

No. RW/33047/12/87/NH(Std.)

Dated the 14th January, 1988

To

1. The Chief Engineers of State Public Works Departments and Union Territories dealing with National Highways and other Centrally Financed Schemes.
2. The Director General (Works), CPWD
3. The Director General Border Roads

Subject: Check Lists of points relating to Technical Appraisal Notes and Original Estimates for construction/reconstruction of bridges and for construction of ROBs on National Highways and under other Centrally Financed Schemes

With a view to improving the quality of project preparation, we have been issuing detailed instructions/guidelines (such as Ministry's letter No. NHIII/P/31/77 dated 31.5.78) from time to time but it has been observed that detailed estimates for construction/reconstruction of bridges as well as for the construction of ROBs are still being received in the Ministry in an incomplete manner. Further, for enhancing the quality of bridge projects it was desired vide our letter No. NHIII/P/31/77 dated 10.1.85 that in the first instance, the State PWD will furnish a Technical Appraisal Note indicating the proposal, in brief, various alternatives considered to arrive at a most suitable one from the view-point of economy and technical feasibility, important technical parameters etc. and concrete recommendations of the State Chief Engineer. It was decided that the above mentioned Technical Appraisal Note will be examined in the Ministry and approval for all the relevant technical parameters will be conveyed to the State PWD to enable them to prepare a detailed cost estimate on the basis of their latest Schedule of Rates.

2. It has been observed that inspite of repeated instructions the Technical Appraisal Notes and original estimates for bridges/ROBs costing more than Rs. 25 lakhs each on National Highways and under other Centrally financed schemes are not being received with all relevant details with the result that the officers of the Roads Wing are constrained to return such Technical Appraisal Notes/original estimates to the State PWDs for compliance of a number of important points. In order to remedy the situation the following three types of Check Lists have been evolved and the same are enclosed herewith as Appendices I, II and III.

- (i) Check List of Points relating to Technical Appraisal Note for bridge works costing more than Rs. 25 lakhs each on National Highways and under other Centrally Financed Schemes.
- (ii) Check List of points relating to original estimates for construction/reconstruction of bridges costing more than Rs. 25 lakhs each.
- (iii) Check List of points relating to original estimates for construction of ROBs on National Highways and under other Centrally Financed Schemes.

3. It may kindly be ensured that the above mentioned Check Lists (duly filled and completed) are appended as top sheet on the Technical Appraisal Notes/original estimates for bridges and ROBs projected to this Ministry for seeking approval/financial sanction. If the Technical Appraisal Notes/original estimates are not accompanied by the relevant Check Lists, we shall be constrained to return such Technical Appraisal Notes/original estimates.

4. It is requested that the above mentioned instructions may kindly be brought to the notice of all concerned in your organisation for strict compliance in future.

APPENDIX-I

CHECK LIST OF POINTS RELATING TO TECHNICAL APPRAISAL NOTE FOR BRIDGE WORKS COSTING MORE THAN RS. 25 LAKHS EACH ON NATIONAL HIGHWAYS AND UNDER OTHER CENTRALLY FINANCED SCHEMES

S. No.	Point raised by Roads Wing	Reply by State PWD	Suitable explanatory Note if the reply in Col (3) is in the negative.
(1)	(2)	(3)	(4)
1.	(a) (i) Has the proposed site for construction/reconstruction of the bridge been inspected and approved by any officer of the Roads Wing?	(Yes/No)	
	(ii) If so, by whom?		

- (b) If the site has not been approved by any officer of the Roads Wing, has it been inspected by the Chief Engineer/Addl. Chief Engineer of State PWD and is it considered suitable? (Yes/No)
- (c) Whether in the fixation of the bridge site, the requirements of taking a coordinated view on the suitability of the bridge site and alignment of approaches thereto as spelt out in the Ministry's Circular Letter No. NH-40(3)/71 dated 29.1.71 have been duly kept in view and complied with? (Yes/No)
2. Can it be confirmed that the proposed bridge would not be rendered superfluous in the near future because of any proposal for a bye-pass or realignment of the road under consideration? (Yes/No)
3. Has the site plan been enclosed and the type of crossing (right-angled one or skew with clear indication of the angle of the skew) indicated therein? (Yes/No)
4. If more than one site has been considered, whether merits and demerits of various alternatives have been indicated? (Yes/No)
5. Can it be confirmed that the land required for the construction of the bridge and its approaches has been acquired or possession taken thereof? (Yes/No)
6. If the bridge is to be reconstructed at the site of the existing bridge, has any provision been made for the construction of the diversion road and diversion bridge, if required? (Yes/No)
7. Have the detailed hydraulic particulars (as stipulated in Annexures I and II of the Ministry's Circular Letter No. PL-2(1)/70 dated 18.1.71) been enclosed completely? (Yes/No)
8. Have the subsoil investigations been carried out at the proposed locations of all piers and abutments and the values of soil parameters indicated? (Yes/No)
9. Whether any model studies have been carried out for the location of the bridge and requirement of protective works etc. and the findings of the model studies indicated? (Yes/No)
10. Have all the relevant details of the existing bridges in the vicinity of the proposed bridge been given? (Yes/No)
11. (a) Is there any existing railway bridge within 1200 ft. of the proposed site and if so, whether salient features of that bridge have been given? (Yes/No)
- (b) Is consultation with the State Irrigation Deptt. required with regard to any irrigation structure (such as dam, weir, flood bank etc.) affecting the design of the bridge and if so, has such consultation been made and clearance obtained? (Yes/No)
12. Is there any special requirement for vertical/horizontal clearance such as for navigation purposes etc. and if so, have these been catered for? (Yes/No)
13. Are there any special protective works required for the bridge and whether provision for the same has been made in the proposal? (Yes/No)
14. Whether the size and depth of foundations is based on preliminary design calculations which have been enclosed with the Technical Appraisal Note? (Yes/No)
15. Have all relevant technical parameters relating to the approach roads been furnished simultaneously? (Yes/No)

APPENDIX-II

CHECK LIST OF POINTS RELATING TO ORIGINAL ESTIMATES FOR CONSTRUCTION/RECONSTRUCTION OF BRIDGES COSTING MORE THAN RS. 25 LAKHS EACH

S.No.	Point Raised by Roads Wing	Reply by State PWD	Suitable explanatory Note if the reply in Col. (3) is in the negative
(1)	(2)	(3)	(4)
	Whether all the technical parameters, as approved in the Technical Appraisal Note, have been adopted in the detailed estimate?	(Yes/No)	

2.	Is the estimate accompanied by index plan, site plan and general arrangement drawing?	(Yes/No)
3.	Whether design calculations and detailed working drawings have been submitted alongwith the estimate (for bridges having an overall length not more than 125 metres or having individual span length of 25 metres or less) in accordance with the instructions contained in the Ministry's Circular letter NO. RW/NHVI-50(3)/83 dated 15.7.85?	(Yes/No)
4.	Has a separate estimate been enclosed for the approach roads?	(Yes/No)
5.	Has adequate justification been given regarding lumpsum provisions and whether the rates for non-schedule items have been supported by analysis of rates?	(Yes/No)
6.	Whether the latest Schedule of Rates of the State PWD has been followed for preparing the Bill of Cost and if the State PWD Schedule of Rates is not updated, whether letter of Competent Authority permitting percentage premium over and above the old Schedule of Rates has been quoted?	(Yes/No)
7.	Have the unit prices of all items of work involved (such as items not covered by the existing Specifications, mechanisation of concrete production/transport/placement/compaction/finishing and rigid quality assurance etc.) been analysed to cater for the supplemental measures for design, detailing and durability of important bridge structures circulated vide Ministry's letter No. RW/NHVI-50(3)/83 dated 31.8.87?	(Yes/No)
8.	If the estimate requires EFC clearance, has the economic analysis of the complete project been enclosed with the detailed estimate.	(Yes/No)
9.	Have latest type of expansion joints and bearings been provided for in the estimate?	(Yes/No)
10.	Has the phasing of expenditure been clearly indicated in the estimate?	(Yes/No)

APPENDIX-III

CHECK LIST OF POINTS RELATING TO ORIGINAL ESTIMATES FOR CONSTRUCTION OF ROB'S ON NATIONAL HIGHWAYS AND UNDER OTHER CENTRALLY FINANCED SCHEMES

S.No.	Point raised by Roads Wing	Reply by State PWD	Suitable explanatory Note if the reply in Col. (3) is in the negative
(1)	(2)	(3)	(4)
1.	Has the proposed site for ROB been finalised in consultation with the concerned Railway/Road Authority?	(Yes/No)	
2.	Have the layout and gradients for approach roads been approved by the Roads Directorate in the Roads Wing?	(Yes/No)	
3.	Is the work included in some five year Plan of Roads Wing/Railways/any other road authority of the State/UT?	(Yes/No)	
4.	Is the detailed estimate based on P&E prepared by the Railways or an indication about the cost of work to be executed by Railways has been obtained from them?	(Yes/No)	
5.	Is there a clear understanding about the sharing of cost between the Railways and Road Authority and the same has been indicated in the body of the estimate?	(Yes/No)	
6.	Have the plans been duly vetted by all the concerned authorities/organisations (such as DDA, Urban Arts Commission in Delhi etc.)?	(Yes/No)	
7.	Have all the technical parameters been settled/approved by the Railways/Roads Wing?	(Yes/No)	
8.	Has all the land required for the ROB and approach roads been acquired and possession taken thereof?	(Yes/No)	
9.	Have detailed subsoil investigations been carried out (under all proposed piers and abutments) for the ROB proper beyond the Railway lines as well as for the high approaches?	(Yes/No)	
10.	If the ROB is to be constructed in lieu of the existing level crossing, has the concerned State Govt. agreed to close the level crossing after the commissioning of ROB?	(Yes/No)	

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| 11. | Has the design of high embankment for approaches been got approved from Roads Wing on the basis of detailed soil studies ? | (Yes/No) |
| 12. | If the approaches are to comprise of viaducts in some portions, has the comparative economy been worked out to justify the provision of viaducts instead of solid embankment ? | (Yes/No) |
| 13. | Has the design of approach viaducts (if necessary) been prepared for getting approval from Roads Wing ? | (Yes/No) |
| 14. | Has adequate justification been given regarding lumpsum provisions for the ROB portion beyond the Railway line and whether the rates for non-schedule items have been supported by analysis of rates ? | (Yes/No) |
| 15. | Whether the latest Schedule of Rates of the State PWD has been followed for preparing the Bill of Cost and if the State PWD Schedule of Rates is not updated, whether letter of Competent Authority permitting percentage premium over and above the old Schedule of rates has been quoted ? | (Yes/No) |
| 16. | If the estimate requires EFC clearance, has the economic analysis of the complete project been enclosed with the detailed estimate ? | (Yes/No) |
| 17. | Has the phasing of expenditure been clearly indicated in the estimate ? | (Yes/No) |
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