

Indian Institute of Technology, Kanpur
Office of the Dean of Infrastructure and Planning

DOIP/IITK/2021/OO-01

Date: 21/01/2021

OFFICE ORDER

Subject: Guidelines to IWD for preparation of estimate for all construction works

The requests for the approval of estimates for all construction works should accompany GFC (Good for construction) drawings based on detailed plans, design, specifications, and proper engineering reason for adopting such specifications. The drawings should show the actual quantities (rounded as per engineering principles) of key components based on exact calculations. The supporting documents should also include details of the project with a complete description of all construction elements involved, specifications adopted, a comprehensive design basis report and the draft tender document with the complete scope of work in electronic format. The basis of calculation of all quantities must be the detailed design and GFC drawings. Requests with ambiguity and/or *ad hoc* approach will not be considered for further review and will be returned to the preparer.

The specific supporting documents required for approval of estimates for Civil / Electrical/ Air-Conditioning works are listed in Annexure A

This Office Order is issued with the approval of Competent Authority and is effective from the date of the issuance of the office order.



Dean, Infrastructure and Planning

To: SE, IWD and All EE'S, IWD

Copy to:

- 1) Dy. Director
- 2) All Deans
- 3) Registrar
- 4) Account Section
- 5) All Heads of the Departments/ IDPs/ Centres/Sections/Unit-in-charges
- 6) Hindi Cell for translation in Hindi
- 7) Web Master - for Circulation

Annexure A: List of the documents to be submitted

For Civil Works

- ✓ **Drawings:** Location and site layout plan, water supply and drainage layouts to scale, architectural drawings showing plan, elevation sections and schedules, landscape drawings for horticulture work, plumbing drawings, fire-fighting drawings, structural drawings with detailing of reinforcement and any other relevant drawings pertaining to individual projects.
- ✓ **Design basis report:** Details of structural system adopted for foundation and superstructure with proper justification for the nature of usage and expected service life, a table of adopted structural standards and code, construction materials, loading details and load calculation sheet, design concept, analysis and any other relevant design details pertaining to individual projects.

For Electrical Works

- ✓ **Drawings:**
 - **For cable laying/repair/relocation:** Location and site layout plan, cable layout routes drawn to scale,
 - **For sub-stations, switch-yards and switch rooms:** layouts with major electrical equipment dimensioned and drawn to scale in allocated spaces with single-line diagram and riser diagram
 - **For individual users/labs/end-use facilities:** wiring diagram showing switch-boards, Ethernet ports electrical floor plans and other fixtures with legends and symbols coordinated with architectural plans and another relevant drawing pertaining to individual projects
 - **For lighting installations:** purpose of illumination (proposed usage), area to be illuminated drawn to scale, proposed location of lamps, height of installation to be clearly indicated.
- ✓ **Design basis report:**
 - **For cables:** voltage level, insulation specifications, conductor material, cross-section and configuration, estimated load to be fed with brief justification; justification in case of cable replacement before CPWD specified cable lifetime
 - **For transformers, switchgear, VAR/harmonic compensators and accessories:** voltage, current, kVA/MVA, frequency, THD values as appropriate, need statement with load details/estimates, existing problems to be addressed
 - **For lighting installations:** illumination design with adequate lux level for the intended usage category (whether indoor or outdoor), justification of pole height and pitch
 - **For individual users/ indoor labs/ end-use facilities:** details and justification of fixtures, number of electrical outlets and Ethernet ports, special end-use requirements, if any, to be ratified by competent authority
 - **In all the above cases, details of adopted codes and standards, any other relevant design details for electrical components pertaining to individual projects to be attached**

For Air-conditioning Works

- ✓ **Drawings:** HVAC duct and piping layout, mechanical room equipment layout, typical layout of all ceiling devices coordinated with architectural plans, any another relevant drawing pertaining to individual projects.
- ✓ **Design basis report:** Heat load calculations for each space, design for major duct and pipe runs, insulation/lagging material, equipment sizing design, a table of adopted codes and standards, any other relevant design details pertaining to individual projects.