

1. Team Leader

Task description:

He will be overall in-charge of the Project Supervision Team. He shall be responsible for the overall implementation activities (assisted key professionals and other support staff). He shall coordinate with the subordinate team to ensure that the construction process proceeds as per established procedures. He will also directly interact with the client.

Qualifications:

- Graduate in Civil Engineering and a postgraduate qualification in any civil engineering discipline is desirable
- 20 years of professional experience including a minimum of 4 years of experience working as a Team Leader/Project Manager or equivalent supervision/construction of Highway (flexible and rigid pavement) Projects
- At least 4 years' experience on major highway projects developed countries and a minimum of 6 years' experience on major highway projects in developing countries, including in Asia
- Minimum of 8 years' experience on projects incorporating the FIDIC Conditions of Contract
- Previous experience as a Team Leader or equivalent on at least two major construction supervision projects of 2-lane/4-lane/expressway costing more than US\$ 50 million or at least 100 km in length

2. Resident Engineers

Task description:

The Resident Engineer will be in-charge of the respective contracts supervision and coordinate with the concerned site supervision team members regularly. He shall be directly responsible for regulating the construction process i.e. various activities like earthwork, sub-base/base courses, bituminous/concrete pavement, bridge/culvert works proposed for being carried out and assess the need for any minor design modifications.

Qualifications:

- Graduate in Civil Engineering with a postgraduate qualification in highway/transportation engineering is desirable
- Senior Highway Engineer with minimum 15 years professional experience with four years' experience as a Resident Engineer on major construction works in at least two different countries, particularly in Asia
- Four years' experience with international donor-funded project based FIDIC conditions of contract
- Knowledge of pavement design and familiarity with implementation aspects of environmental management plans is essential

3. Structural/Bridge Engineer

Task description:

Guiding the field supervision teams in checking of reinforcement/cable laying operations, rectifying any apparent mistakes in respect of them, checking and controlling the proper mix designs, checking the adequacy of proper form-work, laying/compacting of concrete including curing operations. He will work in close coordination with other members of the project team to effectively control the quality of execution. He will be responsible for minor modifications in

design of bridges/culverts, wherever required during execution. He should have working knowledge of latest software used in design of bridges like STADD Pro.

Qualifications:

- Graduate in the field of civil engineering, a postgraduate qualification in the field of structural engineering is desirable
- At least 15 years of professional experience including at least 10 years on bridge construction projects: 3 years in design and 7 years in construction of bridges
- familiarity with modern methods of construction of bridges, design methods & standards, technical specifications and statistical quality control/assurance procedures for construction of different component of bridges
- At least 4-year experience in rehabilitation/repair/ maintenance of bridges
- Experience in construction of deep foundations
- Pre-stressed concrete bridges construction is essential and experience in the construction/construction supervision of at least three major highway bridges of length more than 100m as Bridge Engineer/Structural Engineer
- Experience as bridge engineer on construction projects in developing countries

4. Quantity Surveyor Claim/ Contract Management Specialist

Task description:

Will guide and assist Team Leader/ client in all aspects of contract management in proper implementation of conditions of contract provisions including controlling the project cost of all the construction contracts. He will also be required to offer his advice on contractual issues arising during the implementation as per the request of the client. The expert will report on all measures required to control the project cost and time over-runs. He will examine the claims of the Contractors, variation orders if any, claims.

Qualifications:

- Civil engineering graduate
- A minimum 15 years of relevant experience with specializing in quantity surveying/contract management
- Experience of handling KfW/World Bank/ADB/NHAI funded projects will be an added qualification.
- Contract on ICB norms, including experience of handling variation orders to contracts, claims of Contractors
- Minimum 5-years' experience in handling contract management and claims processing in large road/highway/expressway projects including about 3 years on projects in developing countries preferably in external aided projects
- He should have also handled arbitration cases in respect of any project involving use of FIDIC conditions of contract, experience in the field of estimating, preparation and processing of the invoices, analysing rates, checking survey details etc. of the projects
- Minimum 15 years of relevant professional experience involving resource planning and scheduling, quantity survey, cost control, contract management, rate analysis, processing of invoices, preparation of variation orders, claims, and understanding of the latest internationally adopted Conditions of Contract etc.
- Minimum of 5 years of experience as a Quantity Surveyor on major projects.
- Experience in externally aided projects/FIDIC conditions are essential

5. Quality/Materials Engineer

Task description:

He will be responsible for preparing the quality assurance and testing program for the consultant. He will guide the field supervision teams in supervising all the tests to be done in different stages of construction, besides ensuring that specified tests are done as per codal stipulations and as per the specifications laid down in the contract for the different stages of construction. He will be coordinating and controlling the support personnel placed with him and will report to the Team Leader

Qualifications:

- Graduate in Civil Engineering and preferably with post graduate qualification in Highway/Geo-technical Engineering
- Minimum 15 years of relevant professional experience including at least 5 years as Material Engineer/Geo-technical Engineer in Highway construction projects
- At least 2 major highway projects costing not less than US\$ 25 Million as Material Engineer/ Geo-technical Engineer
- Familiarity with properties of road construction materials, technical specifications and procedures of material tests and testing equipment and should have past experience in working on road projects running on expansive soils
- Experience working as material engineer on similar projects in developing countries
- Experience in the organization and layout of the various Contractors' field laboratories, monitoring the mobilization of the testing equipment to ensure that the laboratories are adequately equipped and capable of performing all the specified testing requirements of the contracts, and supervising the setting up of the various Contractors' rock crushers and bituminous mixing plants to ensure that the specified requirements for such equipment are fully met
- At least three years of experience in flexible pavement and bituminous mix designs, familiar with establishing quality assurance programs in highway projects.
- Knowledge of pavement design is essential

6. Construction Safety Specialist

Task description:

The Construction Safety Specialist will be responsible for reviewing and approving the construction safety plans and traffic management and safety plans prepared by the Contractors and ensure their strict compliance. He/she will be also responsible for reviewing all temporary works / staging along with the structural / bridge engineer from the safety point of view. The safety specialist will guide the field supervision teams and the Contractors' site officers in complying with adequate construction safety standards in worksites, plant sites and quarry locations (if quarries are independently operated by the Contractors) and will undertake hands-on-training programs and conduct mock safety drills as required from time to time.

Qualifications:

- Graduate in civil Engineering and preferably with a postgraduate qualification in industrial and construction safety
- OHSAS certification will be mandatory

- A minimum of 10 years of relevant professional experience including at least 5 years on a road / bridge construction site in the capacity of a safety engineer
- Experience in working on deep foundations, at heights and live traffic situation as well as providing safety training to construction managers and workers is highly desirable

7. Environmental Engineer

Task description:

Develop, organize and deliver environmental training programs and workshops for the staff, Client, Contractors, Site Supervision Engineers and other relevant stakeholders; Review the Contractors' Environmental Implementation Plans to ensure compliance with the Environmental and Social Management Plan (ESMP); Supervise the implementation of the EMP by the Contractors. Develop good practice construction guidelines to assist the Contractors in implementing the EMP; Assist with the mobilization of consultants for periodic Environmental Monitoring (air, noise, water, etc.); Assist with the preparation and submission of regular environmental monitoring and implementation progress reports; Provide recommendations on the contractors' payment certificates relative to environmental compliance.

Qualifications:

- Graduate degree in civil engineering as well as a postgraduate with specialization in environmental engineering
- Minimum 10 years of relevant professional experience including about 6 years of work experience related to environmental issues
- Experience in implementation of EMP in externally aided/FIDIC based major highway projects is essential
- Experience in implementing EMPs and organizing training to Contractors' and Employer's staff
- Familiarity with procedures for obtaining environmental & forest clearances for project roads passing through reserve forests, national parks or sanctuaries etc.

8. Social expert

Task description:

Review and approve the Project Area Environmental and Social Management Plans submitted by the Contractors (PA ESMPs); Ensure that the ESHS provisions are consistent with *national requirements* and international good practice standards, and put forward to Contractors, sub-Contractors, and to suppliers, in particular those for major supply items. Ensure that the Contractors takes all necessary steps to protect the environment on and off the site. Ensure compliance with environmental and social impact mitigation measures as specified in the respective PA ESMPs. Assist the Employer in coordinating with different agencies. Provide guidance and monitor the performance of the Consultant's site-based and the Contractors ESHS officers.

Qualifications:

- Master's Degree in Social Work/ Sociology/ Psychology
- Minimum 8 years in: social impact assessment, resettlement and rehabilitation, and preparation and monitoring of resettlement policy framework, entitlement matrix, resettlement action plan and social management plan for donor- funded (such as WB / ADB/ KfW etc.) infrastructure projects