India: Andhra Pradesh Road Sector Project

Environmental and Social Management Framework

For

Maintenance Road
(approx. 6,000 km)

Prepared by Government of Andhra Pradesh
A. Introduction and Project Background

SMEC International Pty. Ltd., in association with SMEC (India) Pvt. Ltd. and Vic Roads International, Australia, have been engaged by the Andhra Pradesh Road Development Corporation (APRDC)/Roads and Buildings Department (RBD) on behalf of the Government of Andhra Pradesh for providing “Consultancy Services for Preparatory Services for Long Term Performance Based Maintenance Contract System” for about 6000 km road network. The scope of services of this consultancy also includes undertaking preliminary environmental screening of subprojects and preparation of an Environmental and Social Management Framework (ESMF) to be adopted during project implementation based on the World Bank’s Safeguard Policies, the country and state requirements.

The project is designed to be implemented in 3 Phases. Preparatory work for Phase 1 is being undertaken, with Phases 2 and 3 to follow. Each phase will have a 5 years maintenance period. The project roads are classified under three regions of the state, namely, Coastal, Rayalaseema and Telengana regions in Andhra Pradesh. Relevant maps are included in the ESMF.

The Project involves maintenance of Core Road Network for a minimum period of 5 years, essentially having 3 core maintenance activities as described below:

- **Routine or Ordinary Maintenance (OM)** – where defects are minor and can be treated under OM activities.
- **Periodic Maintenance** – where the surface only has sufficient defects to warrant resurfacing, either in the initial provisional works or as scheduled over the life of the contract.
- **Rehabilitation** – where pavement structure has defects and needs strengthening by structural overlay, which may or may not require prior additional excavation of some badly deteriorated sections.

The Project roads will be subject to mainly routine and periodic maintenance. Following are the main activities to be undertaken during maintenance of project roads.

- **Vegetation**: clearing, grubbing, tree management
- **Pavement**: patching, dig out and repair, sweeping, overlay
- **Shoulder and Embankment**: grading and repair
- **Drainage**: cleaning and repair
- **Furniture**: sign and marker maintenance and repair
- **Structures**: bridge and major culvert maintenance
- **Operational Servicing**: landslips, emergency work, obstruction removal
B. Applicable Policy and Legal Requirements

The ESMF gave close attention to determining what were the applicable policy and legal requirements and how they applied to this LTPBMC Project. Relevant national policies covered under ESMF are given below.

1. Relevant National Policies and Plans

There are a number applicable national policies related to environmental management and one related to resettlement and rehabilitation related to this project as discussed in ESMF-Table 2.1 of the ESMF.

2. Legal Framework

The Government of India has laid down various policy guidelines, acts and regulations pertaining to sustenance of environment. The Environment (Protection) Act, 1986 provides Umbrella Legislation for the protection of environment. As per the Act, the responsibility to administrate the legislation has been jointly entrusted to the Ministry of Environment and Forest (MoEF) and the Central Pollution Control Board/Andhra State Pollution Control Board (APSPCB). In addition to this, the Land Acquisition Act of 1894 is applicable in case of acquisition of land for the project development during implementation. The lists of all applicable GOI regulations and acts are provided in Table 2.2 of the ESMF.

3. Applicable Statutory Requirements

There are a number of important statutory requirements which were identified. A brief overview is as follows.

Environment Related Statutory Requirements

The project road involves only maintenance activities of Major District Roads and State Highways. The MoEF's EIA Notification dated 14 September 2006 is pertaining to National Highways and State Highways but not MDR. As per EIA Notification, State Highways project will be classified as Category B if it includes the following:

i) Construction of new State Highways; and

ii) Expansion of State Highways greater than 30 km involving additional right of way greater than 20m involving land acquisition.

As the project roads under LTPBMC involves only maintenance activities without requiring any land acquisition as mentioned under Sl.No. (ii) above, it is deemed to have no requirement of environmental clearance from the State or Central Government under the purview of the EIA Notification.

The statutory requirements and permits which the Contractors must comply with to establish and operate construction plants and sourcing construction materials are detailed in ESMF-Appendix-3.

Forests Related Statutory Requirements

Some of the project roads pass through areas such as Reserve Forests, Protected Forests, Wildlife Sanctuary / Tiger Reserve. Undertaking any maintenance activity on the section of road passes through any such ecologically sensitive areas would require prior permission from the competent
authorities. The list of roads passing through forest and wildlife areas, and applicable statutory requirements from competent authority, are given in *ESMF-Appendix 5*.

The regulatory provisions for road construction and/or maintenance activities in forest and/or wildlife areas are covered under the Forest (Conservation) Act, 1980, Wild Life Protection Act, 1972 as amended in 2003/orders of Hon'ble Supreme Court of India and GOI guidelines issued thereon. Further, on January 06, 2007, Environment Forests Science and Technology Department, Government of Andhra Pradesh (GOAP) has issued a notification to all the State Departments. Based on the Forest and Wildlife Acts, the notification provides directives for "repair maintenance of roads constructed on forest lands for public purpose prior to 1980. *ESMF-Appendix 4* presents the Notification. As per "Annexure-III" of the notification, the following provisions are applicable for the maintenance roads under APRSP Project:

1. Roads constructed on forest lands prior to 25.10.1980 (dated of enactment of FC Act, 1980) may be repaired and maintained and black topping may be done with prior permission of State Forest Department. While undertaking such works, State Government shall ensure:
   (i) No tree felling should be allowed.
   (ii) No widening of roads should be undertaken without prior permission of central Government under Forest (Conservation) Act, 1980.
   (iii) No breaking of fresh forest land is carried out.
   (iv) While black topping, adequate precaution should be taken by the user agency to avoid any damage to flora and fauna.
   (v) Plantation activities are taken up along the road at the cost of user agency, if the concerned Divisional Forest Officer finds it necessary.

2. However, for the repair and maintenance of roads in protected areas like National Park/Sanctuaries, prior permission of National Board of Wildlife shall be taken by the State Government on case to case basis in view of the Supreme Court order dated 14-2-2000 in Writ Petition (C) No. 202 of 1995"

**Coastal Regulation Zone (CRZ) Requirements**

The screening of environmental attributes confirms that no project road under Phase 1 falls under Costal Regulation Zones.

**Land Acquisition Act (1894) Requirements**

There is no anticipated requirement for this Act in the project.

**National Resettlement and Rehabilitation 2007 Requirements**

Maintenance activity for these roads under this project do not envisage any land acquisition, other than of a temporary nature, and therefore the policy is not expected to be triggered.

**Andhra Pradesh State R&R Policy Requirements**

There are no particular expectations for requirement as the project does not involve displacement of families from their lands.

However *ESMF-Appendix 19* proposes certain modifications to current R&R policy in order to provide for coverage of impacts that occur in such linear projects. Entitlement matrix in *ESMF-Appendix 21* covers the amendments to the R&R policy that are applicable to this particular project.
World Bank Safeguard Policies

The applicability of World Bank Safeguard Policies has been reviewed, as given in ESMF-Table 2.3. The Safeguard Policies reviewed were:

- Environmental Assessment (OP 4.01)
- Natural Habitats (OP 4.04)
- Forestry (OP 4.36)
- Cultural Properties (OP 4.11)
- Indigenous Peoples Plan (OP 4.10)
- Involuntary Resettlement (OP 4.12)
- Pest Management (OP 4.09)
- Safety of Dam (OP 4.37)
- International Waterways (OP 7.50)
- Projects in Disputed Areas (OP 7.60)

C. Process adopted in preparation of Environmental & Social Management Framework

The process adopted in preparing the Environmental and Social Management Framework (ESMF) was undertaken in a 6 step process.

Activity 1: Review of Relevant Project Documents
Activity 2: Environmental / Social Data Collection
Activity 3: Public / Stakeholders’ Consultation
Activity 4: Environmental/Social Screening & Scoping
Activity 5: Formulation of Safeguard measures
Activity 6: Preparation of ESMF

1. Identification of Valued Environmental Component (VEC)

The VECs identified and considered were: air, water, land, coastal, ecological, cultural. The details are covered under Appendix 6 and Appendix 7 of the ESMF.

2. Screening of Potential Environmental Impacts of Sub Projects

Environmental screening for each of the selected subproject. This will help to formulate mitigation measures commensurate with the impacts.

The social scoping included identification of the categories and types of impacts envisaged due to the project development.

Environmental Screening Criteria

Following criteria has been adopted for screening environmental impacts for each subproject:

- Screening of subprojects based on regulatory requirements i.e. as per EIA Notification of the Ministry of Environment and Forests, Government of India as well as other relevant environmental regulations, especially on forest and wildlife.
• Screening of subprojects based on anticipated impacts on valued environment components (VECs).

Screening of anticipated Social Impacts

The project involves only maintenance activities and though does not envision any major/adverse social impacts, a few selection criteria that could be used are as follows.
• no major land acquisition of a permanent nature
• no major displacement as in causing permanent loss of residential structure or livelihood
• no adverse impact to the marginal or vulnerable communities
• no adverse impact to tribal habitation that affects their cultural identity.
• no major loss of common property resources particularly to shrines/temples.

Besides the above mentioned criteria for screening of projects based on aspects stated, ESMF-Table 3.3 provides for identification of potential social impacts. All impacts will be enlisted and categorized as per the norms of the World Bank and the Government of India Guidelines. This activity will be carried out by the respective PIUs in consultation and support from the Special Land Acquisition Officer or the Resettlement and Rehabilitation Officer (as deputed from the Revenue Department to the RDC), besides the Package Manager. The PIU Executive engineer will be the responsible officer at the field level to monitor and facilitate the social surveys as per the formats provided in ESMF-Appendix 18

D. Environmental/Social Impacts and Mitigation Measures

1. Environmental Impacts

The project entails mainly periodic or routine maintenance works. Project roads are located in three distinct physiographical, ecological and agro-climatic regions - Telengana, Rayalaseema and Coastal of Andhra Pradesh.

Despite being located in different environmental areas, the nature of project activities will result in a set of construction related impacts, with their applicability-varying depending on the specific impacts arising out of a particular road of any region. There are no significant adverse environmental impacts anticipated. Potential adverse impacts are less significant, low magnitude, localized, such as in forest areas and dense settlements. These could be mitigated through effective environmental management measures. These impacts are discussed in details as part of ESMF.

Sections of three maintenance roads – refer to Table D1 following - are located in Rajiv Gandhi Tiger Reserve, which is a sensitive ecological area. Alternative alignments to avoid the tiger reserve are not possible as the proposed roads terminate within the Tiger Reserve. Given this, the environmental management measures (refer Section 4 of the ESMF) have been prepared through effective stakeholder consultations, addressing the wildlife issues, complying with the regulatory requirements. However, because of the time it takes to obtain wildlife regulatory clearances, maintenance works for the three roads need to be excluded from the road maintenance component of AP Road Sector Project.
Table D1: Roads passing through Rajiv Gandhi Tiger Reserve

<table>
<thead>
<tr>
<th>Name of Road</th>
<th>Proposed Contract Package</th>
<th>Section in Rajiv Gandhi Tiger Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyderabad-Srisailam Rd</td>
<td>9</td>
<td>128.6 to 191.0 km</td>
</tr>
<tr>
<td>Mahaboobnagar-Mannanur Rd</td>
<td>9</td>
<td>95.0 to 96.3 km</td>
</tr>
<tr>
<td>Hyderabad-Nagarjunasagar Rd</td>
<td>10</td>
<td>134.0 to 147.4 km</td>
</tr>
</tbody>
</table>

Due to the desired exclusion of the above three roads from maintenance works, and in the absence of viable alternative roads to include in Contract Packages 9 and 10, it has been decided to exclude these two Contract Packages from the OPRC component of the AP Road Sector Project.

2. **Social Impacts**

The social impacts have been identified through field visits to sample representative roads and examining the video recording of the remaining roads under Phase I. The proposed maintenance activities do not envisage any impact on cultural properties, residential properties, and commercial properties. No adverse impact on livelihoods anticipated. The proposed maintenance activities do not involve any land take except temporary use of lands for construction activities such as construction camp. However, due to illegal squatters and encroachments that has occurred over a period of time due to lack of vigilance and formal protection of the Public Right of Way (ROW). The presence of all properties (encroacher, squatter) within existing road formation width has been identified as presented in ESMF-Appendix 17 and summary of list of encroachments within ROW is presented in ESMF-Appendix 17a. The project interventions will not adversely impact any of this property identified since all the maintenance will be done with in the existing road width. In this regard it is necessary, as per the World Bank guidelines, to mitigate the same without any adverse impact to properties, persons or their existing livelihood opportunities in the project area – both direct and indirect. The framework for mitigation on social impacts, if any, is given in ESMF-Appendix 19.

**Anticipated potential adverse social impacts**

- Temporary inconvenience by hot mix plants/borrow areas
- Temporary inconvenience by workers camps,
- Temporary inconvenience to access roads
- Encroachment on shoulder due to squatters
- Encroachment on shoulder by commercial properties
- Encroachment on shoulder by mobile vendor kiosks
- Impact on standing crops
- Impact on Common Property Resources
- Temporary loss of income/livelihoods

A few key proposed amendments to the current AP R&R policy in order to provide for coverage of impacts that occur in such linear projects are provided in ESMF-Appendix 19.
3. **Pre construction Activities**

As the activities will be limited to rehabilitation of the existing pavement and maintenance of the drains for improving the road life and the condition in general there is not impact to any properties, persons or livelihoods living along the project road habitations.

4. **Construction Activities**

The construction stage of the project will generally involve:

*Traffic diversion:* temporary land uptake at various congested locations for diverting the traffic may be required.

*Construction Camp Site:* The project may involve establishing construction camp during the period of undertaking maintenance activity. This will involve provision of hot-mix plants and the workers camp.

*Hot-mix plant:* In case of any private land leased for a limited period, appropriate payment to the private owner should be provided. The basis of the payment should consider the quality of the land, irrigated, un-irrigated, orchard or barren land depending on its productivity. Available government land may be used with necessary consent of the concerned department / authority and making applicable amount of payment.

5. **Post Maintenance Construction Activities**

There are two activities (from the social point of view) that need to be carried out on completion of the maintenance activities. These are, the protection of the cleared formation width from any further encroachments or squatters settling down again. The second conduct periodic monitoring on all the stretches in this regard.

6. **Environmental Management and Mitigation Measures**

*Exclusion Criteria*

Most of the potential adverse impacts could be avoided and/or minimized by adopting certain preventive actions, which have been defined in the form of exclusion criteria. Exclusion Criteria relates to protection of sensitive land uses, including restricted maintenance activities in such areas; exclusion of construction facilities (camp sites, hot-mix plants, etc.) in areas of environmental importance; and guidelines on sourcing of material.

*Environmental Management Action Plan (EMAP)*

The project has identified and assessed potential adverse impacts on various VECs. Appropriate mitigation measures have been formulated to ensure that any adverse impact is within the acceptable limit. The EMAP has five key elements: (a) Minimizing the construction activities in sensitive areas through well defined exclusion criteria; (b) Compliance with regulatory requirements; (c) Responsive design measures to minimize impacts on wildlife; (d) Integration of Environmental management measures in to construction contracts in the form of technical specifications; (e) Effective supervision, monitoring, and reporting. The responsible agencies for
implementing and supervising each of the suggested mitigation measure have been identified. Accordingly, the Environmental Management Action Plan (EMAP) comprising environmental impacts, mitigation measures and responsible implementing and supervising/monitoring agencies is given in ESMF-Table 4.3. The EMAP also refers following guidelines to be adopted, as per the actual requirements of a particular Contract:

- Guidelines for construction camp – ESMF-Appendix 8
- Guidelines for plant/site management – ESMF-Appendix 9
- Guidelines for quarry area management – ESMF-Appendix 10

Social Management Framework Implementation Action Plan

Based on the field observations, it can stated that Social impacts are likely to be marginal or nil, as the maintenance activities will be restricted to available road width. Also the screening criteria provided should help selection of projects based on the degree of impact. In addition, informal consultations at specified intervals shall be carried out with the affected to ensure that any negative impacts are dealt with commensurate measures, besides M&E arrangements that are expected to provide the necessary oversight. The project does not envisage any rehabilitation and resettlement issues. However, there are number of encroachment and squatters within formation width as listed in ESMF-Appendix 17. In case, any of these properties are required to be shifted/removed on safety consideration or otherwise, at any point of time, the PIU and PMU will take various actions as mentioned in ESMF-Table 4.4, which provides social management framework implementation action, to comply with World Bank social safeguard policies.

E. Institutional Requirements and Monitoring

1. Organisational Structure

The RDC and the Consultant gave a thorough consideration of the organizational requirements for managing and monitoring the environmental and social aspects of the project. The recommended project level ESMF Implementation Organization Structure is shown in following diagram E1. The roles and responsibilities are defined in ESMF-Table 5.1.

For ensuring that ESMF is appropriately implemented, in the Bidding Documents the Contractor shall nominate a qualified and experienced engineer as Environmental and Safety Officer (ESO) and a Resettlement & Rehabilitation Officer (as necessary) from the commencement to completion of the project.
2. **Environmental and Social Monitoring Program**

The proposed monitoring program would start with the Contractor submitting their plan of implementing safeguard measurements through the **Contractor’s Checklist on Environmental and Social Issues** as given in **ESMF-Appendix 14** and form part of Contract Document for maintenance works. PMU will give approval to the submitted filled in Contractor’s Checklist and will become a base plan on environmental and social safeguard measures for a particular subproject. The proposed Compliance Checklists at pre-construction, construction and post-construction stage of LTPBMC implementation, as given in **Appendix 15a, Appendix 15b**, and **Appendix 15c** of the ESMF, will be used for reporting, monitoring and supervision of ESMF implementation. The Contractors will submit to PIUs the action taken on environmental and social safeguard measures through these compliance checklists, in line with the Contractor’s Checklist as baseline plan. PIUs will review, check and submit these compliance checklists to PMU along with its comments and observation, especially highlighting major non-compliance, if any. PMU will report World Bank about the status of safeguard compliance through its periodic progress reports.

F. **Integration of ESMF Activities**

1. **Integration of EMP with Bidding Document**

The proposed safeguard measures will be implemented by Contractors. Accordingly, the environmental management measures proposed as part of the ESMF have been integrated in the construction contracts in the form of technical specifications and environmental performance requirements. Further, ESMF has been referred in the bidding document for contractors to take necessary provision in their bids so as to ensure compliance with various safeguard measures suggested herein. The Contractor’s Checklist provided in **ESMF-Appendix 14** form part of Contract Document for maintenance works. The contract document also has penalty provisions in case of non-compliance with environmental specifications/performance.

The implementation activities in relation to the resettlement and rehabilitation are to be conducted and completed before any construction activity is initiated. As the resettlement issues under this project are not related to land acquisition or impact to minimum number of structures and all are encroachments or squatters it does not restrict civil activities to be undertaken. An environmental specification has been included in bidding document. The necessary provisions regarding Contractor’s Environmental and Safety Officer, penalty provision on non-compliance etc. have been stipulated in bidding document.