**Table-1: Environmental Management Plan for Design and Pre Refurbishment Phase**

| **Sl. No.** | **Environmental Issues** | **Mitigation Measures** | **Parameter / Indicator for Compliance** | **Responsible for Implementation** | | **Responsible for Supervision** | | **Frequency for Monitoring** | | **Fund Sources for Implementing Mitigation Measure** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | Lack of sufficient planning to assure long-term sustainability of the improvements and ensure protection of the assets created | Design has included provisions for ensuring effective maintenance and protection of the assets to be created to ensure their long-term sustainability. The long-term sustainability has been ensured by taking into consideration the appropriate Bureau of Indian Standards Codes for design, Seismic Zone V coefficient, appropriate wind load factor (corresponding to 39 m/s wind speed), and detailed design after carrying geotechnical investigations and topographic survey. | Verification of design parameters | | PWD | | PWD | | Review after completion of detailed project report | Project cost |
| **2** | Layout of components to avoid impacts on the aesthetics of the site | All works are planned inside the existing DOLE building. The building exterior impacts are not foreseen. Any change if required will blend with the local buildings architecture. | DOLE building exterior | PWD | | PWD | | Review after completion of detailed project report | | Project cost |
| **3** | Slope stability related issues | * Slope related stability issues are not foreseen. Any excavations inside the building for refurbishment and / or inclusion of new component will be taken up considering safety of building. Any slope protection related measures will be taken up. | Any slope related measures required | PWD | | PWD | | Review of recommended slope protection measures | | Project cost |
| **4** | Increased storm water runoff from alterations of the site’s natural drainage patterns due to landscaping, excavation works, construction of parking lot, and addition of paved surfaces | * Increase in storm water runoff is not anticipated as refurbishment works will not lead to increase in paved surface. The drainage pattern of building is not likely to change. Hence no mitigation measures are warranted. | Maintenance of current drainage of building. | PWD | | PWD | | After mobilization of contractor at site and during establishment of construction camp | | Incidental to construction cost |
| **5** | Integration of energy efficiency and energy conservation programs in design of subproject components | * The detailed designs for the subproject have ensured that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, etc. The design considers the following energy efficiency measures: * Usage of recyclable materials like wood substitutes. * Installation of Bureau of Energy Efficiency-certified equipment * Usage of energy efficient lighting fixtures (LED) | Specifications of electrical fixtures | PWD | | PWD | | During finalization of detailed project report | | Project cost |
| **6** | Consents, permits, clearances, NOC, etc. | * Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. * Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc. | Consents, permits, clearance, and NOCs’  records and communications | PWD | | PWD | | Check consent for establishment of construction camp and approval from civic authorities for DOLE building for refurbishment | | Project cost |
| **7** | Establishment of baseline environmental conditions prior to start of civil works | * Conduct documentation of location of components, areas for construction zone (camp, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones). Include photos and GPS coordinates. | Records and photographs | Contractor | | PWD | | Once prior to start of refurbishment works | | Contractor |
| **8** | Utilities | * The locations and operators of utilities to be impacted, on account of building refurbishment, should be identified and documented in detailed project report documents to prevent unnecessary disruption of services during the construction phase. * Require contractor to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. * Obtain from the PIU and/or PWD the list of affected utilities and operators. * If relocations are necessary, contractor will coordinate with the providers to relocate the utility. | * List and maps showing utilities to be shifted * Contingency plan for services disruption | * PWD will prepare preliminary list and maps of utilities to be shifted * During detailed design phase, contractor to (i) prepare list and operators of utilities to be shifted; (ii) contingency plan | | PWD | | Preconstruction Phase of refurbishment works | | Contractor |
| **9** | Social and Cultural Resources | * Consult Archaeological Survey of India or Himachal Pradesh State Archaeology Department to obtain an expert assessment of the archaeological potential during building refurbishment. * Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. * Develop a protocol for use by the contractor during refurbishment works including any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved. | Chance find protocol | PWD | | PWD | | Prior to start of building refurbishment works | | Project cost |
| **10** | Construction camp—location, selection, design and layout | * Finalization of the construction camp establishment shall be as per the guidelines below and details of layout to be approved by PWD. * Potential sites for the labor camp will be lined up to be visited by the environmental expert of PMU Safeguards Cell. The one having least impacts on the environment will be approved by the PWD and Safeguards Cell. As far as possible, construction camp will be established within the existing building to avoid impact on other land. * The storage location of construction materials shall be at the DOLE building or any building close to the existing building. * Construction camp sanitation facilities shall be adequately planned. | Construction camp site, and locations of material storage areas, sanitation facilities | Contractor | | PWD | | At the time of construction camp establishment and finalization of storage areas | | Contractor |
| **11** | Sources of construction materials | * Use quarry sites and sources licensed by the Government of Himachal Pradesh. * Verify suitability of all material sources and obtain approval from PIU. * If additional quarries are required after construction has started, obtain written approval from PIU. * Submit monthly to PWD a documentation of sources of materials. | Permits issued to quarries or sources of materials | Contractor  PWD to verify sources (including permits) if additional is requested by contractor | | PWD | | Upon submission by contractor | | Project cost |
| **12** | Access for construction material transportation | * Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of site. * Schedule transport and hauling activities during nonpeak hours. * Locate entry and exit points in areas where there is low potential for traffic congestion. * Keep the site free from all unnecessary obstructions. * Drive vehicles in a considerate manner. * Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours. | Traffic management plan | Contractor | | PWD | | During delivery of construction materials | | Contractor |
| **13** | Occupational health and safety | * Comply with International Finance Corporation Environmental, Health, and Safety Guidelines on Occupational Health and Safety in developing comprehensive site-specific health and safety plan. The overall objective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries, and illnesses for workers performing activities and tasks associated with the project. * Include in the health and safety plan measures such as (i) type of hazards in the refurbishment of DOLE building, (ii) corresponding personal protective equipment for each identified hazard, (iii) health and safety training for all site personnel, (iv) procedures to be followed for all site activities, and (v) documentation of work-related accidents. * Provide medical insurance coverage for workers. | Health and safety plan | Contractor | | PWD | | During construction phase | | Contractor |
| **14** | Public consultations | * Continue information dissemination, consultations, and involvement or participation of stakeholders during project implementation. | Disclosure records; consultations | PWD | | PWD | | * During update of IEE report * During preparation of site- and activity-specific plans as per environmental management plan * Prior to start of construction * During construction | | Project cost |

DOLE= Department of Labour and Employment, IEE = initial environmental examination, NOC = no objection certificate, PIU = project implementation unit, PWD = Public Works Department.

**Table-** **2: Environmental Management Plan for Refurbishment Works- Construction Phase**

| **Sl. No.** | **Environmental Issues** | **Mitigation Measures** | **Parameter / Indicator for Compliance** | **Responsible Implementation** | **Responsible Supervision** | **Frequency for Monitoring** | **Sources of Fund for Implementing Mitigation Measure** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | Sanitation facilities at construction camp | * The contractor shall provide sanitation facilities at the camp site. These facilities will include dust bins in adequate numbers for solid waste collection, and separate toilets for male and females. * Toilet facilities shall be maintained and septic tanks or soak pits shall be provided. The dust bins shall be regularly emptied and waste from camp site shall be disposed of at designated locations. | Construction camp sanitation facilities | Contractor | PWD | Regularly during construction phase | Contractor fee |
| **2** | Traffic circulation plan during construction | * Prior to commencement of site activities and mobilization on ground, the contractor will prepare and get approval from the engineer (PWD) for a circulation plan during construction for safe passage of public vehicles so that locals are not inconvenienced. * The contractor with support of PIU will disseminate these information and circulation plan at the site and at key access roads to the DOLE building. | Safe movement of traffic | Contractor | PWD | Every day during construction phase | Contractor fee |
| **3** | Site clearance activities, including delineation of construction areas | * Only ground cover that directly affects the permanent works or necessary temporary works shall be removed with prior approval from the environmental expert of the Safeguards Cell. * All areas used for temporary construction operations will be subjected to complete restoration to their former condition with appropriate rehabilitation procedures. * Photographic records shall be maintained for the temporary sites used for construction. These will help in proper restoration. | Preconstruction records of sites and vegetation in area of construction | Contractor | PWD | Duration of refurbishment works preparation | Contractor fee |
| **4** | Drinking water availability at construction camp and construction site | * Sufficient supply of cold potable water to be provided and maintained. The drinking water will be obtained from the market and no public supply source in the vicinity of sub-project will be used for drinking or construction purposes. The drinking water will be stored in a suitable size storage tank to ensure uninterrupted availability. * Contractor will submit his plan on how availability of drinking water shall be assured. Source of tanker filling for water will be recorded. | Water supply source and availability of water, source of water supplied by the tanker owner | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **5** | Waste disposal | * The pre-identified disposal location shall be part of the comprehensive waste disposal plan. * A solid waste management plan will be prepared by the contractor in consultation with local civic authorities. * The environmental specialist of PWD shall approve these disposal sites after conducting a joint inspection on the site with the contractor. * Contractor shall ensure that waste shall not be disposed of near natural streams in the surroundings of the site and along the access path. | Waste disposal sites, waste management plan | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **6** | Stockpiling of construction materials | * Stockpiling of construction materials will be done in such a way that it does not impact and obstruct the drainage. * Stockpiles will be covered to protect from dust and erosion. * As far as possible, construction materials will be stored within the DOLE building. | Subproject stockpiling sites | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **7** | Arrangement for construction water | * The contractor shall provide a list of locations and type of sources from where water for construction shall be acquired.      * To avoid disruption or disturbance to other water users, the contractor shall arrange water from the market through authorized tanker suppliers or from the local municipality and consult PWD before finalizing the source. | Water source of tanker filling | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **8** | Soil erosion and water ponding on account of excavation | * Slope protection measures will be undertaken as per design to control soil erosion at excavated locations in the building. * Water impoundment shall be avoided inside the building. | Locations of slope protection | Contractor | PWD |  | Contractor fee |
| **9** | Water pollution from construction wastes | * The contractor shall take all precautionary measures to prevent entry of waste water into any local stream during construction. | DOLE building site | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **10** | Water pollution from fuel and lubricants | * The contractor shall ensure that all construction vehicle parking locations; fuel and lubricants storage sites; vehicle, machinery, and equipment maintenance and refueling sites shall be located at least 500 m away from the natural streams. * Contractor shall ensure that all vehicles and machinery, as well as equipment operation, maintenance, and refueling shall be carried out in such a manner that spillage of fuels and lubricants does not contaminate the ground. * Waste water from vehicle parking, fuel storage areas, workshops, wash down, and refueling areas shall be treated in an oil interceptor before discharging it on land, or into surface water bodies, or into other treatment system. | Vehicle parking, refueling sites, oil interceptor functioning | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **11** | Soil pollution due to fuel and lubricants, construction wastes | * The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. * Soil and pollution parameters will be monitored as per monitoring plan. | Vehicle maintenance and parking area, soil quality monitoring results | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **12** | Siltation of water bodies due to spillage of construction wastes | * No disposal of construction / demolition wastes will be carried out into the surface water bodies. * Extraneous construction wastes will be transported to the pre-identified disposal sites for safe disposal. | Surface water sources in the vicinity | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **13** | Generation of dust | * The contractor will take every precaution to reduce the levels of dust at construction sites. There will be water spray at the desired frequency at locations of excavations, internal unfinished roads/walkways and locations of sand and sub grade storages. The water for spraying will be used from the water stored for construction. The water spray records will be maintained at site.      * The air quality monitoring will be conducted as per monitoring plan | Subproject site, air quality monitoring results, water spray records | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **14** | Emission from construction vehicles, equipment and machinery | * All vehicles, equipment, and machinery used for construction shall conform to the relevant Bureau of India Standard norms. * The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The silent or quiet equipment available in the market shall be used in the subproject. * The Contractor shall maintain a record of pollution under control certificates for all vehicles and machinery used during the contract period, which shall be produced for verification whenever required. | Pollution under control certificates of vehicles and machinery | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **15** | Noise pollution | * The contractor shall confirm that all construction equipment shall strictly conform to the Ministry of Environment, Forests and Climate Change and Central Pollution Control Board noise standards. * Contractor must ensure that all vehicles and equipment used in construction shall be fitted with exhaust silencers. * At the construction sites, noisy construction work such as hammering, operation of diesel generator sets, use of high noise generation equipment shall be stopped during the night time between 10:00 p.m. to 6:00 a.m. * Noise limits for construction equipment used in this project will not exceed 75 dB (A) at 1 m distance. However, noise levels as specified in ambient noise standards (55 dB (A) during day time and 45 dB (A) during night time) will be adhered to during the construction phase. * Noise level monitoring will be carried out as per monitoring plan. | Certificates of vehicles conforming noise standards, noise monitoring results | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **16** | Impacts on flora and fauna | * Conduct site induction and environmental awareness. * Limit activities within the work area. * Plant indoor trees to enhance building looks | Indoor plants pots in building | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **17** | Material handling at site | * Workers employed on mixing cement, lime mortars, concrete, etc., will be provided with protective footwear and protective goggles. * Workers engaged in welding works will be provided with welder’s protective eye shields. * The use of any toxic chemicals will be strictly in accordance with the manufacturer’s instructions. The PWD will be given at least 6 working days’ notice of the proposed use of any chemical. A register of all toxic chemicals delivered to the site will be kept and maintained up to date by the contractor. | Data on available personal protective | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **18** | Disposal of construction waste, debris, cut material | * The contractor shall confirm that safe disposal of the construction waste will be ensured in the pre-identified disposal locations. * In no case will any construction waste will be disposed of around the project site indiscriminately. | Disposal site | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **19** | Safety measures during construction | * Adequate safety measures for workers during handling of materials at 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 to workers from accidental injuries, fire, etc. First aid treatment will be made available for all injuries likely to be sustained during work. * The contractor will conform to all anti-malaria instructions given to him by the engineer. | Records of availability of personal protective equipment, availability of first aid kits | Contractor | PWD | Regularly during construction phase of building refurbishment | Contractor fee |
| **20** | Clearing of construction of camp and restoration | * Contractor to prepare site restoration plans for approval by the engineer (PWD). The plan is to be implemented by the contractor prior to demobilization. * On completion of the works, all temporary structures will be cleared away, all rubbish burned, 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 PWD. | Restoration plan, and records of preconstruction of temporary sites | Contractor | PWD | End of refurbishment phase | Contractor fee |

DOLE = Department of Labour and Employment, NOC = no objection certificate, PIU = project implementation unit, PWD = Public Works Department.

**Table-** **3: Environmental Management Plan for Defect Liability Period**

| **Sl. No.** | **Environmental Issues** | **Mitigation Measures** | **Parameter / Indicator for Compliance** | **Responsible Implementation** | **Responsible Supervision** | **Frequency for Monitoring** | **Sources of Fund for Implementing Mitigation Measure** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | Environmental conditions | * Periodic monitoring of the ambient air quality, noise level, surface water quality, soil quality in the subproject area as suggested in the monitoring plan through an approved monitoring agency. | Monitoring results and relevant standards | DOLE through Pollution Monitoring Agency | HPKVN | As per monitoring plan | DOLE |
| **2** | Unhygienic condition due to poor maintenance of sanitation facilities and irregular solid waste collection | * DOLE will maintain toilets, and carry out the regular collection and disposal of wastes to a designated waste treatment site. * Solid waste disposal will be integrated with Dharamshala City waste disposal. Septic tanks will be regularly emptied. | Maintenance schedule of MCC building and facilities drawn up | DOLE | HPKVN | Every year during tourist season | DOLE |
| **3** | Natural disasters | * Necessary procedures to be followed by the visitors, MCC staff and job seeking candidates during the natural disasters shall be written at prominent locations. | Warnings of disasters by the Meteorological Department | District administration | HPKVN | During disasters | Government of Himachal Pradesh |

DOLE = Department of Labour and Employment, HPKVN = Himachal Pradesh Kaushal Vikas Nigam, MCC= Model Career Center, PIU = project implementation unit, PWD = Public Works Department.