

No. RW/33044/2/88-DO II

Dated the 19th Jan., 1989

To

The Chief Engineers of State PWDs and Union Territories dealing with National Highways and other Centrally Financed Schemes; Director General (Works), CPWD; Director General Border Roads.

**Subject:** Execution of bridge works on National Highway and under Other Centrally Financed Schemes Revised Procedure for approval of Bridge Estimates so as to facilitate call of tenders based on departmental designs.

Instructions were issued vide this Ministry's Circular No. NH.I-37(2)/70 dated 2.4.1970 that for bridges with individual span lengths of 25 metres (80 ft) or less and overall length of bridge not more than 5 spans of 25 metres (400 ft.) tenders will have to be only on item rate basis on departmental designs, while for other bridges lumpsum tenders based on alternative designs could be invited. These instructions were reiterated vide letters No. NH VI-50(3)/83 dated 15.7.1985 and 16.12.1986. It is however seen that these instructions are not being strictly followed and many bridges are still being let out on contractor's alternative designs. This is leading to considerable delay in execution of bridge works as difficulties are being experienced in expeditious approval of detailed working drawings based on alternative designs of contractors. In view of this, it has been decided that henceforward all tenders for bridges on National Highways and under other Centrally Financed Schemes, shall be only on item rate basis on already approved designs except in those cases in which the Ministry specifically permits tenders based on alternative designs. The revised procedure for approval of estimates and call of tenders is outlined in the succeeding paras.

1.1 Topographical, hydrological and sub-soil investigations should be carried out properly and accurately in advance so that all necessary data required for design of the bridge and preparation of complete structural designs are available. For major bridges, hydrological investigations shall be got done through Hydraulic Research Stations/Institutes with proper co-ordination at each stage.

1.2 In view of the problems being faced in collection of totally undisturbed soil samples for testing and the difficulties in reconciling the variable results and interpretations thereof, given by different agencies/research laboratories, it is now decided that detailed: sub-soil: investigations shall be carried out only once i.e. at the time of detailed project preparation. For a fully developed departmental design, proposal for foundation shall be formulated on the basis of these detailed investigations and no further confirmatory bores shall be called for from the contractor who takes up the construction work later on. It shall, therefore, be ensured that soil investigations are carried out in a complete and thorough manner with the required equipments so as to furnish reliable results.

2. The revised procedure to be followed now for project preparation is outlined in Annexure-I.

3. In case some State PWDs are not having proper organisation within their present set-up for carrying out detailed investigations and preparation of designs and working drawings, detailed project preparation may be entrusted to competent consultants who will perform the functions required to be carried out by State PWDs vide items 1, 2, 3, 5, 8 and 9 of Annexure-I. The consultant will be responsible for carrying out detailed topographical,

1-Supersedes circular dated 02.04.1970, 15.07.1985 & 16.01.1986

hydrological and sub-soil investigations, interpreting the data obtained and preparing complete technical proposal including structural designs and working drawings for approval of State PWD/Ministry. He will also co-ordinate hydrological investigations with Hydraulic Research Stations/Institutes for major bridges. Also, bill of quantities, tender papers, pre-qualification documents, methodology of construction and details of system of quality assurance, acceptance criteria and documentation shall be prepared by him for approval of State PWD. The same consultant will also be available during the period of construction of the bridge so that any changes in designs/drawings required on the basis of site conditions will be carried out by him.

4. For works where Ministry permits alternative designs based on contractor's proposal the existing procedure shall continue.
5. This Circular supersedes instructions issued on the subject vide this Ministry's Circular letters No. NHI-37(2)/70 dated 2.4.1970 and NH VI-50(3)/83 dated 15.7.85 and 16.12.86.
6. It is requested that contents of this circular may be brought to the notice of all officers in your Department concerned with National Highways and other Centrally Sponsored Schemes. Ministry may be apprised about the action taken in this regard.
7. The receipt of this Circular may please be acknowledged.

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*Enclosures to Circular No. RW/33044/2/88-DO II dt.the 19-1-89*

**ANNEXURE - I**

Steps to be taken for Project Preparation, Sanction of Estimates and Award of Work as per revised Procedure Outlined in Letter No. RW/33044/2/88 Dated 19.1.89.

1. Carry out topographical and hydrological investigations. Take 3 or 4 preliminary bores for deciding hydraulic particulars, type of foundations and span arrangement for the bridge.
2. Take borings at each foundation location to finalise soil parameters.
3. Prepare complete structural designs and working drawings for the bridge.
4. Submit complete technical proposal including structural designs and drawings for approval of the Ministry.
5. After accord of approval to the technical proposal by the Ministry, prepare detailed bill of quantities, tender papers and pre-qualification documents for proceeding with the call of tenders.
6. Submit detailed estimate based on bill of quantities for obtaining sanction of the Ministry.
7. Call tenders and award work.
8. Finalise construction methodology, equipment planning and construction programme. Modify the same based on contractor's proposal, if required.
9. Prepare in advance details for quality assurance, acceptance criteria and documentation.
10. Start construction work at site with all approved drawings available in advance.