,000	Included in the project cost estimates
3. Contractor orientation to workers (1/2 day) -Environmental, Health and Safety in project construction -Health impact and protection from COVID-19	Once before start of work and thereafter regular training every month once. Daily briefing/ toolbox talk on safety prior to start of work All workers (including unskilled workers)	1,00,000	Contractor's cost Included in EMP budgetary table

## **E. Monitoring and Reporting**

127. Immediately after mobilization and prior to commencement of the works, the contractor is to submit a compliance report of PIU that all identified pre-construction mitigation measures as detailed in the EMP will be undertaken. Contractor should confirm that the staff for EMP implementation (EHS officer) is mobilized. PIU is required to review, and approve the report and permit commencement of works.

128. During construction, results from internal monitoring by the contractor is to be reflected in their monthly EMP/ SEMP implementation reports to the PIU. PMDSC is required to review and advise to contractor for corrective actions if necessary. Quarterly report summarizing compliance and corrective measures taken is to be prepared by PMDSC team at PIU and to be submitted to PMU. During operation, the contractor is required to conduct management and monitoring actions as per the operation stage EMP and submit to PIU a quarterly report on EMP implementation and compliance.

129. Based on the monthly and quarterly reports and measurements, PMU/PIU (assisted by PMDSC) is required to submit semi-annual environmental monitoring report (SEMR). Sample Semi Annual Environment monitoring report format is enclosed as Annexure-9. Once concurrence from the ADB is received the report will be disclosed on the PMU website.

130. ADB will review project performance against the SITDP-GoHP commitments as agreed in the legal documents. The extent of ADBs monitoring and supervision activities will be commensurate with the project's risk and impacts. Monitoring and supervising of social and environmental safeguards will be integrated into the project performance system.

131. ADB monitoring and supervision activities will be carried out on an on-going basis until a Project completion report is issued. ADB issues a PCR within 1-2 years after the project is physically completed and in operation.

## **F. Environmental Management & Monitoring (EMP) Budget**

132. 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 projects. Therefore, these items of costs have not been included in the EMP budget. Only those items not covered under budgets for construction are considered in the EMP budget.

133. 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, soil and noise), Public Consultations, Awareness camps and trainings. The estimated cost for implementation of EMP is Rs.14,90,000/-. Detailed EMP budget is provided below in Table-27.

**Table-27: Estimated EMP Budget**

S. No	Description	Quantity	Unit	Rate	Amount	Responsibility
				(in Rs)	(in Rs)	
A.	Legislation, permits and Agreements (Consents to Establish and Operate for plants and machinery of the contractor)					These consents are to be obtained by contractor on own cost
B.	Public consultations and information disclosure (Construction phases)		Lump sum	100,000	100,000	PIU
<b>C. Environmental Monitoring (Pre-construction Stage)</b>						
1	Air Quality	4	No	10,000	40,000	Contractor
2	Water Quality	4	No	5000	20,000	
3	Noise Levels	4	No	2500	10,000	
4	Soil	2	No	8000	16,000	
<b>Total Cost</b>					<b>86,000</b>	
<b>D. Environmental Monitoring (Construction Stage)</b>						
1	Air Quality	36	No	10,000	3,60,000	Contractor
2	Water Quality	48	No	5000	2,40,000	
3	Noise Levels	48	No	2500	1,20,000	
4	Soil	24	No	8000	1,92,000	
<b>Total Cost</b>					<b>9,12,000</b>	
<b>E. Environmental Monitoring (Operation Stage)</b>						
1	Air Quality	8	No	10,000	80,000	PIU
2	Water Quality	8	No	5000	40,000	
3	Noise Levels	8	No	2500	20,000	
4	Soil	4	No	8000	32,000	
5	Treated Water of STP	4	No	5000	20,000	
<b>Total Cost</b>					<b>1,92,000</b>	
F.	<b>EHS Awareness Camps</b>	Lump sum			1,00,000	Contractor
<b>Total Cost</b>					<b>1,00,000</b>	
<b>G. Training/Workshops</b>						
1	EMP Training at site	2		50,000	1,00,000	Contractor
2	Training on Implementation of EMP for Field PIU and Engineers	2		50,000	1,00,000	PMDSC/PIU
<b>Total Cost</b>					<b>2,00,000</b>	
<b>Grand Total (A+B+C+D+E+F+G)</b>					<b>14,90,000</b>	

## X. CONCLUSION AND RECOMMENDATIONS

134. The proposed project has been categorized as Category 'B' based on environmental screening and assessment of likely impacts.

135. There are no environmentally, historically or archeologically sensitive or protected areas within or adjoining the project sites.

136. The project involves the construction of Convention Centre (Built up area is more than 20,000 sq.m). The project falls in under category "B" as per EIA Notification, 2006 schedule 8(a) and its amendments thereon. Accordingly, the project requires EC from SEAC/SEIAA. As the project is categorized as B2 category project, it does not warrant an EIA study. The Application submission for EC is under process.

137. The initial environmental examination ascertains that the project is unlikely to cause any significant environmental impacts and the classification of the project 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). Project requires consent to establish (CTE) and consent to operate (CTO) from HPSPCB, which will be obtained prior to start of construction and prior to start of operation, respectively.

138. Few impacts were identified attributable to the proposed projects. Proper mitigation measures have been suggested and incorporated in the Environmental Management Plan to avoid / minimize these anticipated impacts.

139. Total estimated cost for implementation of EMP is Rs. 14,90,000/-.

140. The Executing Agency shall ensure that EMP is included in Bill of Quantity (BOQ) and forms part of bid document and civil works contract. The same shall be revised if necessary, during project implementation or if there is any change in the project design and with approval of ADB.

141. The tourists and citizens of Dharamshala town will be the major beneficiaries of the project. The benefits to the tourists and population of the area will be positive and large as the proposed project will provide better infrastructure facilities for tourists and enhance the tourist satisfaction.

142. **Recommendations:** The following are recommendations applicable to the project to ensure no significant impacts:

- i. Obtain all Statutory clearance, NOC/ permission including Environmental Clearance (EC) from the SEIAA, CTE from HPSPCB at the earliest time possible and ensure conditions/ provisions are incorporated in the detailed design.
- ii. Ensure compliance with all conditions mentioned in the EC. The work shall only be commenced after getting the requisite EC and updating of draft IEE report incorporating EC conditions under the project
- iii. Ensure compliance of the conditions of CTE and CTO and other line agencies permissions.
- iv. Include this IEE in bid and contract documents.
- v. Commitment from PMU, PIU, Project Consultants and Contractor to protect the environment and people from any impact during project implementation.
- vi. Update/ revise this IEE based prior to start of construction and/ or there are unanticipated impacts, change in scope, alignment or location.
- vii. Identify tree species and landscaping plants in consultation with forest department.
- viii. Conduct safeguard induction to the contractor upon award of contract.
- ix. Ensure contractor appointed qualified environment, health and safety (EHS) officer prior to start of works.
- x. Timely disclosure of information and establishment of GRM.
- xi. Strictly supervise EMP implementation.
- xii. Conduct consultation with stakeholders throughout the implementation period.

- xiii. Document and report on a regular basis as indicated in the IEE.

# **ANNEXURES**

## Annexure 1: Rapid Environmental Assessment (REA) Checklist

**Project:** Convention Centre, Dharamshala

**Country/ Project Title:** India/ Sustainable and Inclusive Tourism Development Project (SITDP-HP)

**Sector Division:** Urban Division

Screening Questions	Yes	No	Remarks
<b>A. Project Siting</b> Is the project area...			
• Densely populated?	√		The project site is located in densely populated area and its vicinity is the hub of business, education, entertainment and tourist activity.
• Heavy with development activities?		√	Normal development activities observed.
Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site		√	No Cultural heritage site in close proximity.
• Protected Area		√	No protected area within close proximity of the project site.
• Wetland		√	No wetland/ water body is located nearby the project site.
• Mangrove		√	No mangrove is located nearby the project site.
• Estuarine		√	Site is on a flat terrain
• Buffer zone of protected area		√	Not located in buffer zone of any protected area. The nearest protected area is more than 25 km away.
Special area for protecting biodiversity		√	No such area in the close proximity of the project site
• Bay		√	None
<b>B. Potential Environmental Impacts</b> Will the Project cause...			
• impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services.		√	No such impacts are envisaged
• deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activity, and increased waste generation to the point that both manmade and natural	√		Minor impacts cannot be ruled out. However, adequate measures proposed and included in EMP for handling the issues.
• degradation of land ecosystems (e.g., systems are overloaded and loss of wetlands and wild lands, coastal capacities to manage these systems, zones, watersheds and forests)?		√	Not a cultivation land, not a watershed area, not a coastal zone and hence no such impacts (land/ eco-degradation) envisaged.

• dislocation or involuntary resettlement of people?		√	Not required as no private land acquisition involved and all the project activities are restricted within the available government land.
• disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable group?		√	No such impacts are anticipated. No such indigenous people exist in the area.
• degradation of cultural property, and loss of cultural heritage and tourism revenues?		√	On completion of the project the cultural heritage value will enhance by cultural events at the center and thereby influx of tourists will increase and tourism revenue will grow.
• 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 pollutive industries?		√	No such cases noticed and more over the project has no polluting industrial activities.
• water resource problems (e.g. depletion/ degradation of available water supply, deterioration for surface and ground water quality, and pollution of receiving waters?	√		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 IEE.
• Air pollution due to urban emissions?	√		Vehicular emissions envisaged during construction phase from construction vehicles and machinery. During the operation phase tourist arrivals will increase which may increase vehicular emissions.
• risks and vulnerabilities related to occupational health and safety due to physical, chemical and biological hazards during project construction and operation?		√	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.
• Road blocking and temporary flooding due to land excavation during rainy season?	√		Not envisaged as the works are limited to the site and excavation activities will be scheduled avoiding rainy season
• Noise and dust from construction activities?		√	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.
• Traffic disturbances due to construction material transport and wastes?	√		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
• Temporary silt runoff due to construction?		√	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 runoff. Other project components such as landscaping shall also help minimize silt runoff in the long term.

<ul style="list-style-type: none"> <li>• hazards to public health due to ambient, household and occupational pollution, thermal inversion, and smog formation?</li> </ul>		√	Not foreseen due to the nature of works involved
<ul style="list-style-type: none"> <li>• Water depletion and/ or degradation?</li> </ul>		√	No ground water exploitation envisaged. Though, precautions are included in the Environmental monitoring & planning schedule for minor and negligible impacts
<ul style="list-style-type: none"> <li>• overpaying of ground water, leading to Land subsidence, lowered ground water table, and salinization?</li> </ul>		√	Water for construction phase will be managed with line agencies consent. No ground water exploitation envisaged.
<ul style="list-style-type: none"> <li>• contamination of surface and ground Waters due to improper waste disposal?</li> </ul>	√		Contamination of 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 measures have been prescribed in the IEE / EMP.
<ul style="list-style-type: none"> <li>• pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems?</li> </ul>		√	No river in proximity. There is no fishery or marine resource in the vicinity of the site.
<ul style="list-style-type: none"> <li>• Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?</li> </ul>		√	Owing to the magnitude of works, large population influx is not anticipated during the construction phase. Local employment shall be preferred as far as feasible. During the Operation phase tourist footfall shall increase but adequate sanitation arrangements have been included in the design.
<ul style="list-style-type: none"> <li>• Social conflicts if workers from other regions or countries are hired?</li> </ul>		√	Not applicable as most of the labor will be local and considering the magnitude of project labor demand is not very high. Although the project may recruit a limited number of migrant workers, in this case contractor shall provide water supply, source of cooking fuels, accommodation and adequate access to proper hygiene and sanitation condition. Therefore, this project might not cause significant burden to the infrastructure such as the water supply and sanitation during construction phase.
<ul style="list-style-type: none"> <li>• 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?</li> </ul>	√		Fuel, paints and other chemicals normally used in building works will be used during construction phase. In addition to that, gaseous emission-dust generation-increased noise level due to various construction activities and material transportation, accidental spill of material/oil etc. may expose the community to risk. These risks shall be minimized by adopting site specific mitigation measures.
<ul style="list-style-type: none"> <li>• 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?</li> </ul>		√	The project is located in Seismic Zone-V. Due to the natural topography of flat terrain landslides are not 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 PROJECT

Screening Questions		Score	Remarks
<b>Location and Design of project</b>	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	Being in hills, Dharamshala is prone to landslides, though the proposed site is 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)?	0	The proposed project site does not require to consider these parameters
<b>Materials and Maintenance</b>	Will weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity, and hydro- meteorological parameters) affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	No such impact envisaged on Materials due to future climatic conditions.
	Will weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output (s) ?	0	No such impact envisaged
<b>Performance of project outputs</b>	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 like heavy rainfall or snowfall may affect project outputs (e.g. cancellation of events, programs, etc.) and these should be taken care of during project planning

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

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

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

Other Comments: None

## ASBESTOS SCREENING TOOL

Screening Questions	Yes*	Maybe*	No	Remarks *For those with answers of YES and MAYBE, document the potential likelihood of asbestos being encountered.
<ul style="list-style-type: none"> <li>• Does the proposed project involve, or potentially involve, any of the following activities that are commonly associated with asbestos use:</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Construction/ commissioning of a new asset?</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Refurbishment / demolition of an existing asset?</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Post-disaster response, involving reconstruction, repair, or removal of damaged asset?</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Maritime activities?</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Water supply, water sanitation, wastewater, sewerage, or water hygiene initiatives?</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Earthworks, remedial activities, or solid waste management?</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Power, telecommunications, or energy supply infrastructure?</li> </ul>			✓	
<ul style="list-style-type: none"> <li>• Maintenance, demolition, transportation, or disposal of wastes associated with the above activities?</li> </ul>			✓	

## Annexure-2: Ambient Air Quality, and Vehicle Emissions Standards

### Table 1: Ambient Air Quality Standards

Parameter	Location <sup>a</sup>	India Ambient Air Quality Standard ( $\mu\text{g}/\text{m}^3$ ) <sup>b</sup>	WHO Air Quality Guidelines ( $\mu\text{g}/\text{m}^3$ )	
			Global Update <sup>c</sup> 2005	Second Edition 2000
PM <sub>10</sub>	Industrial Residential, Rural and Other Areas	60 (Annual) 100 (24-hr)	20 (Annual) 50 (24-hr)	-
	Sensitive Area	60 (Annual) 100 (24-hr)	20 (Annual) 50 (24-hr)	-
PM <sub>25</sub>	Industrial Residential, Rural and Other Areas	40 (Annual) 60 (24-hr)	10 (Annual) 25 (24-hr)	-
	Sensitive Area	40 (Annual) 60 (24-hr)	10 (Annual) 25 (24-hr)	-
SO <sub>2</sub>	Industrial Residential, Rural and Other Areas	50 (Annual) 80 (24-hr)	20 (24-hr) 500 (10-min)	-
	Sensitive Area	20 (Annual) 80 (24-hr)	20 (24-hr) 500 (10-min)	-
NO <sub>2</sub>	Industrial Residential, Rural and Other Areas	40 (Annual) 80 (24-hr)	40 (Annual) 200 (1-hr)	-
	Sensitive Area	30 (Annual) 80 (24-hr)	40 (Annual) 200 (1-hr)	-
CO	Industrial Residential, Rural and Other Areas	2,000 (8-hr) 4,000 (1-hr)	-	10,000 (8-hr) 100,000 (15-min)
	Sensitive Area	2,000 (8-hr) 4,000 (1-hr)	-	10,000 (8-hr) 100,000 (15-min)
Ozone (O <sub>3</sub> )	Industrial Residential, Rural and Other Areas	100 (8-hr) 180 (1-hr)	100 (8-hr)	
	Sensitive Area	100 (8-hr) 180 (1-hr)	100 (8-hr)	
Lead (Pb)	Industrial, Residential, Rural and Other Areas	0.5 (Annual) 1.0 (24-hr)		0.5 (Annual)
	Sensitive Area	0.5 (Annual) 1.0 (24-hr)		0.5 (Annual)
Ammonia (NH <sub>3</sub> )	Industrial Residential, Rural and Other Areas	100 (Annual) 400 (24-hr)		
	Sensitive Area	100 (Annual) 400 (24-hr)		
Benzene (C <sub>6</sub> H <sub>6</sub> )	Industrial Residential, Rural and Other Areas	5 (Annual)		
	Sensitive Area	5 (Annual)		
Benzo(o)pyrene (BaP) particulate phase only	Industrial Residential, Rural and Other Areas	0.001 (Annual)		
	Sensitive Area	0.001 (Annual)		
Arsenic (As)	Industrial Residential, Rural and Other Areas	0.006 (Annual)		

Parameter	Location <sup>a</sup>	India Ambient Air Quality Standard ( $\mu\text{g}/\text{m}^3$ ) <sup>b</sup>	WHO Air Quality Guidelines ( $\mu\text{g}/\text{m}^3$ )	
			Global Update <sup>c</sup> 2005	Second Edition 2000
Nickel (Ni)	Sensitive Area	0.006 (Annual)		
	Industrial Residential, Rural and Other Areas	0.02 (Annual)		
	Sensitive Area	0.02 (Annual)		

<sup>a</sup> Sensitive area refers to such areas notified by the India Central Government.

<sup>b</sup> Notification by Ministry of Environment and Forests, Government of India Environment (Protection) Seventh Amendment Rules, 2009

<sup>c</sup> WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. Global update 2005. WHO. 2006

<sup>d</sup> Air Quality Guidelines for Europe Second Edition. WHO 2000.

**Table 2: Vehicle Exhaust Emission Norms**

### 1. Passenger Cars

Norms	CO (g/km)	HC+ NOx (g/km)
1991 Norms	14.3-27.1	2.0 (Only HC)
1996 Norms	8.68-12.40	3.00-4.36
1998 Norms	4.34-6.20	1.50-2.18
India stage 2000 norms	2.72	0.97
Bharat stage-II	2.2	0.5
Bharat Stage-III	2.3	0.35 (combined)
Bharat Stage-IV	1.0	0.18 (combined)
Bharat Stage-VI (Petrol)	1.0	0.16 (Combined)

### 2. Heavy Diesel Vehicles

Norms	CO(g/kmhr)	HC (g/kmhr)	NOx (g/kmhr)	PM(g/kmhr)
1991 Norms	14	3.5	18	-
1996 Norms	11.2	2.4	14.4	-
India stage 2000 norms	4.5	1.1	8.0	0.36
Bharat stage-II	4.0	1.1	7.0	0.15
Bharat Stage-III	2.1	1.6	5.0	0.10
Bharat Stage-IV	1.5	0.96	3.5	0.02
Bharat Stage-VI (Diesel)	0.5	0.17 (HC + NOx)		0.0045

**Source:** Central Pollution Control Board

CO = Carbon Monoxide; g/km hr = grams per kilometer-hour; HC= Hydrocarbons; NOx= oxides of nitrogen; PM = Particulates Matter

### Annexure-3: Emission Limits for new DG Sets upto 800 KW

(As per Environment (Protection) (Third Amendments) (Rules 2013))

TABLE				
Power Category	Emission Limits (g/kW-hr)			Smoke Limit (light absorption coefficient, m <sup>-1</sup> )
	NO <sub>x</sub> +HC	CO	PM	
Upto 19 KW	≤ 7.5	≤ 3.5	≤ 0.3	≤ 0.7
More than 19 KW upto 75 KW	≤ 4.7	≤ 3.5	≤ 0.3	≤ 0.7
More than 75 KW upto 800 KW	≤ 4.0	≤ 3.5	≤ 0.2	≤ 0.7

**Note:**

1. The abbreviations used in the Table shall mean as under: NO<sub>x</sub> – Oxides of Nitrogen; HC – Hydrocarbon; CO – Carbon Monoxide; and PM – Particulate Matter.
2. Smoke shall not exceed above value throughout the operating load points of the test cycle.
3. The testing shall be done as per D2 – 5 mode cycle of ISO: 8178- Part 4.
4. The above mentioned emission limits shall be applicable for Type Approval and Conformity of Production (COP) carried out by authorised agencies.
5. Every manufacturer, importer or, assembler (hereinafter referred to as manufacturer) of the diesel engine (hereinafter referred to as 'engine') for genset application manufactured or imported into India or, diesel genset (hereinafter referred to as 'product'), assembled or imported into India shall obtain Type Approval and comply with COP of their product(s) for the emission limits which shall be valid for the next COP year or, the date of implementation of the revised norms specified above, whichever earlier.  
*Explanation.* - The term 'COP year' means the period from 1st April to 31st March.
6. Stack height (in metres), for genset shall be governed as per Central Pollution Control Board (CPCB) guidelines.

### Stack Height requirement of DG Set

#### DIESEL GENERATOR SETS : STACK HEIGHT

The minimum height of stack to be provided with each generator set can be worked out using the following formula :

$$H = h + 0.2 \times \sqrt{\text{KVA}}$$

H = Total height of stack in metre

h = Height of the building in metres where the generator set is installed

KVA = Total generator capacity of the set in KVA

Based on the above formula the minimum stack height to be provided with different range of generator sets may be categorised as follows:

For Generator Sets	Total Height of stack in metre
50 KVA	Ht. of the building + 1.5 metre
50-100 KVA	Ht. of the building + 2.0 metre
100-150 KVA	Ht. of the building + 2.5 metre
150-200 KVA	Ht. of the building + 3.0 metre
200-250 KVA	Ht. of the building + 3.5 metre
250-300 KVA	Ht. of the building + 3.5 metre

Similarly for higher KVA ratings a stack height can be worked out using the above formula.

Source : Evolved By CPCB  
[Emission Regulations Part IV:COINDS/26/1986-87]

#### Annexure-4: Ambient Noise Standards

Receptor/ Source	India National Noise Level Standards <sup>a</sup> (dBA)		WHO Guidelines Value For Noise Levels Measured Out of Doors <sup>b</sup> (One Hour LA <sub>q</sub> in dBA)	
	Day	Night	07:00 – 22:00	22:00 – 07:00
Industrial area	75	70	70	70
Commercial area	65	55	70	70
Residential Area	55	45	55	45
Silent Zone	50	40	55	45

<sup>a</sup> Noise Pollution (Regulation and Control) Rules, 2002 as amended up to 2010.

<sup>b</sup> Guidelines for Community Noise. WHO. 1999

## Annexure-5: Noise Limits for DG Set

*(Noise Limit for Generator Sets run with Diesel were notified by Environment (Protection) second Amendment Rules vide GSR 371(E), dated 17<sup>th</sup> May 2002 at serial no.94 and its amendments vide GSR No 520(E) dated 1<sup>st</sup> July 2003; GSR 448(E), dated 12<sup>th</sup> July 2004; GSR 315(E) dated 16<sup>th</sup> May 2005; GSR 464(E) dated 7<sup>th</sup> August 2006; GSR 566(E) dated 29<sup>th</sup> August 2007 and GSR 752(E) dated 24<sup>th</sup> October 2008; G.S.R. 215 (E), dated 15<sup>th</sup> March, 2011 under the Environment (Protection) Act, 1986)*

### **Noise Limit for Generator Sets run with Diesel**

**1. Noise limit for diesel generator sets (upto 1000 KVA) manufactured on or after the 1<sup>st</sup> January, 2005**

The maximum permissible sound pressure level for new diesel generator (DG) sets with rated capacity upto 1000 KVA, manufactured on or after the 1<sup>st</sup> January, 2005 shall be 75 dB(A) at 1 metre from the enclosure surface.

The diesel generator sets should be provided with integral acoustic enclosure at the manufacturing stage itself.

The implementation of noise limit for these diesel generator sets shall be regulated as given in paragraph 3 below.

**2. Noise limit for DG sets not covered by paragraph 1.**

Noise limits for diesel generator sets not covered by paragraph 1, shall be as follows:-

2.1 Noise from DG set shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the users end.

2.2 The acoustic enclosure or acoustic treatment of the room shall be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on the higher side ( if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/acoustic treatment. Under such circumstances the performance may be checked for noise reduction upto actual ambient noise level, preferably, in the night time). The measurement for Insertion Loss may be done at different points at 0.5 m from the acoustic enclosure/ room, then averaged.

2.4 These limits shall be regulated by the State Pollution Control Boards and the State Pollution Control Committees.

2.5 Guidelines for the manufacturers/ users of Diesel Generator sets shall be as under:-

01. The manufacturer shall offer to the user a standard acoustic enclosure of 25 dB (A) insertion loss and also a suitable exhaust muffler with insertion loss of 25 dB(A).
02. The user shall make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirements by proper citing and control measures.
03. Installation of DG set must be strictly in compliance with the recommendations of the DG set manufacturer.
04. A proper routine and preventive maintenance procedure for the DG set should be set and followed in consultation with the DG set manufacturer which would help prevent noise levels of the DG set from deteriorating with use.

### **3.0 Limits of Noise for DG Sets (upto 1000 KVA) Manufactured on or after the 1<sup>st</sup> January, 2005**

#### **3.1 Applicability**

01. These rules apply to DG sets upto 1000 KVA rated output, manufactured or imported in India, on or after 1<sup>st</sup> January, 2005.
02. These rules shall not apply to –
  - a) DG sets manufactured or imported for the purpose of exports outside India; and
  - b) DG sets intended for the purpose of sample and not for sale in India.

#### **3.2 Requirement of Certification**

Every manufacturer or assembler or importer (hereinafter referred to as the "manufacturer") of DG set (hereinafter referred to as "product") to which these regulations apply must have valid certificates of Type Approval and also valid certificates of Conformity of Production for each year, for all the product models being manufactured or assembled or imported from 1<sup>st</sup> January, 2005 with the noise limit specified in paragraph 1.

#### **3.3 Sale, import or use of DG sets not complying with the rules prohibited**

No person shall sell, import or use of a product model, which is not having a valid Type Approval Certificate and Conformity of Production certificate.

### Annexure- 6: Drinking Water Standards

Group	National Standards for Drinking Water <sup>a</sup>			WHO Guidelines for Drinking-Water Quality, 4 <sup>th</sup> Edition, 2011 <sup>b</sup>
	Parameter	Unit	Max. Concentration Limits <sup>c</sup>	
Physical	Turbidity	NTU	1 (5)	-
	pH		6.5 – 8.5	none
	Color	Hazen units	5 (15)	none
	Taste and Odor		Agreeable	-
	TDS	mg/l	500 (2,000)	-
	Iron	mg/l	0.3	-
	Manganese	mg/l	0.1 (0.3)	-
	Arsenic	mg/l	0.01 (0.05)	0.01
	Cadmium	mg/l	0.003	0.003
	Chromium	mg/l	0.05	0.05
	Cyanide	mg/l	0.05	none
	Fluoride	mg/l	1 (1.5)	1.5
	Lead	mg/l	0.01	0.01
	Ammonia	mg/l	0.5	none established
Chemical	Chloride	mg/l	250 (1,000)	none established
	Sulphate	mg/l	200 (400)	none
	Nitrate	mg/l	45	50
	Copper	mg/l	0.05 (1.5)	2
	Total Hardness	mg/l	200 (600)	-
	Calcium	mg/l	75 (200)	-
	Zinc	mg/l	5 (15)	none established
	Mercury	mg/l	0.001	0.006
	Aluminum	mg/l	0.1 (0.3)	none established
	Residual Chlorine	mg/l	0.2	5
Micro Germs	E-coli	MPN/100ml	Must not be detectable in any 100 ml sample	Must not be detectable in any 100 ml sample
	Total Coliform	MPN/100ml		

<sup>a</sup> Bureau of India Standard 10500: 2012.

<sup>b</sup> Health-based guideline values.

<sup>c</sup> Figures in parenthesis are maximum limits allowed in the absence of alternate source.

## Annexure -7: STP Treated Water Discharging Standards

### Treated Effluents Discharge Standards

Parameters	Standards
pH	5.5-9.0
BOD, mg/l	10
TSS, mg/l	20
COD, mg/l	50
Nitrogen-Total, mg/l	10
Phosphorus- Total, mg/l	1
Faecal Coliform (MPN/ 100ml)	100

Source: National Green Tribunal's Order dated 30<sup>th</sup> April 2019

## Annexure -8: Sample Environmental Site Inspection Report

Project Name \_\_\_\_\_  
 Contract Number \_\_\_\_\_

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TITLE: \_\_\_\_\_ DMA: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_ GROUP: \_\_\_\_\_

WEATHER: \_\_\_\_\_

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

Monitoring Items	Compliance
<b>Compliance marked as Yes / No / Not applicable (NA) / Partially Implemented (PI)</b>	
EHS supervisor appointed by contractor and available on site	
Construction site management plan (spoils, safety, schedule, equipment etc.,) prepared	
Traffic management plan prepared	
Dust is under control	
Excavated soil properly placed within minimum space	
Construction area is confined; no traffic/pedestrian entry observed	
Surplus soil/debris/waste is disposed without delay	
Construction material (sand/gravel/aggregate) brought to site as & when required only	
Tarpaulins used to cover sand & other loose material when transported by vehicles	
After unloading, wheels & undercarriage of vehicles cleaned prior to leaving the site	
No chance finds encountered during excavation	
Work is planned in consultation with traffic police	
Work is not being conducted during heavy traffic	
Work at a stretch is completed within a day (excavation, pipe laying & backfilling)	
Pipe trenches are not kept open unduly	
Road is not completely closed; work is conducted on edge; at least one line is kept open	
Road is closed; alternative route provided & public informed, information board provided	
Pedestrian access to houses is not blocked due to pipe laying	
Spaces left in between trenches for access	
Wooden planks/metal sheets provided across trench for pedestrian	
No public/unauthorized entry observed in work site	
Children safety measures (barricades, security) in place at works in residential areas	
Prior public information provided about the work, schedule and disturbances	
Caution/warning board provided on site	
Guards with red flag provided during work at busy roads	
Workers using appropriate PPE (boots, gloves, helmets, ear muffs etc)	
Workers conducting or near heavy noise work is provided with ear muffs	

Contractor is following standard & safe construction practices	
Deep excavation is conducted with land slip/protection measures	
First aid facilities are available on site and workers informed	
Drinking water provided at the site	
<b>Monitoring Items</b>	<b>Compliance</b>
Toilet facility provided at the site	
Separate toilet facility is provided for women workers	
Workers camps are maintained cleanly	
Adequate toilet & bath facilities provided	
Contractor employed local workers as far as possible	
Worker's camp set up with the permission of PIU	
Adequate housing provided	
Sufficient water provided for drinking/washing/bath	
No noisy work is conducted in the nights	
Local people informed of noisy work	
No blasting activity conducted	
Pneumatic drills or other equipment creating vibration is not used near old/risky buildings	

Signature

\_\_\_\_\_

**Sign off**

\_\_\_\_\_  
**Name**  
**Position**

\_\_\_\_\_  
**Name**  
**Position**

## Annexure-9: Semi Annual Environmental Monitoring Report Format

### I. INTRODUCTION

- Overall project description and objectives
- Environmental category as per ADB Safeguard Policy Statement, 2009
- Environmental category of each project as per national laws and regulations
- Project Safeguards Team

Name	Designation/Office	Email Address	Contact Number
1. PMU			
2. PIUs			
3. Consultants			

- Overall project and project progress and status
- Description of projects (package-wise) and status of implementation (preliminary, detailed design, on-going construction, completed, and/or O&M stage)

Package Number	Components/ List of Works	Status of Implementation (Preliminary Design/ Detailed Design/ On-going Construction/ Completed/ O&M) <sup>a</sup>	Contract Status (specify if under bidding or contract awarded)	If On-going Construction	
				%Physical Progress	Expected Completion Date

<sup>a</sup> If on-going construction, include %physical progress and expected date of completion.

### II. COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS<sup>a</sup>

Package No.	Project Name	Statutory Environmental Requirements <sup>b</sup>	Status of Compliance <sup>c</sup>	Validity if obtained	Action Required	Specific Conditions that will require

						<b>environmental monitoring as per Environment Clearance, Consent/Permit to Establish<sup>d</sup></b>

<sup>a</sup> All statutory clearance/s, no-objection certificates, permit/s, etc. should be obtained prior to award of contract/s. Attach as appendix all clearance obtained during the reporting period. If already reported, specify in the “remarks” column.

<sup>b</sup> Specify (environmental clearance? Permit/consent to establish? Forest clearance? Etc.)

<sup>c</sup> Specify if obtained, submitted and awaiting approval, application not yet submitted.

<sup>d</sup> Example: Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 3 trees for every tree, etc.

### III. COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

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

### IV. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT PLAN (REFER TO EMP TABLES IN APPROVED IEE/S)

- Confirm if IEE/s require contractors to submit site-specific EMP/construction EMPs. If not, describe the methodology of monitoring each package under implementation.

#### Package-wise Implementation Status

Package Number	Components	Design Status (Preliminary Design Stage/Detailed Design Completed)	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
			Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor/s (Yes/No)		

- Identify the role/s of Safeguards Team including schedule of on-site verification of reports submitted by consultants and contractors.

- For each package, provide name/s and contact details of contractor/s' nodal person/s for environmental safeguards.
- Include as appendix all supporting documents including signed monthly environmental site inspection reports prepared by consultants and/or contractors.
- With reference to approved EMP/site-specific EMP/construction EMP, complete the table below
- Provide the monitoring results as per the parameters outlined in the approved EMP (or site-specific EMP/construction EMP when applicable).
- In addition to the table on EMP implementation, the main text of the report should discuss in details the following items:

(i) **Grievance Redress Mechanism.** Provide information on establishment of grievance redress mechanism and capacity of grievance redress committee to address project-related issues/complaints. Include as appendix Notification of the GRM (town-wise if applicable).

(ii) **Complaints Received during the Reporting Period.** Provide information on number, nature, and resolution of complaints received during reporting period. Attach records as per GRM in the approved IEE. Identify safeguards team member/s involved in the GRM process. Attach minutes of meetings (ensure English translation is provided).

- Confirm if any dust was noted to escape the site boundaries and identify dust suppression techniques followed for site/s.
- Identify muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads.
- Identify type of erosion and sediment control measures installed on site/s, condition of erosion and sediment control measures including if these were intact following heavy rain;
- Identify designated areas for concrete works, chemical storage, construction materials, and refueling. Attach photographs of each area.
- Confirm spill kits on site and site procedure for handling emergencies.
- Identify any chemical stored on site and provide information on storage condition. Attach photograph.
- Describe management of stockpiles (construction materials, excavated soils, spoils, etc.). Provide photographs.
- Describe management of solid and liquid wastes on-site (quantity generated, transport, storage and disposal). Provide photographs.
- Provide information on barricades, signages, and on-site boards. Provide photographs.
- Provide information on
- Checking if there are any activities being under taken out of working hours and how that is being managed.

**Summary of Environmental Monitoring Activities (for the Reporting Period)<sup>a</sup>**

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

<sup>a</sup> Attach Laboratory Results and Sampling Map/Locations

**Overall Compliance with CEMP/EMP**

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

**V. APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT**

- Brief description on the approach and methodology used for environmental monitoring of each project

**VI. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS (ambient air, water quality and noise levels)**

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

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

**Ambient Air Quality Results**

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)			
			PM10 $\mu\text{g}/\text{m}^3$	PM2.5 $\mu\text{g}/\text{m}^3$	SO2 $\mu\text{g}/\text{m}^3$	NO2 $\mu\text{g}/\text{m}^3$

**Noise Quality Results**

Site No.	Date of Testing	Site Location	LA <sub>eq</sub> (dBA) (Monitoring Results)	
			Day Time	Night Time

**Surface Water Quality Results**

S.No.	Parameters	Results		
		Location-1 (Name)	Location-2 (Name)	Location-3 (Name)
1.	pH			
2.	Turbidity			
3.	Total Hardness			
4.	DO			
5.	BOD			
6.	COD			
7.	Chloride			
8.	Iron			
9.	TSS			

10.	Arsenic			
11.	Cadmium			
12.	Fluoride			
13.	Potassium			
14.	Sodium			
15.	Calcium			
16.	Zn			
17.	Cr <sup>+6</sup>			
18.	Magnesium			
19.	Copper			
20.	Manganese			
21.	Sulphate			
22.	Cyanide			
23.	Nitrate			
24.	Lead			
25.	Boron			
26.	Selenium			
27.	Aluminium			
28.	Total residual Chlorine			

### Ground Water Quality Results

S.No.	Parameters	Results		
		Location-1 (Name)	Location-2 (Name)	Location-3 (Name)
1.	pH			
2.	Total Alkalinity			
3.	Total Hardness			
4.	Chloride			
5.	Iron			
6.	TDS			
7.	Arsenic			
8.	Fluoride			
9.	Zn			
10.	Cr+6			
11.	Copper			
12.	Manganese			
13.	Sulphate			
14.	Phosphate			
15.	Nitrate			
16.	Lead			
17.	Phenolic Compound			

### VIII. SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

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

### APPENDIXES

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

## **Annexure-10: Applicable Laws for Establishments engaged in Construction of Civil Works**

Contractor is required to comply all the provisions stipulated in various Laws, Acts, Rules/Regulations and guidelines applicable with construction sectors. Contractual requirements to follow these Laws, Acts, Rules/ Regulations and guidelines. Contract shall be governed by the law of Union of India and State of Himachal Pradesh. In case of conflict, the Laws of Union of India will prevail. Contractor should "Be familiar with governing Laws and regulations in order to undertake studies and construction activities under the Contract. Major laws applicable to contractor are given below-

**(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 up to 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) Trade Unions Act, 1926** - The Act lays down the procedure for registration of trade unions of workmen and employees. The trade unions registered under the Act have been given certain immunities from civil and criminal liabilities.

**(xiii) Child Labor (Prohibition and Regulation) Act, 1986** - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of child labor is prohibited in Building and Construction Industry.

**(xiv) Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979** - The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The inter-state migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.

## Annexure-11: 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 spoilmanagement hierarchy
- Mange onsite spoil handling to minimize environmental impacts on resident and otherreceivers
- 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 client 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/PMDSO for their review and approval.

## **Annexure- 12: Sample Traffic Management Plan**

### **A. Principles**

1. Since the scale of construction work at the project site is relatively small, there will not be any major or prolonged disruption of local traffic. Nevertheless, it is good to prepare a traffic management plan (TMP) to minimize and avoid public inconvenience to the extent feasible. This indicative TMP will ensure the safety of all the road users along the work zone and minimize public inconvenience. It addresses 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) Avoiding traffic congestion and
- (iv) Maintenance of access to adjoining properties.

### **B. Operating Policies for TMP**

2. The following principles will help to 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) Keep the public well informed.
- (vii) Make appropriate accommodation for abutting property owners, residents, businesses, emergency services, railroads, commercial vehicles, and transit operations.

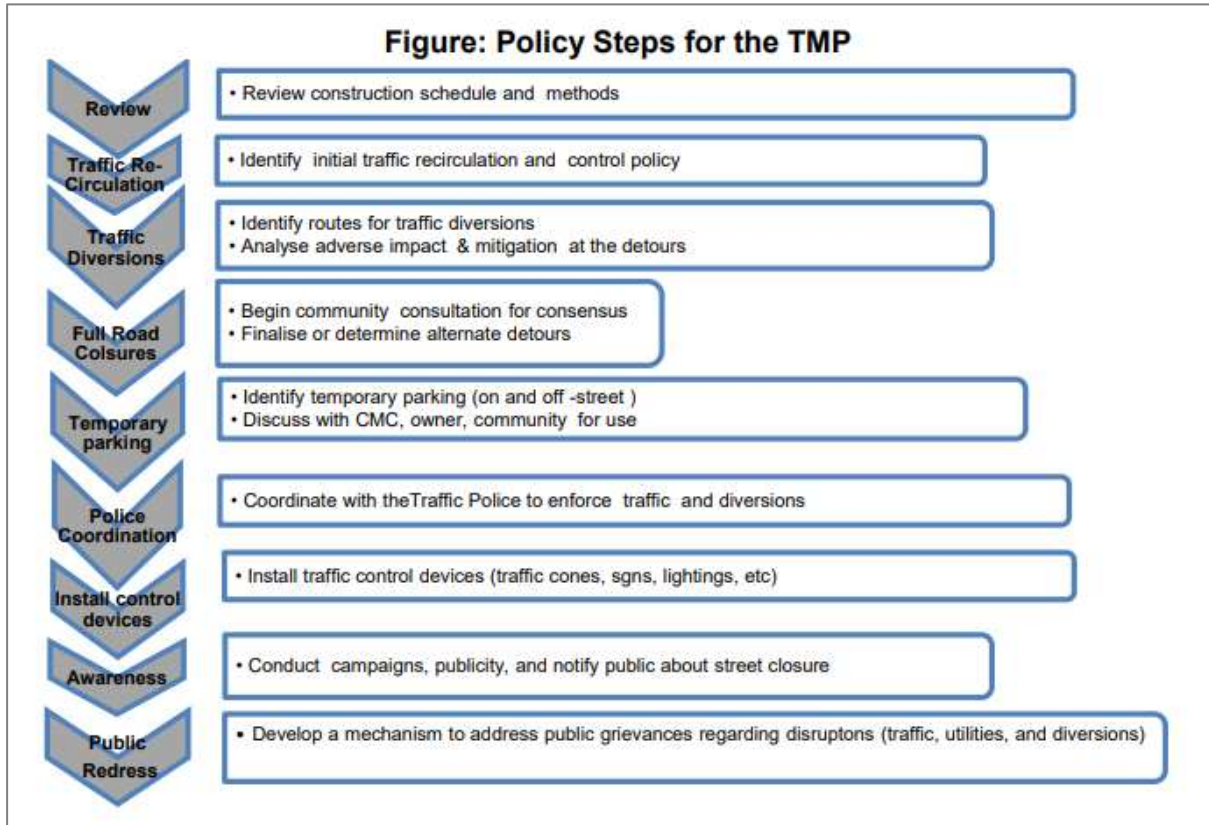
### **C. Analyze the impact due to street closure, if required**

3. A final decision to close a particular street and divert the traffic should involve the following steps:

- (i) approval from the PIU and local administration to use alternative local streets as detours;
- (ii) (ii) consultation with businesses, community members, traffic police, MC, 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;

- (i) contacting emergency service, school officials, and transit authorities to determine if there is any effect on their operations; and
- (ii) Developing a notification program to keep the public informed. 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.

4. If full road-closure of certain streets within the area is not feasible due to inadequate capacity of the detour streets or public opposition, then full closure can be restricted to weekends with the construction commencing on Saturday night and ending on Monday morning prior to the morning rush hour traffic.



#### **D. Public awareness and notifications**

5. The contractor will issue timely notifications to inform the public about the following issues:

- (i) Road blockages and alternative routes along with the duration (as applicable)
- (ii) Traffic control devices placed around the construction zones (signs, traffic cones, barriers, etc.);
- (iii) Reduced speed limits to be enforced at the work zones and traffic diversions.

6. It may be necessary to conduct an awareness campaign on road safety during construction. It will target relevant 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 contractors' 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**

7. 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 comply with roadworthy and meet certification standards of GoHP. All vehicles should be in good condition and meet the pollution standards of Government of India and GoHP. The drivers will follow the special code of conduct and road safety rules of GoHP. They will ensure that all loads are covered and secured. Vehicles will be cleaned and maintained in designed places.

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

8. 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 key for achieving the above objective, it is important to install good traffic signs at the work zones. The following traffic control devices will be used in work zones:

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

9. 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. 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 II and —GO II).

10. 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 30cm 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.

11. 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 or

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.

12. 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. There should be provision for lighting beacons and illumination for night constructions. 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.

### Annexure- 13: Grievance Registration Format

(to be translated and made available in local language/s)

The \_\_\_\_\_Project welcomes complaints, suggestions, queries and comments regarding project implementation.

Aggravated persons may provide grievance with their name and contact information to enable us to get in touch for clarification and feedback.

In case, someone chooses not to include personal details and wants that the information provided to remain confidential, please indicate by writing/typing **\*(CONFIDENTIAL)\*** above Grievance Format.

Thank you.

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

#### FOR OFFICIAL USE ONLY

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

Annexure-14: Standard Operating Procedure – Health & Safety Plan to Stop the Spread of COVID-19

**SUSTAINABLE AND INCLUSIVE TOURISM DEVELOPMENT PROJECT  
IN HIMACHAL PRADESH**

**HEALTH AND SAFETY PLAN(H&SP)–TAKING MAXIMUM PRECAUTIONS DURING COVID-19**

**SOP-Health and Safety Plan**

Stop the **SPREAD** of COVID-19



BY  
SUSTAINABLE AND INCLUSIVE TOURISM  
DEVELOPMENT PROJECT  
IN HIMACHAL PRADESH



**SUSTAINABLE AND INCLUSIVE TOURISM DEVELOPMENT PROJECT**  
**IN HIMACHAL PRADESH**  
**HEALTH AND SAFETY PLAN(H&SP)–TAKING MAXIMUM PRECAUTIONS DURING COVID–19**

**1. INTRODUCTION**

- This document is intended to supplement formal Health and Safety (H&S) policies, procedures and plans that the contractor has in place for its employees and staff working on Infrastructure Development Investment Program for Tourism in Himachal Pradesh (IDIPT-HP) projects. Hence, this document is not intended to replace any formalized procedures currently in place for the Contractor. Where this guideline does not meet or exceed the standards put forth by the Contractor, the Contractor shall abide by the most stringent procedure available.
- This approved project specific Health and Safety Plan (H&SP) shall be modified to have a COVID-19 Officer<sup>1</sup> at the Contractor's worksite (appointed by Contractor and agreed by PIU) submit a written daily report to the Client's Representative (Project Manager, PIU). The COVID-19 Officer shall certify that the Contractor and all subcontractors are in full compliance with these guidelines.
- The COVID-19 officer should be present on site at all times.
- Any issue of non-compliance with these guidelines shall be a basis for the suspension of work. The Contractor will be required to submit a corrective action plan (on the next day or immediately as per the nature of issue) detailing each issue of non-conformance and a plan to rectify the issue(s). The Contractor will not be allowed to resume work until the plan is approved by the Client (PMU). Any additional issues of non-conformance may be subject to action against the Contractor's as health & safety/safeguard clauses of the contract.
- Construction sites operating during the Covid-19 pandemic need to ensure they are protecting their WORKFORCE and minimising the risk of spread of infection.
- This guidance is intended to introduce consistent measures on sites of all scale in conformity with the Government's recommendations on social distancing.
- These are exceptional circumstances and the industry must remain abreast of and comply with the latest Government advice on COVID-19 at all times.

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<sup>1</sup> The existing safeguard officer or health & safety officer or Supervisor of the contractor can be designated as COVID-19 Officer by undergoing the training available at :-

- (a) <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/training/online-training>
- (b) <https://openwho.org/courses/eprotect-acute-respiratory-infections>
- (c) <https://openwho.org/courses/COVID-19-IPC-EN>

- The health and safety requirements of any construction activity must also not be compromised at this time. If an activity cannot be undertaken safely due to a lack of suitably qualified personnel being available or social distancing being implemented, it should not take place. However, prior approval of PIU/PMU shall be mandatory in such a case.
- It is to be noted that emergency services are also under great pressure and may not be in a position to respond as quickly as usual.
- Sites should remind the workforce at every opportunity about the Worksite

**SUSTAINABLE AND INCLUSIVE TOURISM DEVELOPMENT PROJECT  
IN HIMACHAL PRADESH**

**HEALTH AND SAFETY PLAN(H&SP)–TAKING MAXIMUM PRECAUTIONS DURING COVID–19**

Procedures which are aimed at protecting them, their colleagues, their families and the Himachal population.

**If a worksite is not consistently implementing the measures in this document, it may be required to shut down.**

**2. PRINCIPLES OF WORKER PROTECTION**

- Consistently practice social distancing
- Cover coughs and sneezes
- Maintain hand hygiene
- Clean surfaces (e.g. desks, tables and door handles) and objects (e.g. telephone, keyboards, mobiles) with disinfectant frequently

**3. MAXIMUM PRECAUTION FOR PERSONS/LABOURERS REPORTING TO WORK**

- IF SICK, STAY HOME!
- IF SICK, GO HOME!
- IF SOMEONE SICK, SEND THEM HOME!

Contractor to provide face masks (three layered medical mask for use to protect persons from COVID-19) to all persons working in or visiting the worksite. This along with procedures set out in this document is for maximum precaution to protect all persons/labourers at all times.

**4. COVID-19 TYPICAL SYMPTOMS**

- Fever
- Cough
- Shortness of Breath
- Sore Throat

**All persons at the worksite should have their temperature screened by COVID-19 officer with Infrared Thermometer (handheld non-contact)**

**5. SELF-ATTESTATION BY PERSONS/LABOUR PRIOR TO WORK**

Prior to starting a work (on daily basis), each labour /worker will self-attest to the supervisor:

- No signs of COVID-19 symptoms within the past 24 hours.
- No contact with an individual diagnosed with COVID-19. (contact means living with a positive person, being within 6 ft. of positive person OR sharing things with positive person)
- Not undergone quarantine or isolation (in case of any labourer /worker who has been quarantined or isolated previously, the engagement shall be only after quarantine period has been completed)

The engagement of workers falling in the high-risk category such as workers over the age of 55 years, with underlying medical conditions or health issues, etc. should be done only after obtaining the requisite clearance from trained and registered medical practitioners.

The self-attestation would be verified in collaboration with trained and registered medical

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practitioners available at site and through discussions with laborers /workers and/or preliminary checks such as temperature checks, etc. prior to their engagement at site.

In addition, the Contractor shall mandatorily follow all medical test requirements for the workers prior to their engagement and/or mobilization at site as per the guidelines issued by the Central and State government agencies and WHO from time to time.

**Persons/Labourers showing COVID-19 symptoms or not providing self attestation shall be directed to leave the work site and report to the nearest Dedicated Covid Care Centres (DCCC), Dedicated Covid Health Centre (DCHC) and Dedicated Covid Hospital (DCH) as notified vide Office Order NO. HFW-H(COVID-19)DCCC,DCHC&DCH dated 04 May 2020 of Health& Family Welfare Deptt,Govt. of Himachal Pradesh /quarantine centre immediately. Labour not to return to the work site until cleared by the DCCC/DCHC/DCH /quarantine centre.**

**6. GENERAL DIRECTIONS**

- No handshake, Only Namaste
- Non-essential physical work that requires close contact between workers should not be carried out
- Work requiring physical contact should not be carried out
- Plan all other work so as to minimise contact between workers
- Wash hands often (every 1-2 hrs or frequently as possible) with soap for at least 20 seconds
- Use hand sanitizer
- No person should enter the work site other than the authorized persons mentioned by supervisor during working hours.
- All must implement social distancing by maintaining a minimum distance of 6-feet from others<sup>2</sup> at all times to eliminate the potential of cross contamination.
- Avoid face to face meetings – critical situations requiring in-person discussion must follow social distancing i.e., 6 ft from others.
- Conduct all meetings via conference calls, if possible. Do not convene meetings of more than 10 people. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
- All individual work group meetings/ talks should follow social distancing
- At each job briefing /toolbox talk, employees are asked if they are experiencing any symptoms, and are sent home if they are
- Each worksite should have laminated COVID-19 safety guidelines and handwashing instructions
- All restroom /toilet facilities should be cleaned (minimum twice a day), and handwashing facility must be provided with soap, hand sanitizer and paper towels
- All surfaces should be regularly cleaned, including mobiles, tabletops /surfaces, door handles, laptops, records, etc.
- All common areas and meeting areas are to be regularly cleaned (minimum twice a day) and disinfected at least twice a day
- All persons to maintain their own water bottle, and should not be shared.
- To avoid external contamination, it is recommended everyone brings food from home

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- Please maintain Social Distancing during breaks and lunch.
- Cover coughing or sneezing with a tissue, then throw the tissue in the trash and wash hands. If no tissue is available then cough/sneeze into your upper sleeves or flex elbow. Do not cough or sneeze into your hands.

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<sup>2</sup> Social distancing may not be practical for undertaking certain specific activities within the workplace. It is, therefore, important to review the work method statements for these types of activities to assess impact and how to find safe ways of doing it in line with best available guidance.

- Clean your hands after coughing or sneezing thoroughly by using soap and water (minimum for 20 seconds). If soap and water are not available, please use a hand sanitizer. The Contractor shall ensure adequate quantities of sanitizer and soap are made available at all locations including site offices, meeting rooms, corridors, washrooms /toilets, etc. as appropriate.
- Avoid touching eyes, nose, and mouth with your hands
- To avoid sharing germs, please clean up after yourself. Do not make others responsible for moving, unpacking and packing up your personal belongings
- If you or a family member is feeling ill, stay home!<sup>3</sup>
- Work schedules are adjusted to provide time for proper cleaning and disinfecting as required.
- Most importantly, the employees/ workers may be advised not to spread/believe in rumours or create panic. They may also be advised not to spit in working areas or public places.

<sup>3</sup> The workers with no sick-leave would be supported with additional leave while affected by COVID-19 by the Contractor. The workers who have to stay home because of COVID-19 affected family member(s), the Contractor shall pay for the days for staying away from the work.

## **7. PREVENTION PRACTICES**

### **(a) At Work-site**

- At the start of each shift, confirm with all employees that they are healthy and fit to resume their work.
- Outside person(s) should be strictly prohibited at worksite
- All construction workers will be required to wear cut-resistant gloves or its equivalent.
- Use of eye protection (reusable safety goggles/face shields) is recommended. The supply of eye protection equipment to the workers is considered as a standard part of PPE during construction works.
- In work conditions where **social distancing is impossible** to achieve, the employees shall be supplied with standard face mask, gloves, and eye protection.
- All employees shall drive to work site in a single occupant vehicle. Staff shall not ride together in the same vehicle
- When entering a machine or vehicle which you are not sure you were the last person to enter, make sure that you wipe down the interior and door handles with disinfectant

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(with 1% sodium hypochlorite solution daily) prior to entry. Adequate quantity of the disinfectant shall be provided by the Contractor at all such site-specific locations.

- Workers should maintain separation of 6' ft. from each other.
- Multi person activities will be limited where feasible (two persons lifting activities)
- Gathering places on the site such as sheds and/or break areas will be eliminated, and instead small break areas will be used with seating limited to ensure social distancing.
- Contact the cleaning person of the worksite and ensure proper COVID-19 sanitation processes. Increase cleaning/disinfection visits to at least 2 times a day. Cleaning person(s) to be provided with gloves, gown and face mask for each cycle of cleaning. The Contractor shall make available adequate supply of cleaning material and disinfectant chemicals while the threat of COVID-19 continues.
- Clean all high contact surfaces a minimum of twice a day in order to minimize the spread of germs in areas that people touch frequently. This includes but is not limited to furniture, electrical, electronic equipment's and vehicles, etc. All the employees be encouraged to maintain good health by getting adequate sleep; eating a balanced and healthy diet, avoiding alcohol and by consuming plenty of fluids.
- Continuation of works in construction project with workers available on.
- The site offices shall have adequate ventilation. The air conditioning or ventilation systems installed at the site offices should have high-efficiency air filters to reduce the risk of infection. The frequency of air changes may be increased for areas where close personal proximity cannot be fully prevented such as control rooms, elevators, waiting rooms, etc.
- The Contractor shall carry out contactless temperature checks of the workers prior to entering the site, during working hours and after site  
Works to identify persons showing signs of being unwell with the COVID-19 symptoms.
- The Contractor shall also ensure that the Project sites situated in the border areas of Himachal Pradesh, the employees and workers do not commute from the neighboring States without requisite permission from relevant authorities.

**(b) Washing Facility**

- All worksites should have access to toilet and hand washing facility.
- Providing hand cleaning facilities at entrances and exits. There should be soap and water wherever possible or hand sanitizer if water is not available.
- Washing facility with hot water, and soap at other water sources to be used for frequent hand washing for all onsite employees
- All onsite workers must help to maintain and keep their working sites clean.
- If a worker notices soap or towels are running low or out, he/she should immediately notify supervisor(s). Proactively supervisor should make sure that shortage situation never occurs.
- Garbage bins will be placed next to the hand wash facility for discarding used tissues/towels with regular removal and disposal facility (at the end of each day)

**(c) Cleaning Procedures**

Increase cleaning/disinfection at least two times a day. Persons engaged in cleaning be provided with gloves, gown and face mask for each cycle of cleaning.

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Each worksite including sheds, gates, equipment, vehicles, etc. should have enhanced cleaning and disinfection procedures that are posted and shared. These shall be posted at all entry points to the sites, and throughout the project site. These include common areas and high touch points like

- Taps and washing facilities
- Toilet flush and seats
- Door handles and push plates
- Handrails on staircases and corridors
- Lift and hoist controls
- Machinery and equipment controls
- Food preparation and eating surfaces
- Telephone equipment / mobiles
- Electrical and electronic equipment's
- Keyboards, photocopiers and other office equipment

Re-usable PPE should be thoroughly cleaned after use and not shared amongst the workers.

**8. LABOUR CAMPS**

Contractor shall follow a zero-tolerance policy on wearing of masks. Masks to be provided to all the persons/labourers for use at the camp site as well as at the worksite. Increase cleaning/disinfection visits to at least 2 times a day. Persons engaged in cleaning to be provided with disposable gloves, gown and face mask for each cycle of cleaning.

**8.1 Toilet Facility**

- Restrict the number of people using toilet facility at any one time e.g. appoint one welfare attendant among the labourers.
- Wash hands before and after using the common facilities
- Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush
- Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently
- Provide suitable and sufficient trash bins for hand towels with regular removal and disposal.

**8.2 Eating/Snacks Arrangements**

- With eateries having been closed (restricted) across Himachal, providing permanent (till society is safe from COVID-19) on-camp/off-camp cook/helpers can be implemented. Make sure that the "Guidelines for food handling, preparation and distribution during COVID-19" and its regular updates are being followed.
- Whilst there is a requirement for construction camps to provide a means of heating food and making hot water, these are exceptional circumstances and where it is not possible to introduce a means of keeping equipment clean between use, etc. must be removed from use.
- Dedicated eating areas should be identified at campsites to reduce food waste and contamination.
- Break times should be staggered to reduce contact, congestion at all times.

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- Hand cleaning facilities or hand sanitizer should be available at the entrance of the room where people eat and it should be used by workers when entering and leaving the area.
- Workers should sit 2 metres apart from each other whilst eating and should avoid all contact
- Where catering is provided at camp site, it should provide pre-prepared and wrapped food only
  - Payments should be taken by contactless options wherever possible
  - Crockery, eating utensils, cups, etc. should be avoided wherever possible
- Taps for drinking water should be provided with such mechanism that contact of hand is minimised (taps with long handle).
- Eating tables should be cleaned between each use.
- All rubbish should be put straight in the bin and not left for someone else to clear up; only covered pedal operated bins should be used and the bins should be cleaned regularly, with strict adherence to safety protocols for disposal and of maintenance hygiene (including proper PPE's such as gloves, mask and apron worn by the waste handler/cleaner and disposal at a designated place);
- All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, etc.

**8.3 Changing Facilities, Showers and Drying Areas**

- Introduce staggered start and finish times to reduce contact, congestion at all times.
- Introduce enhanced cleaning of all facilities throughout the day and at the end of each day.
- Consider increasing the number or size of facilities available on camp if possible
- Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of two metres.
- Provide suitable and sufficient garbage bins in these areas with regular removal and disposal.
- Visitor log book with record of thermal screening should be strictly maintained at the labour camps.

**COVID-19 officer will ensure compliance of preventive measures at the labour camps at all times.**

**9. UPDATES ON COVID-19**

The Contractor shall be in touch with the Department of Health & Family Welfare and Labour Department to identify any potential worksite exposures relating to COVID-19, including:

- Strictly follow the guidelines issued by Ministry of health, Govt. of India.
- Workers, vendors, inspectors, or visitors to the worksite with close contact to the individual.
- Labour Camps / Work areas such as designated workstations or rooms /sheds
- Work tools and equipment
- Common areas such as break rooms, tables and sanitary facilities

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Also refer the following websites from time to time for regular updates.

<https://www.mohfw.gov.in/> <https://covidportal.hp.gov.in>

**This document can be updated from time to time based on the advisories or directions of the Govt.**

**10. TRAINING**

- The representative of PMU/PIU to ensure all workers get training on above requirements before start of any construction activity
- During construction period frequent visual and verbal reminders to workers can improve compliance with hand hygiene practices and thus reduce rates of infection. Hand washing posters should also be displayed at work site and labour camps.

**11. EMERGENCY CONTACT**

- Provide emergency contact number(s) at work site and labour camp for reporting COVID-19 symptoms

**In case of any COVID-19 related emergency, please contact at the following helpline numbers :**

- (i) Toll Free Helpline (COVID-19)-104
- (ii) State Control Room (COVID-19)-1070
- (iii) District Control Room (COVID-19)-1077 (Every district)

**Ensure all staff uses the Aarogya Setu app (can be downloaded from Play Store), recommended by Govt. of India for tracking COVID-19 patients.**

"Relaxation is only given by Govt.  
Corona hasn't given relaxation"

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**COVID-19 Self-Declaration**

Please answer the following questions:

<b>Description</b>	<b>Yes</b>	<b>No</b>
Have you or has anyone you come into close contact with currently or in the last 14 days felt unwell, experienced any cold or flu-like symptoms such as a high temperature (at least 38 degrees C, 100 F), fever, coughing, sneezing, runny nose, sore throat, or had difficulty breathing?		
Have you been or has anyone you come into close contact with confirmed as having COVID-19 (Coronavirus)?		
Have you recently returned from overseas travel (28-45 days)		
Are you a healthcare worker and examined a COVID-19 confirmed case without protective gear		
Have you been in close contact with a person who has recently returned from overseas travel?		
Do you have a respiratory or a heart condition, high blood pressure, kidney problems or diabetes?		
I am and will continue to observe all of the requirements of the lockdown as outlined by the Government		

I, ( \_\_\_\_\_ ) from ( \_\_\_\_\_ ) declare that I have answered the above questions truthfully and to the best of my knowledge and I will inform the authorities immediately of any changes to the above statements.

Signed:

Date:

Countersigned by :

Contractor's  
Representative

DSC / PIU Representative

### Annexure-15: Photo Illustration


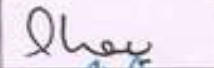


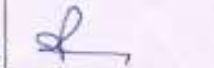


## Annexure-16: Consultation Records

### Stakeholder Consultation

Date of Consultation: 18/01/2022.

Place: DC office, Dharamshala.

Sr. No.	Name of Designation	Contact No.	Signature
1	Dr. Nipun Jindal, DC Kangra		
2	Dr. ANI T GULBERTA, SDM P.P.		
3	Vinay Dhiman, Commissioner, MC, Palampur		
4	Dr. Nitin Puri, DFO Palampur		
5	Atic Dhawan, HSTT Planning Office	9816086700	
6	Pradeep Kumar IAS, DC Kangra	9873473287	
7	Purushottam Chandel, Sr. Asstt. Dy. Director Technical Services	94146-87351	
8	Vinay Sharma, DPR O	94182-57307	
9	Shilpa Beakta, HPAS, SDM Dharamshala	94180 70223	
10	Shashi Pat Negi, SDM N/Bogwan	94188 14386	



STAKE HOLDER COMMITTEE MEETINGS PHOTOGRAPHS Dated 18.01.2022



## Annexure-17: IBAT Report



### Integrated Biodiversity Assessment Tool PROXIMITY REPORT CONVENTION CENTRE DHARAMSHALA;

**Country:** India

**Location:** [32.2, 76.4]

**Date of analysis:** 18 April 2024 (GMT)

**Buffers applied:** 1 km | 10 km | 50 km

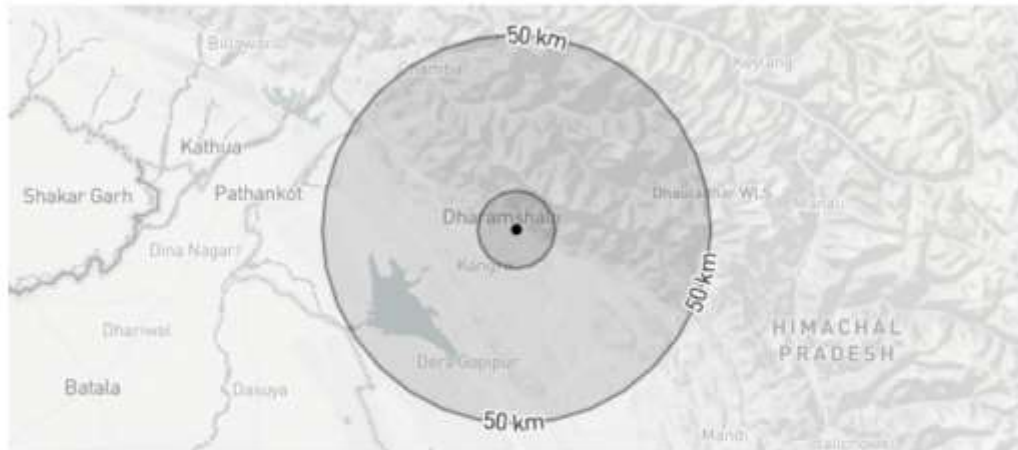
**IUCN Red List Biomes:** Terrestrial

**Generated by:** Anjali Semwal

**Organisation:** ADB

#### Overlaps with:

Protected Areas	1
Key Biodiversity Areas	7
IUCN Red List	42



Displaying project location and buffers: 1 km, 10 km, 50 km



## About this report

This report presents the results of [27783-62563] proximity analysis to identify the biodiversity features and species which are located within the following buffers: 1 km, 10 km, 50 km.

This report is one part of a package generated by IBAT on 18 April 2024 (GMT) that includes full list of all species, protected areas, Key Biodiversity Areas in CSV format, maps showing the area of interest in relation to these features, and a 'How to read IBAT reports' document.

WARNING: IBAT aims to provide the most up-to-date and accurate information available at the time of analysis. There is however a possibility of incomplete, incorrect or out-of-date information. All findings in this report must be supported by further desktop review, consultation with experts and/or on-the-ground field assessment. Please consult IBAT for any additional disclaimers or recommendations applicable to the information used to generate this report.

Please note, sensitive species data are currently not included in IBAT reports in line with the [Sensitive Data Access Restrictions Policy for the IUCN Red List](#). This relates to sensitive Threatened species and KBAs triggered by sensitive species.

## Data used to generate this report

- UNEP-WCMC and IUCN, 2024. Protected Planet: The World Database on Protected Areas (WDPA)[On-line], Cambridge, UK: UNEP-WCMC and IUCN. Available at: [www.protectedplanet.net](http://www.protectedplanet.net) - April 2024.
- BirdLife International (on behalf of the KBA Partnership), 2023. Key Biodiversity Areas - October 2023.
- IUCN, 2024. IUCN Red List of Threatened Species - January 2024.
- IUCN. The IUCN Red List of Threatened Species. Version 2019-3. (2019). <https://www.iucnredlist.org>
- IUCN. Threats Classification Scheme (Version 3.2). (2019)
- Strassburg, B.B.N., Iribarren, A., Beyer, H.L. et al. Global priority areas for ecosystem restoration. Nature 586, 724–729 (2020). <https://doi.org/10.1038/s41586-020-2784-9>

### Protected Areas

The following protected areas are found within 1 km, 10 km, 50 km of the area of interest.  
For further details please refer to the associated csv file in the report folder.

Area name	Within buffer of
Pong Dam Lake	50 km

### Key Biodiversity Areas

The following key biodiversity areas are found within 1 km, 10 km, 50 km of the area of interest.  
For further details please refer to the associated csv file in the report folder.

Area name	Distance
Chamba Valley	10 km
Sarah Valley, Lower Dharamshala	10 km
Dhauludhar Wildlife Sanctuary and McLeod Gunj	50 km
Kalatop Khajjar Wildlife Sanctuary	50 km
Kugti Wildlife Sanctuary	50 km
Nargu Wildlife Sanctuary	50 km
Pong Dam Lake Wildlife Sanctuary	50 km

### IUCN Red List of Threatened Species

The following threatened species are potentially found within 50km of the area of interest.

For the full IUCN Red List please refer to the associated csv in the report folder.



Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Vanellus gregarius</i>	Sociable Lapwing	AVES	CR	Decreasing	Terrestrial
<i>Gyps bengalensis</i>	White-rumped Vulture	AVES	CR	Decreasing	Terrestrial
<i>Sarcogyps calvus</i>	Red-headed Vulture	AVES	CR	Decreasing	Terrestrial
<i>Emberiza aureola</i>	Yellow-breasted Bunting	AVES	CR	Decreasing	Terrestrial, Freshwater
<i>Gyps tenuirostris</i>	Slender-billed Vulture	AVES	CR	Decreasing	Terrestrial
<i>Nardostachys jatamansi</i>	Indian Nard	MAGNOLIOPSIDA	CR	Decreasing	Terrestrial
<i>Cyrtodactylus chamba</i>	Chamba Bent-toed Gecko	REPTILIA	CR	Unknown	Terrestrial
<i>Geoclemys hamiltonii</i>	Spotted Pond Turtle	REPTILIA	EN	Decreasing	Terrestrial, Freshwater
<i>Manis crassicaudata</i>	Indian Pangolin	MAMMALIA	EN	Decreasing	Terrestrial
<i>Moschus leucogaster</i>	Himalayan Muskdeer	MAMMALIA	EN	Decreasing	Terrestrial
<i>Panthera tigris</i>	Tiger	MAMMALIA	EN	Decreasing	Terrestrial
<i>Nilssonina gangetica</i>	Indian Softshell Turtle	REPTILIA	EN	Decreasing	Terrestrial, Freshwater
<i>Semnopithecus ajax</i>	Kashmir Gray Langur	MAMMALIA	EN	Decreasing	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Oxyura leucocephala</i>	White-headed Duck	AVES	EN	Decreasing	Terrestrial, Freshwater
<i>Rynchops albicollis</i>	Indian Skimmer	AVES	EN	Decreasing	Terrestrial, Freshwater
<i>Sterna acuticauda</i>	Black-bellied Tern	AVES	EN	Decreasing	Terrestrial, Freshwater
<i>Haliaeetus leucoryphus</i>	Pallas's Fish-eagle	AVES	EN	Decreasing	Terrestrial, Freshwater
<i>Neophron percnopterus</i>	Egyptian Vulture	AVES	EN	Decreasing	Terrestrial, Freshwater
<i>Aquila nipalensis</i>	Steppe Eagle	AVES	EN	Decreasing	Terrestrial
<i>Falco cherrug</i>	Saker Falcon	AVES	EN	Decreasing	Terrestrial, Marine, Freshwater
<i>Picrorhiza kurroa</i>	Picrorhiza	MAGNOLIOPSIDA	EN	Decreasing	Terrestrial
<i>Trillium govianum</i>	Himalayan Trillium	LILIOPSIDA	EN	Decreasing	Terrestrial
<i>Dactylorhiza hatagirea</i>	Salampanja	LILIOPSIDA	EN	Decreasing	Terrestrial
<i>Crocodylus palustris</i>	Mugger	REPTILIA	VU	Stable	Terrestrial, Freshwater
<i>Panthera pardus</i>	Leopard	MAMMALIA	VU	Decreasing	Terrestrial
<i>Panthera uncia</i>	Snow Leopard	MAMMALIA	VU	Decreasing	Terrestrial
<i>Ursus thibetanus</i>	Asiatic Black Bear	MAMMALIA	VU	Decreasing	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Rusa unicolor</i>	Sambar	MAMMALIA	VU	Decreasing	Terrestrial
<i>Saara hardwickii</i>	Indian Spiny-tailed Lizard	REPTILIA	VU	Decreasing	Terrestrial
<i>Catreus wallichii</i>	Cheer Pheasant	AVES	VU	Decreasing	Terrestrial
<i>Aythya ferina</i>	Common Pochard	AVES	VU	Decreasing	Terrestrial, Marine, Freshwater
<i>Grus antigone</i>	Sarus Crane	AVES	VU	Decreasing	Terrestrial, Freshwater
<i>Gallinago nemoricola</i>	Wood Snipe	AVES	VU	Decreasing	Terrestrial, Freshwater
<i>Sterna aurantia</i>	River Tern	AVES	VU	Decreasing	Terrestrial, Marine, Freshwater
<i>Clanga clanga</i>	Greater Spotted Eagle	AVES	VU	Decreasing	Terrestrial, Freshwater
<i>Aquila heliaca</i>	Eastern Imperial Eagle	AVES	VU	Decreasing	Terrestrial, Freshwater
<i>Oryza malampuzhaensis</i>		LILIOPSIDA	VU	Decreasing	Terrestrial
<i>Lissemys punctata</i>	Indian Flapshell Turtle	REPTILIA	VU	Decreasing	Terrestrial, Freshwater
<i>Bovista paludosa</i>	Fen Puffball	AGARICOMYCETES	VU	Decreasing	Terrestrial
<i>Capricornis sumatraensis</i>	Mainland Serow	MAMMALIA	VU	Decreasing	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Paris polyphylla	Love Apple	LILIOPSIDA	VU	Decreasing	Terrestrial
Fritillaria cirrhosa	Yellow Himalayan Fritillary	LILIOPSIDA	VU	Decreasing	Terrestrial



### Recommended citation

IBAT Proximity Report. Generated under licence 27783-62563 from the Integrated Biodiversity Assessment Tool on 18 April 2024 (GMT). [www.ibat-alliance.org](http://www.ibat-alliance.org)

### How to use this report

This report provides an indication of the potential biodiversity-related features - protected areas, key biodiversity areas and species - close to the specified location. It provides an early indication of potential biodiversity concerns, and can provide valuable guidance in making decisions. For example, this information can be helpful when assessing the potential environmental risk and impact of a site, categorising investments/projects, preparing the terms of reference for an impact assessment, focusing attention on key species of conservation concern and sites of known conservation value, and reviewing the results of an impact assessment.

The report does not provide details of potential indirect, downstream or cumulative impacts. Furthermore, the report should be regarded as a "first-step", providing a set of conservation values sourced from global data sets, and is not a substitute for further investigation and due diligence, especially concerning national and/or local conservation priorities.



**Annexure-18: Standard Operating Procedures and Documentary Requirements  
Consents/ Registrations/ Authorizations HPSPCB, July 2022**

**STANDARD OPERATING PROCEDURE FOR TOURISM UNITS**

**1. Consent to Establish:**

The consent to establish is to be obtained by Tourism unit/hotel(s) prior to establishing the industry. The proposed hotel shall obtain Consent to Establish under the provisions of Water Act and/or the Air Act. The application form for Consent to Establish under the Water Act / Air Act is to be submitted/ uploaded online (<http://hpocmms.nic.in>) through the concerned Regional Office (Annexure-I) of the State Board. The Consent to establish can be applied by the tourism unit for minimum of 1 year up to a maximum of 5 years as applied for by the applicant unit by submitting the requisite fees as per Annexure-II.

**Check List:**

The application for Consent to Establish for a proposed Hotel/Tourism unit shall include the following documents and be submitted to the Regional Office of State Board under jurisdiction of which the proposed unit shall be located.

- (i) General Information Form (To be filled online in OCMMS)
- (ii) **Form-I:** Application for Consent under Section-21 of Air (Prevention & Control of Pollution) Act, 1981 (if applicable). (To be filled online in OCMMS)
- (iii) **Form-XIII:** Application for Consent under Section-25/26 of Water (Prevention & Control of Pollution) Act, 1974. (if applicable). (To be filled online in OCMMS)
- (iv) Proposed plan approved by TCP or NOC of TCP (in non TCP area):
  - **Planning area:** Self attested copy of proposed plan/drawings (clearly indicating total built-up area of the project) approved by TCP/ competent authority (Municipal Corporation, Municipal Council, SADA etc.)
  - **Non Planning area:** NOC from TCP department (indicating that the area doesn't fall under the preview of planning area) is required along with self- attested drawings (clearly indicating total built-up area of the project). (Mandatory)
- (v) **Approval of the project/** provisional registration by the Tourism Department clearly indicating number of rooms based on approved drawing by competent authority. (Mandatory)
- (vi) Detailed project report (including value of land, building, furniture & fixtures, equipment(s) & working capital) (Mandatory)
- (vii) Feasibility report on Pollution Control Devices/ Solid Waste Management /Plastic Waste Management/ Hazardous Waste/ Noise Pollution Control Measures. (Mandatory)

#### Detail of Pollution Control Devices:

- Air: Chimney/ hood/Scrubber to be provided in kitchen. Adequate stack height for the stack installed in the DG set.
  - Water: Sewage Treatment Plant for domestic sewage / **Effluent Treatment Plant** for treatment of laundry waste. Septic tank and soak pit is required for hotels below 25 Double Bed Room (DBRs) and STP/ STP cum ETP is mandatory for hotels above 25 Double Bed Rooms. Water flow meter should be provided at the outlet of STP/ETP/ETP cum STP. Separate energy meter should be provided for STP/ETP/ETP cum STP. Log book of ETP/STP/ETP cum STP should be maintained having details regarding daily inflow, energy consumption and chemicals used. **(Mandatory)**
  - Where there is sewerage line unit shall submit the connectivity certificate from concerned authority and there is no need for providing septic tank and STP/ STP cum ETP. (As applicable)
  - Noise: Acoustic enclosure to be provided over the DG Set. Ambient Noise level shall be maintained as per Noise Pollution (Regulation and Control) Rules, 2000. For Banquet Halls, Noise limiters shall be proposed/provided (As applicable)
  - Solid Waste: Biodegradable and non- biodegradable waste shall be disposed of by means of composting/ organic waste converter/vermicomposting/ incineration or authorized recycler/ local body as per Solid Waste Rules,2016.
  - Hotels with capacity of more than 50 DBRs shall have to provide Bio-degradable Organic Waste Composting/Converter Machine. **(Mandatory)**
  - Plastic Waste Management Rules, 2016: The rules shall be adhered to in terms of products which may be used, EPR policy and disposal of waste as defined in these rules shall be done in a scientific manner as per prescribed norms. (As applicable)
- (viii) Source of water: The water consumption/generation details shall be as per the IS 1172 i.e. "Code of Basic Requirements for Water Supply, Drainage and Sanitation"
- (ix) Location Plan which clearly indicate its location from major land marks
- (x) Consent Fee as approved by the Board under Water Act, 1974/Air Act, 1981 **(Mandatory)**
- (xi) Details of muck generation during the construction period and utilization which shall be done thereof. **(Mandatory)**
- (xii) Copy of Environment Clearance (if total built-up area is more than 20,000 sqm) from the competent authority only in respect of projects requiring Environmental Clearance from Govt. of India as per notification No.SO-1533 (E) dated 14-09-2006 as amended from time to time. **(As applicable)**

## 2. Consent to Operate:

Once the hotel is established along-with the required pollution control systems, the entrepreneur is required to obtain consent to operate of the State Board prior to initiate the operational activities. Consent to Operate is considered by Pollution Control Board after ensuring installation of all the requisite Pollution Control Devices w.r.t. disposal of waste generated from the operation of the Hotel Industry like sewage/ sullage/ solid waste after proper site inspection which is mandatory. The Consent to Operate is issued for the remaining period of the current financial year, which is mandatory to be renewed regularly thereafter. (For instance, a unit applying for CTO from 01-06-2022 onwards shall be granted the first CTO valid up till 31-03-2023 to coincide with the financial year cycle.)

### Check List:

The application for Consent to Operate for a proposed Hotel shall include the following documents and submitted/ uploaded online (<http://hpocmms.nic.in>) through the concerned Regional Office (**Annexure-I**) of the State Board under jurisdiction of which the proposed unit shall be located:

- (i) General Information Form **(To be filled online in OCMMS)**
- (ii) **Form-I:** Application for Consent under Section-21 of Air (Prevention & Control of Pollution) Act, 1981 (if applicable). **(To be filled online in OCMMS)**
- (iii) **Form-XIII:** Application for Consent under Section-25/26 of Water (Prevention & Control of Pollution) Act, 1974. (if applicable). **(To be filled online in OCMMS)**
- (iv) A copy of Approval/ Completion certificate from TCP/ Urban Local body for their respective areas or from the certified Architect for remaining areas. **(Mandatory)**
- (v) Compliance Report on installations of the Pollution Control Devices as defined in check list of CTE at Sr. VII . **(Mandatory)**
- (vi) Consent Fee as approved by the Board under Water Act, 1974/Air Act, 1981. **(Mandatory)**

## 3. Renewal of Consent to Operate:

The Renewal of Consent to operate is required to be obtained by every hotel and needs to be renewed for variable period according to the category and its scale i.e. **5, 10 and 15 years** according to the nature of industry. Primary consideration for the renewal of consent to operate is to check and ensure the compliance status to the norms prescribed for the effluents/emissions/solid waste, as the case may be, in the previous period at the time of consideration of the renewal.

#### **Check List:**

- (i) Copy of Registration of the Tourism Department. **(Mandatory)**
- (ii) Self-attested Affidavit/undertaking clearly stating that there is no change in process, design & product/ capacity of Industry/ development project/hotel **(Mandatory)**
- (iii) **Red and Orange- Large & Medium units:** Latest sample analysis report (Water and Air) of State Board laboratory as per sampling schedule. **(Mandatory)**
- (iv) **Orange (Small) and Green Categories:** Latest Water sample analysis report of State Board laboratories and Air sample analysis reports of MoEF approved Laboratories (Self emission results) as per sampling schedule. **(Mandatory)**
- (v) Consent Fee as approved by the Board under Water Act, 1974/ Air Act, 1981. **(Mandatory)**
- (vi) Environment Statement form (**Form-V** of EP Rules, 1986) **(Mandatory)**
- (vii) All sample testing charges till date have been paid by the Hotel.

#### **4. Renewal of Consent to Establish**

If the Tourism unit/Hotel is still under construction stage, the unit can apply for RCTE for One to Five years. (Note: The Consent shall be valid till end of the financial year for the time period chosen. For instance, for a unit applying for RCTE from 01-06-2022 onwards for two years shall be granted RCTE valid up till 31-03-2024 to coincide with the financial year cycle.)

#### **Check list:**

- (i) No document is required except Self-attested Document/Affidavit of no change in process/design/ product capacities. **(Mandatory)**
- (ii) Details of muck generation during the construction period and utilization done thereof. **(Mandatory)**

#### **EXPANSION CASES**

#### **5. Consent to Establish (Expansion)**

The procedure to obtain CTE (expansion) shall be same as in case of Consent to establish. However, in case of existing operational units going for expansion, the tourism unit shall have to submit the compliance report/results of the existing water and or air pollution control devices. **(As applicable and mentioned in Point no. iii and iv of checklist of RCTO above)**

#### **6. Consent to Operate (Expansion)**

The procedure to obtain CTO (expansion) shall be same as in case of Consent to Operate.

**Annexure-19: Copy of NOCs/Permission  
NOC from HPSEBL**



**HIMACHAL PARDESH STATE ELECTRICITY BOARD LIMITED**

**"A State Govt. Undertaking"**

**Registered Office:** Vidyut Bhawan, HPSEBL, Shimla-171004 (H.P.)  
**Number CIN** U40109HP2009SGC 31255  
**GST No.** HPSEBL02AACCH4894EH28  
**Phone No:** 01892-224997 (Fax) 224997.  
**Website:** www.hpseb.com  
**Email:** srxenhpsebdm@gmail.com

No. 231715/DB/2024-25 - 537

Dated:- 03/05/2024

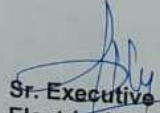
To

Project Manager,  
PIU, HPTDB,  
Kangra

**Subject: -** Regarding issuance of letter for Environment Clearance.

Sir,

With reference to your office letter No HPTDB/New Project/IEE/2024-83 dated 30.04.2024, this office has no objection for Land falling in khashra No 1281/676/1, 1281/676/2 and 1281/676/3, subject to the condition that concerned Department will bear the estimated cost of re-routing/shifting/undergrounding the H.T. & L.T. lines. In addition to that the NOC from statutory bodies (Munciple Corporation, Pollution Control Board, Tourism etc.) are also required for releasing the electrical connection as per codal formalities of HPSEBL.

  
Sr. Executive Engineer,  
Electrical Division,  
HPSEBL, Dharamshala.

## NOC from Jal Shakti Vibhag

Himachal Pradesh  
Jal Shakti Vibhag

No.EE/JSV/DD/WA/2024-

864

Dated:- 24/05/2024

To

The Project Director  
HPTDB  
U.S Club Shimla.

Subject:

Regarding assurance of water supply from Jal Shakti  
Vibhag Dharamshala for Environment Clearance.

Reference:-

Your office letter No.HPTDB/New  
Project/IEE/2024/203 Dated 13.05.2024.

Sir,

In this connection and as per report of Assistant Engineer, Jal Shakti Sub Division Dharamshala vide letter No.110 dated 03.05.2024 Jal Shakti Vibhag has no objection for construction of convention center. However already development structure of Jal Shakti Vibhag shall not get damaged. Jal Shakti Vibhag also assured you requisite water supply as per your letter referred above.

This is for your kind information and necessary action please.

DA/As Above.

Executive Engineer,  
Jal Shakti Division,  
Dharamshala.

## NOC from Jal Shakti Vibhag

HIMACHAL PRADESH  
JAL SHAKTI VIBHAG

No.EE/JSSD/WA-1/ NOC/2024- 1608

Dated:- 20/06/24

To

✓  
Project Manager,  
H.P Tourism Development Board,  
PIU Kangra at Nagrota Bagwan.

**Subject:-** No Objection Certificate.  
(Issuance of NOC for c/o convention Centre, Dharamshala)

**Reference:-** Your office letter No. 216/A dated 20/06/2024.

As reported by the Assistant Engineer, Jal Shakti Sub Division Dharamshala vide letter No. 419 dated 20/06/2024 there is no departmental pipe line/ network, structure laid /constructed in the land Khasra No. 1281/676/3 min measuring area 810.00 Sqm. & Khasra No. 1281/676/2/1 min measuring area 1373.00 Sqm. at Mohal & Mouza Sidhbari, Tehsil Dharamshala Distt. Kangra. However there exist a tube well of WSS Kaned Barwala & Jheol in a corner of this land.

Therefore the NOC could be issued on the following terms and conditions:-

- (a) Tube well and its rising main should not be damaged during construction work.
- (b) No new Tube well/ Bore well should be drilled within the range of 300 mtrs from existing tube well of Jal Shakti Vibhag.

DA/ Nil

Executive Engineer,  
Jal Shakti Division,  
Dharamshala

## NOC from Fire Department


कार्यालय स्थानीय अग्निशमन अधिकारी अग्निशमन केन्द्र धर्मशाला जिला कांगड़ा हि0 प्र0  
पत्र संख्या होम ( एफ0 एस0) धर्मशाला 156 दिनांक 02-05-2024

प्रेषक :- स्थानीय अग्निशमन अधिकारी,  
अग्निशमन केन्द्र धर्मशाला,  
जिला कांगड़ा हि0 प्र0।

प्रेषित :- परियोजना निदेशक,  
हि0प्र0पर्यटन विकास बोर्ड,  
यू0एस0कल्च शिमला,

Subject:- Regarding Providing NOC of fire for Environment Clearance.

आपके कार्यालय के पत्र संख्या HPTDB/New project/IEE/DDR/2024-142  
Dated 21-04-2024 के सन्दर्भ में सूचित किया जाता है कि आप महाल/मौजा सिद्धवाडी में जो  
सम्मेलन केंद्र का निर्माण कर रहे हैं हमें उससे कोई आपत्ति नहीं है परन्तु निर्माण कार्य पूर्ण होने के  
उपरांत एन0वी0सी0 पार्ट IV के अनुसार अग्निशमन यन्त्र स्थापित किये जाएं ।

  
स्थानीय अग्निशमन अधिकारी,  
अग्निशमन केन्द्र धर्मशाला,

Transcript in English

### OFFICE OF THE LOCAL FIRE OFFICER, FIRE STATION, DHARAMSHALA, DISTRICT-KANGRA, H.P.

Letter No. Home (F.S.) Dharamshala 156

Dated 02-05-2024

From: Local Fire Officer  
Fire Station, Dharamshala,  
District-Kangra, H.P.

To: Project Director  
H.P. Tourism Development Board,  
U.S. Club, Shimla

Subject: Regarding providing NOC of fire for Environment Clearance

With reference to your office's letter No. HPTDB/New Project/IEE/DDR/2024-142 Dated 21-04-2024, it is informed that we have no objection to the proposed Convention Centre in Mahal Mauja Sidwari, but after completion of construction work, fire fighting equipment should be installed as per NVC Part IV.

Local Fire Officer  
Fire Station, Dharamshala