



GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
DEPARTMENT OF ROAD TRANSPORT & HIGHWAYS
(Project Zone – 10)

Parivahan Bhavan, 1, Sansad Marg
New Delhi – 11001.

Fax Nos. 23719070, 23711165
No. NH-12031/31/2005/Ar.P/ISC/NH-10
To

Dated the 30th March, 2007

The Commissioner (PWD),
Government of Arunachal Pradesh,
ITANAGAR-791111

Sub: Construction of 10 numbers of Bridges of Dambuk-Paglam Road under Inter-State Connectivity Schemes (ISC) in Arunachal Pradesh.

(Job No. ISC-Ar.P-2006-07- 04)

Ref: Letter No. CEAP(EZ)/WTC/DBK-PAGLAM/05-06/3009 dated 25th September, 2006 from the Chief Engineer (EZ), PWD, Arunachal Pradesh, Itanagar – 791 111.

Sir,

I am directed to refer to letter No. CEAP(EZ)/WTC/DBK-PAGLAM/05-06/3009 dated 25th September, 2006 from the Chief Engineer (EZ), PWD, Arunachal Pradesh, Itanagar forwarding an estimate amounting to **Rs. 1485.18 lakh** on the above noted works and to say that the estimate has been examined in the Ministry and modified to **Rs. 14471.11 lakh** in the light of the comments contained in the enclosed technical note.

2. I am directed to convey the Administrative Approval, Technical Approval and Financial Sanction of the President to the modified estimate to the extent of 100% amounting to **Rs. 1447.11 lakh** (Rupees Fourteen Crore Forth Seven lakhs and Eleven Thousand only) for the above noted work.

3. This 100% funds to this work is provided by this Ministry under the Centrally Sponsored Schemes of State Roads of Inter-State Connectivity and Economic Importance Fund.

4. the work has been assigned (Job No. ISC-Ar.P-2006-07-04). This job No. may be quoted in all future correspondence regarding this work.

5. This approval is accorded subject to the following conditions:-

- (i) The State Government may accord the technical and financial sanction of the estimate in terms of Guidelines issued by this Ministry vide letter No. NH-17012/9/97-PL dated 14.3.2001.
- (ii) The funds would be release in two installments, first in April/Mau and second in September/October. While the first installment would be released on the basis of requirement to be communicated by the State Government, the second installment would be released on the basis of progress of the work and actual expenditure in the preceding half year and anticipated for the next half year. The release of funds for 50% financed works will be commensurate with the expenditure proposed to be incurred from State's own resources.

- (iii) In all the cases, the overall availability of budget provisions will be the primary determining factor for allocations and the half-yearly payment would be regulated accordingly. The expenditure by the State Government would, therefore, have to be confined to the allocations made for the work.
- (vi) The stipulation made in Ministry's Circular No. NH-17012/9/97-PL dated 14.3.2001 may be strictly followed.

6. The quarterly progress reports and monthly statement of expenditure of works should be furnished to this Ministry with copy endorsed to Regional Office of the Ministry within one month from the close of the quarter as per proforma (Annexure I, II & III) enclosed with Ministry's letter No. NH-17012/9/97-PL dated 14.3.2001

7. The State Government should furnish completion certificate duly vetted by audit after completion of work as per targets.

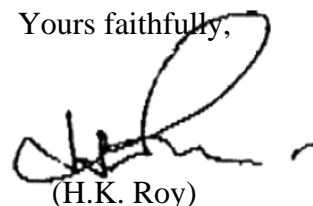
8. The following physical and financial cumulative targets shall be achieved depending upon the availability of funds:

Financial Year	Physical (%)	Financial (Rs. In lakh)
2006-2007	Preliminary	0.93
2007-2008	50	700.00
2008-2009	100	1447.11

9. The expenditure is debitible under the major Head "3601" Grants-in-aid to State Govt. 04 Grant for Centrally sponsored schemes - 04.105 – Grants from Central Road Fund – 01- Roads of Inter-State and Economic Important - 00.00.31 – Grant-in-aid under the Demand No. '85' is Department of Road Transport & Highways for the year 2006-2007.

10. This sanction issues with the concurrence of the Finance Division vide their U.O. No. 2570-TF-II/2006 dated 13.3.2007

Yours faithfully,



(H.K. Roy)

Under Secretary to the Govt. of India

Copy, with a copy of the technical note forwarded to:

1. The Chief Engineer (Roads), Arunachal Pradesh, Itanagar – 791 111 (A copy of the approved estimate enclosed).
2. Regional Officer, Ministry of Shipping, Road Transport & Highways, Department of Road Transport and Highways, Rajgarh Road, Guwahati-781 003.
3. Accountant General, Government of Arunachal Pradesh-791 111.
4. The Pay and Accounts Office, M/o Shipping, Road Transport & Highways, Department of Road Transport & Highways, Jam Nagar House, IDA Building, New Delhi.

5. The Regional Pay and Accounts Officer (NH), M/o Shipping, Road Transport & Highways, Department of Road Transport & Highways, Hrishikeshayan, Hriday Ranjan Path, 6th Byelane (W) R.G. Baruah Road, Guwahati – 781 003.
6. The Principal Director of Audit, Economic & Services Ministries, A.G.C.R. Building, New Delhi – 110 002.
7. The Director (NE-I), Ministry of Home Affairs (NE Division), North Block, New Delhi w.r.t. their ID No. MHA.1/15/05-NEDC dated 25th September, 2006

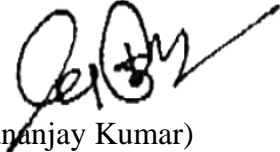


(H.K. Roy)

Under Secretary to the Govt. of India

Copy with enclosure also forwarded to:-

- (i) P.S. to Minister, Shipping, Road Transport & Highways.
- (ii) CE(P-10) / SE(PL) / SE(Mon) / EESG(P-10) / EE(P-10)-II/ Finance Wing / W&A Section/ Guard File.



(Dhananjay Kumar)

Section Officer

Telephone No. 237174

**GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
(DEPARTMENT OF ROAD TRANSPORT & HIGHWAYS)**

No. NH-12031/31/2005/Ar.P/ISC/NH-10

Dated: 30th March, 2007

TECHNICAL NOTE

1. Name of work : Construction of 10 numbers of Bridges on Dambuk – Paglam Road under Inter-State Connectivity Scheme (ISC) in Arunachal Pradesh.
- (Job No. ISC – Ar.P-2006-07-04)**
2. State : Arunachal Pradesh
3. Estimated cost (Rs. In lakhs) :
- | | |
|---------------------------|-----------------------------|
| As forwarded by State PWD | As modified in the Ministry |
| 1485.18 | 1447.11 |
4. Reference : Letter No. CEAP(EZ) / WTC / DBK-PAGLAM / 05-06 / 3009 dated 25th September 2006 from the Chief Engineer (EZ), PWD, Arunachal Pradesh, Itanagar – 791 111.

COMMENTS

1. **Scope of work:**
Construction of ten numbers of double-lane Bridges of spans varying from 12 m to 80 m across various Nallahs between chainages 33.360 and 45.858 along with the construction of approaches on Dambuk-Paglam road in Arunachal Pradesh.
2. **Provisions:**
Broad features:
- 2.1 **Silting:**
The alignment plans for the road and nallahs have been enclosed with the estimates. The proposal of the State PWD to construct bridges on the proposed alignment has been agreed to. However, the Chief Engineer, State PWD, may review the siting of bridges as per clause 102.2 of IRC:5-1998 and get these finalized at his end.
- 2.2 **Span arrangement:**
Hydraulic particulars for evaluating waterways for the proposed bridges have been enclosed with the estimate. However, the span arrangement of bridges has been proposed keeping in view the distance between the firm banks at HFL. The same is agreed to for estimate purpose. However, Chief Engineer, State PWD, may satisfy himself before execution.
- 2.3 **Foundation & Substructure:**
The subsoil investigation at the Singking bridge site has reportedly been carried out. Preliminary exploration in general reveals sandy, same profile & soil types and properties as the proposed bridges are on the right bank of Singking of river within 1 to 5 km and most of the nallah on which bridges have been proposed joins it i.e. are its tributaries. As per the soil report, the site has reportedly low

bearing capacity and therefore deep foundations have been adopted. Keeping this in view, well foundation of 6m dia with 1 m steining thickness for abutments on both banks and one intermediate pier for bridge over Singking river have been proposed without carrying out subsoil investigation for all bridges. The proposed well foundation has however been accepted for estimate purpose. However, the subsoil investigation for all bridges at proposed abutment/pier locations may be carried out before execution and the design of foundation/sub-structure may be done as per the soil type actually met at these locations, and got approved by Chief Engineer, PWD at his end.

2.4 Founding Level:

Various founding levels proposed for bridges is accepted for estimate purpose. The State PWD is however, suggested to check scour depth calculations as per soil characteristics available during execution. Further, the founding levels may be reviewed in view of soil properties actually met with a founding level during execution.

2.5 Superstructure:

For all bridges except Singking bridge (2*40 m), superstructure have been proposed as per Ministry's Standard drawing of BD series (without footpath). The superstructure of bridge over Singking Nallah has been proposed as per Ministry's Standard drawing of SD series. The carriageway of the proposed bridges is 7.50 m and overall width is 8.60 m. the arrangement as above has been agreed to. The Chief Engineer, PWD may, however, satisfy himself about the structural safety of the superstructure before awarding the work. The wearing course over the bridge has been accepted as proposed by PWD.

2.6 Expansion Joints:

Elastomeric slab steel expansion joints have been agreed to as proposed by State PWD. It should be as per Ministry's Specifications.

2.7 Bearings:

- i). Rocker bearing and Roller – cum – rocker bearing proposed for Singking bridge has been agreed to. This should conform to the Ministry's Specification for Road & Bridge works and IRC:83.
- ii). For bridges of 12.50 m, 14.50 m & 24.75 m effective span, elastomeric bearings have been proposed. The same is acceptable.

2.8 General Arrangement Drawing (GAD):

2.8.1 GAD for bridge have been enclosed but these are not exactly as per IRC SP-54:2000. It may therefore be suggested to PWD that properly dimensioned General Arrangement Drawing (GAD) for all the bridges showing details of elevation & plan of the bridge, cross-section details of superstructure/substructure/foundation, besides other requisite details of bridge as per clause 6.6.3 (viii) of IRC SP:54-2000 (Project Preparation Manual for Bridges), based on detailed survey, sub-soil investigation report etc. may be got prepared and approved by Chief Engineer, PWD Arunachal Pradesh at his end and a copy of approved GAD may be furnished to this Ministry for reference and record.

2.8.2 The vertical clearance proposed above HFL may be ensured by the State PWD in accordance to stipulations vide clause 106.2.1 of IRC:5-1998.

2.8.3 Approach slabs of 3.50 m in length covering the entire width of roadway on both sides of bridges approach has been provided. The approach slab may be provided as per Ministry's circular No. 34015/2/86-S&R dated 22.06.1994.

2.8.4 The necessary provisions for carrying lighter utility services over the bridge may be made by providing hangers fixed on outer side of railing kerb as per guidelines vide Ministry's circular No. RW/NH-34066/7/2003-S&R(B) dated 17.09.2003.

2.8.5 Minimum mix of concrete in various components of bridge structure shall be considered as per clause 1703 of Ministry's Specification for Road & Bridge works (4th Revision).

2.9 Approaches:

Roadway width has been kept as 9.00 m for all bridge approach. The carriageway width is 3.75 m with hard shoulders of 600 mm wide. The approach road been agreed to for all bridges as proposed except for Sarku Nallah for which it has been restricted to 150m. Approach filling on the both side approach maintaining a minimum gradient of 1:20 with a side slopes as 2:1 has been proposed to be provided which has been agreed to.

The following crust composition for the new pavement considered in the bridges approaches has been agreed:

Sub-base	:	WBM Grade-I	-	100 mm
Base	:	WBM Grade-II	-	75 mm
	:	WBM Grade-III	-	75 mm
Wearing Course	:	PC & SC	-	20 mm

2.10 Lead:

The carriage cost of aggregates and other materials has been allowed as proposed by State for estimate purpose. However, while calling tender, the source may not be indicated. The contractor shall be responsible to procure the materials conforming to the relevant Ministry's specifications and IRC guidelines. No provision for extra lead during execution of the work shall be allowed.

2.11 Rates:

The estimate has been prepared based on Arunachal Pradesh Schedule of Rates (APSR-2005) applicable in the State PWD.

3. Cost of work:

The estimate cost of the work, in the light of above comments works out to Rs. 1447.11 lakhs including 1% quality control, 1.5% work charged establishment and 2.80% contingency.

4. Targets for the work:

The following physical and financial cumulative targets may be achieved depending upon the availability of funds.

Year of Phasing	Physical Phasing (%)	Financial progress (Rs. Lakhs)
2006-2007	Preliminaries	0.93
2007-2008	50	700.00
2008-2009	100	1447.11

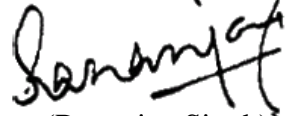
5. TENDER:-

- 5.1** Tender shall be invited and accepted strictly as per Ministry's guidelines circulated vide circular No. RW/NH/11026/2/99 US (D.I) dated 13.1.2000 & RW/NH/11024/3/99 US (D.I) dated 9.3.2000.
- 5.2** The work shall be awarded, as per guidelines issues vide letter No. NH-15015/23/2001-PL dated 5.7.2001 and circular No. NH-12037/49/01/NER/NH-10 dated 16/7/2001.
- 5.3** The cost of the work is more than Rs. 5.00 Crore, so the tenders for the work may be called strictly as per Ministry's Standard Bidding Document issued vide letter No. NH-12037/49/01/NER/NH-10 dated 16.07.2001.
- 5.4** The contractor should possess all the required machinery such as Hot Mix Plant, Pave Finisher, Road Roller, Wheel Barrows, Bitumen Boiler, Sprayer etc. and should be able to procure the required materials including bitumen to execute the work as per Ministry's Specifications.

6. GENERAL INSTRUCTIONS:

- 6.1** The work shall be executed as per Ministry's "Specifications for Road and Bridge Works" (Fourth Revision – August 2001) and instructions issued by this Ministry from time to time. Deviation in specifications for any work should be got approved from the Ministry before adopting the same.
- 6.2** No work beyond the scope of the sanctioned estimate leading either to increase in scope of the work or change in specification should be undertaken without obtaining prior written approval of the Ministry. In this connection Ministry's letter No. RW/NHIII/Coord/32/84 dated 19.05.1984 may be referred.
- 6.3** Provision for quality control @ 1% has been allowed. The work is to be carried out in accordance with the "Hand Book of Quality Control for construction of Roads and Runways (Second Revision) – IRC-SP:11-1988", observing strict quality control instructions contained in Ministry's letter No. NHIII/P/I/83 dated 19.4.1984 and permanent records maintained thereof.
- 6.4** Bitumen used for the work shall be heated in boilers only and not on open fire. Spraying of bitumen whenever necessary should be done only with the mechanical sprayers and premixing of bitumen and stone aggregates should be done only in the proper mechanical mixer/hot mix plant and Paver-finisher conforming to Ministry's specifications.
- 6.5** The selection of grade of bitumen to be used for the work shall be as per guidelines issued vide Ministry's circular No. RW/NH-33044/3/98-S&R dated 01.11.1999. No bitumen should be used is having a softening point of less than 45 degree Celsius as per Ministry's direction issued vide letter No. RW/NH-35074/7/2001-S&R dated 03.04.2001.
- 6.6** Collection of materials on the roadside should be so planned that it commensurate with the physical progress of work and the collected material should not cause any hindrance to the traffic.

- 6.7** During the course of execution of work, traffic may be regulated in accordance with the guidelines contained in Ministry's letter No. RW/NH/33038/1/87-NH-Std. dtd 7-10-87. The display boards on development activities of the work shall be made as per guidelines vide Ministry's letter No. RW/NH-33044/10/2000-S&R dated 17.7.2001
- 6.8** The display boards on development activities of the work shall be made as per guidelines issued vide Ministry's No. RW/NH-33044/10/2000-S&R (R) dated 12.08.2002



(Rananjay Singh)

Executive Engineer

For Director General (Road Development) & Special Secretary