

# Scope of Services

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- Carryout Topographical Surveys
  - Alignment Studies
  - Hydraulic Studies including Hydraulic Model Studies wherever required.
  - Preparation of Preliminary Plans and carryout Optimization Studies to determine the type of structure.
  - Preparation of Feasibility Studies based on Traffic Surveys and other Parameters
  - Preparation of Implementation Studies
  - Preparation of Design Reports
  - Preparation of Tender Documents
  - Evaluation of Bids
- Pre-construction Studies Major projects may require extensive pre-construction studies and investigations for planning the construction operations and for identifying factors that may affect certain aspects of final design. These investigations may also be necessary for identifying those specific operational and administrative constraints that need to be reflected in the contract documents. A. A. Associates carry out pre-construction studies and investigations both for project owners and contractors. These studies may include:
- River or traffic diversion plans
  - Planning of major ground reclamation or soil improvement operations.
  - Planning of construction yards, facilities, precasting beds, material handling and concrete transportation systems, labour and staff accommodation, plant locations etc.
  - Planning of site access roads and rail and construction support services.
  - Availability of local human resources, work force to be brought from outside (categories and periods) etc.
  - Evaluation of ground conditions to ensure that unforeseen problems are not encountered during construction and to develop solutions to problems likely to be encountered.
  - To evaluate the site conditions to ensure that construction methods and sequence are compatible with the site constraints.

**Project Management** A. A. Associates provide comprehensive project management services. These services can be integrated for all work packages or can be structured to suit the specific requirements of the owner or the sponsors. The general scope of these services covers the following:

- Issuing notices to proceed to the contractors.
- Evaluation of contractor's work plans, schedules, plant & equipment, staffing and management capabilities.
- Checking sources of materials, supervision of testing of materials.
- Quality control during construction, continuous sampling and testing, compliance with specifications, approved drawings & instructions.
- Review of shop drawings and submittals.
- Review of contractor's construction methods, sequences and procedures.
- Maintaining plant and labor returns.
- Preparation and issuance of variation orders.
- Checking of quantities of completed works.
- Supervision of testing of completed work such as water lines, electrical circuits etc.
- Review and verification of progressive invoices of contractors, certification of progress payments.
- Scrutiny of contractor's claims and recommendations thereon.
- Weekly and monthly progress meetings and reports.
- Liaison with outside agencies wherever appropriate.

**Construction Management** A. A. Associates can also provide construction management services for the execution of parts of work or for the entire project. In this case A. A. Associates deliver construction packages on turn-key, design-construct basis. Actual contractors are selected by the owner or the project sponsors and the contractors work under the management of A. A. Associates who assume full responsibility in all respects for the assigned and agreed scope of work.

**Construction Supervision** AA have provided construction supervision services for a number of major projects funded by the World Bank, the Asian Development Bank and various agencies of the government of Pakistan. The company is well staffed with qualified and experienced engineers and technicians for the superintendence and supervision of all types of projects including roads, highways, bridges, marine structures, industrial and commercial buildings.

These services include:

- Review of contractor's shop drawings.
- Review of contractor's alternative designs and the design of temporary works.
- Review and monitoring of contractor's construction procedures and methods.
- Site inspection
- Quality evaluation, control and assurance.
- Monitoring compliance with specifications and approved drawings.
- Tests on materials and completed work.
- Supervision of geotechnical investigations and deep foundation construction.
- Qualification procedures of testing laboratories and technicians.
- Checking of falsework and formwork.

- Work acceptance tests.
- Work acceptance, measurement and certification.
- Technical assistance to the contractor.
- Scrutiny and verification of contractor's bills.
- Management of change orders, variations and general contract administration.
- Evaluation of contractor's claims and dispute resolution.