
CHAPTER – 5
ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN**5.1 General**

The Environmental and Social Management Plan (ESMP) integrates the baseline conditions, impacts likely to occur, and the measures which need to be implemented for amelioration of adverse impacts for proposed category-A sub-projects. ESMPs for the proposed category-A sub-projects, including rehabilitation of tanks & canals and increased use of agro-chemicals are presented in this Chapter. The ESMP shall give particular attention to project sustainability issues such as EHS, construction camps and site office, prevention of pollution, user conflicts, etc. This detail is to be included in Bid document and to be implemented by the prospective Contractor.

Environment Code of Practices (ECoPs) and Good Practices provide general guidance on management/ mitigation of potential impacts of project activities which are included in Annexure IV and V respectively. The Environmental and Social Clauses to be included in the Bid document (under Technical Specification) is given in Annexure VI.

5.2 ESMP for Tank and Canal Rehabilitation

The key activities considered under tank and canal rehabilitation are excavation of silt, disposal of silt, strengthening of bund, etc. A generic ESMP for such sub-projects, including mitigation measures and responsible agencies for implementation and monitoring, is provided in Table 38.

Table 38: Generic ESMP for Sub-projects on Canal and tank Rehabilitation
(applicable for 10% of the total value of the packages in each Phase including packages costing more than Rs. 6.00 Crore and individual work above 4.00 Crore)

Only for sites/works selected under Random Sampling can be done

S.No.	Potential Environmental Impacts	Mitigation measures	Implementing Agency	Monitoring Frequency	Monitoring Institution
Pre-construction Phase					
1.	Establishment of Construction Camp and site office (Applicable for site where the number of labour residing exceed 100)	<ul style="list-style-type: none"> Should be identified in consultation with the individual owners in case of private lands and Engineer in charge case of government lands. Layout of construction camp, including indicating various structures to be constructed such as the temporary structures to be put up, site roads, drainage, lighting, equipment storage units and other facilities, should be furnished to the Engineer-in-charge. Living units of adequate space as prescribed in Labour and Environment Acts with proper ventilation shall be provided for the labour engaged. Construction camps should have access to Drinking water, Sanitation, first aid and waste disposal facilities. 	Prospective Contractor	One time	Department
2.	Construction water	<p>Contractor will make his own necessary arrangement for procuring construction water:</p> <ul style="list-style-type: none"> In case of community water source, Contractor should carry out consultations with villages/GPs for use In case of private source, Contractor should not utilize the water unless written consent is obtained from other owners of the land parcel. In case of new bore wells, permits should be obtained as per requirements of State Ground Water Board regulations especially for critical and over-exploited blocks In case of surface water bodies, necessary permission from concerned department or administrative clearances should be obtained. 	Prospective Contractor	One time	Department
3.	Storage sites (for large and long time storage)	<p>Contractor shall provide details for storage of:</p> <ul style="list-style-type: none"> Petrol/Oil/Lubricants: Brick on edge flooring or sand flooring will be provided at the storage places of Petrol/Oil/Lubricants to avoid soil and water contamination due to spillage. Cement: Damp-proof flooring, as per IS codes 	Prospective Contractor	One time	Department
4.	Borrow Areas	Shall be identified by the Engineer during implementation	Department	One time	Department

S.No.	Potential Environmental Impacts	Mitigation measures	Implementing Agency	Monitoring Frequency	Monitoring Institution
5.	Disposal sites	<ul style="list-style-type: none"> • Shall be identified by Engineer during the implementation • Debris Disposal site will be identified by the Engineer during implementation. 	Department	One Time	Department
6.	Waste disposal	<ul style="list-style-type: none"> • The sewage from the labour camp site shall be disposed off in line with the Environmental (Protection Act) in soak pits 			
7.	Site Restoration	Contractor shall restore construction sites and site office to the satisfaction of the Engineer in charge.	Prospective Contractor	One time	Department
8.	Tree Cutting	<ul style="list-style-type: none"> • Necessary clearance for cutting of trees should be obtained by Engineer in charge. 	Department	One time	Department
Construction Phase					
9.	Construction Sites (Applicable for site where the number of labour residing exceed 100)	<ul style="list-style-type: none"> • It should be kept free of water logging • Protective guards should be provided across the areas where workers may fall or could face an impalement hazard. • Store tools and materials neatly and out of the way in storage bins or lockers and keep flammable or hazardous wastes, if any, in covered, segregated waste containers • Keep form and scrap lumber away from work areas, passageways • No loose material should be allowed to leave unattended, and sites should be properly finished after completing the work 	Prospective Contractor	Once in a month	Department
10.	Public Safety	<ul style="list-style-type: none"> • Warning sign boards should be provided along the construction sites in Tamil/English 	Prospective Contractor	Once in a month	Department
11.	Occupational Health & Safety	<ul style="list-style-type: none"> • Safe access to the job sites should be provided to all workers • Passage ways, walkways, and ramps should be kept free of materials, scraps or obstructions • First Aid box should be readily available at construction sites • Contact with nearest nursing homes/clinics/primary health centre should be maintained by the Contractor to deal with any emergency at site • A vehicle should be readily available at construction site to meet emergency situation • The contractor should comply with all the precautions as required for the safety of the workmen as per Labour Laws as applicable to this project • The contractor should strictly follow the statutory child labour act • Personal Protective Equipment such as helmets, hand gloves, safety shoes, nose masks, safety goggles should be provided to the workers as per Act. 	Prospective Contractor	Once in a month	Department

S.No.	Potential Environmental Impacts	Mitigation measures	Implementing Agency	Monitoring Frequency	Monitoring Institution
12.	Water Pollution at Labour Camp site	<ul style="list-style-type: none"> • Solid waste shall be disposed at authorized sites identified • SW and GW quality to be tested for any fecal contamination 	Prospective Contractor	Quarterly	Department
13.	Soil Pollution	<ul style="list-style-type: none"> • Measures to prevent accidental spills of oils and other lubricants • Disposal of waste and wastewater shall not be done on open land. 	Prospective Contractor	once in a month	Department
14.	Air Pollution	<ul style="list-style-type: none"> • Properly functioning construction equipment to minimize exhaust shall be maintained • Idling of machines and equipment shall be minimized • Cover stockpiled silt and trucks hauling silt, sand, and other loose materials or require trucks to maintain at least two feet of freeboard 	Prospective Contractor	Once in a month	Department
15.	Landscape Degradation	<ul style="list-style-type: none"> • On completion of the works all the temporary structures may be cleared away, all rubbish disposed, excreta and disposal pits or trenches filled in and effectively sealed off and the whole site and shall be handed over to the Department in good condition. 	Prospective Contractor	One time	Department

5.3 Use of Agro-Chemicals

Pesticide, fertilizer and other agro-chemical consumption might increase due to increased water availability for irrigation, diversification of crops, intensification of agricultural production and other project activities. To minimize the associated impacts, a Pest Management Plan (PMP) has been prepared that includes an Integrated Pest Management strategy (Annexure VII).