

PROCEDURE FOR PLANNING & EXECUTION OF CAPITAL WORKS AT IIT KANPUR

Please find below the details of procedure followed at IIT Kanpur, in respect of planning & execution of capital works :

- 1) The following is the sequence of activities in the planning stage :
 - ❖ User Group is constituted by the Administration to identify the requirements of space and facilities. The group interacts with IWD to fine-tune the requirements and to draft an approach paper.
 - ❖ An Architect is appointed to prepare concept plans, on the basis of the approach paper. The concept is finalized after several rounds of discussion with user group and IWD.
 - ❖ The concept plans undergo several modifications before they are approved by the administration, with the consent of user group and IWD.
 - ❖ The Architect releases the approved concept plan, brief specifications of work, 3D model of the proposed building, along with the **Preliminary Estimate**.
 - ❖ IWD scrutinizes the proposal comprising of preliminary drawings and estimate, to ensure that it meets the specified needs of the user and that the proposal is cost effective.
 - ❖ The proposal is then placed before Building & Works Committee (B&WC), through advance circulation of agenda. The proposal is discussed in a scheduled meeting and the views of the members are ascertained. The Chairman B&WC is usually authorized to process the modified proposal for further necessary action.
 - ❖ The major capital projects are then placed before Finance Committee for clearance and for recommendation to Board of Governors (BOG) for approval.
 - ❖ The project is then listed as an agenda for the meeting of BOG and the **Administrative Approval & Expenditure Sanction (A/A&E/S)** is accorded by BOG.

- 2) After accord of A/A&E/S, the Architect is given clearance to proceed with the preparation of detailed working drawings. The following drawings & designs by Architect are submitted to IWD for approval:
 - ❖ Architectural drawings
 - ❖ Structural drawings
 - ❖ Plumbing schemes
 - ❖ Electrical schemes
 - ❖ Air-conditioning drawings
 - ❖ Interior design

- ❖ Furniture layout drawings
- ❖ Networking schemes
- ❖ External services plans
- ❖ Landscape drawings

- 3) After the working drawings are finalized, Detailed Estimate (D/E) is prepared by the Architect for invitation of tenders. The D/E is scrutinized by IWD and the cost is optimized by value engineering in order to keep the probable value of work within the provisions available in the A/A&E/S.
- 4) **Technical Sanction** (T/S) is accorded by Superintending Engineer, irrespective of the value of work. The accord of T/S is a guarantee that the detailed proposals are structurally sound and that the estimates are accurately calculated on the basis of adequate technical / field data. He also ensures that the proposal is most economical.
- 5) **Tenders** are invited on the basis of the technically sanctioned detailed estimate. For works costing above Rs. 2.00 (two) crores, procedure of two-stage tendering is adopted. The first stage is a qualifying round in which the applicants are pre-qualified on the basis of a pre-determined eligibility and qualifying criteria. The applications are invited in the prescribed format, after giving nation wide publicity through national dailies.

A committee, comprising of a senior Faculty, Superintending Engineer, Dy. Registrar (Finance) and the concerned Executive Engineer, is constituted by the administration to approve the list of short listed contractors. In the second stage, tenders are issued to pre-qualified contractors only for submission of financial bid. The work is awarded to the lowest bidder unless his bid is found to be defective or unaccepted on genuine grounds.

For certain specialized works costing even below Rs. 2.00 (two) crores, two-stage tendering is resorted to, in order to ensure participation of only competent contractors in the financial bidding.

For works costing below Rs. 2.00 (two) crores, single stage tendering is adopted. After giving wide publicity to Notice Inviting Tender (NIT), applications are invited from and tender documents issued to eligible contractors. The procedure and eligibility criteria prescribed in CPWD Manual Vol.-II is adopted for screening the applications. Applications are short listed by a committee under the Chairmanship of Superintending Engineer.

- 6) The tenders are invited on the basis of the following documents :

- ❖ General Conditions of Contract for CPWD Works – 2001.
 - ❖ Special Conditions of Contract drafted & approved by IWD.
 - ❖ Schedule of Quantity, on the basis of Detailed Estimate.
 - ❖ Detailed working drawings.
 - ❖ CPWD specifications, BIS specifications and additional specifications framed by IWD.
- 7) The processing of tenders, involving the following stages, is carried out by IWD :
- ❖ Preparation of comparative statement.
 - ❖ Preparation of Market Rate Justification of tender, on the basis of Delhi Analysis of Rates.
 - ❖ Identification of high & low rated items.
 - ❖ Preparation of scrutiny note for consideration of B&WC.
 - ❖ Negotiation with the lowest tenderer, if necessary.
 - ❖ Presentation of tender before B&WC.
- 8) The **tender** scrutiny note is circulated to the members of B&WC, well in advance, as part of the agenda. The tender is discussed during the meeting and the views of the members are obtained. The Chairman is usually authorized to approve the tender after taking the views of the members into consideration. The approval of tender is subsequently ratified in the next meeting.
- 9) The **Letter of Award** is issued by the Superintending Engineer after the tender is approved by the Chairman, B&WC, as per the guidelines of CPWD.
- 10) The **Execution of Work** is carried on the basis of detailed architectural drawings issued by architect, scrutinized and checked by IWD and approved by the competent authority. The Engineer-in-charge certifies the quality of works and then the measurement of every item in detail is submitted by the contractor for payment. The team of Junior Engineer /Assistant Engineer & Executive Engineer certifies the measurements and quality of work. Once the quantity and quality of work is ascertained the process of payment is initiated by the contractor on the basis of actual work executed by him.
- 11) The **Quality of Work** is checked as per the procedure and guidelines of Central Public Works Department. The quality check includes testing of each and every material used in the project as per the required frequency recommended by CPWD / National Building Code / Indian Standards / Manufacturers specification.

The quality control checks are further strengthened by an inspection from Central Technical Examiner (an independent agency under the control of Central Vigilance Organisation, Govt. of India).

12)The **Payment to the Contractor** is made through bill submitted by the contractor, based on actual measurements and tendered rates, duly checked by JE, AE & EE. The bill is then scrutinized by the Internal Audit of the Institute on a regular basis before the payment is release to the contractor.

The same is further scrutinized by Accountant General (Audit) once every year.

13)The actual cost of work is sum total of actual work executed to various agencies involved in the construction i.e. Civil work, Electrical Work, Air-conditioning Work, Furniture, Horticulture, Development, Special works, Equipments, Miscellaneous, Architect Fees etc.

14)The compliance report of progress of work and expenditure is submitted to the competent authority every month.

Note : The procedures & practices adopted by IWD, IIT Kanpur are in total conformity with the CPWD model, in general.