Infrastructure Projects and Need to Avoid Barriers

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Abstract - It is well known fact that delays in infrastructural projects are mainly due to various hindrances. Hindrances are part and partial of the projects. Project's success depends on how efficiently and intelligently, we are able to deal with them. These start from conceptualisation of project and remain till completion of it. It requires use of various skills and resources in a lawful manner. In this write up, we will try to attract attention of client department towards simplifying their processes by considering various aspects related to improvements those are useful and helpful in managing hassles free running of infrastructure projects.

Acquiring Lease / Free Hold Land

The foremost requirement of any projects is availability of land. Various possible aspects and appropriate options for suitable project site selection should be considered with the help of reconnaissance and primary survey of the area. Aspects of sustainable development and environmental issues should also be given priority. Law and policies of government along with local constitutional authorities, ecological issues, demographical and geological issues, safety concerns of floods, land slide, Tsunami etc. should be thoroughly studied before finalisation of project site selection. Project site should not be problematic during construction or its service life. While acquiring the land every possible aspects such as approach, conveyance, disputes, cost of compensation and rehabilitation, availability of local materials, artisans, past historical data etc. should be taken into accounts. Priority should be given to the freehold land up to the possible extent. It should be mandatory that land acquiring process should be completed well in advance before starting project formulation. Most of the times, dispute starts with execution agencies, when the project works are awarded to them in anticipation of land acquisition, but if the acquiring process is delayed due to one or an another reasons the disputes are deepened. Another problem occurs when due to urgency of works and shortage of time, detailed soil explorations in the selected areas are not fully conducted. Under such circumstances many uncertainties of soil behaviour remain unsolved, due to start of works quickly. In the absence of soil explorations, many decisions may go wrong e.g. selection of type of foundations, specifications, strengthening of soils or requirement of remedial measures, preparation of contingent plans etc. So, there is need to acquire land timely and carefully by considering all possible important aspects.

Planning and Designing Aspects of Projects

It is most important part of projects formulation to evaluate various quantities of items, selection of appropriate materials, specifications, ease in working, deciding functional movements, maintenance solutions, aesthetics and ambiance finalisation. In today's world the requirements have been changed in every field of life. During the planning now new / innovative, cost effective ideas and feasible technologies are available and should be the part of projects. In fact today's requirements have also changed for every type of project , if we see residential buildings requirements, the air conditioners, freezers, ovens, washing machines, geysers, kitchen processors, microwave, utensils wash, water purifiers, hot plates, mixers, heaters, televisions etc. become the common requirements for each house holder. Therefore provisions for their proper housing should be made during planning stage. Same is true for all other type of structural projects also. Due to increasing awareness and new innovations, the specifications are also changing, for example to save environment materials like steel, aluminium, plastic, glass are being used as substitute of materials of wood. Similarly, more choices are available for materials of walling, flooring, waterproofing, finishing, plumbing and electrical fittings and fixtures etc., so the specifications of different items should be decided carefully keeping in view their usability, life, look, finish and sustainability. As much as possible, most of the detailing related to architectural, structural, services, fittings and fixtures, location plans in the form of drawings or notes should be provided to the estimators. It will ease the work of estimators, supervisors, contractors, users as well as maintenance agencies also.

Accuracy in Estimates

Estimates can never be cent percent correct. These are bound to be deviated either positive or negative side in quantities based on the site conditions during works execution. The deviation within permissible limits does not create much troubles. The inflated estimates beyond the specified limit create many problems. These are major cause of conflict between client, execution agencies and users also. A considerable amount of time is lost in shorting out their problems. So, Extra efforts are needed in maintaining smooth progress of works. Client department sometimes have to pay heavy costs to the contractors due to large deviations in quantities. Delayed approvals also attract arbitration cases. Main causes for inflated estimates are:

- Non availability of complete drawing details to estimators
- Ambiguities in drawings or specifications
- Allowing very short duration for preparation of estimates
- Lack of skill / experience of estimators
- Poor coordination between estimators of different disciplines in charges.
- Lack of awareness about future scopes of expansion.

Ernest efforts are essential to prepare accurate estimates as far as possible in order to minimise many consequences at execution stage.

Approvals

Approvals include administrative approvals, municipal approvals, financial sanctions and technical sanctions from competent authorities. These approvals require basic drawings and detailed working drawings, contour maps, location plans, estimates (preliminary, lump-sum or detailed), specifications, general terms and conditions of contract, special conditions of contracts and documents for NIT (notice inviting tenders) etc.. Care should be taken that items language should be unambiguous in each item of estimates, contracts terms & conditions. Notes on drawings and specifications should be spelt with clarity. Various documents, which may not be enclosed with estimates, like government rules and regulations including their amendments from time to time, references of national or international codes of practice and standards, applicable work manuals, good practices, contingency plans and responsibilities of insurances of works or workers, safety manuals, cost escalation clause along with reference index etc. should be mentioned in contract documents stating that these all will be part of general conditions of contract. It will help supervisory persons in taking decisions fast and quick, during execution of works, as per laid down procedure and conditions of contracts.

Award of Works

Award of works are done by competitive bidding between eligible firms, locally, nationally or internationally depending on the cost of the project. Specialised firms are awarded works of their respective fields. Here timings of different bids are important, and should be done simultaneously. For smooth running of contracts efforts should be made to minimise the number of contractors / contracts in order to deal with lesser number of contractors. Time of completion allowed should not be based on project cost only, but it should be allowed after considering various conditions like, climatic and geographic, restricted entries to site for workers, restricted working shifts etc. A work plan should always be asked from contractors (represented through bar charts, critical path network or pert network etc) for ease in monitoring the works execution and monitoring progress. Tender to be accepted should be balanced for award of work (as in unbalanced tenders, contractors quotes their higher rates for items which are to be executed first and low for the rest), and if needed negotiations may be held with lowest firm to make their rates reasonable.

Execution of works

It is to be decided before award of work and agreement between client department and contractors that the works are to be executed in one go or in phased manner, depending on financial or land resources available. It is essential to follow work schedule and specifications judiciously and smoothly without any disputes with contractors' during execution. All records of drawings, site registers, tests conducted at site, laboratories or test certificates provided by the manufacturers, changes proposed as per site conditions should be well maintained and documented properly for future references. As far as possible payments should be released timely for the items which are executed as per specifications and full fills conditions of contract. There should always be well coordination and harmony between different construction agencies.

Arbitrations

It is the process of resolving disputes between contractors and client department, Firstly efforts should be made to solve problems by mediation. If not the matter is heard by the sole arbitrator on technical grounds for claims or counterclaims submitted by contractors and client department, under the contract clauses. If the problem is not solved by the sole arbitrator also, the contractors may go to court of law to appoint another arbitrator to hear about their claims.

It is true that prolonged disputes always hamper the progress of project. If this barrier is removed or minimised, the progress of projects will go faster and trouble free. To avoid disputes and problems the following measures may be adopted:

1. Supervisory staff should be well qualified, experienced, having knowledge of every clause of contracts.
2. He should be well acquainted with drawings and specifications of project work.

3. He should be well trained for enforcing methods of execution and mode of measurements of different items of works, so that defects free construction may take place and contractors may not mislead the client departments.

4. He should be able to handle works with good coordination between different contractors simultaneously.

5. The progress should be monitored following work schedules and if, some case contractor is lacking in progress, he should be informed in writing under the intimation to higher authorities.

6. Tests of various materials should be done before their use in construction. Tests may be at site labs or accredited labs. In some cases lot test certificates of manufacturers may also be accepted for quality assurance.

7. All payments should be paid well in time as per conditions of contract.

8. Efforts should be made to execute work defect free following proper procedure to avoid dismantling and redoing.

9. Defective work if any should be immediately reported to contractor in writing with copies to higher authorities. Corrective measures should also be taken immediately.

10. Appropriate decisions required at site should be given on priority by the competent authorities, like changes in specifications, drawings etc.

11. Execution of extra items if needed, approvals should be taken prior to execution of these items.

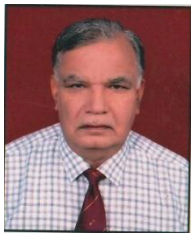
12. Do cardinal behaviour from contractors and their staffs, it will help in avoiding many small - small disputes.

13. Efforts should be made that the deviation in quantities should be minimum within permissible limits as mentioned in the contract, but in case there are possibilities of increasing quantities to be executed, approvals for rates should be finalised first, before execution with consent of contractors.

Conclusion

There are many means and ways to avoid litigation and disputes between client department and contractors by following good practices, proper training to supervisory staff as per need of project along with procedural and behavioural aspects. We should fully cooperate with construction agencies also without compromising quality aspects. Our careful actions for accuracies in planning and detailing, readiness for contingency plans, providing a timely decision will certainly break many barriers in the smooth running of infrastructure projects.

BIOGRAPHIES



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