



National Highways Authority of India

(Ministry of Shipping, Road Transport & Highways, Govt. of India)

CONCESSION AGREEMENT

FOR

**Design, Construction, Development, Finance, Operation and Maintenance of
Km 135.469(End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7
in the State of Andhra Pradesh under North-South Corridor (NHDP Phase II)
on BOT (Annuity) basis**

CONTRACT PACKAGE NO: NS2/BOT/AP-5

BETWEEN

NATIONAL HIGHWAYS AUTHORITY OF INDIA

PLOT NO: G-5 & 6, SECTOR – 10, DWARKA,

NEW DELHI – 110 075

AND

M/s Andhra Pradesh Expressway Limited

ON

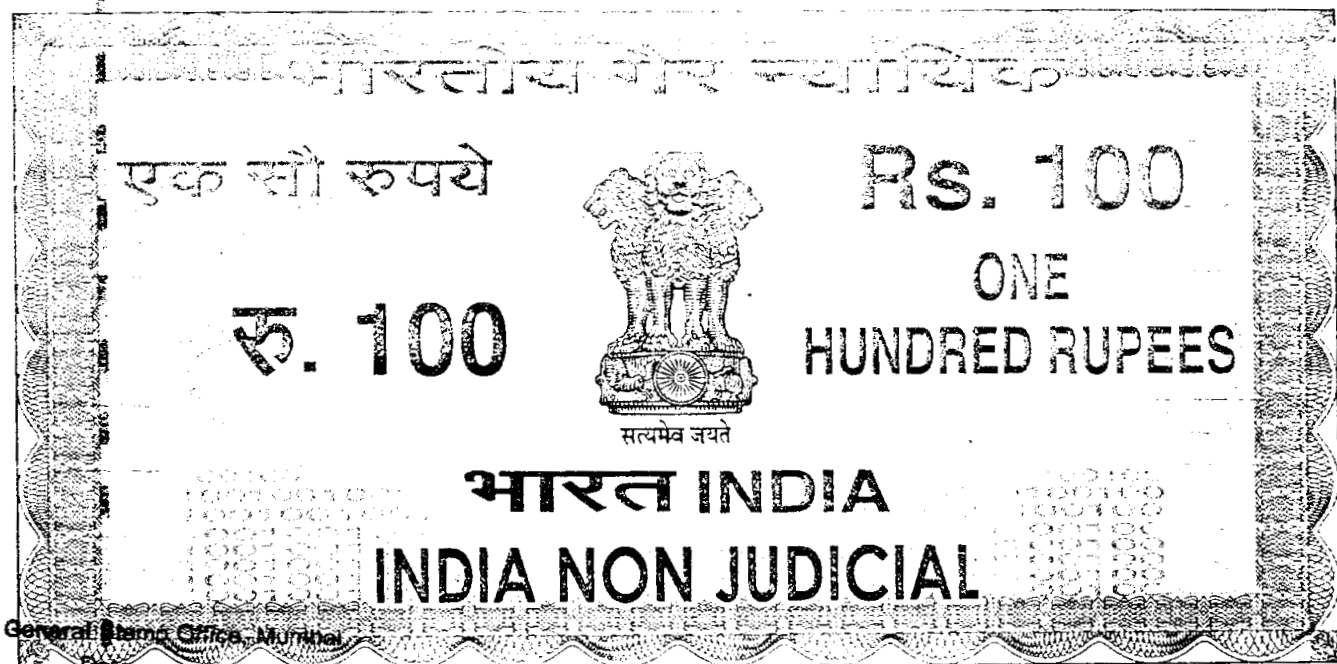
20th March 2006

PART – I

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कोलॉरिड वेस्ट गेट, ४, छेरा
श्री. १०/०३/०६
योजना

Andhra Pradesh Expressway Limited
MUMBAI

CONCESSION AGREEMENT

This Agreement is entered into on this the Twentieth day of March, 2006 BETWEEN

1. **NATIONAL HIGHWAYS AUTHORITY OF INDIA**, a statutory body constituted under the provisions of the National Highways Authority of India Act, 1988, and having its principal office at G-5&6, Sector-10, Dwarka, New Delhi-110075 (hereinafter referred to as "NHAI" which expression shall unless repugnant to the context or meaning thereof including its administrators, successors and assigns) of One Part,

AND

2. **Andhra Pradesh Expressway Limited**, a company incorporated under the provisions of the Companies Act, 1956 and having its registered office at IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400051 (hereinafter referred to as the "Concessionaire" or "Company" which expression shall unless repugnant to the context or meaning thereof include its successors and permitted substitutes) of the Other Part.

WHEREAS

- A. The Government of India in the Ministry of Shipping, Road Transport and Highways, earlier Ministry of Road Transport & highways, (hereinafter referred to as "MOSRTH") had authorised NHAI for widening the existing 2 lane portion from km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), covering 74.651 kilometers, on National Highway No.7 (NH-7) in the State of Andhra Pradesh, to 4 lanes through a Concession on BOT Annuity basis and has by its Notification No 465(E) dated 26/04/2002 issued pursuant to Section 11 of the National Highways Authority of India Act, 1988 vested the said stretches of NH-7 in NHAI as set forth in the said Notification dated 26/04/2002
- B. NHAI had accordingly invited Proposals under a single stage process from bidders for qualification and prescribed the commercial terms and conditions for selection of a successful bidder under its Notice inviting Proposals No NHAI/Tech/NS2/BOT/Bids/2005 dated 27th May 2005 ("the Tender Notice"), inter alia, for Design, Construction, Development, Finance, Operation and Maintenance of "km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), covering 74.651 kilometers" on NH-7 referred to in Recital 'A' above on BOT Annuity basis subject to and on the terms and conditions contained in the Tender Notice.
- C. NHAI had, pursuant thereto qualified the consortium comprising Infrastructure Leasing & Financial Services Limited (IL&FS) and IL&FS Transportation Networks Limited (ITNL) earlier (Consolidated Transportation Networks Limited (CTNL)) (collectively the "Consortium") with Infrastructure Leasing & Financial Services Limited (IL&FS) as its Lead Member for undertaking, inter alia, the work referred to in Recital 'A' above on BOT Annuity basis.
- D. After qualification of the Consortium, NHAI accepted their Bid on BOT Annuity basis and issued its Letter of Acceptance No NHAI/Tech/NS -2/BOT/AP -5/2005/172 dated 24th February 2006 ("LOA") to the Consortium requiring, inter alia, the execution of this Concession Agreement and submission of Performance Security for the performance of its obligations under this Concession Agreement.
- E. The Consortium has promoted and incorporated the Concessionaire as a limited liability company and provided its Performance Security to enter into this Concession Agreement pursuant to the LOA for undertaking, inter alia, the design, engineering, financing, procurement, construction, operation and maintenance of the Project, as defined hereinafter on BOT Annuity basis as referred to in Recital 'A' and to fulfill other obligations of the Concessionaire pursuant to the LOA and has requested NHAI to accept the Concessionaire as the entity which shall undertake and fulfill and perform the obligations and exercise the rights of the Consortium under the LOA, including the



obligation to enter into this Concession Agreement for the design, engineering, financing, procurement, construction, operation and maintenance of the Project on BOT Annuity basis.

- F. NHAI has agreed to the said request of the Consortium and has accordingly agreed to enter into this Concession Agreement with the Concessionaire pursuant to the LOA for, inter alia, the design, engineering, financing, procurement, construction, operation and maintenance of the said Project Section on BOT Annuity basis.
- G. It is deemed necessary and expedient to enter into this Agreement to record the terms of the said Agreement between the Parties.

NOW THEREFORE IN CONSIDERATION OF THE PREMISES AND THE MUTUAL COVENANTS HEREINAFTER CONTAINED, THE PARTIES HERETO HEREBY AGREE AND THIS AGREEMENT WITNESSETH AS FOLLOWS:

I DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

“Accounting Year” means the financial year commencing from 1st April of any calendar year and ending on 31st March of the next calendar year.

“Additional Facilities” means the facilities which the Concessionaire may provide or procure for the benefit of the users of the Project Highway and which are (i) in addition to the Project Facilities, and (ii) not situated on the Site.

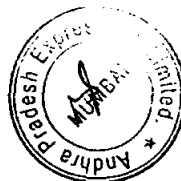
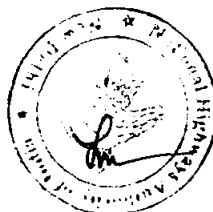
“Agreement” means this Agreement, the Schedules ‘A’ through ‘X’ hereto, the Request for Proposal (RFP) document issued by NHAI dated 27th May 2005 and any amendments thereto made in accordance with the provisions contained in this Agreement.

“Annuity” shall have the meaning ascribed to it in Article VI.

“Annuity Payment Date” means each date specified as such in Schedule ‘G’, for payment of Annuity.

“Annuity Payment Period” means each period for which the Annuity is payable in accordance with the provisions of this Agreement as set out in Schedule ‘G’.

“Applicable Laws” means all laws, promulgated or brought into force and effect by GOI or Government of Andhra Pradesh including regulations and rules made thereunder, and



judgements, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of this Agreement.

"Applicable Permits" means all clearances, permits, authorizations, consents and approvals required to be obtained or maintained under Applicable Laws in connection with the design, engineering, financing, procurement, construction, operation and maintenance of the Project Highway during the subsistence of this Agreement.

"Arbitration Act" means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof as in force from time to time.

"Associates" means in relation to either Party and/or Consortium Members, a person who controls, is controlled by, or is under the common control with such Party or Consortium Member. As used in this definition, the expression "control" means with respect to a person which is a corporation, the ownership, directly or indirectly, of more than 50% of the voting shares of such person, and with respect to a person which is not a corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise.

"Assured Availability" means, the availability of Carriageway assured by the Concessionaire for each Annuity Payment Period, computed as under :

$$AA = 4 \times LA$$

Where,

AA = Assured Availability

LA = Lane Availability

"Book Value" means lower of the Initial Investment or the value of the capital expenditure incurred on the Project as per the books of the Concessionaire, in either case net of depreciation charged on the basis of straight line method and amortised equally over the Operations Period, duly verified and certified by the Statutory Auditor in accordance with IGAAP. Provided that in the event of Termination, the Additional Cost, if any, compensated by NHAI in accordance with Articles 17.2 (c) or 17.5 shall, to the extent capitalized, be excluded in computing the Book Value.

"Bank" means a bank incorporated in India and having a minimum net worth of Rs.500 crores (Rupees five hundred crores) and having a branch in the proximity of the Project or at any other place acceptable to NHAI.

"Bid" means the documents in their entirety comprised in the bid submitted by the Bidder in response to the Tender Notice in accordance with the provisions thereof.



"Bid Security" means the security provided by the Bidder to NHAI along with the Bid in the sum of Rs 30.00 crores (Rupees thirty crores Only) in accordance with the Tender Notice and which is to remain in force until substituted by the Performance Security.

"Bidder" means the single entity/Consortium referred to in Recital 'C' above.

"COD" means the commercial operations date of the Project Highway and shall be the date on which the Independent Consultant has issued the final Completion Certificate or the Provisional Certificate certifying Project Completion of the Project Highway in accordance with Article XVI of this Agreement.

"Capacity Augmentation" means creation of additional capacity in accordance with Article 8 of this Agreement to maintain the desired level of service to the users of Project facility.

"Cashflow Projections" means cashflow projections set out in Schedule "M", submitted by the Consortium as part of its Bid for the Project which shall be used only to determine on any date the Discounted Value of Future Net Cash Flows.

"Carriageway" means the 4 lane highway comprised in the Mainline specified Schedule "D".

"Change in Law" means the occurrence of any of the following after the date of this Agreement:

- i. the enactment of any new Indian law;
- ii. the repeal, modification or re-enactment of any existing Indian law;
- iii. the commencement of any Indian law which has not entered into effect until the date of this Agreement;
- iv. a change in the interpretation or application of any Indian law by a court of record as compared to such interpretation or application by a court of record prior to the date of this Agreement; or
- v. any change in the rates of any of the Taxes.

"Change of Scope" shall have the meaning ascribed thereto in Clause 17.1.

"Company" means the Company acting as the Concessionaire under this Agreement.

"Commencement Date" means the date 180 days from signing of the Concession Agreement.



"Completion Certificate" means the Certificate issued by the Independent Consultant pursuant to Clause 16.4.

"Concession" shall have the meaning ascribed thereto in Article III.

"Concession Fee" shall have the meaning ascribed thereto in Article VIIA.

"Concession Period" means the period beginning from the Commencement Date and ending on the Termination Date.

"Concessionaire" means *Andhra Pradesh Expressway Limited* and its successors and substitutes and assigns expressly approved in writing by NHAI.

"Consortium" shall have the meaning set forth in Recital 'C' above.

"Consortium Members" means as per the Bid in response to the RFP (i) Infrastructure Leasing & Financial Services Limited (IL&FS) having its registered office at IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400051 and having 51% share in the Consortium, (ii) IL&FS Transportation Networks Limited (ITNL) earlier (Consolidated Transportation Networks Limited (CTNL)) having its registered office at IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400051 and having 10% share in the Consortium, Infrastructure Leasing & Financial Services Limited (IL&FS) is the Lead Member of the Consortium.

"Construction Period" means the period beginning from the Commencement Date and ending on the COD.

"Construction Works or Works" means all works and things necessary to complete the Project Highway for use of the traffic and other users thereof in accordance with this Agreement.

"Contractor" means the contractor or contractors, if any, with whom the Concessionaire has entered into all or any of the Project Agreements.

"Cure Period" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and upon failing of which the Agreement may be terminated by the other Party.

"Damages" shall have the meaning ascribed thereto in Clause 1.2(p).



"Debt Due" means the aggregate of the following sums expressed in Indian Rupees or in the currency of debt, as the case may be, outstanding and payable to the Senior Lenders under the Financing Documents:

- (i) the principal amount of the debt provided by the Senior Lenders under the Financing Documents for financing the Project (the "principal") which is outstanding as on the Termination Date but excluding any part of the principal that had fallen due for repayment one year prior to the Termination Date unless such repayment had been rescheduled with the prior consent of NHAI; and
- (ii) all accrued interest, financing fees and charges payable on or in respect of the debt referred to in sub-clause (i) above upto the date preceding the Termination Date but excluding (a) any interest, fees or charges that had fallen due one year prior to the Termination Date, and (b) penal interest or charges, payable under the Financing Documents to any Senior Lender.

"Deemed Date of Investment" means 31st March 2007.

"Discounted Value of future Net Cashflows" shall have the meaning ascribed thereto in Schedule 'M'

"Debt Service Payments" means the sum of all principal and interest payments due and payable in an Accounting Year to the Senior Lenders under the Financing Documents.

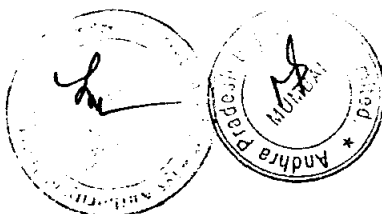
"DPR" means the Detailed Project Report in respect of the Project comprised of the following provided by NHAI to the bidders for the Project as part of RFP:

Volume I	-	Main Report
Volume II	-	Design Report
Volume III	-	Materials Report
Volume IV	-	Environment Management Plan
Volume VI	-	Standards & Specifications
Volume X	-	Drawings

"Development Period" means the period from the date of this Agreement until the Commencement Date.

"Dispute" shall have the meaning set forth in Clause 39.1(a).

"Dispute Resolution Procedure" means the procedure for Dispute resolution set forth in Article XXXIX.



"Divestment Requirements" means the obligations of the Concessionaire and NHAI for and in respect of the Termination of this Agreement as set forth in Article XXXIII.

"Document" or "Documentation" means documentation printed or in written form, tapes, discs, drawings, computer programmes, writings, reports, photographs, cassettes, or expressed in any other written, audio or visual form.

"Drawings" means all the drawings, calculations and documents pertaining to the Project Highway as set forth in Schedule 'I' and shall include "as built" drawings of the Project Highway.

"EPC Contract" means contract or contracts entered into by the Concessionaire with one or more Contractors for the design, engineering, procurement of materials and equipment, construction, and completion of the Project Highway in accordance with the provisions of this Agreement.

"Emergency" means a condition or situation that is likely to endanger the security of the individuals on or about the Project Highway including users thereof or which poses an immediate threat of material damage to any of the Project Assets.

"Encumbrances" means any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations and shall include without limitation any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project Highway.

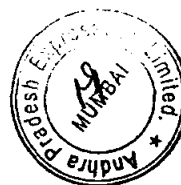
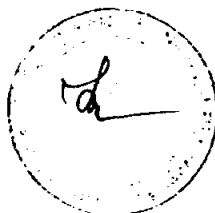
"Equity Documents" means collectively the documents evidencing subscription to Concessionaire's capital to the extent of equity component of cost of the Project.

"Escrow Account" means an Account which the Concessionaire shall open and maintain with a Bank in which all inflows and outflows of cash on account of capital and revenue receipts and expenditures shall be credited and debited, as the case may be, in accordance with the provisions of this Agreement.

"Escrow Agreement" shall have the meaning ascribed thereto in Clause 25.2.

"Financial Close" means the date on which the Financing Documents providing for funding by the Senior Lenders have become effective and the Concessionaire has immediate access to such funding under the Financing Documents.

"Financing Documents" means the documents executed by the Concessionaire in respect of financial assistance to be provided by the Senior Lenders by way of loans, guarantees,



subscription to non-convertible debentures and other debt instruments including loan agreements, guarantees, notes, debentures, bonds and other debt instruments, security agreements, and other documents relating to the financing (including refinancing) of the Project and includes amendments or modifications made in accordance with Clause 9.1(iv).

"Force Majeure" or "Force Majeure Event" shall mean an act, event, condition or occurrence specified in Article XXIX.

"GOI" means the Government of India.

"GOAP" means the Government of the State of Andhra Pradesh.

"Good Industry Practice" means those practices, methods, techniques, standards, skills, diligence and prudence which are generally and reasonably expected of and accepted internationally from a reasonably skilled and experienced operator engaged in the same type of undertaking as envisaged under this Agreement and acting generally in accordance with the provisions of the NH Act, and would mean good engineering practices in the design, engineering, construction and project management and which would be expected to result in the performance of its obligations by the Concessionaire and in the operation and maintenance of the Project Highway in accordance with this Agreement, Applicable Laws, Applicable Permits, reliability, safety, environment protection, economy and efficiency.

"Governmental Agency" means GOI, Government of Andhra Pradesh or any ministry, department, commission, board, authority, instrumentality or agency, under the control of GOI or Government of Andhra Pradesh having jurisdiction over all or any part of the Project Highway or the performance of all or any of the services or obligations of the Concessionaire under or pursuant to this Agreement.

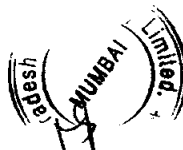
"IGAAP" means the Indian generally accepted accounting principles consistently applied.

"Indemnifying Party" means the Party obligated to indemnify the other Party pursuant to Article XXXVII.

"Independent Consultant" shall have the meaning ascribed thereto in Clause 20.1.

"Implementation period" means the period beginning from the Commencement date and ending on the COD

"Indirect Political Event" shall have the meaning ascribed thereto in Clause 29.3.



"Internal rate of Return" shall have the meaning ascribed thereto in Schedule 'M'

"Initial Investment" shall have the meaning ascribed thereto in Schedule 'M'

"Insurance Proceeds" means the proceeds of the insurance policies taken by the Concessionaire in terms of Article XXVII or otherwise.

"Lane Availability" means in respect of each Annuity Payment Period, the availability of any lane comprised in the Carriageway measured in terms of lane kilometer hours as under:

$$LA = L \times 24 \times D$$

Where,

LA = Lane Availability

L = Length of the lane

D = Actual number of days in the relevant Annuity Payment Period

"Lenders' Representative" means the person(s) duly authorised by the Senior Lenders to deal with the Parties to the Agreement with regard to the issues arising out of and contained in this Agreement.

"Maintenance Manual" shall have the meaning ascribed to it in Clause 18.2.

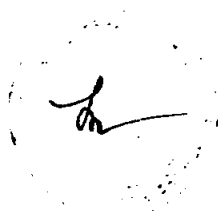
"Maintenance Programme" shall have the meaning ascribed to it in Clause 18.3.

"Material Adverse Effect" means material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement

"Material Breach" means a breach by either Party of any of its obligations in this Agreement which shall be deemed to have a Material Adverse Effect on the Project and which it shall have failed to cure within the Cure Period.

"NHAI Representative" means such person or persons as may be authorised in writing by NHAI to act on its behalf under this Agreement and shall include any person or persons having authority to exercise any rights or perform and fulfill any obligations of NHAI under this Agreement.

"Non Political Event" shall have the meaning ascribed thereto in Clause 29.2.



"O&M" means the operation and maintenance of the Project Highway during the Operations Period and includes but is not limited to functions of maintenance and performance of other services incidental thereto.

"O&M Contract" means the Operation and Maintenance Contract that may be entered into between the Concessionaire and the O&M Contractor for O&M of the Project Highway. .

"O&M Contractor" means the person or entity with whom the Concessionaire has entered into an O&M Contract for discharging O&M functions for and on behalf of the Concessionaire.

"O&M Works" means all works necessary to keep the Project Highway in operation during the Operations Period.

"Operations Period" means the period commencing from COD and ending on the Termination Date.

"Parties" means the parties to this Agreement collectively and "Party" shall mean any of the Parties to this Agreement individually.

"Performance Security" shall have the meaning ascribed in the RFP

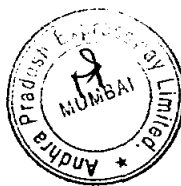
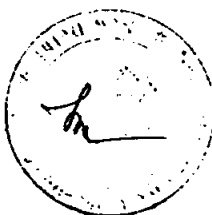
"Political Event" shall have the meaning ascribed thereto in Clause 29.4.

"Preliminary Notice" shall have the meaning attributed thereto in Clause 32.1.2.

"Project" means the development, design, financing, procurement, engineering and construction, operation and maintenance of the Project Highway in accordance with the provisions of this Agreement and shall include all works relating to or in respect of the Project Highway as described in Article II.

"Project Agreements" means this Agreement, the Financing Documents, the EPC Contract, if any, the O&M Contract, if any, , and any other agreements or contracts entered into by the Concessionaire with NHAI or others relating to the Project during the subsistence of this Agreement.

"Project Assets" means all physical and other assets relating to and forming part of the Project Highway including but not limited to (i) rights over the Site in the form of license, right of way or otherwise, (ii) tangible assets such as civil works including the foundation, embankments, pavements, road surface, interchanges, bridges, approaches to bridges and flyovers, road overbridges, drainage works, lighting facilities, traffic signals,



sign boards, milestones, equipment relating to regulation of traffic, electrical works for lighting on the Project Highway, telephone and other communication systems and equipment for the Project, rest areas, administration and maintenance depots, relief centers, service facilities etc. (iii) Project Facilities situated on the Site (iv) the rights of the Concessionaire under the Project Agreements, (v) financial assets, such as security deposits for electricity supply, telephone etc. (vi) insurance proceeds and (vii) Applicable Permits and authorizations relating to or in respect of the Project Highway, but does not include Additional Facilities.

"Project Completion" shall have the meaning ascribed thereto in Clause 15.1.

"Project Completion Schedule" means the progressive Project milestone set forth in Schedule 'H' for the realization of the Project Highway complete in all respects by the Scheduled Project Completion Date.

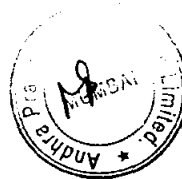
"Project Facilities" means all the amenities and facilities situated on the Site, as described in Schedule 'C'.

"Project Highway" means the NH-7 stretch from km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool) and includes widening the existing 2 lane portion from km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), covering 74.651, on National Highway No. 7 (NH-7) in the State of Andhra Pradesh, to 4 lanes (Other project scope) and shall include the Project Assets and the Project Facilities to be designed, engineered, built and improved on Site and to be operated and maintained during the Concession Period in accordance with the provisions of this Agreement.

"Provisional Certificate" shall have the meaning ascribed to it in Clause 16.5.

"Punch List" shall have the meaning ascribed to it in Clause 16.5 and, if applicable, shall include:

- (i) plantation of avenue trees along the edge of the RoW and other landscaping works within RoW
- (ii) completion of work on Provision of Unlined Roadside Drains
- (iii) lining of roadside drains in identified stretches
- (iv) construction of rest areas, as approved
- (v) completion of Fencing Works of RoW
- (vi) turfing on embankment slopes in identified sections
- (vii) pointing to Stone Masonry works in identified Cross Drainage Structures
- (viii) stone Pitching at identified locations



“RBI” means the Reserve Bank of India as constituted and existing under the Reserve Bank of India Act, 1946 including any statutory modification or replacement thereof, and its successors etc.

“RFP” shall mean the Request for Proposal dated 27th May 2005 for Design, Construction, Development, Finance, Operation and Maintenance of km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), covering 74.651 kilometers on NH-7 in the state of Andhra Pradesh issued by the NHAI

“Rs.” Or “Rupees” means the lawful currency of the Republic of India.

“SBI PLR” means the prime lending rate per annum for loans with 1(one) year maturity as fixed from time to time by the State Bank of India, and in the absence of such rate, the average of the prime lending rates for loans with 1(one) year maturity fixed by the Bank of India and the Bank of Baroda and failing that any other arrangement that substitutes such prime lending rate as mutually agreed between the Parties.

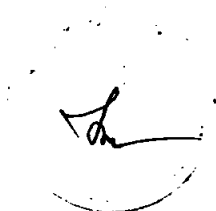
“Scheduled Project Completion Date” shall have the meaning set forth in Clause 15.3.

“Senior Lenders” means the financial institutions, banks, funds and agents or trustees of debenture holders, Non- Banking Financial Companies or other major lending agencies approved by Reserve Bank of India including their successors and assignees, who have agreed to guarantee or provide finance to the Concessionaire under any of the Financing Documents for meeting costs of all or any part of the Project and who hold pari passu charge on the Concession granted by this Agreement.

“Site” means the real estate licensed by NHAI to the Concessionaire under and in accordance with this Agreement on which the Project Highway is situated.

“Specifications and Standards” means the specifications and standards relating to the quality, capacity and other requirements for the Project Highway as set forth in Schedule ‘D’ and any modifications thereof, or additions as included in the design and engineering for the Project Highway submitted by the Concessionaire to and expressly approved by NHAI.

“State Support Agreement” means the agreement to be entered into between the Government of Andhra Pradesh, NHAI and the Concessionaire substantially in the form set forth in Schedule ‘R’ for provision of support, backup and services required from Government of Andhra Pradesh for the performance of Concessionaire’s obligations under this Agreement.



"Statutory Auditors" means an independent, recognized and reputable firm of Chartered Accountants duly licensed to practice in India acting as independent statutory auditors of the Concessionaire under the provisions of the Companies Act, 1956 including any statutory modification or re-enactment or replacement thereof, for the time being in force, and appointed in accordance with Clause 28.2.

"Subordinated Debt" means any borrowings by the Concessionaire subordinated to the financial assistance provided by the Senior Lenders for meeting the Total Project Cost but does not include any interest thereon.

"Substitution Agreement" means the agreement referred to in Article XXXV and to be entered into among the Concessionaire, NHAI and the Senior Lenders in the form set forth in Schedule 'U' providing, inter alia, for the substitution of the Concessionaire by any other person subject to and in accordance with the provisions of this Agreement and the Substitution Agreement.

"Taxes" means any Indian taxes on corporate income, Sales tax, excise duties, customs duties and local taxes and any impost of like nature (whether Central, State or local) charged, levied or imposed on the goods, materials, equipment and services incorporated in and forming part of the Project Highway, on the construction, operation and maintenance thereof and on the Project Assets, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever.

"Termination" means the expiry or termination of this Agreement and the Concession hereunder.

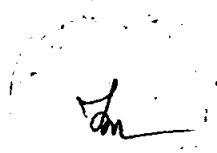
"Termination Date" means the date on which this Agreement and the Concession hereunder expires pursuant to the provisions of this Agreement or is terminated by a Termination Notice.

"Termination Notice" means the communication issued in accordance with this Agreement by any one Party to the other Party terminating this Agreement.

"Termination Payment" means the amounts payable by NHAI to the Concessionaire under this Agreement upon the Termination of this Agreement.

"Tests" mean the tests to be carried out as set forth in and in accordance with Schedule 'J' to determine the Project Completion and its certification by the Independent Consultant for commencement of commercial operation of the Project Highway.

"Total Project Cost" means the cost of the project i.e Rs 611.44 crores as mentioned in the RFP.



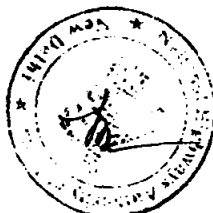
“Value Additions” shall have the meaning attributed to it in Clause 17.5.

“Vesting Certificate” shall have the meaning attributed to it in Clause 33.4.

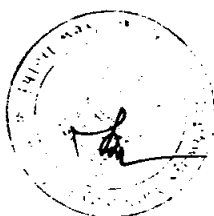
“WPI” means the wholesale price index published by the Ministry of Industry. GOI and shall include any index, which substitutes the WPI.

1.2 In this Agreement, unless the context otherwise requires.

- (a) any reference to a statutory provision shall include such provision as is from time to time modified or re-enacted or consolidated so far as such modification or re-enactment or consolidation applies or is capable of applying to any transactions entered into hereunder;
- (b) references to Indian law shall include the laws, acts, ordinances, rules, regulations, or bye laws which have the force of law in any State or Union Territory forming part of the Union of India;
- (c) the words importing singular shall include plural and vice versa, and words denoting natural persons shall include partnerships, firms, companies, corporations, joint ventures, trusts, associations, organizations or other entities (whether or not having a separate legal entity);
- (d) the headings are for convenience of reference only and shall not be used in and shall not affect the construction or interpretation of this Agreement;
- (e) terms and words beginning with capital letters and defined in this Agreement shall have the meaning ascribed thereto herein and the terms and words defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules;
- (f) the words “include” and “including” are to be construed without limitation;
- (g) references to “construction” include, unless the context otherwise requires, investigation, design, engineering, procurement, delivery, transportation, installation, processing, fabrication, testing, commissioning and other activities incidental to the construction;
- (h) any reference to any period of time shall mean a reference to that according to Indian Standard Time;



- (i) any reference to day shall mean a reference to a calendar day;
- (j) any reference to month shall mean a reference to a calendar month;
- (k) the Schedules to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- (l) any reference at any time to any agreement, deed, instrument, licence or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference provided that this clause shall not operate so as to increase liabilities or obligations of NHA1 hereunder or pursuant hereto in any manner whatsoever;
- (m) references to Recitals, Articles, Clauses, Sub-clauses, Paragraphs, or Schedules in this Agreement shall, except where the context otherwise requires, be deemed to be references to Recitals, Articles, Clauses, Sub-clauses, paragraphs, and Schedules of or to this Agreement;
- (n) any agreement, consent, approval, authorisation, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or the Independent Consultant shall be valid and effectual only if it is in writing under the hands of duly authorised representative of such Party or the Independent Consultant, as the case may be, in this behalf and not otherwise;
- (o) any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both such days or dates;
- (p) the damages payable by either Party to the other of them as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty or liquidated damages (the "Damages"); and
- (q) unless otherwise expressly provided in this Agreement any Documentation required to be provided or furnished by the Concessionaire to NHA1 and/or the Independent Consultant shall be provided free of cost and in three copies and if NHA1 and/or the Independent Consultant are required to return any such Documentation with their comments and/or approval, they shall be entitled to retain two copies thereof.



1.3 Measurements and Arithmetic Conventions

All measurements and calculations shall be in metric system and calculations done to 2 decimal places, with the third digit of 5 or above being rounded up and below 5 being rounded down.

1.4 Priority of contract documents and errors/discrepancies

1.4.1 The several documents forming this Agreement are to be taken as mutually explanatory to one another and, unless otherwise expressly provided elsewhere in this Agreement, the priority of the following documents shall in the event of any conflict between them be in the order they are set out:

- (i) this Agreement
 - (ii) all other documents forming part of this Agreement
- i.e. document at (i) above shall prevail over the documents at (ii) above.

1.4.2 In case of ambiguities or discrepancies within this Agreement the following shall apply:

- (i) between two Clauses of this Agreement, the provisions of the specific clause relevant to the issue under consideration shall prevail over those in other Clauses;
- (ii) Between the Clauses and the Schedules, the Clauses shall prevail save as otherwise expressly set forth in Clause 1.4.1;
- (iii) Between DPR issued alongwith RFP and the Schedules, the latter shall prevail;
- (iv) Between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- (v) Between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail;
- (vi) Between any value written in numerals and that in words, the latter shall prevail.

II SCOPE OF PROJECT

2.1 The Project shall be executed on the Site, which is described in Schedule 'A' of this Agreement. The scope of the Project shall include performance and execution by the Concessionaire of all design, engineering, financing, procurement, construction, completion, operation and maintenance of the Project Highway as described in Schedule 'B' and Schedule 'C' of this Agreement. It shall include (brief description of the project) in accordance with the Specifications and Standards set forth in Schedule 'D' and operation and maintenance thereof in accordance with Schedule 'L'. It shall also include the performance and fulfillment of other obligations by the Concessionaire under this Agreement.

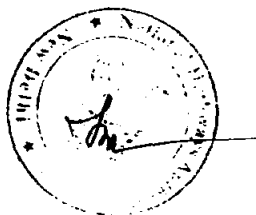
The Concessionaire shall undertake its obligations at its own cost and risk.



CHAPTER – II GRANT OF CONCESSION

III. GRANT OF CONCESSION

- 3.1 Subject to and in accordance with the terms and conditions set forth in this Agreement, NHAI hereby grants to the Concessionaire and the Concessionaire hereby accepts the Concession for a period of 20 (twenty) years commencing from the Commencement Date, including the exclusive right, license and authority during the subsistence of this Agreement to implement the Project and the Concession in respect of the Project Highway.
- 3.2 Subject to and in accordance with the terms and conditions set forth in this Agreement, the Concession hereby granted shall entitle the Concessionaire to enjoy, and oblige the Concessionaire to undertake the following in accordance with the provisions of this Agreement, the Applicable Laws and the Applicable Permits:
- i to develop, design, engineer, finance, procure, construct, operate and maintain the Project Highway during the Concession Period;
 - ii upon completion of the Project Highway and during the Operations Period to manage, operate & maintain the Project Highway and regulate the use thereof by third parties;
 - iii to allow NHAI to levy, demand, collect and appropriate the Fees from vehicles and persons liable to payment of Fees for using the Project Highway or any part thereof as per Article VII;
 - iv perform and fulfill all of the Concessionaire's obligations under this Agreement;
 - v bear and pay all expenses, costs and charges incurred in the fulfillment of all the Concessionaire's obligations under this Agreement ;and
 - vi not assign or create any lien or Encumbrance on the Concession hereby granted on the whole or any part of the Project Highway nor transfer, lease or part possession therewith save and except as expressly permitted by this Agreement or the Substitution Agreement.
- 3.3. The Concession Period shall commence on the Commencement Date and shall end on the Termination Date.

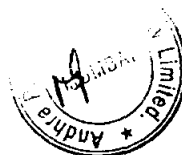


IV. CONDITIONS PRECEDENT

4.1 Conditions Precedent

Save and except as provided in Articles IV, V and XXII, the rights and obligations of the Concessionaire under this Agreement are subject to the satisfaction in full of the following conditions precedent to be fulfilled on or before Financial Close unless any such condition has been waived as provided in Clause 4.2:

- (a) Concessionaire shall have obtained all such Applicable Permits as listed in Schedule 'E' unconditionally or if subject to conditions then all such conditions have been satisfied in full and such Applicable Permits are and shall be kept in full force and effect for the relevant period during the subsistence of this Agreement;
- (b) the Concessionaire shall have been granted way leaves required in connection with the Project including:
 - (i) existing rights of way for the alignment of the Project Highway free from all Encumbrances;
 - (ii) rights of way from public roads to the Site; and
 - (iii) permission / licence to enter upon and utilise the Site for the construction pursuant to and in accordance with this Agreement.
- (c) The Concessionaire shall have obtained all Central Government clearances and permits under the applicable laws relating to environmental protection and conservation from the Ministry of Environment and Forest.
- (d) Deleted
- (e) certified true copies of all Project Agreements, in particular, the Financing Documents, the EPC Contract, O&M Contract, if any, as well as the shareholders funding agreement have been delivered by the Concessionaire to NHAI;
- (f) the Performance Security in full has been provided by the Concessionaire to NHAI in accordance with the RFP and the same is in full force and effect;
- (g) all of the representations and warranties of the Concessionaire set forth in Article XI are true and correct as on date of this Agreement and as on the Commencement Date;



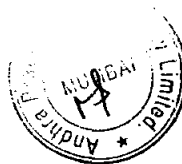
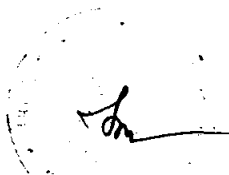
- (h) NHA1 shall have received from the Concessionaire copies (certified as true copies by an authorised officer of the Concessionaire) of the constitutional documents of the Concessionaire;
 - (i) NHA1 shall have received copies (certified as true copies by a Director of the Concessionaire) of all resolutions adopted by the Board of Directors of the Concessionaire authorising the execution, delivery and performance by the Concessionaire of this Agreement and each of the Project Agreements;
 - (j) NHA1 shall have received from the Indian legal counsel of the Concessionaire a legal opinion with respect to the authority of the Concessionaire to enter into this Agreement and the Project Agreements and the Financing Documents and the enforceability of the provisions thereof; and
- 4.2 Any of the conditions precedent set forth in Clause 4.1, save and except condition of Sub-clause (b) and (c) thereof, may be waived fully or partially by NHA1 at anytime in its sole discretion.
- 4.3 Obligation to Satisfy the Conditions Precedent.

The Concessionaire shall make all reasonable endeavors to procure the satisfaction in full of the Conditions Precedent set out in Clause 4.1 above and NHA1 shall make all reasonable endeavor to procure fulfillment of the conditions set forth in Sub-clauses (b), (c) and (d) of Clause 4.1. Each Party shall bear its respective cost and expense of satisfying such Condition Precedent unless otherwise expressly provided.

- 4.4 If the Conditions Precedent set forth in Clause 4.1 have not been satisfied on or before the Financial Close and the NHA1 has not waived, fully or partially, such conditions under Clause 4.1, NHA1 may, notwithstanding anything to the contrary contained in this Agreement, terminate this Agreement in accordance with provisions of Clause 32.2 without being liable in any manner whatsoever to the Concessionaire and forfeit the Bid Security and/or the Performance Security by way of Damages, provided that where NHA1 does not fulfill its obligations under Clause 4.3 and terminates this Agreement under this Clause 4.4, it shall refund the Performance Security.

V. PERFORMANCE SECURITY

- 5.1 The Single Entity / Concessionaire, for due and faithful performance of the Concessionaires obligations during the construction period has provided to NHA1, Bank Guarantee No.495801GL0021906 dated 6th March 2006 and its amendment dated 18th March 2006 for Rs 30.572 crores (Rs thirty crores fifty seven lakhs twenty thousand



only) being 5% of the Total Project Cost from Union Bank of India valid upto 31st March 2009. The Performance Security shall be reduced to Rs 18.3432 crores (Rs eighteen crores thirty four lakhs thirty two thousand only) being 3% of the Total Project Cost after achievement of the Financial Close by the Concessionaire. The Single Entity / Concessionaire further agrees and undertakes to keep the bank guarantee valid and enforceable till the COD subject to Clause 5.2 below. The Performance Security shall be released by NHAI to the Concessionaire upon issuance of the Completion Certificate by the Independent Consultant.

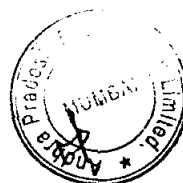
- 5.2 In the event of the Concessionaire being in default in the due and faithful performance of its obligations under this Agreement and failing to remedy such default within the Cure Period, the NHAI shall without prejudice to its other rights and remedies hereunder be entitled to encash and appropriate the Performance Security as Damages for such default. Upon such encashment and appropriation of the Performance Security, NHAI shall grant a period of 15 (fifteen) days to the Concessionaire to provide fresh Performance Security and the Concessionaire shall within the time so granted furnish to NHAI such Performance Security failing which NHAI shall be entitled to Terminate this Agreement under clause 32.2. The provision set forth in Clause 5.2 and this Clause 5.3 shall apply mutatis-mutandis to such fresh Performance Security.
- 5.3 Notwithstanding anything to the contrary contained in clause 5.3, upon furnishing of fresh Performance Security in accordance with clause 5.2, the Concessionaire shall be granted an additional period of 60 (Sixty) days as Cure Period for remedying the defaults and complying with his obligations under this Agreement. In the event of the Concessionaire continuing to be in breach of the provisions of this Agreement after such Cure Period, NHAI shall be entitled to terminate this Agreement under the provisions of Clause 32.2.

VI. ANNUITY

Subject to the provisions of this Agreement and in consideration of the Concessionaire accepting the Concession and undertaking to perform and discharge its obligations in accordance with the terms, conditions and covenants set forth in this Agreement, NHAI agrees and undertakes to pay to the Concessionaire, on each Annuity Payment Date, the sum of Rs. 56.52 crores (the Annuity).

6.1 Payment of Annuity

- (a) Subject to the provisions of Article 6 and any other applicable provisions of this Agreement, NHAI shall make Payment of Annuity to the Concessionaire on each Annuity Payment Date.



(b) NHAI shall as security for payment of Annuity, provide to the Concessionaire a Letter of Credit from a Scheduled Bank in India for a sum equal to Rs 56.52 crores(one annuity payment amount). Such Letter of Credit shall be established within 30 days from the expected date of COD as intimated by the Concessionaire.

(c) Deleted

6.2 Bonus/Reduction in Annuity

(a) The Concessionaire shall either receive bonus for early completion of the Project (the Bonus) or incur reduction in the Annuity for delayed completion of the Project (the Reduction) as the case may be.

(b) For the purpose of this Article 6.2, each Annuity Payment Period shall be deemed to be a period of 180 calendar days.

(c) The Bonus or Reduction as the case may be shall be computed as under:

(i) If COD is achieved prior to first Annuity Payment Date:

$$B \text{ or } R = [(SPCD-COD) + X] * A / 180$$

(ii) If COD is achieved between two Annuity Payment Dates:

$$B \text{ or } R = [(PAPD-COD) + X] * A / 180$$

Where,

A = Annuity,

B = Bonus,

PAPD = Previous Annuity Payment Date.

R = Reduction

SPCD = Scheduled Project Completion Date,

X = As determined by the Independent Consultant, the aggregate number of days of delay caused by;

(i) delay in delivery of the Project Site or any part thereof by NHAI,

(ii) suspension of Construction Works or part thereof by NHAI or the Independent Consultant, for reasons not attributable to the Concessionaire,

(iii) Change of Scope Order pursuant to Article 17.



- (iv) stoppage of the Construction Works or part thereof on account of the Concessionaire allowing access and use of Project Site for public purposes pursuant to Article 38.2.
- (v) Force Majeure Event which is a Political Event or Indirect Political Event,
- (vi) NHAI Event of Default.

(d) If the resultant figure arrived at pursuant to computation made in accordance with the preceding sub-article is positive, the same shall be the amount of Bonus payable to the Concessionaire and if negative, the same shall be the amount of Reduction.

(e) The Bonus shall be paid or Reduction shall be effected on the first Annuity Payment Date occurring after COD.

(f) Notwithstanding anything inconsistent contained anywhere in this Agreement, NHAI's obligation to pay Annuity shall arise subject to and only upon occurrence of COD.

6.3 Assured Availability

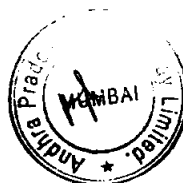
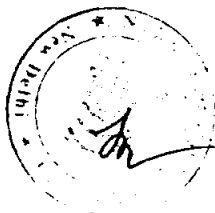
(a) If due to Concessionaire's failure to perform/discharge its obligations under this Agreement, the actual availability of the Carriageway during any Annuity Payment Period was less than the Assured Availability, the Concessionaire's right to receive Annuity shall proportionately abate. The difference between the Assured Availability and the actual availability of the Carriageway is hereafter referred to as Non Availability.

Provided that:

- (i) to the extent that the Non Availability is due to Political Events and /or events set out in Clause 18.15 the same shall not constitute Non Availability, and
- (ii) to the extent that the Non Availability is due to Indirect Political Events, one fourth thereof shall only constitute Non Availability.

(b) Subject to the proviso to preceding sub-article(a), the Carriageway or part thereof shall be deemed to be unavailable if;

- (i) the same is closed for traffic otherwise than in accordance with the O & M Requirements as per Schedule ' L',



- (ii) irrespective of whether the same is closed for traffic or not, if the Independent Consultant has determined that,
- (a) the riding quality thereof has deteriorated to a level which is below the acceptable level prescribed by the O & M Requirements as per Schedule 'L'; and
 - (b) the same is not, in the opinion of the Independent Consultant, safe for operations.
- (c) The Non-Availability shall be measured in terms of the sum total of lane kilometer hours for which the Carriageway or part thereof as the case may be was unavailable.
- (d) The length of a lane that was unavailable for the use of the traffic, shall be the actual length of the affected stretch of that lane as determined by the Independent Consultant plus 1 km (500mtrs on either side of the affected stretch).
- (e) If in respect of any Annuity Payment Period, the Independent Consultant has reported Non Availability or Non-Availability has otherwise been established, the Annuity payable for the immediately succeeding Annuity Payment Period shall be adjusted for such Non Availability (the Adjusted Annuity) as under and paid.

$$\text{Adjusted Annuity} = (AA - N) * A / AA$$

Where,

AA = Assured Availability

A = Annuity

$N = \sum_{i=1}^n Li \times hi$

Where,

N = Non Availability during the previous Annuity Payment Period (in lane kilometer hours)

n = total number of days of non-availability

Li = length of non-available portion of the lane on each day (in kms)

and

hi = number of hours of non availability, on each day.

Provided that if $Li \times hi$ is less than four lane kilometer hour in a given day, the same shall be ignored.

Provided that if the Non Availability relates to the last of the Annuity Payment Periods, the Annuity payable for that Annuity Payment Period shall be adjusted as above and paid. In such an event, the Annuity may be paid on or before the 15th day after the relevant Annuity Payment Date.



- (f) Adjustment of Annuity on account of Non Availability in accordance with this Article 6.3 shall be without prejudice to any other right/remedy available to NHAI on account of breach of its obligations by the Concessionaire and that NHAI shall be entitled to treat frequent occurrences of Non-Availability or continued Non-Availability (beyond a reasonable time having regard to Good Industry Practice) as persistent breach of O&M Requirements within the meaning of Article 18.16

6.4 Payment Mechanism

(a) Submission of Invoice

The Concessionaire shall at least one month prior to the relevant Annuity Payment Date submit to the Independent Consultant, its invoice (addressed to NHAI) for payment of Annuity duly adjusted for Non-availability, if any, in accordance with the preceding Article 6.3. The Independent Consultant shall after verification and certification of the amount claimed in the invoice forward the invoice to NHAI with necessary recommendation for payment thereof so as to reach NHAI atleast one week prior to the relevant Annuity Payment Date.

(b) Payment of Annuity

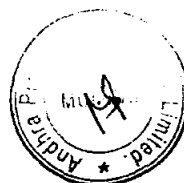
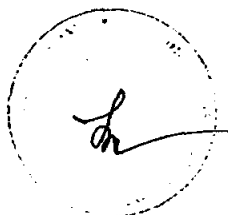
Upon receipt of the invoice together with recommendation for payment forwarded by the Independent Consultant, NHAI shall take all necessary steps and ensure payment of Annuity on the relevant Annuity Payment Date. The mode of payment of Annuity shall be as provided in Article 23.

For avoidance of doubt, the Parties agree that notwithstanding any dispute which either of them may have as to the amount of invoice/Annuity certified and recommended for payment by the Independent Consultant; the Annuity payable on the relevant Annuity Payment Date shall be that certified by the Independent Consultant. Provided such payment shall be without prejudice to a final adjustment according to the terms on which such dispute is resolved whether amicably or through arbitration in accordance with the provisions of Article 39.

VII LEVY AND COLLECTION OF FEE

7.1 Concessionaire's obligations

- (a) The Concessionaire shall not levy, demand or collect from or in respect of any vehicle or Person, for the use of Project Facilities, any sum whatsoever in the nature of a toll or fee.



- (b) The Concessionaire shall not permit or allow any advertisement/hoarding or other commercial activity and shall not be entitled to charge, collect or receive any sums on account of any such activity. For avoidance of doubt, the Concessionaire agrees that unless otherwise provided in this Agreement, the Project revenue shall consist of Annuity only.

7.2 NHAI's Rights

(a) Levy and Collection of Fee

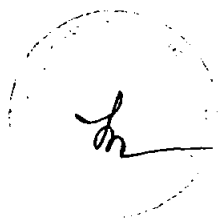
- (i) Notwithstanding anything inconsistent contained in this Agreement, NHAI shall have the authority to levy toll or fee on the vehicles using the Project Facilities (the Fee) and to demand, collect, retain and appropriate the Fee in accordance with the Applicable Laws.
- (ii) NHAI may at its sole discretion levy, demand, collect, retain and appropriate the Fee either by itself or authorise any Person by contract or otherwise to levy, demand, collect, retain and appropriate the same (the "Authorized Person") as NHAI may deem fit in its sole discretion and in accordance with the Applicable Laws.
- (iii) Any arrangement or contract made or entered into by NHAI for levy and collection of Fee shall be independent of this Agreement and that no such arrangement or contract shall have the effect of adding to or enlarging in any way the obligations or the scope thereof or the liability of the Concessionaire under this Agreement and that the Concessionaire's obligations and liabilities shall be and limited to, those contained in this Agreement only.
- (iv) NHAI / the Authorised Person shall have access to and use of the Project Site for all purposes necessary or incidental to levy and collection of the Fee.

Provided, that to the extent such access and use allowed by the Concessionaire affects the performance of any of its obligations hereunder, the Concessionaire shall not be deemed or construed to be in breach of its obligations nor shall it incur/suffer any liability on account thereof.

Provided further, that NHAI shall, in the event of any physical damage to the Project Facilities on account of such access or use, ensure that such damage is promptly repaired and the Project Facilities are restored at its cost and expenses.

(b) Advertisement/Hoarding etc.

This shall be governed by Applicable Laws, rules, regulations, guidelines and instructions of GOI, NHAI and Government Agency.



VIIA CONCESSION FEE

- 7A.1 In consideration of the grant of Concession under this Agreement, the Concession Fee payable by the Concessionaire to the NHAI shall be Re.1.00 (Rupee One) per year during the term of this Agreement.
- 7A.2 The Concession Fee shall be paid in advance within 90 (ninety) days of the commencement of the year, for which it is due and payable.

VIII CAPACITY AUGMENTATION

Notwithstanding anything contained any where in this Concession Agreement contrary to the provisions here below, the following are prescribed.

- 8.1 The NHAI may, following a detailed traffic study conducted by it, at any time after the COD decide to augment/increase the capacity of the Project (capacity Augmentation) with a view to provide the desired level of service to the users of the Project Facility.
- 8.2 The NHAI shall invite proposals from eligible Persons for Capacity Augmentation. The Concessionaire shall have option to submit its proposal for Capacity Augmentation.
- 8.3 The Bid document for Capacity Augmentation shall specify a Termination payment to be made to the Concessionaire in case the Concessionaire chooses not to submit its proposal or fails or declines to match the preferred offer as mentioned in Clause 8.5 below.
- 8.4 In case the Concessionaire after participating in the bidding procedure, fails to give the lowest offer, the Concessionaire shall be given the first right of refusal to match the preferred offer. If the Concessionaire matches the preferred offer, the Parties shall enter into a suitable agreement supplemental to this Agreement to give effect to the changes in scope of the Project, Concession Period and all other necessary and consequential changes. In such an event the Concessionaire shall pay to the bidder who had made the lowest offer sum of Rs. 10 lakhs (Ten Lakhs) towards bidding costs incurred by such bidder.
- 8.5 In case the Concessionaire (i) chooses not to submit its proposal for Capacity Augmentation or (ii) is not the preferred bidder and also fails or declines to match the preferred offer, NHAI shall be entitled to terminate this Agreement upon payment to the Concessionaire of the Termination Payment.
- 8.6 The Termination payment referred to in the preceding clauses 8.3 & 8.5 above shall be the amount equivalent to the Discounted Value of the Future Net Cashflows.



VIII A ADDITIONAL HIGHWAY

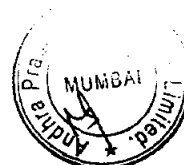
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CHAPTER -III OBLIGATIONS AND UNDERTAKINGS

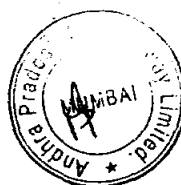
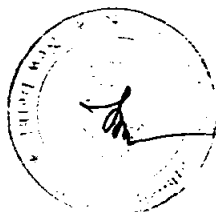
IX. OBLIGATIONS OF THE CONCESSIONAIRE

9.1 The Concessionaire shall at its own cost and expense observe, undertake, comply with and perform, in addition to and not in derogation of its obligations elsewhere set out in this Agreement, the following:

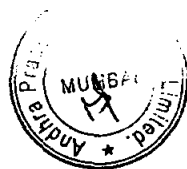
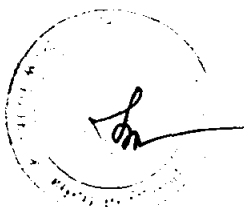
- (i) make, or cause to be made, necessary applications to the relevant Governmental Agencies with such particulars and details, as may be necessary for obtaining all Applicable Permits, and obtain such Applicable Permits in conformity with the Applicable Laws;
- (ii) notify to NHAI forthwith the occurrence of Financial Close;
- (iii) submit to NHAI certified true copies of each of the Project Agreements within 7 (seven) days of their execution;
- (iv) not make any replacement, amendment or modifications to any of the Project Agreements without the prior written consent of NHAI, where such replacement, amendment or modification has or may have the effect of increasing or imposing any financial liability or obligation on NHAI in any manner, and where such amendment or modification is made without such consent, not to enforce such amendment or modification nor permit enforcement thereof against NHAI in any manner whatsoever;
- (v) give NHAI not less than 30 (thirty) days written notice prior to entering into, amending or replacing any Project Agreement so as to enable NHAI to provide its consent or offer its comments, if any thereon which, if made, shall be duly considered and given effect to by the Concessionaire before entering into, amending or replacing such Project Agreement;
- (vi) remove promptly from the Project Highway all surplus construction machinery and materials, waste materials (including, without limitation, hazardous materials and waste water), rubbish and other debris (including without limitation accident debris) and shall keep the Site in a neat and clean condition and in conformity with the Applicable Laws and Applicable Permits;



- (vii) procure, as required, the appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used or incorporated into the Project Highway;
- (viii) provide all assistance to the Independent Consultant as it may require for the performance of its duties and services;
- (ix) provide to NHAI reports on regular basis during the Construction Period and the Operations Period in the form and manner set forth in this Agreement and Schedule 'X';
- (x) obtain and maintain in force on and from the Commencement Date all insurance in accordance with the provisions of this Agreement and Good Industry Practice;
- (xi) acquire such real estate, as the Concessionaire may deem appropriate for the Additional Facilities and to indemnify and save harmless and defend GOI, NHAI, and Government of Andhra Pradesh from and against all proceedings, claims, demands, costs, expenses, losses and damages arising out of or relating to the securing of rights to use such real estate by the Concessionaire or any person claiming through or under the Concessionaire;
- (xii) undertake Debt Service Payments in accordance with the Financing Documents;
- (xiii) to allow NHAI to levy, demand, collect and appropriate the Fees from vehicles and persons liable to payment of Fees for using the Project Highway or any part thereof as per Article VII;
- (xiv) ensure and procure that each Project Agreement contains provisions that entitle NHAI to step into such agreement in its discretion in place and substitution of the Concessionaire in the event of Termination of this Agreement on account of default or breach by the Concessionaire;
- (xv) appoint, supervise, monitor and control the activities of Contractors under their respective Project Agreements as may be necessary;
- (xvi) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed in connection with the performance of the Concessionaire's obligations under this Agreement;



- (xvii) comply with all Applicable Permits and Applicable Laws in the performance of the Concessionaire's obligations under this Agreement including those being performed by any of the Contractors;
- (xviii) develop, implement and administer a surveillance and safety program for the Project Highway, the users thereof, and the Contractors personnel engaged in the provision of any services under any of the Project Agreements including correction of safety violations and deficiencies, and taking of all other actions necessary to provide a safe environment in accordance with Schedule 'S', Applicable Laws and Good Industry Practice;
- (xix) take all reasonable precautions for the prevention of accidents on or about the Project Highway and provide all reasonable assistance and emergency medical aid to accident victims;
- (xx) not to place or create and nor permit any Contractor or other person claiming through or under the Concessionaire to create or place any Encumbrance or security interest over all or any part of Site or the Project Assets, or on any rights of the Concessionaire therein or under this Agreement, save and except as expressly set forth in this Agreement;
- (xxi) make its own arrangements for quarrying, and observe and fulfill the environmental and other requirements under the Applicable Laws and Applicable Permits at Concessionaire's own cost and expense;
- (xxii) be responsible for safety, soundness and durability of the Project Highway including other structures forming part thereof and their compliance with the Specifications and Standards;
- (xxiii) not claim or demand possession or control of any roads, structures or real estate which do not form part of the Project Highway;
- (xxiv) after receiving possession of the site or part thereof, ensure that such site remains free from all encroachments and take all steps necessary to remove encroachments, if any
- (xxv) make payment to Police department or any Government Agency, if required, for provision of such services as are not provided in the normal course or are available on payment;
- (xxvi) indemnify the NHAI against all actions, suits, claims, demands and proceedings and any loss or damage or cost or expense that may be suffered by them on



account of anything done or omitted to be done by the Concessionaire in connection with the performance of its obligations under this Agreement:

- (xxvii) comply with the Divestment Requirements and hand over the Project Highway to NHAI upon Termination of the Agreement.
- (xxviii) work in optimizing the use of existing Right of Way handed over to them.
- (xxix) make all necessary arrangements for accomplishing the tasks of physical removal of the encroachments at his own cost.
- (xxx) obtain all the necessary environmental clearances, cut the trees and carry out compensatory afforestation, as per the applicable state laws, at his own cost excluding clearances pertaining to the Project Highway passing through protected forest or sanctuary or other similar features.
- (xxxi) carry out shifting of utility services.
- (xxxii) obtain all necessary clearances/permits, except General Arrangement Drawings (GADs), from Railways in respect of construction of ROB/RUB and carry out all necessary tasks to accomplish construction of ROB/RUB at its own cost.
- (xxxiii) liaise with Government of Andhra Pradesh for implementation of the Rehabilitation and Resettlement plan.
- (xxxiv) to keep in full force and effect the Performance Security deposited pursuant to the RFP in accordance with the provisions of this Agreement.
- (xxxv) shall assist NHAI / Government Agency in performing functions under Control of National Highways (Land & Traffic) Act, 2002 to the extent directed by NHAI / Government Agency. Provided, however, the obligations, functions and all such acts already covered under this Agreement shall be governed by this Agreement.
- (xxxvi) enter into the State Support Agreement with NHAI and the Government of Andhra Pradesh;

9.2 Subject to the terms and conditions of this Agreement the Concessionaire shall at its cost and expense:

- (i) undertake the design, engineering, procurement and construction and financing of the Project Highway in accordance with this Agreement;



- (ii) operate and maintain the Project Highway at all times in conformity with this Agreement including but not limited to the Specifications and Standards set forth in Schedule 'D', Schedule 'L', the Maintenance Programme and Good Industry Practice.

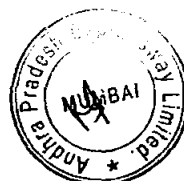
9.3 The Concessionaire shall, before commencement of construction of the Project Highway:

- (i) submit to NHAI with due regard to Project Completion Schedule as set forth in Schedule 'H' and Scheduled Project Completion Date, its design, engineering and construction time schedule and shall formulate and provide CPM/PERT charts for the completion of the said activities;
- (ii) finalize the design and detailed engineering basis;
- (iii) have requisite organization and designate and appoint a Project manager and such other managers, officers and representatives as it may deem appropriate to supervise the Project and to deal with the NHAI Representative and be responsible for all necessary exchanges of information required pursuant to this Agreement; and
- (iv) undertake, do and perform such acts, deeds and things as may be necessary or required for construction and Project completion under and in accordance with this Agreement.

9.4 In respect of the Concessionaire's obligations with respect to the Drawings of the Project Highway as set forth in Schedule 'I', the following shall apply:

- (i) The Concessionaire shall prepare and submit with reasonable promptness and in such sequence as is consistent with the Project Completion Schedule, three copies each of all Drawings to NHAI and the Independent Consultant for review and comments.
- (ii) By forwarding the Drawings for review and comment to NHAI, the Concessionaire represents that it has determined and verified that the design and engineering including field construction criteria related thereto is in conformity with the Specifications, Standards and quality set forth in this Agreement for and in respect of the Project Highway.
- (iii) Within 30 (thirty) days of the receipt of the Drawings, NHAI shall review the same and convey its comments/observations to the Concessionaire with particular reference to the conformity or otherwise with the Specifications and Standards set forth in this Agreement. It is expressly agreed that notwithstanding any review and comment/observations of NHAI on any Drawings or failure of NHAI to provide comments/ observations thereon, NHAI shall not be liable for

Signature



the same in any manner whatsoever and the Concessionaire shall remain solely responsible for and shall not be relieved or absolved in any manner whatsoever of its obligations, duties and liabilities as set forth in this Agreement. The Concessionaire shall not be obliged to await the comments/observations of NHAI on the Drawings submitted pursuant hereto beyond the period set forth hereinabove.

- (iv) If the comments/observations of NHAI indicate that the Drawings are not in conformity with the Specifications and Standards set forth in this Agreement, such Drawings shall be revised by the Concessionaire to the extent necessary and resubmitted to NHAI for review, observations and comments. NHAI shall give its observations and comments, if any, within 15 (fifteen) days of the receipt of such revised Drawings provided, however, that any observations or comments of NHAI or failure of NHAI to give any observations or comments on such revised drawings shall not relieve or absolve the Concessionaire of its obligation to conform to such Specifications and Standards.
- (v) The Concessionaire shall be responsible for delays in Project Completion Schedule caused by reasons of any Drawings not being in conformity with the Specifications and Standards, and the Concession Period shall not be extended in any manner whatsoever on account of submission or revision of any Drawings.
- (vi) Within 90 (ninety) days of the COD, the Concessionaire shall furnish NHAI with "as built" Drawings reflecting the Project Highway as actually designed, engineered and constructed, including without limitation on "as built" survey illustrating the layout of the Project Highway and setback lines, if any, of the buildings and structures forming part of Project Facilities.

9.5 The Concessionaire shall submit to NHAI the drafts of the Project Agreements including in particular the EPC Contract, the Financing Documents and the O&M Contract for its review. NHAI shall have the right but not the obligation to provide its comments and observations, if any, in respect of the Project Agreements within 30 (thirty) days of the receipt thereof by NHAI and the Concessionaire shall consider all such comments/observations. Any such comments/observations by NHAI on any Project Agreements or the failure to provide such comments shall not relieve or absolve in any manner whatsoever the Concessionaire of its obligations, duties and liabilities under this Agreement nor shall it make NHAI and/or Independent Consultant liable to the Concessionaire in any manner whatsoever and shall be without prejudice to the rights of NHAI hereunder.

9.6 During the Construction Period, the Concessionaire shall be responsible for maintaining the Site including the existing two lanes of the Project Highway as also the existing



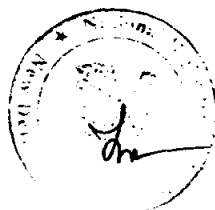
section of the National Highway which is proposed to be bypassed as part of the Project Highway, at its own cost and expense. During this period, the Concessionaire shall modify, repair or otherwise make improvements to the existing two lanes before expiry of six months from the Commencement Date so that the existing two lanes comply with requirements provided in Schedule 'L' and at least 2 (two) lanes of the Project Highway are ordinarily open to traffic at all times. The Concessionaire shall promptly undertake all such repairs and maintenance works as may be necessary to keep the Project Highway traffic-worthy and safe during the Construction Period.

- 9.7 The Concessionaire shall, at all times, afford access to the Site to the authorised representatives of NHAI, Senior Lenders, and the Independent Consultant and to the persons duly authorised by any Governmental Agency having jurisdiction over the Project, including those concerned with safety, security or environmental protection to inspect the Project Highway and to investigate any matter within their authority and upon reasonable notice, the Concessionaire shall provide to such persons reasonable assistance necessary to carry out their respective duties and functions with minimum disruption to the construction, operation and maintenance of the Project Highway consistent with the purpose for which such persons have gained such access to the Site.

X. OBLIGATIONS OF NHAI

- 10.1 NHAI agrees to observe, comply and perform the following:

- (i) enable access to the Site, free from Encumbrances, in accordance with this Agreement
- (ii) permit peaceful use of the Site by the Concessionaire as licensee under and in accordance with the provisions of this Agreement without any let or hindrance from NHAI or persons claiming through or under it;
- (iii) assist and provide all reasonable support to the Concessionaire in obtaining Applicable Permits;
- (iv) upon written request from the Concessionaire, assist the Concessionaire in obtaining access to all necessary infrastructure facilities and utilities, including water, electricity and telecommunication facilities at rates and on terms no less favourable to the Concessionaire than those generally available to commercial customers receiving substantially equivalent services;
- (v) Make reasonable endeavors in not allowing erection or placement of barriers by Government of Andhra Pradesh or any Governmental Agency on the Project



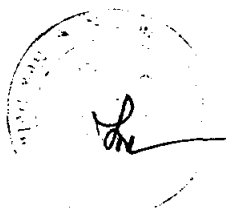
Highway except on account of any law and order situation or upon national security considerations;

- (vi) enter into the State Support Agreement with the Concessionaire and the Government of Andhra Pradesh;
- (vii) assist the Concessionaire in obtaining necessary assistance to regulate traffic on the Project Highway subject to and in accordance with the Applicable Laws;
- (viii) assist the Concessionaire in obtaining Police assistance from Government of Andhra Pradesh against payment of prescribed costs and charges, if any, for traffic regulation, patrolling and provision of security on the Project Highway;
- (ix) operate and maintain the Project Highway during the Development Period, at its own cost and expense, in a manner that the level of service is at no time inferior to the level prevailing on the date when bids were received for this Concession; and
- (x) Observe and comply with its obligations set forth in this Agreement.
- (xi) take all necessary steps towards accomplishment of acquisition of additional land. NHAI shall bear the cost of additional land.
- (xii) coordinate with Government of Andhra Pradesh authorities for completing the legal requirements and maintaining law and order during removal of encroachments by the Concessionaire.
- (xiii) provide necessary support to the Concessionaire in obtaining necessary clearances/permissions/permits in respect of environmental clearances, tree cutting, compensatory afforestation, shifting of all types of utility services, construction of ROB/RUB on Railway lines and rehabilitation and resettlement.
- (xiv) bear all expenses as per the demand note raised by the concerned government or other concerned agencies in respect of shifting of all types of utility services and rehabilitation and resettlement. Obtain approvals from Railways for General Arrangement Drawings (GADs) for construction of ROB/RUB on Railway lines.

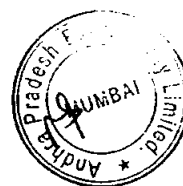
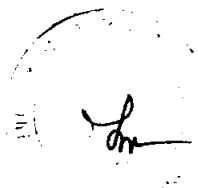
XI. REPRESENTATIONS AND WARRANTIES

11.1 Representations and Warranties of the Concessionaire

The Concessionaire represents and warrants to NHAI that:

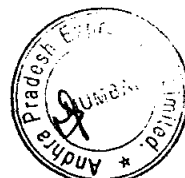
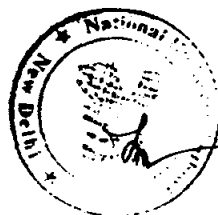


- (i) It is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation;
- (ii) It has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (iii) It has taken all necessary corporate and other action under Applicable Laws and its constitutional documents to authorize the execution, delivery and performance of this Agreement;
- (iv) It has the financial standing and capacity to undertake the Project;
- (v) This Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (vi) It is subject to civil and commercial laws of India with respect to this Agreement and it hereby expressly and irrevocably waives any immunity in any jurisdiction in respect thereof;
- (vii) All the information furnished in the Bid is, and shall be, true and correct as on the Commencement Date and COD and the Balance Sheet and Profit and Loss Account of the Concessionaire for each of its Accounting Years after the Commencement Date furnished to NHAI shall give true and fair view of the affairs of the Concessionaire;
- (viii) It shall furnish a copy of the audited accounts of the Company within 120 (one hundred twenty) days of the close of its each Accounting Year after the Commencement Date and any material change subsequent to the date of such accounts shall be notified to NHAI by the Concessionaire within 30 (thirty) days of its occurrence and warrants that the accounts and the information furnished as aforesaid shall be true and correct;
- (ix) The execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under or accelerate performance required by any of the terms of the Memorandum and Articles of Association of the Concessionaire or any Member of the Consortium or any Applicable Laws or any covenant, agreement, understanding, decree or order to which, it is a Party or by which it or any of its properties or assets is bound or affected;
- (x) There are no actions, suits, proceedings, or investigations pending or, to the Concessionaire's knowledge, threatened against it at law or in equity before any



court or before any other judicial, quasi judicial or other authority, the outcome of which may result in the breach of or constitute a default of the Concessionaire under this Agreement or which individually or in the aggregate may result in any Material Adverse Effect on its business, properties or assets or its condition, financial or otherwise, or in any impairment of its ability to perform its obligations and duties under this Agreement;

- (xi) It has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Governmental Agency which may result in any Material Adverse Effect or impairment of the Concessionaire's ability to perform its obligations and duties under this Agreement;
- (xii) It has complied with all Applicable Laws and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have Material Adverse Effect on its financial condition or its ability to perform its obligations and duties under this Agreement;
- (xiii) The equity share holding of the single entity / aggregate holding of Consortium Members(in case of consortium) and their Associates as the case may be in the issued and paid up equity share capital of the Concessionaire shall not be less than (a) 51% (fifty one percent) during the Construction Period and for 3 (three) years following COD, and (b) 26% (twenty six per cent) during the balance remaining Operations Period. Also in the case of Consortium, M/s Infrastructure Leasing & Financial Services Limited (IL&FS), the Lead Member would commit to hold a minimum equity stake equal to 51% of the aggregate shareholding of the Consortium in the issued and paid up equity share capital of the Concessionaire at all times during the Concession Period. M/s IL&FS Transportation Networks Limited (ITNL) earlier (Consolidated Transportation Networks Limited (CTNL)) who is the Consortium Member, commit to hold a minimum equity stake equal to 10% of the aggregate shareholding of the Consortium in the in the issued and paid up equity share capital of the Concessionaire at all times during the Concession period;
- (xiv) Single entity/each Consortium Member was and is duly organized and existing under the laws of the jurisdiction of its incorporation and has full power and authority to consent to and has validly consented to and requested NHAI to enter into this Agreement with the Concessionaire pursuant to the LOA and has agreed to and unconditionally accepted the terms and conditions set forth in this Agreement;

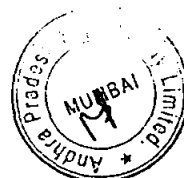
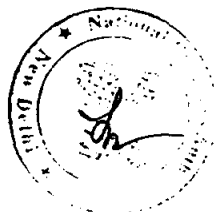


- (xv) All rights and interests of the Concessionaire in and to the Project Highway shall pass to and vest in NHAI on the Termination Date free and clear of all liens, claims, and Encumbrances without any further act or deed on the part of the Concessionaire or NHAI and that none of Project Assets including materials, supplies or equipment forming part thereof shall be acquired by the Concessionaire subject to any agreement under which a security interest or other lien or Encumbrance is retained by any person save and except as expressly provided in this Agreement;
- (xvi) No representation or warranty by the Concessionaire contained herein or in any other document furnished by it to NHAI, or to any Governmental Agency in relation to Applicable Permits contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading; and
- (xvii) It warrants that no sums, in cash or kind, have been paid or will be paid by or on behalf of the Concessionaire, to any person by way of fees, commission or otherwise for securing the Concession or entering into this Agreement or for influencing or attempting to influence any officer or employee of NHAI, GOI or Government of Andhra Pradesh in connection therewith.
- (xviii) It warrants that it has deposited the Performance Security in accordance with the RFP and undertakes to keep the same or any replacements therefore in full force and effect in accordance with the provisions of this Agreement.

11.2 Representations and Warranties of NHAI.

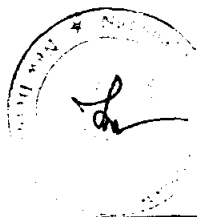
NHAI represents and warrants to the Concessionaire that:

- (i) NHAI is duly organized and validly existing under the laws of India;
- (ii) NHAI has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (iii) NHAI has taken all necessary action to authorize the execution, delivery and performance of this Agreement;
- (iv) This Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof; and
- (v) NHAI is subject to civil and commercial laws of India with respect to this Agreement and it hereby expressly and irrevocably waives any sovereign immunity in any jurisdiction in regard to matters set forth in this Agreement.



XII. DISCLAIMER

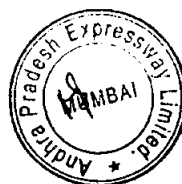
- 12.1 The Concessionaire acknowledges that prior to the execution of this Agreement, the Concessionaire has after a complete and careful examination made an independent evaluation of the traffic volumes, Specifications and Standards, Site and all the information provided by NHA1 and has determined to the Concessionaire's satisfaction the nature and extent of such difficulties, risks and hazards as are likely to arise or may be faced by the Concessionaire in the course of performance of its obligations hereunder.
- 12.2 The Concessionaire acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 12.1 above and hereby confirms that NHA1 shall not be liable for the same in any manner whatsoever to the Concessionaire, the Consortium Members or their Associates.



CHAPTER – IV
PROJECT DEVELOPMENT AND OPERATIONS

XIII. USE AND DEVELOPMENT OF THE SITE

- 13.1 NHAI hereby grants to the Concessionaire for the Development Period access to the Site for carrying out such surveys, investigations, soil tests, design, engineer, procure, construct, operate and maintain the Project Highway including the Project Facilities in accordance with Clause 13.2 below and the provisions of this Agreement as the Concessionaire may deem necessary at the Concessionaire's cost, expense and risk without causing disruption in the traffic on the existing lanes of the Project Highway.
- 13.2 NHAI hereby grants to the Concessionaire for the Concession Period the right and licence to enter upon all real estate comprised in the Site as briefly described in Schedule 'A' and to survey, design, engineer, procure, construct, operate and maintain the Project Highway including the Project Facilities in accordance with the provisions of this Agreement. Such right and licence of the Concessionaire to the use the Site shall be subject to:
- 13.2.1 Any existing utilities on, under or above the Site are kept in continuous satisfactory use, if necessary by the use of suitable temporary or permanent diversions with the authority of the controlling body of that utility;
- 13.2.2 Any existing roads or right of ways are kept in continuous satisfactory use, if necessary, by the use of suitable temporary or permanent diversions with the authority of the controlling body of that road or right of way. For any diversion or construction, of temporary roads, NHAI will assist the Concessionaire in acquiring the right of way;
- 13.2.3 The rights of the road users to use the road in accordance with this Agreement;
- 13.2.4 A right of access by the NHAI itself and any of its agents to perform their obligations and rights under the Concession Agreement or any other functions that they have, and to conduct any study or trial for the purpose of research;
- 13.3 The license and the right to use the Site shall be granted for the purpose of carrying out the functions placed upon the Concessionaire under the Agreement and not for any other purposes;
- 13.4 The Concessionaire shall bear all costs and charges for special and temporary rights of way required by it in connection with access to the Site. The Concessionaire shall obtain at its cost such facilities on or outside the Site as may be required by it for the purposes of the Project Highway and the performance of its obligations under this Agreement.



13.5.1 Existing Right-of-way

Existing Right-of-way shall be made available to the Concessionaire pursuant hereto by NHAI free from all Encumbrances and without the Concessionaire being required to make any payment to NHAI on account of any costs, expenses and charges for the use of such sites for the duration of the Concession Period save and except as otherwise expressly provided in this Agreement. NHAI shall procure for the Concessionaire access to the entire Existing Right-of-way, for construction of main carriageway, free of Encumbrances, on or before the Commencement Date. Provided, however, that if NHAI does not enable such access to any part or parts of the Existing Right-of-way for any reason other than a Force Majeure Event or breach of this Agreement by the Concessionaire, NHAI shall pay to the Concessionaire Damages at the rate of Rs. 1,000 (Rupees one thousand) per month per 1,000 (one thousand) sq. meters or part thereof if such area is required by the Concessionaire for Construction Works. Such Damages shall be raised to Rs. 2,000 (Rupees two thousand) per month after COD if such area is essential for the smooth and efficient operation of the Project Highway. Provided further that the Completion Certificate or the Provisional Certificate, as the case may be, for the Project Highway shall not be affected or delayed as a consequence of such parts of the Existing Right-of-way remaining under construction after the Scheduled Project Completion Date.

13.5.2 Additional Right-of-way

Additional right of way for construction of main carriageway shall be made available to the Concessionaire as per the handing over schedule mentioned herein free from all encumbrance and without the Concessionaire being required to make any payment to NHAI on account of any costs, expenses and charges for the use of such additional right of way for the duration of the Concession Period. 50% of Additional Right of way for construction of main carriageway on or before 6 (six) months from the Commencement Date, balance 50% of the Additional right of way for construction of main carriageway on or before 12 (twelve) months from the Commencement Date. Additional right of ways for service roads and other facilities shall be handed over to the Concessionaire on or before 18 months from the Commencement Date. On or after the Commencement Date, the Concessionaire shall commence, undertake and complete all Construction Works on the Project Highway in accordance with this Agreement. Provided, however, that if NHAI does not enable such access to any part or parts of the Additional right of way for any reason other than a Force Majeure Event or breach of this Agreement by the Concessionaire as per the schedule mentioned herein, NHAI shall pay to the Concessionaire Damages at the rate of Rs. 1,000 (Rupees one thousand) per month per 1,000 (one thousand) sq. meters or part thereof if such area is required by the Concessionaire for Construction Works. Such Damages shall be raised to Rs. 2,000

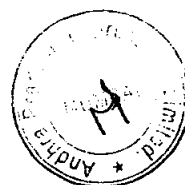
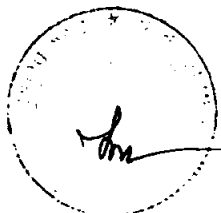


(Rupees two thousand) per month after COD if such area is essential for the smooth and efficient operation of the Project Highway. Provided further that the Completion Certificate or the Provisional Certificate, as the case may be, for the Project Highway shall not be affected or delayed as a consequence of such parts of the existing right of way remaining under construction after the Scheduled Project Completion Date.

- 13.6 Construction of the Project Highway shall be undertaken by the Concessionaire in conformity with the Project Completion Schedule 'H' and the Project milestones set forth in Schedule 'H' for completion of the Project Highway on or before the Scheduled Project Completion Date. If the Concessionaire fails to achieve any such Project milestone other than Project Completion, within a period of 90 (ninety) days from the date set forth in Schedule 'H' then it shall pay Damages to NHAI at the rate of Rs.1,000,000 (Rs. One million) per day until such milestone is achieved. NHAI may either recover such Damages from the Performance Security or demand payment thereof from the Concessionaire. The Concessionaire shall make such payment within 7 (seven) days of receiving such demand from NHAI and any delay in making such payment shall attract interest @ SBI PLR plus two per cent. In the event the Concessionaire achieves Project completion as per Scheduled Project Completion Date as set forth in Schedule 'H', such damages paid by the Concessionaire to NHAI shall be refunded by NHAI within 90 (ninety) days from the date of written request from the Concessionaire without any interest thereon, provided that the Scheduled Project Completion Date as set forth in Schedule 'H' has not been extended from the date defined at the time of the signing of this Concession Agreement for any reason. If the Concessionaire fails to achieve Project completion as per the Scheduled Project Completion Date as set forth in Schedule 'H', then it shall pay damages to NHAI as per Article XV.

XIV. MONITORING AND SUPERVISION OF CONSTRUCTION

- 14.1 During the Construction Period, the Concessionaire shall furnish to NHAI and the Independent Consultant monthly progress reports of actual progress of the Construction Works comprised in the Project Highway and shall give all such other relevant information as may be required by NHAI and/or the Independent Consultant.
- 14.2 The Independent Consultant shall inspect the Construction Works and the Project Highway at least once a week during the Construction Period and make out an Inspection Report of such inspection (the "Inspection Report"). It shall send a copy of its Inspection Report to NHAI and the Concessionaire. The Concessionaire shall take necessary action to remedy the lapses, if any, stated in the Inspection Report for ensuring compliance with the provisions of this Agreement. Such inspection or submission of Inspection Report by the Independent Consultant shall not relieve or absolve the Concessionaire of its obligations and liabilities hereunder in any manner whatsoever.



14.3 For the purposes of determining that Construction Works are being undertaken in accordance with Specifications and Standards and Good Industry Practice, the Independent Consultant undertake day to day supervision of the works along with the Quality control consultant of the Concessionaire in accordance with Schedule 'C' of this Agreement. The Independent Consultant shall also require the Concessionaire to carry out such Tests at such time and frequency and in such manner as may be necessary in accordance with Good Industry Practice for quality assurance. The Concessionaire shall with due diligence carry out, or cause to be carried out, all such tests in accordance with the instructions of the Independent Consultant and furnish the results of such tests forthwith to the Independent Consultant. The Concessionaire shall promptly carry out such remedial measures as may be necessary to cure the defects or deficiencies, if any, indicated in such test results and furnish a report to the Independent Consultant in this behalf.

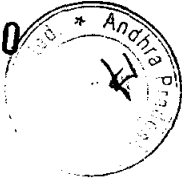
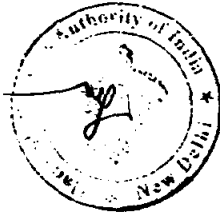
14.4 If the Independent Consultant or NHAI shall reasonably determine that the rate of progress of the Construction of the Project Highway is such that the Project Completion is not feasible on or before the Scheduled Project Completion Date by the Concessionaire, it shall so notify the Concessionaire about the same and the Concessionaire shall within 15 (fifteen) days thereof notify the NHAI and the Independent Consultant about the steps it proposes to take to expedite progress and the period within which it shall achieve COD.

14.5 (a) Upon recommendation of the Independent Consultant or suo-moto, NHAI may by written notice require the Concessionaire to suspend forthwith the whole or any part of the Construction Works if in the reasonable opinion of the NHAI such work is being carried on in a manner which threatens the safety of the works or of the users of the Project Highway.

(b) The Concessionaire, shall upon instructions of the NHAI pursuant to sub-clause (a) above suspend the Construction Works or any part thereof for such time and in such manner as may be specified by NHAI and subject to sub-clause (c) below, the costs incurred during such suspension to properly protect and secure the Construction Works or such part thereof as is necessary in the opinion of the Independent Consultant ("Preservation Costs"), shall be borne by the Concessionaire.

(c) If the suspension pursuant to Sub-clause (a) above is caused by:

(i) any reason other than default or breach of this Agreement by the Concessionaire including breach of any of the obligations of the Concessionaire under this Agreement, the Preservation Costs shall be borne by NHAI;



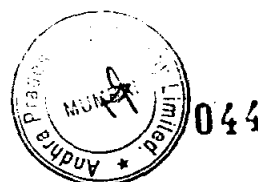
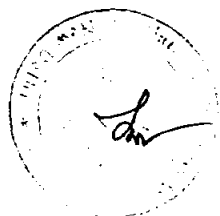
- (ii) reason of default or breach of this Agreement by NHAI the Preservation Costs shall be borne by NHAI; or
 - (iii) reason of any Force Majeure Event, the Preservation Costs shall be borne by the Concessionaire save and except to the extent otherwise expressly provided in Article XXIX.
- (d) If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Independent Consultant shall determine any extension to the Project Completion Schedule, the Scheduled Project Completion Date and the Concession Period, to which the Concessionaire is reasonably entitled and shall notify NHAI accordingly. NHAI shall extend the Project Completion Schedule, the Scheduled Project Completion Date and the Concession Period in accordance with the recommendations of the Independent Consultant.

XV. COMPLETION

- 15.1 The Project shall be deemed to be complete and open to traffic only when the Completion Certificate or the Provisional Certificate is issued in accordance with the provisions of Article XVI (the "Project Completion").
- 15.2 COD of the Project shall be the date on which the Independent Consultant has issued the Completion Certificate or the Provisional Certificate, as the case may be, under this Agreement.
- 15.3 The Concessionaire guarantees that the Project Completion shall be achieved in accordance with the provisions of this Agreement on a date not later than 30 (thirty) months from the Commencement Date ("Scheduled Project Completion Date").
- 15.4 Deleted
- 15.5 If the COD does not occur within 12 (twelve) months from the Scheduled Project Completion Date, NHAI shall be entitled to Terminate this Agreement in accordance with the provisions of Clause 32.2.

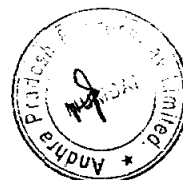
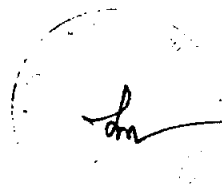
XVI. TESTS

- 16.1 All Tests including but not limited to load test on structures shall be conducted in accordance with Schedule 'J' and the Applicable Laws and Applicable Permits. NHAI shall designate a NHAI Representative to witness and observe the Tests. All Tests shall be held in accordance with the schedule notified by the Concessionaire to the Independent Consultant and the NHAI Representative who may either witness the Tests



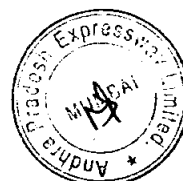
themselves or designate their representatives for this purpose, if they choose. The team leader of the Independent Consultant shall witness at least 5-10% of all such Tests and other key professionals shall witness at least 25-30% of such Tests.

- 16.2 The Independent Consultant shall monitor the results of the Tests to determine the compliance of the Project Highway with the Specifications and Standards. The Concessionaire shall provide to the Independent Consultant and the NHAI with copies of all Test data including detailed Test results.
- 16.3 At least 30 (thirty) days prior to the likely completion of the Project Highway the Concessionaire shall notify the Independent Consultant and NHAI of the same and shall give notice of its intent to conduct any final Tests. The Concessionaire shall give to NHAI and the Independent Consultant at least 10 (ten) days' prior notice of the actual date on which it intends to commence the Tests and at least 7 (seven) days' prior notice of the commencement date of any subsequent Tests. The Independent Consultant shall have the right to suspend or delay any Test if it is reasonably anticipated or determined during the course of the Test that the performance of the Project Highway or any part thereof does not meet the Specifications and Standards.
- 16.4 Upon the Independent Consultant determining the Tests to be successful in respect of any stretch referred to in Clause 16.3 having been satisfied that such stretch of the Project Highway can be legally, safely and reliably placed in commercial operations, the Independent Consultant shall forthwith issue to the Concessionaire and NHAI a Certificate in respect of such stretch substantially in the form set forth in Schedule 'K' (the "Completion Certificate") after approval from NHAI and upon Completion Certificate having been issued in respect of all stretches referred to in Clause 16.3 issue a final Completion Certificate certifying the Project Completion.
- 16.5 Independent Consultant may at the request of the Concessionaire issue a provisional certificate of completion ("Provisional Certificate") after approval from NHAI, if the Tests are successful in respect of any stretch referred to in Clause 16.3 and such stretch of the Project Highway can be legally, safely and reliably placed in commercial operation though certain works or things forming part thereof are not yet complete. In such an event such Provisional Certificate shall have appended thereto a list of outstanding items signed jointly by the Independent Consultant and the Concessionaire ("Punch List"). Such Punch List shall be drawn up in consultation with NHAI, and NHAI may at its discretion through Independent Consultant may add or delete any items forming part of the Punch List at any time before issue of the Provisional Certificate. All Punch List items shall be completed by the Concessionaire within 120 (one hundred twenty) days from the date of issue of such Provisional Certificate. In case of any delay in completion of the Punch List items beyond the aforesaid period of 120 (one hundred twenty) days, NHAI shall, without prejudice to its rights under this Agreement, including Termination thereof, be



entitled to undertake the completion of the Punch List items, based on the cost estimated by the Independent Consultant, at the risk and cost of the Concessionaire and to recover the same from the Concessionaire. In addition to recovery of the aforesaid cost of completion of the Punch List items by NHAI, a sum equal to 200% (two hundred percent) of such cost, subject to a minimum of Rs. 1,000,000 (Rs. One million) shall also be recovered by NHAI from the Concessionaire as Penalty. NHAI shall have the right and the Concessionaire hereby expressly grants to NHAI the right to recover the same directly from the Escrow Account and for that purpose the Concessionaire hereby expressly authorizes NHAI and hereby gives irrevocable instructions to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of NHAI under this Clause. Upon completion of all Punch List items to the satisfaction of the Independent Consultant, the Independent Consultant shall issue the Completion Certificate to the Concessionaire after approval from NHAI. Failure to complete the Punch List items in the manner set forth in this Clause 16.5 shall entitle NHAI to Terminate this Agreement in accordance with the provisions of Clause 32.2.

- 16.6 If the Independent Consultant certifies to NHAI and the Concessionaire that it is unable to issue the Completion Certificate or Provisional Certificate because of events or circumstances which excuse the performance of the Concessionaire's obligations in accordance with this Agreement and as a consequence thereof the Tests could not be held or had to be suspended, the Concessionaire shall re-schedule the Tests and hold the same as soon as reasonably practicable.
- 16.7 Upon receipt of a report from the Independent Consultant or after conducting its own review or inspection, if NHAI is not satisfied with the results of any Tests, it shall within 7 (seven) days thereof notify the Concessionaire of its reasons to conclude that the Completion Certificate should not be issued, in which case the Concessionaire shall promptly take such action as will achieve such satisfaction. Such procedure shall be repeated as necessary after rectification and remedy of reasons/ causes by the Concessionaire on account of which the Tests were unsuccessful, until the Completion Certificate or Provisional Certificate has been issued in accordance with this Agreement by the Independent Consultant.
- 16.8 The Concessionaire shall bear all the expenses relating to Tests under this Agreement. Provided, however, that if the NHAI Representative requires any Test to be conducted which is not specified in this Agreement and such Test is not necessary in the opinion of the Independent Consultant, then the expenses on such Test shall be reimbursed by NHAI to the Concessionaire.



XVII. CHANGE OF SCOPE

17.1 NHAI may, notwithstanding anything to the contrary contained in this Agreement, require provision of such addition /deletion to the works and services on or about the Project Highway, during the Construction Period, which are beyond the scope of the Project as contemplated by this Agreement ("Change of Scope"), provided such changes do not require any increase/ reduction in expenditure exceeding 10 %(ten per cent) of the Total Project Cost and do not adversely affect the COD. All such changes shall be made by NHAI by an order (the "Change of Scope Order") issued in accordance with the procedure set forth in this Article XVII.

17.2 Procedure for Change of Scope

(a) NHAI shall whenever it desires provision of addition/deletion of works and services referred to in Clause 17.1, issue to the Concessionaire a notice of change of scope (the "Change of Scope Notice").

(b) Upon receipt of such Change of Scope Notice, the Concessionaire shall within 15 days provide to NHAI and the Independent Consultant such information as is necessary and reasonable together with preliminary documentation in support of the following:

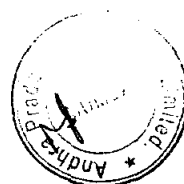
- (i) the impact, if any, which the Change of Scope is likely to have on the Project Completion Schedule if the work is required to be carried out before COD, and
- (ii) the cost implications to the Concessionaire of complying with such Change of Scope Notice. The rates shall be worked out based on the concerned State PWD (NH) current schedule of rates based on MORTH data book. In case an item is not covered under the above-mentioned schedule of rates, the rate of such item shall be worked out on the basis of the prevailing market rate so far as found reasonable and competitive by the IC..
- (iii) the options suggested for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time for the implementation thereof including a detailed breakdown by work classifications. Provided, however, that the cost of providing such information shall be reimbursed to the Concessionaire by NHAI to the extent such costs are certified to be reasonable by the Independent Consultant.

(c) If NHAI desires, after receipt of information set forth in sub-clause (b) to proceed with the Change of Scope, it shall convey the desired option (with or without modification) to the Concessionaire by issuing a Change of Scope Order with in



30(Thirty) days from the date of recommendation made by Independent Consultant and thereupon the Parties shall make good faith efforts to mutually agree upon the costs and time for implementing of the same. Upon reaching an agreement relating to such costs and time, NHAI shall issue a written confirmation of the Change of Scope and thereupon the Concessionaire shall proceed with performance of such order with NHAI making monthly payments for such works based on the physical progress and as approved and certified by Independent Consultant. In the event, the Parties are unable to agree, NHAI may, by issuing a confirmation in writing of such Change of Scope Order, require the Concessionaire to proceed with the performance of the Change in Scope Order pending resolution of such dispute.

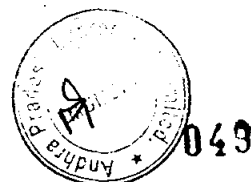
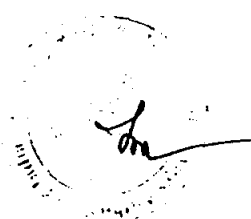
- 17.3 A Change of Scope Order will be effective and binding upon issuance of a confirmation of such Change of Scope Order by NHAI. Notwithstanding a dispute regarding cost and time for implementation of such Change of Scope Order, the Concessionaire shall proceed with the performance of such Change of Scope Order promptly following NHAI's confirmation pursuant to Clause 17.2 (c). Pending resolution of such dispute, NHAI shall either pay to the Concessionaire, if the Change of Scope Order involves increase in Bill of Quantities or recover from the Concessionaire if the said Change of Scope Order involves decrease in Bill of Quantities, an amount equal to the costs that are certified by the Independent Consultant to be reasonable plus/minus (as the case may be) one-half the difference between the amount certified by the Independent Consultant and the amount claimed by the Concessionaire with final adjustments to be made in accordance with the resolution of dispute under the Dispute Resolution Procedure. In case NHAI has to make payment it shall do so within 60 (sixty) days from the date of receipt of duly verified claims as per procedure given in this Clause. In case NHAI has to recover from the Concessionaire, the amount will be recovered directly from the Escrow Account and for that purpose the Concessionaire hereby expressly authorized NHAI and hereby gives irrevocable instructions to Escrow Bank to make payment from the Escrow Account in accordance with instructions of NHAI under this clause.
- 17.4 All claims by the Concessionaire pursuant to this Article XVII shall be supported by such documentation as is reasonably sufficient for NHAI/IC to determine the accuracy thereof, including invoices from Contractors and certification of such claims by the Statutory Auditors.
- 17.5 NHAI may request further improvements to the Project Assets and Project Highway, subject to a limit of 20% of the Project Cost, during the Operations Period in the form of a Change of Scope order that are required to make the Project Highway comply with the latest Specifications and Standards, and other requirements set forth in this Agreement, Good Industry Practice, Applicable laws and Applicable Permits during the entire Operations Period ("Value Additions"). The cost of such Value Additions shall be borne



by NHAI and such costs shall be computed and the work for such Value Additions shall be carried out in the manner as set forth in this Article 17.

XVIII. OPERATION AND MAINTENANCE

- 18.1 The Concessionaire shall operate and maintain the Project Highway by itself, or through O&M Contractors and if required, modify, repair, improvements to the Project Highway to comply with Specifications and Standards, and other requirements set forth in this Agreement, Good Industry Practice, Applicable laws and Applicable Permits and more specifically:
- (i) permitting safe, smooth and uninterrupted flow of traffic during normal operating conditions;
 - (ii) to allow NHAI to levy, demand, collect and appropriate the Fees from vehicles and persons liable to payment of Fees for using the Project Highway or any part thereof as per Article VII
 - (iii) *minimizing disruption to traffic in the event of accidents or other incidents affecting the safety and use of the Project Highway by providing a rapid and effective response and maintaining liaison procedures with emergency services;*
 - (iv) undertaking routine maintenance including prompt repairs of potholes, cracks, concrete joints, drains, line marking, lighting and signage;
 - (v) undertaking major maintenance such as resurfacing of pavements, repairs to structures, and hardware and other equipment;
 - (vi) carrying out periodic preventive maintenance to Project Highway;
 - (vii) preventing with the assistance of concerned law enforcement agencies unauthorised entry to and exit from the Project Highway;
 - (viii) preventing with the assistance of the concerned law enforcement agencies encroachments on the Project Highway including Site and *preserve the right of way of the Project Highway;*
 - (ix) maintaining a public relations unit to interface with and attend to suggestions from users of the Project Highway, the media, Government Agencies, and other external agencies; and
 - (x) adherence to the safety standards set out in Schedule 'S'.



- 18.2 The Concessionaire shall in consultation with the Independent Consultant prepare not later than 180 (one hundred and eighty) days before the Scheduled Project Completion Date, the repair and maintenance manual (the "Maintenance Manual") for the regular and periodic maintenance, and shall ensure and procure that at all times during the Operations Period, the Project Highway is maintained in a manner that it complies with the Specifications and Standards and the minimum maintenance requirements set forth in Schedule 'L'. The Concessionaire shall supply, at least two months before the COD, 10 (ten) copies of the Maintenance Manual to NHAI and 3 (three) copies each to Government of Andhra Pradesh and Independent Consultant. Copies of the Maintenance Manual shall also be made available by the Concessionaire for public inspection during office hours at a conspicuous place on the Project Highway.
- 18.3 Not later than forty five (45) days before the beginning of each Accounting Year, the Concessionaire, shall in consultation with the Independent Consultant prepare and provide to NHAI, its proposed programme of preventive and other scheduled maintenance of the Project Highway subject to the minimum maintenance requirements set forth in Maintenance Manual and in Schedule 'L' necessary to maintain the Project Highway at all times in conformity with the Specifications and Standards (the "Maintenance Programme"). Such Maintenance Programme shall include but not be limited to the following:
- (i) intervals and procedures for the carrying out of inspection of all elements of the Project Highway;
 - (ii) criteria to be adopted for deciding maintenance needs;
 - (iii) preventive maintenance schedule;
 - (iv) intervals at which the Concessionaire shall carry out periodic maintenance;
 - (v) intervals for major maintenance and the scope thereof; and
 - (vi) lane closures schedule for each type of maintenance (length and time).
- 18.4 Maintenance shall include replacement of equipment/consumables, horticultural maintenance and upkeep of all Project Assets in good order and working condition. Maintenance shall not include the extension of any existing pavements, bridges, structures and other civil works unless part of the Project.
- 18.5 The Concessionaire shall keep the carriageways, rest areas and other Project Facilities in a clean, tidy and orderly condition free of litter and debris.
- 18.6 During the Operations Period, the Concessionaire shall not carry out any material modifications to the Project Highway save and except where such (i) modification is required by Good Industry Practice; or (ii) modification is necessary for the Project Highway to operate in conformity with the Specifications and Standards prescribed under



this Agreement. Provided that the Concessionaire shall notify NHAI of the proposed modifications along with details thereof at least fifteen days before commencing work on such modifications and shall reasonably consider such suggestions as NHAI may make within 15 (fifteen) days of receipt of such details by NHAI.

18.7 The Concessionaire shall be responsible for the maintenance of the approach roads to and underpasses and overpasses upto 100 mtrs from the Project Highway in accordance with Good Industry Practice.

18.8 Safety, Vehicle Breakdown and Accident

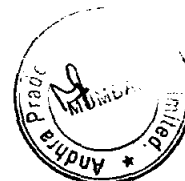
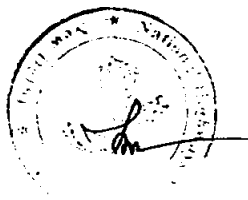
18.8.1 In the case of unsafe conditions, vehicle breakdowns and accidents, the Concessionaire shall follow the relevant operating procedures, which shall include the setting up of temporary traffic cones and lights as well as the removal of obstruction and debris expeditiously. Such procedures shall be in accordance with Applicable Laws, Applicable Permits and provisions of this Agreement.

18.8.2 The Concessionaire shall ensure that any diversion or interruption of traffic is remedied without delay. The Concessionaire's responsibility for rescue operations on the Project Highway shall be limited to the removal of vehicles or debris or any other obstruction, which may endanger or interrupt the smooth traffic flow on the Project Highway.

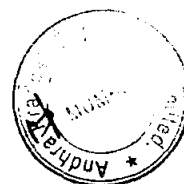
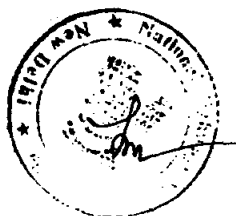
18.8.3 The Concessionaire shall ensure that safety standards specified in Schedule 'S' are strictly complied with in the event of any lane closure or diversion of traffic. Compliance with Schedule 'S' will be monitored by the Independent Consultant and a breach by the Concessionaire of its obligations in respect of this Schedule identified by the Independent Consultant shall be notified immediately and is required to be cured within 24 hours of its notification notwithstanding inspection, reporting procedures outlined elsewhere in this Agreement. In addition, each notified breach shall lead to the award of a penalty point to the Concessionaire. A total of five penalty points in any continuous period of 365 days shall constitute a Material Breach of this Agreement.

18.9 Emergency De-commissioning

18.9.1 If, in the reasonable opinion of the Concessionaire there exists an emergency which warrants decommissioning and closure to traffic of whole or any part of the Project Highway, the Concessionaire shall be entitled to de-commission and close the whole or the relevant part of the Project Highway to traffic for so long as such emergency and the consequences thereof warrant, provided however that such emergency decommissioning will be notified to NHAI promptly. NHAI may issue directions to the Concessionaire for dealing with such situations and the Concessionaire shall abide by such directions.



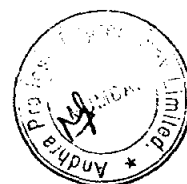
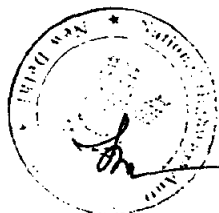
- 18.9.2 The Concessionaire shall re-commission the Project Highway or the affected part thereof as quickly as practicable after the circumstances leading to its de-commissioning and closure have ceased to exist.
- 18.10 The Concessionaire shall not close any lane of the Project Highway for undertaking maintenance or repair works except with the prior written approval of the NHAI which may delegate its authority to the Independent Consultant. Such approval shall be sought by the Concessionaire through a written request to be made at least 7 (seven) days before the proposed closure of lane and shall be accompanied by particulars indicating the nature and extent of repair works, the length and section required to be closed and the period of closure. The Concessionaire shall also furnish particulars indicating the minimum time required for completing such repair works. Within 5 (five) days of receiving such request, NHAI or the Independent Consultant, as the case may be, shall grant permission with such modifications as it may deem necessary. Upon receiving such permission, the Concessionaire shall be entitled to close the lane in accordance with such permission and re-open it within the period stipulated in such permission. For any delay in re-opening such lane during the first Operations Year, the Concessionaire shall pay Damages to NHAI calculated at the rate of Rs.10,000 (Rs. Ten thousand), per day or part thereof for every stretch of 100 (one hundred) meters or part thereof in each lane until such time the stretch has been re-opened for traffic. These damages of Rs.10,000 (Rupees ten thousand) shall be applicable in the first Operations year and shall be revised by WPI in each subsequent Operations year. Provided, however, that these provisions shall not apply to Emergency decommissioning under Clause 18.9.
- 18.11 Save and except as otherwise be expressly provided in this Agreement, if the Project Highway including Construction Works or any part thereof shall suffer any loss or damage during the Concession Period, from any cause whatsoever, the Concessionaire shall, at its cost and expense rectify and remedy such loss or damage or forthwith in a manner so as to make the Project Highway conform in every respect to the Specifications and Standards, quality and performance as prescribed by this Agreement.
- 18.12 In the event the Concessionaire does not maintain and/ or repair the Project Highway or a part thereof upto and in accordance with the Specifications and Standards and/or in accordance with the Maintenance Programme or the Maintenance Manual, and shall have failed to commence remedial works within 30 (thirty) days of receipt of notice in this behalf from NHAI or the Independent Consultant, or the O&M Inspection Report, as the case may be, NHAI shall, without prejudice to its rights under this Agreement, including Termination thereof, be entitled to undertake the repair and maintenance of the Project Highway at the risk and cost of the Concessionaire and to recover the same from the Concessionaire. In addition to recovery of the aforesaid cost of repair and maintenance by NHAI, a sum equal to 25% (twenty five per cent) of such cost shall also be recovered by NHAI from the Concessionaire as Damages. NHAI shall have the right and the



Concessionaire hereby expressly grants to NHAI the right to recover the same directly from the Escrow Account and for that purpose the Concessionaire hereby expressly authorises NHAI and hereby gives irrevocable instructions to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of NHAI under this Clause.

- 18.13 In the event NHAI does not exercise its option to undertake the required repair and maintenance after expiry of the 30 (thirty) days period stipulated in Clause 18.12 it shall recover Damages from the Concessionaire for default in operating and maintaining the Project Highway in conformity with this Agreement. Such Damages shall be payable after the aforesaid period of 30 (thirty) days and until the default is cured. The amount of Damages shall be calculated for each day of default at the higher of the following, namely (a) Rs.10,000 (Rs. Ten thousand), and (b) 0.1% (zero point one per cent) of the cost of such repair as estimated by the Independent Consultant. Recovery of such Damages shall be without prejudice to the rights of NHAI under this Agreement, including Termination thereof.
- 18.14 If the Concessionaire commences any works for curing any defects or deficiencies in the Project Highway, it shall complete such works expeditiously in accordance with Good Industry Practice. If such works are carried out in a manner that results in a delay of more than 30 (thirty) days as compared to the time required in accordance with Good Industry Practice, NHAI shall recover Damages from the Concessionaire as if a default had occurred under Clause 18.13.
- 18.15 The Concessionaire shall not be considered in breach of its obligations under this Agreement if any part of the Project Highway is not available to traffic after the COD on account of any of the following for the duration thereof:
- (i) an event of Force Majeure;
 - (ii) measures taken to ensure the safe use of the Project Highway except when unsafe conditions on the road occurred because of failure of the Concessionaire to perform its obligations under this Agreement; or
 - (iii) compliance with a request from NHAI or the directions of any Governmental Agency the effect of which is to close all or any part of the Project Highway.

Notwithstanding the above, the Concessionaire shall keep all unaffected parts of the Project Highway open to traffic and use provided they can be safely operated and kept open to traffic.

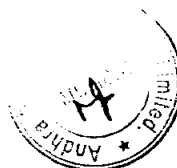
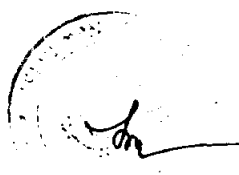


18.16 The Concessionaire will be in persistent breach of O&M Requirements if,

- (a) any breach of O&M Requirements by the Concessionaire which has not been remedied by the Concessionaire despite a Notice to Remedy in respect thereof issued by the Independent Consultant / NHAI;
- (b) recurrence of a breach by the Concessionaire, during the pendency of Notice to Remedy by the Independent Consultant/ NHAI requiring the Concessionaire to remedy a breach and
- (c) repeated occurrence of a breach notwithstanding that earlier breaches have been remedied pursuant to Notice to Remedy or otherwise.

XIX MONITORING AND SUPERVISION DURING OPERATION

- 19.1 The Concessionaire shall undertake periodic (at least once every calendar month but once every week during monsoons) inspection of the Project Highway to determine the condition of the Project Highway including its compliance or otherwise with the Maintenance Manual, the Maintenance Programme, Specifications and Standards and the maintenance required and shall submit reports of such inspection ("Maintenance Reports") to NHAI and the Independent Consultant.
- 19.2 The Independent Consultant shall review the Maintenance Reports and inspect the Project Highway at least once a month during the Operations Period and make out an Inspection Report of such inspection (the "O&M Inspection Report"). The Independent Consultant shall send a copy of its O&M Inspection Report to NHAI and the Concessionaire. The Concessionaire shall within 30 (thirty) days of the receipt of the O&M Inspection Report remedy the defects and deficiencies, if any, set forth in such O&M Inspection Report and submit its report in respect thereof to the Independent Consultant and NHAI within the said 30 (thirty) days period. Where the remedying of such defects or deficiencies is likely to take more than 30 (thirty) days in accordance with Good Industry Practice, the Concessionaire shall undertake the works in accordance with such practice and submit progress reports of such works every fortnight. The O&M Inspection Report may also require the Concessionaire to undertake such tests as may be specified by the Independent Consultant for the purpose of determining that the Project Highway is at all times in conformity with the Specifications and Standards. The Concessionaire shall undertake such Tests without any delay and furnish a copy of the results thereof to the Independent Consultant and NHAI along with a written statement specifying in reasonable detail the measures, if any, that it proposes to undertake for curing the defaults or deficiencies indicated in such results. Such inspection or submission of O&M Inspection Report by the Independent Consultant or submission of

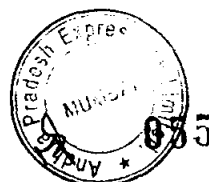
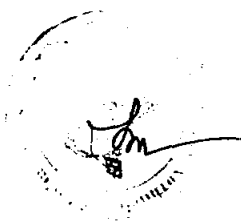


O&M Inspection Compliance Report by the Concessionaire shall not relieve or absolve the Concessionaire of its obligations and liabilities hereunder in any manner whatsoever.

- 19.3 NHAI may inspect the Project Highway at any time for a review of the compliance by the Concessionaire with its maintenance obligations under this Agreement.

XX. INDEPENDENT CONSULTANT

- 20.1 NHAI shall appoint a consulting engineering firm or body corporate in accordance with the selection process set forth in Schedule 'N' to be the Independent Consultant to undertake and perform the duties, work, services and activities set forth in Schedule 'O'. In addition NHAI, at any time during the Concession Period at its own cost, may appoint a Technical Auditor in the nature of a Proof Consultant to review the work carried out by the Independent Consultant.
- 20.2 The appointment of the Independent Consultant pursuant to Clause 20.1 shall initially be for a period of 48 (forty eight) months from the date of its appointment. The date of such appointment shall be no later than 120 (one hundred twenty) days from the date of this Agreement. After the expiry of the aforesaid appointment, NHAI shall appoint for a term of maximum 3 (three) years as Independent Consultant such firm as it may deem appropriate in accordance with Schedule 'N' as amended from time to time in consultation with the Concessionaire and who may or may not be the same firm, who was Independent Consultant during the initial term. NHAI may in its discretion thereafter renew such appointment or appoint another firm out of the list determined pursuant to Schedule 'N', as NHAI may deem appropriate to be the Independent Consultant for a term of maximum three years at a time.
- 20.3 The Independent Consultant shall report to NHAI about their work, services, and activities pursuant hereto through regular periodic reports (at least once every month) as the situation may warrant. Such report of Independent Consultant shall include but not be limited to the matters and things set forth in said Schedule 'O'.
- 20.4 The remuneration, cost and expenses of the Independent Consultant shall be paid by NHAI. One-half of such remuneration, cost and expenses shall be reimbursed by the Concessionaire to NHAI within 15 (fifteen) days of receiving a statement of expenditure from NHAI. In case the Concessionaire does not reimburse the remuneration, cost and expenses of the Independent Consultant to NHAI within 15 (fifteen) days of receiving a statement of expenditure from NHAI, NHAI shall have the right and the Concessionaire hereby expressly grants to NHAI the right to recover the same directly from the Escrow Account and for that purpose the Concessionaire hereby expressly authorizes NHAI and hereby gives irrevocable instructions to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of NHAI under this Clause.



- 20.5 NHAI may terminate the appointment of the Independent Consultant at any time subject to appointment of their replacement by another Independent Consultant in accordance with this Article XX.
- 20.6 If the Concessionaire has reason to believe that the Independent Consultant is not discharging its duties in a fair, efficient and diligent manner, it may make a written representation to NHAI, stating its reasons in detail, seeking termination of the appointment of the Independent Consultant. Upon receipt of such representation, NHAI shall hold a tripartite meeting with the Concessionaire and Independent Consultant for amicable resolution of the dispute. If the dispute remains unresolved, it shall be resolved in accordance with the Dispute Resolution Procedure. In case the appointment of Independent Consultant is terminated under this Clause, it shall be replaced by another Independent Consultant in accordance with this Article XX.
- 20.7 If either party disputes any advice, instruction or award of the Independent Consultant, the dispute shall be resolved in accordance with the Dispute Resolution Procedure.

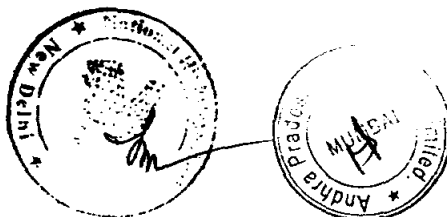
XXI. TRAFFIC SAMPLING

- 21.1 For the purpose of determination and/or verification of the actual traffic on the Project Highway, NHAI shall, in addition to inspection of Concessionaire's records, be entitled to undertake traffic sampling at such frequency and in such manner as NHAI may deem appropriate including in the manner as set forth in Schedule 'P' hereto. The Concessionaire shall provide all facilities and assistance as NHAI may reasonably require for undertaking such traffic sampling as per Schedule 'P'. The applicable PCU conversion factors for computing traffic in PCU terms shall be as per Schedule 'W'.

CHAPTER - V FINANCING ARRANGEMENTS

XXII. FINANCIAL CLOSE

- 22.1 The Concessionaire shall provide to NHAI, a copy of the Financing Package furnished by it to the prospective Senior Lenders. As and when such Financing Package is approved by the Senior Lenders, with or without modifications, a copy of the same shall be furnished by the Concessionaire to NHAI forthwith.
- 22.2 Notwithstanding anything to the contrary contained in this Agreement, the Concessionaire covenants with NHAI that it shall achieve Financial Close within 180



- (one hundred eighty) days from the date of this Agreement. If the Concessionaire shall fail to achieve Financial Close within the said 180 (one hundred eighty) days period, the Concessionaire shall be entitled to a further period of 180 (one hundred eighty) days subject to an advance weekly payment by the Concessionaire to NHAI of a sum of Rs.100.000 (Rupees one hundred thousand) per week or part thereof for any delay beyond the said 180 (one hundred eighty) day period, as Damages on account of such delay in achieving Financial Close within the said 180 (one hundred eighty) day period by the Concessionaire.
- 22.3 Notwithstanding anything to the contrary contained in this Agreement, NHAI shall be entitled to terminate this Agreement forthwith, without being liable in any manner whatsoever to the Concessionaire, by a communication in writing to the Concessionaire pursuant to Clause 32.2 if the Concessionaire shall have failed to pay in advance the Damages to NHAI under and in accordance with Clause 22.2 above.
- 22.4 Notwithstanding anything to the contrary contained in this Agreement, if the Financial Close shall not occur within 360 (three hundred sixty) days as set forth in Clause 22.2 above, all rights, privileges, claims and entitlements, if any, of the Concessionaire under or arising out of this Agreement shall be deemed to have been waived by and to have ceased with the concurrence of the Concessionaire, and the Concession Agreement shall be deemed to have been terminated by mutual agreement of the Parties.
- 22.5 Upon Termination of this Agreement under any of the above Clause 22.2, 22.3, 22.4, NHAI shall be entitled to encash the Performance Security and appropriate the proceeds thereof as Damages.

XXIII MODE OF PAYMENT BY NHAI

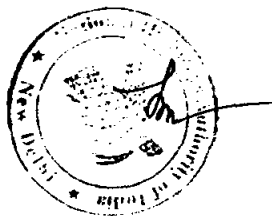
23.1 Mode of Payment

The Concessionaire hereby expressly authorize NHAI to pay Annuity, Bonus, Termination Payment and any other payment which becomes payable by NHAI to the Concessionaire under this Agreement directly to the credit by to the Escrow Account,

23.2 Valid Discharge

The Concessionaire hereby agrees, undertakes and confirms that;

- (a) the payment to the credit of the Escrow Account shall be made by NHAI notwithstanding any instructions to the contrary issued or disputes raised by the Concessionaire.
- (b) any payment made in accordance with the preceding sub-article (a) shall be valid and NHAI shall to the extent of the payment so made be relieved and discharged of all its



obligations in respect of such payments under this Agreement. Provided no such discharge shall prejudice any claim which the Concessionaire may have against the Lenders.

XXIV. Deleted

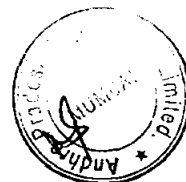
XXV. ESCROW ACCOUNT

25.1 The Concessionaire shall within 60 days from the date of this Agreement open and establish the Escrow Account with a Bank (the "Escrow Bank") and all funds constituting the Financing Package for meeting the Total Project Cost shall be credited to such Escrow Account. During Operations Period all Annuity, Bonus, Termination Payment and any other payment which becomes payable by NHAI to the Concessionaire under this Agreement shall be exclusively deposited therein.

25.2 Disbursements from Escrow Account

25.2.1 The Concessionaire shall give, at the time of the opening of the Escrow Account, irrevocable instructions by way of an Escrow Agreement substantially in form set forth in Schedule 'Q' (the "Escrow Agreement") to the Escrow Bank instructing, inter alia, that the deposits into the Escrow Account shall subject to Clause 25.2.3, be appropriated in the following order every month and if not due in a month then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in the month when due unless otherwise expressly provided in the instruction letter:

- (i) All taxes due and payable by the Concessionaire;
- (ii) All expenses in connection with and relevant to the Construction of Project Highway by way of payment to the EPC Contractor and such other persons as may be specified in the Financing Documents;
- (iii) O&M Expenses incurred by the Concessionaire directly or through O&M Contractor, if any, subject to the items and ceiling in respect thereof as set forth in the Financing Documents but not exceeding 1/12 (one twelfth) of the annual liability on this account;
- (iv) The whole of the expense on completion of Punch List items incurred by NHAI.
- (v) The whole or part of the expense on repair work or O&M Expense incurred by NHAI.

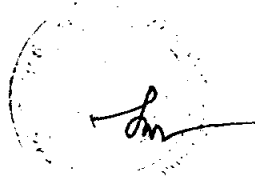


- (vi) All Concession Fees due to NHAI from the Concessionaire under this Agreement;
- (vii) Reimbursements of expenditure incurred by NHAI, if any, for payment of insurance premia, etc., which are otherwise Concessionaire's responsibility, on account of failure on part of the Concessionaire to keep such insurance(s) effective and in force.
- (viii) Monthly proportionate provision of Debt Service Payments due in an Accounting Year and payment of Debt Service Payments in the month when due;
- (ix) One-half of such remuneration, cost and expenses of the Independent Consultant in case the Concessionaire does not reimburse the remuneration, cost and expenses of the Independent Consultant to NHAI within 15 (fifteen) days of receiving a statement of expenditure from NHAI.
- (x) Any payments and Damages due and payable by the Concessionaire to NHAI pursuant to this Agreement, including recovery due to reduction in the scope of work penalty for non completion of Punch List items, penalty for O&M expenses incurred by NHAI; and
- (xi) Balance in accordance with the instructions of the Concessionaire.

25.2.2 The Concessionaire shall not in any manner modify the order of payment specified in this clause 25.2 except with the prior written approval of NHAI.

25.3 Notwithstanding anything to the contrary contained in the Escrow Agreement and subject to the provisions contained in Clauses 33.5 and Article XXXIV, upon Termination of this Agreement, all amounts standing to the credit of the Project Escrow Account shall be appropriated and dealt with in the following order:

- (a) all Taxes due and payable by the Concessionaire;
- (b) all Concession Fees due and payable to NHAI under this Agreement;
- (c) all accrued Debt Service Payment;
- (d) any payments and Damages due and payable by the Concessionaire to NHAI pursuant to this Agreement, including Termination claims and Recovery due to reduction in Scope of Work;
- (e) all accrued O&M Expenses;
- (f) any other payments required to be made under this Agreement; and balance, if any, on the instructions of the Concessionaire.




- 25.3.1 Notwithstanding anything to the contrary contained in this agreement, any termination payments made by NHAI into the Escrow account shall not be appropriated therefrom for any purpose whatsoever, until the Vesting Certificate has been issued by NHAI. Provided, however, that this restriction shall not apply to appropriation in favour of the Senior Lenders to the extent of debt due.
- 25.3.2 From the date, which is 2 years prior to the expiry of the Concession period, a sum equal to the 15% of the Annuity or a higher sum estimated by the Independent Consultant for renewal works, shall not withstanding anything to the contrary contained in this Agreement, be retained in the Escrow Account provided that if a Bank Guarantee of an equivalent sum in the form and content acceptable to NHAI has been furnished by the Concessionaire to NHAI, no such retention shall be made. If following the second Inspection, it is agreed or determined that no renewal works are required, then within 14 days of such agreement, 50 % of the sums thus retained shall be released from the Escrow account to the Concessionaire. Within 14 days after the issue of Vesting Certificate (in accordance with Article XXXIII of the Concession agreement) the sums thus retained shall be released from the Escrow account to the Concessionaire.
- 25.4 The instructions contained in the Escrow Agreement shall remain in full force and effect until the obligations set forth in Clause 25.3 have been discharged.

XXVI. STATE SUPPORT AGREEMENT

- 26.1 The Concessionaire acknowledges that for the performance of its obligations under this Agreement, it requires support and certain services from Government of Andhra Pradesh. The nature and scope of such support and services required by the Concessionaire from Government of Andhra Pradesh are fully described in the draft State Support Agreement set forth at Schedule 'R'.
- 26.2 The Concessionaire acknowledges its obligation to enter into the State Support Agreement and accordingly the Concessionaire agrees and undertakes to enter into at its cost and expense the State Support Agreement with NHAI and Government of Andhra Pradesh substantially in form and content as set forth in Schedule 'R'.

XXVII. INSURANCE

- 27.1 Insurance during the Construction Period: The Concessionaire shall effect and maintain, or cause to be effected and maintained, at no cost to NHAI during the Construction Period such insurances upto such maximum sums as may be required under and in accordance with the Financing Documents, Applicable Laws and such insurance as the Concessionaire may reasonably consider necessary or desirable in accordance with Good Industry Practice, which shall include, but not limited to (a) Contractor's All Risk,



including design defect, (ii) Workmen Compensation, (iii) Construction Plant and Machinery, (iv) Advance Loss of Profits and (v) Third Party Liability. The Concessionaire shall also effect and maintain such insurance as may be necessary for mitigating the risks that may devolve on NHAI as a consequence of any act of omission by the Concessionaire during the Construction Period.

- 27.2 Insurance during the Operations Period: Not later than 4 months prior to the anticipated Completion of the Project Highway, the Concessionaire shall obtain and maintain at no cost to NHAI during the Operations Period in respect of the Project Highway and its operations such insurance as may be required under any of the Financing Documents, Applicable Laws and such insurance as the Concessionaire may reasonably consider necessary or desirable in accordance with Good Industry Practice, including but limited to (i) Standard Fire and Special Perils, (ii) Business Interruption, (iii) General Public Liability, (iv) Construction Plant and Machinery, (v) Accident (vi) Automobile and (vii) Workmen Compensation. Provided, however, the level of insurance to be maintained after satisfaction of Senior Lenders' dues in full, shall be determined on the same principles as applicable for determining the level of Insurance prior to such date. This level shall be agreed with NHAI within 120 days of date of this Agreement.

For the sake of brevity, the aggregate of the maximum sums insured under the insurance taken out by the Concessionaire pursuant to this Article XXVII are herein referred to as the "Insurance Cover".

- 27.3 Evidence of Insurance Cover: All insurance obtained by the Concessionaire in accordance with this Article XXVII shall be maintained with insurer or reinsurers, and on terms consistent with Good Industry Practice. Within thirty days of obtaining any insurance cover, the Concessionaire shall furnish to NHAI, copies of certificates of insurance, copies of the insurance policies signed by an authorised representative of the insurer and copies of all premia payment receipts in respect of such insurance received from each insurance carrier, and such insurance will not be cancelled, changed or not renewed until the expiration of at least 45 (forty five) days after written notice of such cancellation, change of non-renewal has been received by NHAI.
- 27.4 Remedy on Failure to Insure: If the Concessionaire shall fail to effect and keep in force the insurance for which it is responsible pursuant hereto, NHAI shall have the option to keep in force any such insurance, and pay such premia and recover the costs thereof from the Concessionaire, or for the purposes of computation of payments to the Concessionaire pursuant to Article XXIX treat the insurance cover i.e. the maximum sums which such insurance was providing for had it been in force and effect as being deemed to have been received by the Concessionaire.



- 27.5 Waiver of Subrogation: All insurance policies supplied by the Concessionaire shall include a waiver of any right of subrogation of the insurers thereunder against, inter alia, NHAI, and its assigns, subsidiaries, affiliates, employees, insurers and underwriters and of any right of the insurers of any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy.
- 27.6 Concessionaire Waiver: The Concessionaire hereby further releases, assigns and waives any and all rights of recovery against, inter alia, the NHAI, and its affiliates, subsidiaries, employees, successors, permitted assigns, insurers and underwriters, which the Concessionaire may otherwise have or acquire in or from or in any way connected with any loss covered by policies of insurance maintained or required to be maintained by the Concessionaire pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.
- 27.7 Application of Insurance Proceeds: The proceeds from all insurance claims, except life and injury, shall be paid to the Concessionaire by credit to the Escrow Account (unless otherwise required by the Financing Documents) who shall, subject to its obligations under the Financing Documents, and notwithstanding anything contained in Article XXV, apply such proceeds for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Project Highway.

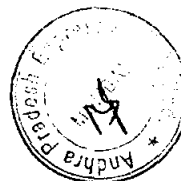
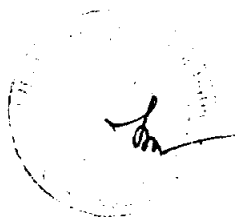
XXVIII. ACCOUNTS AND AUDIT

- 28.1 The Concessionaire shall maintain full accounts of all Annuities derived by it from the Project Highway and of O&M Expenses and other costs paid out of the Project Escrow Account and shall provide copies of the said accounts duly audited and certified by the Concessionaire's Statutory Auditors within 120 (one hundred twenty) days of the close of each Accounting Year to which they pertain, during the subsistence of this Agreement. Such audited accounts shall form the basis of various payments by either Party under this Agreement. The Concessionaire shall also furnish, within one week of its publication, a certified copy of the audited accounts and annual report published by the Company under the Applicable Laws.
- 28.2 The Concessionaire shall appoint and have during the subsistence of this Agreement as its Statutory Auditors a firm of Chartered Accountants duly licensed to practice in India out of the mutually agreed list of 10 (ten) independent and reputable firms of Chartered Accountants in India (the "List of Chartered Accountants"). The criteria for preparing the List of Chartered Accountants are set forth in Schedule 'T'. Subject to a 30 days notice to NHAI and the replacement Statutory Auditors being appointed from the List of Chartered Accountants, the Concessionaire may terminate the appointment of any



Statutory Auditor appointed in accordance with this Article. The fees and expenses of the Statutory Auditors shall be borne by the Concessionaire.

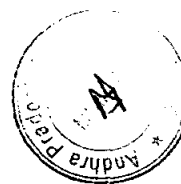
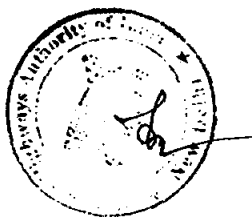
- 28.3 On or before the fifteenth day of May each Year, the Concessionaire shall provide for the preceding Accounting Year a *statement duly audited* by its Statutory Auditors giving summarized information on Annuities derived from the Project Highway and such other information as NHAI may reasonably require.
- 28.4 Notwithstanding anything to the contrary contained in this Agreement, NHAI shall have the right but not the obligation to appoint at its cost another firm of chartered accountants from the List of Chartered Accountants (the "Additional Auditor") to audit and verify all those matters, expense, costs, realizations and things which the Statutory Auditors of the Concessionaire, are required to do, undertake or certify pursuant to this Agreement.
- 28.5 NHAI shall have the right to appoint for the duration of the Construction Period as Concurrent Auditor a firm of Chartered Accountants from the List of Chartered Accountants (the "Concurrent Auditor") who shall undertake concurrent audit of the Concessionaire during the Construction Period. The charges and expenses of such Concurrent Auditor shall be borne by the NHAI. After such Construction Period, NHAI may at its option have concurrent audit done at such time and for such period as NHAI may deem appropriate at its cost and expenses.
- 28.6 In the event of their being any difference between the finding of the Additional Auditor or the Concurrent Auditor, as the case may be, and the certification provided by the Statutory Auditors of the Concessionaire, such Auditors shall meet to resolve such differences and if they are unable to resolve the same such disputed certification shall be resolved by recourse to the Dispute Resolution Procedure.



CHAPTER – VI
FORCE MAJEURE

XXIX. FORCE MAJEURE

- 29.1 Force Majeure Event: As used in this Agreement, a Force Majeure Event shall mean occurrence in India of any or all of Non Political Event, Indirect Political Event and/or Political Event as defined in Clauses 29.2, 29.3, and 29.4 respectively hereinafter which prevent the Party claiming Force Majeure (the "Affected Party") from performing its obligations under this Agreement and which act or event is (i) beyond the reasonable control and not arising out of the fault of the Affected Party, (ii) the Affected Party has been unable to overcome such act or event by the exercise of due diligence and reasonable efforts, skill and care, including through expenditure of reasonable sums of money and (iii) has a Material Adverse Effect on the Project.
- 29.2 Non Political Force Majeure Events: For purposes of Clause 29.1 Non-Political Events shall mean one or more of the following acts or events:
- (i) acts of God or events beyond the reasonable control of the Affected Party which could not reasonably have been expected to occur, exceptionally adverse weather conditions, lightning, earthquake, cyclone, flood, volcanic eruption or fire (to the extent originating from a source external to the Site or beyond design specifications for the Construction Works) or landslide;
 - (ii) radioactive contamination or ionizing radiation;
 - (iii) strikes or boycotts (other than those involving the Concessionaire, Contractors or their respective employees/ representatives or attributable to any act or omission of any of them) interrupting supplies and services to the Project Highway for a period exceeding a continuous period of 7 (seven) days in an Accounting Year, and not being an Indirect Indian Political Event set forth in Clause 29.3 hereof;
 - (iv) any failure or delay of a Contractor but only to the extent caused by another Non-Political Event and which does not result in any offsetting compensation being payable to the Concessionaire by or on behalf of such Contractor;
 - (v) Any judgement or order of any court of competent jurisdiction or statutory authority in India made against the Concessionaire in any proceedings for reasons other than failure of the Concessionaire to comply with any Applicable Law or Applicable Permits or on account of breach thereof, or of any contract, or enforcement of this Agreement or exercise of any of its rights under this Agreement by NHAI or Any judgement or order of any court of competent jurisdiction or statutory authority in India made against the NHAI in any proceedings for reasons other than failure of the NHAI to comply with any



Applicable Law or Applicable Permits or on account of breach thereof, or of any contract, or enforcement of this Agreement or exercise of any of its rights under this Agreement by Concessionaire;

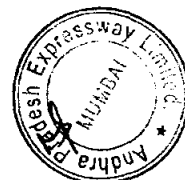
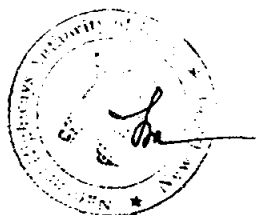
(vi) Any event or circumstance of a nature analogous to any of the foregoing.

29.3 Indirect Political Force Majeure Events: For purposes of Clause 29.1, Indirect Political Event shall mean one or more of the following acts or events:

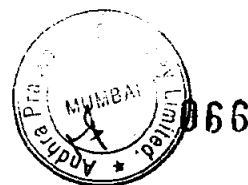
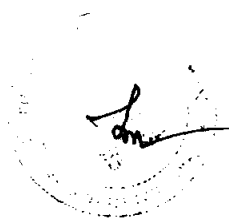
- (i) an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage which prevents the Affected party from performing any of its obligations for a continuous period of not less than 7 days from the date of its occurrence.
- (ii) industry wide or state wide or India wide strikes or industrial action which prevent the Affected party from performing any of its obligations for a continuous period of not less than 7 days from the date of its occurrence; or
- (iii) any public agitation which prevents the Affected party from performing any of its obligations for a continuous period of not less than 7 days from the date of its occurrence.

29.4 Political Force Majeure Events: For purposes of Clause 29.1, Political Event shall mean one or more of the following acts or events by or on account GOI, NHAI, Government of Andhra Pradesh or any other Governmental Agency:

- (i) Change in Law, only when provisions of Article XXXVI cannot be applied;
- (ii) expropriation or compulsory acquisition by any Governmental Agency of any Project Assets or rights of the Concessionaire or of the Contractors; or
- (iii) unlawful or unauthorized or without jurisdiction revocation of, or refusal to renew or grant without valid cause any consent or approval required by the Concessionaire or any of the Contractors to perform their respective obligations under the Project Agreements (other than a consent the obtaining of which is Condition Precedent) provided that such delay, modification, denial, refusal or revocation did not result from the Concessionaire's or any Contractor's inability or failure to comply with any condition relating to grant, maintenance or renewal of such consents or permits.



- 29.5 Effect of Force Majeure Event before Financial Close: Upon the occurrence of any Force Majeure Event prior to Financial Close as set forth in Article XXII, the following shall apply:
- (a) There shall be no Termination except as provided in Clause 29.8;
 - (b) The date for achieving Financial Close shall be extended by the period for which such Force Majeure event shall subsist; and
 - (c) The Parties shall bear their respective costs and no Party shall be required to pay to the other Party any costs arising out of such Force Majeure Event.
- 29.6 Effect of Force Majeure Event after Financial Close: Upon occurrence of any Force Majeure Event after Financial Close, the following shall apply:
- (a) There shall be no Termination of this Agreement except as provided in Clause 29.8;
 - (b) Where the Force Majeure Event occurs before COD, the dates set forth in the Project Completion Schedule, and the Concession Period shall be extended by the period for which such Force Majeure Event shall subsist;
 - (c) Where a Force Majeure Event occurs after COD, the Concessionaire shall continue to make all reasonable efforts to Operate and Manintain the Project Highway.
 - (d) Costs arising out of or concerning such Force Majeure Event shall be borne in accordance with the provisions of Clause 29.7.
- 29.7 Allocation of costs during subsistence of Force Majeure: Subject to the provisions of clause 29.6, upon occurrence of a Force Majeure Event after Financial Close, the costs arising out of such event shall be allocated as follows:
- (a) When the Force Majeure Event is a Non Political Event, the Parties shall bear their respective costs and neither Party shall be required to pay to the other Party any costs arising out of any such Force Majeure Event;
 - (b) Where the Force Majeure Event is an Indirect Political Event, the costs attributable to such Force Majeure Event and directly relating to the Project (the "Force Majeure Costs") shall be borne by the Concessionaire to the extent of the Insurance Claims, and to the extent such Force Majeure Costs exceed the Insurance Claims, one half of the same to the extent actually incurred and duly certified by the statutory Auditors of Concessionaire shall be reimbursed by NHAI to the Concessionaire in one lump sum or paid in three equal annual installments with interest @ SBI PLR plus two percent; and



- (c) Where the Force Majeure Event is a Political Event, the Force Majeure Costs to the extent actually incurred and certified by the Statutory Auditors of Concessionaire shall be reimbursed by NHAI to the Concessionaire in one lump sum or paid in three equal annual installments with interest @ SBI PLR plus two percent, provided that no Force Majeure Costs shall be payable by NHAI if the Concession Period is increased under Clause 29.6.

For avoidance of doubt, Force Majeure Costs shall not include any debt repayment obligations but shall include interest payments on such debt, O&M Expenses and all other costs directly attributable to the Force Majeure Event.

29.8 Termination Notice: If a Force Majeure Event subsists for a period of 180 (one hundred eighty) days or more within a continuous period of 365 (three hundred sixty five) days, either Party may in its sole discretion terminate this Agreement by giving 30 (thirty) days Termination Notice in writing to the other Party without being liable in any manner whatsoever, save as provided in Clause 29.9.

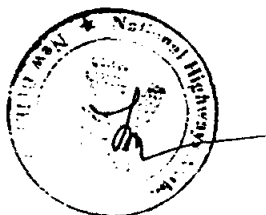
29.9 Termination Payment for Force Majeure Events: Upon Termination of this Agreement pursuant to Clause 29.8, Termination Payment to the Concessionaire shall be made in accordance with the following:

(i) Prior to COD

- a) If Termination is due to a Force Majeure Event which is a Non Political Event, no Termination Payment shall be made by NHAI to the Concessionaire but, the Concessionaire shall be entitled to receive and appropriate the proceeds of any insurance obtained by it.
- b) If Termination is due to a Force Majeure Event which is the Indirect Political Event, NHAI shall pay to the Concessionaire, Termination payment equal to the Book Value as on the date of Termination Notice.
- c) If Termination is due to a Force Majeure Event which is a Political Event, NHAI shall pay to the Concessionaire Termination Payment equal to the Book Value as on the Date of Termination Notice plus the accrued interest thereon @ SBI PLR + 2% p.a., from the date of Financial Close.

(ii) After COD

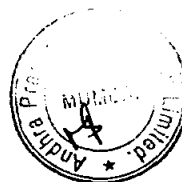
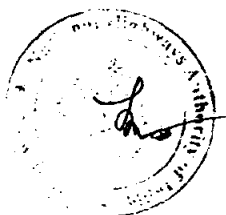
- a) If Termination is due to a Force Majeure Event which is a Non Political Event, no Termination Payment shall be made by NHAI to the Concessionaire but, the Concessionaire shall be entitled to receive and appropriate the proceeds of any insurance obtained by it.



- b) If Termination is due to a Force Majeure Event which is the Indirect Political Event, NHA1 shall pay to the Concessionaire, Termination Payment equal to 75% of the Discounted Value of Future Net Cashflows
- c) If Termination is due to a Force Majeure Event which is a Political Event, NHA1 shall pay to the Concessionaire Termination Payment equal to the Discounted Value of Future Net Cashflows.

Provided NHA1 shall be entitled to deduct from the Termination Payment any amount due and recoverable by NHA1 from the Concessionaire as on the Termination Date.

- 29.10 Dispute Resolution: In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such dispute shall be finally settled in accordance with the Dispute Resolution Procedure, provided however that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.
- 29.11 Liability for other losses, damages etc: Save and except as expressly provided in this Article XXIX, neither Party hereto shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant to this Article XXIX.
- 29.12 Duty to Report: The Affected Party shall discharge the following obligations in relation to reporting the occurrence of a Force Majeure Event to the other Party:
 - (a) The Affected Party shall not claim any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party in writing of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event within 7 (seven) days after the Affected Party knew, or ought reasonably to have known, of its occurrence and the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.
 - (b) Any notice pursuant to this Clause 29.12 shall include full particulars of:
 - (i) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article XXIX with evidence in support thereof;
 - (ii) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;



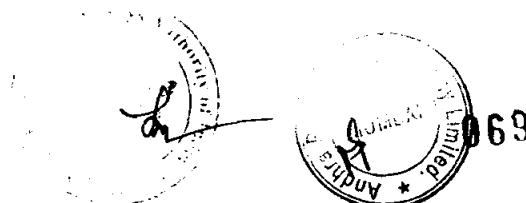
- (iii) the measures which the Affected Party is taking or proposes to take, to alleviate the impact of such Force Majeure Event; and
 - (iv) any other information relevant to the Affected Party's claim.
 - (c) For so long as the Affected Party continues to claim to be affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) written reports containing information as required by this Clause 29.12, and such other information as the other Party may reasonably request the Affected Party to provide.
- 29.13 Excuse from performance of obligations: If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event provided that:
- (a) The suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
 - (b) The Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence, and
 - (c) When the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party written notice to that effect and shall promptly resume performance of its obligations hereunder.

CHAPTER – VII

SUSPENSION AND TERMINATION

XXX. MATERIAL BREACH AND SUSPENSION

- 30.1 If the Concessionaire shall be in Material Breach of this Agreement NHAI, shall be entitled in its sole discretion and without prejudice to its other rights and remedies under this Agreement including its right of Termination hereunder, to (i) suspend all or any of the rights of the Concessionaire under this Agreement including payment of Annuity by NHAI and (ii) exercise the rights of the Concessionaire under this Agreement itself or authorize any other person to exercise the same during such suspension. Such suspension by NHAI shall be by a communication in writing to the Concessionaire and shall be effective forthwith upon the issue thereof to the Concessionaire. Provided, however, that the period of such suspension under this Article XXX shall not exceed 120 (one hundred twenty) days.



- 30.2 Subject to clause 30.1, NHAI shall have the right to utilize the proceeds of Annuities for meeting the costs incurred by NHAI to remedy and rectify the cause of such suspension and for defraying the O&M Expenses during such suspension period. Provided, however, that if the Concessionaire is making diligent efforts to remedy and rectify such cause, then NHAI shall allow the Concessionaire reasonable time and opportunity for such remedy or rectification.
- 30.3 The suspension of the rights of the Concessionaire by NHAI pursuant to Clause 30.1 above shall be revoked by NHAI forthwith upon the Concessionaire having remedied the Material Breach during such suspension period to the satisfaction of NHAI unless in the meantime this Agreement has been terminated by NHAI in accordance with Article XXXII.
- 30.4 At any time during the period of suspension under this Article XXX, the Concessionaire may in writing notify to NHAI that it does not intend to cure the breach or default that had caused such suspension. Within 7 (seven) days of receipt of such notice, NHAI shall terminate this Agreement as if a Material Breach of this Agreement had occurred on account of a Concessionaire Event of Default.

XXXI. COMPENSATION FOR BREACH OF AGREEMENT

- 31.1 In the event of Concessionaire being in material default of this Agreement and such default is cured before Termination, the Concessionaire shall pay to NHAI as compensation, all direct additional costs suffered or incurred by NHAI arising out of such material default by the Concessionaire, in one lump sum within 30 (thirty) days of receiving the demand or at the Concessionaire's option in 3 (three) equal semi-annual installments with interest @ SBI PLR plus 2% (two per cent).
- 31.2 In the event of NHAI being in material default of this Agreement and such default is cured before Termination, NHAI shall pay to the Concessionaire as compensation, all direct additional costs suffered or incurred by the Concessionaire arising out of such material default by NHAI, in one lumpsum within 30 (thirty) days of receiving the demand or at NHAI's option in 3 (three) equal semi-annual installments with interest @ SBI PLR plus 2% (two per cent).

XXXII. TERMINATION

32.1 Termination for the Concessionaire Event of Default.

32.1.1 Concessionaire Event of Default

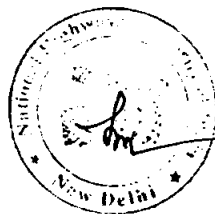
The following events shall constitute an event of default by the Concessionaire (a "Concessionaire Event of Default") unless such Concessionaire Event of Default has occurred as a result of NHAI Event of Default or a Force Majeure Event:



- (1) The Concessionaire fails to achieve Financial Close in accordance with the provisions of Article XXII;
- (2) The Concessionaire fails to achieve any Project milestone other than Scheduled Project Completion Date within the period set forth in Schedule 'H' and fails to cure such default within a period of 180 (one hundred and eighty) days from the date of its occurrence.
- (3) The Concessionaire is in Material Breach of this Agreement;
- (4) The Concessionaire commits default in complying with any of the terms and conditions of this Agreement, save and except those defaults in respect of which Cure Period has been expressly provided in this Agreement and fails to remedy or rectify the same within the period provided in a notice in this behalf from NHAI which shall:
 - (i) require the Concessionaire to remedy the breach or breaches referred to in such notice within 1 (one) month (or such longer period as may be agreed by the NHAI at its absolute discretion); or
 - (ii) permit the Concessionaire to put forward within 15 days of such notice a reasonable programme for the remedying of the breach or breaches, such programme to specify in reasonable detail the manner in which such breach or breaches is or are proposed to be remedied and the latest date by which it is proposed that such breach or all such breaches shall be remedied.
- (5) The Concessionaire creates any Encumbrance, charges or lien in favour of any person save and except as otherwise expressly permitted under Clause 35.2;
- (6) The shareholding of the Consortium Members falls below the minimum prescribed under Clause 11.1 (xiii) and the Concessionaire does not suo moto cure such default within 90 (ninety) days of its occurrence;
- (7) The transfer, pursuant to law of either (a) the rights and/or obligations of the Concessionaire under any of the Project Agreements, or (b) all or material part of the assets or undertaking of the Concessionaire except where such transfer in the reasonable opinion of NHAI does not affect the ability of the Concessionaire to perform, and the Concessionaire has the financial and technical capability to perform, its material obligations under the Project Agreements;
- (8) A resolution is passed by the shareholders of the Concessionaire for the voluntary winding up of the Concessionaire;



- (9) The Concessionaire is adjudged bankrupt or insolvent or if a trustee or receiver is appointed for the Concessionaire or for any of its property that has a material bearing on the Project;
- (10) Any petition for winding up of the Concessionaire is admitted by a court of competent jurisdiction or the Concessionaire is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction provided that, as part of such amalgamation or reconstruction, the property, assets and undertaking of the Concessionaire are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Concessionaire under this Agreement and the Project Agreements, and provided that:
- (i) the amalgamated or reconstructed entity has the technical capability and operating experience necessary for the performance of its obligations under this Agreement and the Project Agreements;
 - (ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and the Project Agreements and has a credit worthiness at least as good as that of the Concessionaire as at the Financial Close; and
 - (iii) each of the Project Agreements remains in full force and effect;
- (11) The Concessionaire is in Material Breach of any of the Project Agreements;
- (12) An event of default of the Concessionaire under any of the Financing Documents has occurred or any of the Senior Lenders has recalled its loan under any of the Financing Documents;
- (13) The Concessionaire abandons the operations of the Project Highway for more than 15 (fifteen) consecutive days without the prior consent of NHAI, provided that the Concessionaire shall be deemed not to have abandoned such operation if such abandonment was (i) as a result of Force Majeure Event and is only for the period such Force Majeure is continuing, or (ii) is on account of a breach of its obligations by NHAI.
- (14) The Concessionaire repudiates this Agreement or otherwise evidences an intention not to be bound by this Agreement;



(15) The Concessionaire suffers an execution being levied on any of its assets/ equipment causing a Material Adverse Effect on the Project and allows it to be continued for a period of 15 (fifteen) days;

(16) The Concessionaire has delayed any payment that has fallen due under this Agreement if such delay exceeds 90 (ninety) days; or

32.1.2 Save and except as otherwise provided in Clause 32.2, and without prejudice to any other right or remedy which NHAI may have in respect thereof under this Agreement, upon the occurrence of any breach or default by the Concessionaire under this Agreement including any Concessionaire Event of Default, NHAI shall be entitled to terminate this Agreement by a communication in writing (the "Termination Notice") to the Concessionaire if the Concessionaire has failed to cure such breach or default within the period provided for the same in this Agreement provided that before issuing the Termination Notice, NHAI shall by a notice in writing inform the Concessionaire of its intention to issue the Termination Notice (the "Preliminary Notice") and grant 15 (fifteen) days time to the Concessionaire to make its representation, if any, against such intended Termination Notice and shall after the expiry of said 15 (fifteen) day period whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

32.1.3 Subject to Clause 32.2, the following shall apply in respect of cure of any of the defaults and/or breaches of this Agreement.

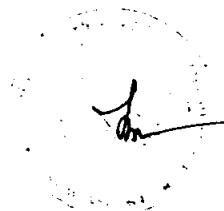
(i) The Cure Period shall commence from the date on which a notice in writing is delivered by NHAI to the Concessionaire asking the latter to cure the breach or default specified in such notice.

(ii) The Cure Period provided in this Agreement shall not relieve the Concessionaire from liability for Damages caused by its breach or default;

(iii) The Cure Period shall not in any way be extended by any period of suspension under this Agreement;

(iv) If the cure of any breach by the Concessionaire requires any reasonable action by Concessionaire that must be approved by NHAI or the Independent Consultant hereunder the applicable Cure Period (and any liability of the Concessionaire for damages incurred) shall be extended by the period taken by NHAI or the Independent Consultant to accord their required approval.

32.2 Notwithstanding anything to the contrary contained in this Agreement, in the event of the Concessionaire being in default under any of the provisions hereof expressly providing



for Termination under or in accordance with this Clause 32.2, NHAI shall be entitled to terminate this Agreement forthwith by issuing a Termination Notice to the Concessionaire and upon issue of such Termination Notice by NHAI this Agreement shall stand terminated forthwith. Provided, however, that prior to such Termination, NHAI shall by notice grant to the Concessionaire a Cure Period of one month for curing the relevant breach or default of the provisions of this Agreement.

32.3 Upon Termination by NHAI on account of occurrence of Concessionaire Event of Default during the Operations Period, the NHAI shall pay to the Concessionaire by way of Termination Payment an amount equal to 70% (seventy per cent) of the Book Value as on the date of Termination Notice.

32.4 Termination for NHAI Event of Default

32.4.1 The Concessionaire may after giving 90 (ninety) days notice in writing to NHAI terminate this Agreement upon the occurrence and continuation of any of the following events (each a "NHAI Event of Default"), unless any such NHAI Event of Default has occurred as a result of Concessionaire Event of Default or due to a Force Majeure Event.

- (1) NHAI is in breach of this Agreement and such breach has a Material Adverse Effect on the Concessionaire and NHAI has failed to cure such breach or take effective steps for curing such breach within 90 (ninety) days of receipt of notice in this behalf from the Concessionaire;
- (2) NHAI repudiates this Agreement or otherwise evidences an irrevocable intention not to be bound by this Agreement;
- (3) Govt or Government of Andhra Pradesh or any Governmental Agency have by an act of commission or omission created circumstances that have a Material Adverse Effect on the performance of its obligations by the Concessionaire and have failed to cure the same within 90 (ninety) days of receipt of notice by NHAI in this behalf from the Concessionaire;
- (4) NHAI has delayed any payment that has fallen due under this Agreement if such delay exceeds 90 (ninety) days.

32.4.2 Upon Termination by the Concessionaire on account of an NHAI Event of Default, prior to the COD, the Concessionaire shall be entitled to receive from NHAI by way of Termination Payment a sum equal to Book Value and accrued interest thereon @SBI PLR + 2% (two per cent) p.a. from the date of Financial Close.

Upon Termination by the Concessionaire on account of an NHAI Event of Default, after the COD, the Concessionaire shall be entitled to receive from NHAI by way of Termination Payment a sum equal to the Discounted Value of Future Net Cashflows as on the date of Termination Notice.

Provided NHAI shall be entitled to deduct from the Termination Payment any amount due and recoverable by NHAI from the Concessionaire as on the Termination Date

32.5 Upon Termination of this Agreement for any reason whatsoever, NHAI shall:

- (i) take possession and control of Project Highway forthwith;
- (ii) take possession and control forthwith of any materials, construction plant, implements, stores etc. on or about the Site;
- (iii) restrain the Concessionaire and any person claiming through or under the Concessionaire from entering upon the Site or any part of the Project Highway; and/or
- (iv) succeed upon election by NHAI without the necessity of any further action by the Concessionaire, to the interests of the Concessionaire under such of the Project Agreement as NHAI may in its discretion deem appropriate and shall upon such election be required to compensate such contractors only for compensation accruing and becoming due and payable to them under the terms of their respective Project Agreements from and after the date NHAI elects to succeed to the interests of the Concessionaire as aforesaid. All sums claimed by such Contractors as being due and owing for work and services performed or accruing on account of any act, omission or event prior to such date shall constitute debt between the Concessionaire and such Contractors and NHAI shall in no way or manner be liable or responsible for such sums.

32.6 Termination Payments: The Termination Payment pursuant to this Agreement shall become due and payable to the Concessionaire by NHAI within thirty days of a demand being made by the Concessionaire with the necessary particulars duly certified by the Statutory Auditors. If NHAI fails to disburse the full Termination Payment within 30 (thirty) days, the amount remaining unpaid shall be disbursed along with interest @ SBI PLR plus two per cent for the period of delay on such amount.

32.7 Mode of Payment: Payment of compensation of costs by NHAI pursuant to this Article XXXII shall be made by way of credit to the Escrow Account and such payment shall constitute valid discharge of NHAI's obligations for Termination Payment hereunder.

32.8 Notwithstanding anything to the contrary contained in this Agreement, any Termination pursuant to the provisions of this Agreement shall be without prejudice to accrued rights of either Party including its right to claim and recover money damages and other rights and remedies which it may have in law or contract. All rights and obligations of either Party under this Agreement, including without limitation Termination Payments and Divestment procedures, shall survive the Termination of this Agreement to the extent such survival is necessary for giving effect to such rights and obligations.



XXXIII. DIVESTMENT OF RIGHTS AND INTERESTS

33.1 Upon Termination of this Agreement, the Concessionaire shall comply with the following:

- (a) notify to NHAI forthwith the location and particulars of all Project Assets;
- (b) deliver forthwith actual or constructive possession of the Project Highway free and clear of all Encumbrances and execute such deeds, writings and documents as may be required by the NHAI for fully and effectively divesting the Concessionaire of all of the rights, title and interest of the Concessionaire in the Project Highway and conveying the Project Highway free of any charge or cost to NHAI; and
- (c) comply with the Divestment Requirements set out in Clause 33.2.

33.2 Upon Termination of this Agreement, the Concessionaire shall comply and conform to the following Divestment Requirements in respect of the Project Highway:

- (i) all Project Assets including the road, pavement, structure and equipment shall have been renewed and cured of all defects and deficiencies as necessary so that the Project Highway is compliant with the Specifications and Standards set forth in this Agreement;
- (ii) all sections of each traffic lane (the "Carriageway") of the Project Highway shall have a roughness index of not more than 2500 mm per km and shall be free from defects in accordance with O&M requirements;
- (iii) all lamps shall be in working condition;
- (iv) the Concessionaire delivers relevant records and reports pertaining to the Project Highway and its design, engineering, construction, operation, and maintenance including all operation and maintenance records and programmes and manuals pertaining thereto and complete as built Drawings on the Divestment Date;
- (v) the Concessionaire executes such deeds of conveyance, documents and other writings as the NHAI may reasonably require to convey, divest and assign all the rights, title and interest of the Concessionaire in the Project Highway free from all Encumbrances absolutely and free of any charge or tax unto the NHAI or its Nominee; and
- (vi) the Concessionaire complies with all other requirements as may be prescribed under Applicable Laws to complete the divestment and assignment of all the rights, title and interest of the Concessionaire in the Project Highway free from



all Encumbrances absolutely and free of any charge or tax to NHAI or its nominee.

- 33.3 Not earlier than 3 (three) months before the expiry of the Concession Period but not later than 30 (thirty) days before such expiry, or in the event of earlier Termination of this Agreement, immediately upon but not later than 15 (fifteen) days from the date of issue of Termination Notice, the Independent Consultant shall verify, in the presence of a representative of the Concessionaire, compliance by the Concessionaire with the Divestment Requirements set forth in Clause 33.2 in relation to the Project Highway and, if required, cause appropriate tests to be carried out at the Concessionaire's cost for determining the compliance therewith. If any shortcomings in the Divestment Requirements are found by either Party, it shall notify the other of the same and the Concessionaire shall rectify the same at its cost. The provisions of Article XXXIV shall apply mutatis mutandis in relation to repair or curing of defects under this Article XXXIII.
- 33.4 Upon the Concessionaire conforming to all Divestment Requirements and handing over actual or constructive possession of the Project Highway to NHAI or a person nominated by NHAI in this regard, NHAI shall issue a certificate substantially in the form set forth in Schedule 'V' (the "Vesting Certificate") within 3 months of Concessionaire conforming to all Divestment Requirements and handing over actual or constructive possession of the Project Highway to NHAI, which will have the effect of constituting evidence of divestment of all rights, title and lien in the Project Highway by the Concessionaire and their vesting in NHAI pursuant hereto. Issue of the Vesting Certificate shall not be unreasonably withheld by NHAI. The divestment of all rights, title and lien in the Project Highway shall be deemed to be complete on the date when all the Divestment Requirements have been fulfilled and Vesting Certificate has been issued, it being expressly agreed that any defect or deficiency in any Divestment Requirement shall not in any manner be construed or interpreted as restricting the exercise of any rights by NHAI or its nominee on or in respect of the Project Highway on the footing as if all Divestment Requirements have been complied with by the Concessionaire.
- 33.5 Notwithstanding anything to the contrary contained in this Agreement, any Termination Payments made by NHAI into the Escrow Account shall not be withdrawn therefrom for any purpose whatsoever until the Vesting Certificate has been issued by NHAI under this Article. Provided, however, that the aforesaid restriction shall not apply to withdrawals from the Escrow Account in favour of the Senior Lenders to the extent of Debt Due.



**CHAPTER – VIII
MISCELLANEOUS**

XXXIV. DEFECTS LIABILITY

- 34.1 Not less than 30 months nor more than 36 months prior to the expiry of the Concession Period, the Concessionaire and the Independent Consultant shall conduct a joint inspection (the "Initial Inspection") of the Project Highway and all Project Facilities.
- 34.2 Within 90 days after the completion of the Initial Inspection, the Concessionaire shall provide to the Independent Consultant a report on the condition of the Project Highway and the Project Facilities and a notice setting out the Concessionaire's proposals as to the renewal works required to comply with the Divestment Requirements.
- 34.3 The Independent Consultant may, within 90 days after receipt of the notice from the Concessionaire in accordance with Clause 34.2, by notice to the Concessionaire object to the proposals giving details of the grounds for such objection and shall give the Independent Consultant's proposals in respect of the renewal works.
- 34.4 If no agreement is reached between the Concessionaire and the Independent Consultant within 30 days of receipt of such notice, then either the Concessionaire or the Independent Consultant may refer the matter to the Disputes Resolution Procedure.
- 34.5 Upon agreement or determination in accordance with the Disputes Resolution Procedure, the Concessionaire shall carry out the renewal works at its own cost.
- 34.6 Not less than 9 months nor more than 12 months prior to the expiry of the Concession Period, the Concessionaire and the Independent Consultant shall conduct a joint inspection (the "Second Inspection") of all elements of the Project Highway and Project Facilities (whether or not the Renewal Works have been carried out).
- 34.7 Within 30 days after the completion of the Second Inspection, the Concessionaire shall provide to the Independent Consultant a report on the condition of the Project Highway and Project Facilities and a notice setting out any revisions or additions to the renewal works required in order to ensure compliance with the Divestment Requirements.
- 34.8 The Independent Consultant may, within 30 days after receipt of the notice from the Concessionaire in accordance with Clause 34.7, by notice to the Concessionaire object to the proposed revisions giving details of the grounds for such objection and shall give the Independent Consultant proposals in respect of such matters.



- 34.9 If no agreement is reached between the Concessionaire and the Independent Consultant within 30 days of receipt of such notice, then either the Concessionaire or the Independent Consultant may refer the matter to the Dispute Resolution Procedure.
- 34.10 Upon agreement or determination in accordance with the Disputes Resolution Procedure, the Concessionaire shall carry out the renewal works (as so revised) at its own cost.
- 34.11 From the date which is 2 years prior to the expiry of the Concession Period a sum equal to 15% of the Annuity or a higher sum estimated by the Independent Consultant for Renewal Works, shall notwithstanding anything to the contrary contained in this Agreement, be retained in the Escrow Account provided that if a Bank Guarantee of an equivalent sum in the form and content acceptable to NHAI has been furnished by the Concessionaire to NHAI, no such retention shall be made.
- 34.12 If following the Second Inspection, it is agreed or determined that no renewal works are required, then within 14 days of such agreement, 50% of the sums retained in accordance with Clause 34.11 shall be released from the Escrow Account to the Concessionaire.
- 34.13 Within 14 days after the issue of the Vesting Certificate issued in accordance with Article XXXIII the sums retained in accordance with Clause 34.11 shall be released from the Escrow Account to the Concessionaire.

XXXV. ASSIGNMENTS AND CHARGES

- 35.1 Subject to Clauses 35.3 and 35.4, this Agreement shall not be assigned by the Concessionaire save and except with prior consent in writing of NHAI, which consent NHAI shall be entitled to decline without assigning any reason whatsoever.
- 35.2 Subject to Clause 35.3, the Concessionaire shall neither create nor permit to subsist any encumbrance over or otherwise transfer or dispose of all or any of its rights and benefits under this Agreement or any Project Agreements to which Concessionaire is a party except with prior consent in writing of NHAI, which consent NHAI shall be entitled to decline without assigning any reason whatsoever.
- 35.3 Restraint set forth in Clauses 35.1 and 35.2 shall not apply to:
- (i) liens arising by operation of law (or by an agreement evidencing the same) in the ordinary course of business of the Project Highway;
 - (ii) mortgages/pledges/hypothecation of goods/assets other than Project Assets, and those covered by the Substitution Agreement and their related documents of title arising or created in the ordinary course of business of the Project Highway and



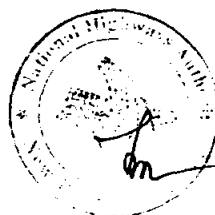
as security only for indebtedness to the Senior Lenders under the Financing Documents and/or for working capital arrangements for the Project Highway:

- (iii) assignment of rights, title and interest to or in favour of the Lenders pursuant to and in accordance with the Substitution Agreement in respect of financing by the Senior Lenders under the Financing Documents for the Project; and
 - (iv) liens or encumbrances required by any Applicable Law.
- 35.4 Senior Lenders may exercise the rights of step-in or substitution as provided in the Substitution Agreement to be entered into among the Concessionaire, NHAI and Senior Lenders in the form set forth in Schedule 'U' provided that the person substituting the Concessionaire shall be deemed to be the Concessionaire under this Agreement and shall enjoy all rights and be responsible for all obligations under this Agreement as if it were the Concessionaire. Provided, however, that in the event of such step-in or substitution, an additional Cure Period of 90 (ninety) days shall be provided by NHAI to enable the Concessionaire to cure any breach or default subsisting on the day of such step-in or substitution. Provided further that if the Senior Lenders step in to operate and manage the Concession for a period not exceeding 90 (ninety) days, their liabilities shall be restricted to the obligations relating to and arising during such 90 (ninety) days period.
- 35.5 Notwithstanding anything to the contrary contained in this Agreement NHAI may assign any of its rights and benefits and/or obligations under this Agreement pursuant to any direction of GOI or by operation of law or in the course of its own business.

XXXVI. CHANGE IN LAW

- 36.1 If as a result of Change in Law, the Concessionaire suffers an increase in costs or reduction in net after tax return or other financial burden, the aggregate financial effect of which exceeds Rs.10 million (Rupees ten million) in any Accounting Year, the Concessionaire may notify NHAI and propose amendments to this Agreement so as to put the Concessionaire in the same financial position as it would have occupied had there been no such Change in Law resulting in such cost increase, reduction in return or other financial burden as aforesaid. Upon notification by the Concessionaire as aforesaid, the Parties shall meet as soon as reasonably practicable but no later than 30 (thirty) days and either agree on amendments to this Agreement or on alternative arrangements to implement the foregoing.

Provided that if no agreement is reached as aforesaid by the Parties within 90 (ninety) days of the meeting pursuant to this Clause 36.1, the Concessionaire may by notice in writing require NHAI to pay an amount that would put the Concessionaire in the same financial position it would have occupied had there been no such Change in Law



resulting in such cost increase, reduction in return or other financial burden as aforesaid. Such notice shall be accompanied by necessary particulars duly certified by the Statutory Auditors of the Concessionaire. NHAI shall make payment of such compensation within 15 (fifteen) days of receiving such notice or with interest @ SBI PLR if the payment thereof is delayed beyond such 15 (fifteen) days. If NHAI shall dispute the quantum of such compensation claim of the Concessionaire, the same shall be finally settled in accordance with the Dispute Resolution Procedure.

- 36.2 If as a result of Change in Law, the Concessionaire enjoys a reduction in costs or increase in net after tax return or other financial benefit, the aggregate financial effect of which exceeds Rs.10 million (Rupees ten million) in any Accounting Year, NHAI may so notify the Concessionaire and propose amendments to this Agreement so as to put the Concessionaire in the same financial position as it would have occupied had there been no such Change in Law resulting in such decreased cost, increase in return or other financial benefit as aforesaid. Upon notification by the NHAI as aforesaid, the Parties shall meet as soon as reasonably practicable but no later than 30 (thirty) days and either agree on such amendments to this Agreement or on alternative arrangements to implement the foregoing.

Provided that if no agreement is reached as aforesaid by the Parties within 90 (ninety) days of the meeting pursuant to this Clause 36.2, NHAI may by notice in writing require the Concessionaire to pay an amount that would put the Concessionaire in the same financial position it would have occupied had there been no such Change in Law resulting in such decreased cost, increase in return or other financial benefit as aforesaid. Such notice shall be accompanied by necessary particulars duly certified by the NHAI Representative. The Concessionaire shall make such payment within 15 (fifteen) days of receiving such notice or with interest @ SBI PLR if the payment is delayed beyond such 15 (fifteen) days. If the Concessionaire shall dispute such claim of NHAI, the same shall be finally settled in accordance with the Dispute Resolution Procedure.

- 36.3 Notwithstanding anything to the contrary contained in this Agreement, NHAI shall not be liable to reimburse to the Concessionaire any sums on account of any Change in Taxes if the same are recoverable from the users of the Project Highway or if the aggregate financial effect of such changes in any Accounting Year is less than or equal to Rs.10 million (Rupees ten million).

XXXVII. LIABILITY AND INDEMNITY

37.1 General Indemnity

- (i) The Concessionaire will indemnify, defend and hold NHAI harmless against any and all proceedings, actions and, third party claims (other than a claim by NHAI

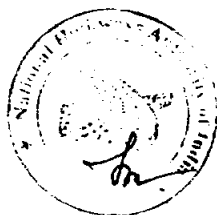


or GOI for loss, damage and expense of whatever kind and nature arising out of the design, engineering, construction, procurement, Operation and Maintenance of the Project Highway or arising out of a breach by Concessionaire of any of its obligations under this Agreement except to the extent that any such claim has arisen due to NHAI Event of Default).

- (ii) NHAI will, indemnify, defend and hold harmless the Concessionaire against any and all proceedings, actions, third party claims for loss, damage and expense of whatever kind and nature arising out of defect in title and/or the rights of NHAI in the land comprised in the Site adversely affecting the performance of the Concessionaire's obligations under this Agreement and/or arising out of acts done in discharge of their lawful functions by NHAI, its Officers, servants, agents, subsidiaries and contractors ("NHA Indemnified Persons") including NHAI Events of Default except to the extent that any such claim has arisen due to a negligent act or omission, breach of contract or breach of statutory duty on the part of the Concessionaire, its Subsidiaries, affiliates, contractors, servants or agents including due to Concessionaire Event of Default.

37.2 Without limiting the generality of Clause 37.1 the Concessionaire shall fully indemnify, save harmless and defend NHAI including its officers, servants, agents and subsidiaries from and against any and all loss and damages arising out of or with respect to (a) failure of the Concessionaire to comply with Applicable Laws and Applicable Permits, (b) payments of taxes relating to the Concessionaire contractors, suppliers and representatives, income or other taxes required to be paid by the Concessionaire without reimbursement hereunder, or (c) non-payment of amounts due as a result of materials or services furnished to the Concessionaire or any of its Contractors which are payable by the Concessionaire or any of its contractors.

37.3 Without limiting the generality of the provisions of this Article XXXVII, the Concessionaire shall fully indemnify, save harmless and defend the NHAI indemnified Person from and against any and all damages which the NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Concessionaire or by the Concessionaire's Contractors in performing the Concessionaire's obligations or in any way incorporated in or related to the Project. If in any such suit, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Concessionaire shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the suspension of the injunction or restraint order. If, in any such suit claim or proceedings, the Project, or any part, thereof or comprised therein is held to constitute an infringement and its use is permanently enjoined, the Concessionaire shall promptly make every reasonable effort to



secure for NHAI a licence, at no cost to NHAI, authorizing continued use of the infringing work. If the Concessionaire is unable to secure such licence within a reasonable time, the Concessionaire shall, at its own expense and without impairing the specifications and standards either replace the affected work, or part, or process thereof with non-infringing work or parts or process, or modify the same so that it becomes non-infringing.

- 37.4 In the event that either Party receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under this Article XXXVII (the 'Indemnified Party') it shall notify the other Party ("Indemnifying Party") within 14 (fourteen) days of receipt of the claim and shall not settle or pay the claim without the prior approval of the Indemnifying Party, such approval not to be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim it may conduct the proceedings in the name of the Indemnified Party subject the Indemnified Party being secured against any costs involved to its reasonable satisfaction.

37.5 Defence of Claims

- 37.5.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder and their reasonable costs and expenses shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the person indemnified in respect of loss to the full extent provided by this Article XXXVII, the Indemnifying Party shall be entitled, at its option, to assume and control the defence of such claim, action, suit or proceeding liabilities, payments and obligations at its expense and through counsel of its choice provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defence. The Indemnifying Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnified Party unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure, the loss to be indemnified hereunder to the extent so compromised or settled.
- 37.5.2 If the Indemnifying Party has exercised its rights under Clause 37.4, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).



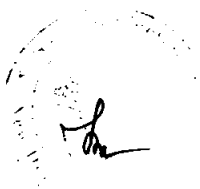
37.5.3 If the Indemnifying Party exercises its rights under Clause 37.4 then the Indemnified Party shall nevertheless have the right to employ its own counsel and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party, when and as incurred, unless:

- (i) the employment of counsel by such party has been authorised in writing by the Indemnifying Party; or
- (ii) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defence of such action; or
- (iii) the Indemnifying Party shall not in fact have employed independent counsel reasonably satisfactory to the Indemnified Party to assume the defence of such action and shall have been so notified by the Indemnified Party; or
- (iv) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
 - (a) that there may be specific defences available to it which are different from or additional to those available to the Indemnifying Party; or
 - (b) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement;

provided that if clauses (ii), (iii) or (iv) shall be applicable, counsel for the Indemnified Party shall have the right to direct the defence of such claim, action, suit or proceeding on behalf of the Indemnified Party and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

XXXVIII. RIGHTS AND TITLE OVER THE SITE

- 38.1 The Concessionaire shall have exclusive rights to the use of the Site in accordance with the provisions of this Agreement and for this purpose it may regulate the entry and use of the Project Highway by third parties.
- 38.2 The Concessionaire shall allow access to, and use of the Site for telegraph lines, electric lines or such other public purposes as NHAI may specify. Where such access or use causes any damage to the Project Highway and consequent financial loss to the Concessionaire, it may seek compensation or damages from such user of the Site as per Applicable Laws.
- 38.3 The Concessionaire shall not be liable to pay any property taxes for the Site.

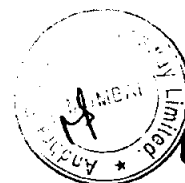
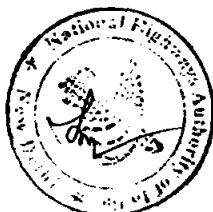


- 38.4 For the purposes of claiming tax depreciation, the property representing the capital investment made by the Concessionaire shall be deemed to be acquired and owned by the Concessionaire.
- 38.5 The Concessionaire shall not sublet the whole or any part of the Site save and except as may be expressly set forth in this Agreement provided however that nothing contained herein shall be construed or interpreted as restricting the right of the Concessionaire to appoint contractors for the performance of its obligations hereunder including for operation and maintenance of all or any part of the Project Highway including Project Facilities.

XXXIX. DISPUTE RESOLUTION

39.1 Amicable Resolution

- (a) Save where expressly stated to the contrary in this Agreement, any dispute, difference or controversy of whatever nature howsoever arising under, out of or in relation to this Agreement including incompleteness of the Project Highway between the Parties and so notified in writing by either Party to the other (the "Dispute") in the first instance shall be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Sub-clause (b) below.
- (b) In the event of any Dispute between the Parties, either Party may call upon the Independent Consultant to mediate and assist the Parties in arriving at an amicable settlement thereof. Failing mediation by the Independent Consultant or without the intervention of the Independent Consultant, either Party may require such Dispute to be referred to the Chairman of NHAI and the Chairman of the Board or Directors of the Concessionaire, for the time being for amicable settlement. Upon such reference, the said two Authorities shall meet not later than 7 (seven) days of the date of such request to discuss and attempt to amicably resolve the Dispute. If such meeting does not take place within the said period or the Dispute is not amicably settled within 15 (fifteen) days of such meeting between the said two Authorities, either Party may refer the dispute to arbitration in accordance with the provisions of Clause 39.2.
- (c) If the Dispute is not resolved as evidenced by the signing of the written terms of settlement within 30 (thirty) working days of the aforesaid notice in writing or such longer period as may be mutually agreed by the Parties then the provisions of Clause 39.2 shall apply.



39.2 Arbitration

39.2.1 Any Dispute, which is not resolved amicably as provided in Clause 39.1 shall be finally decided by reference to arbitration by a Board of Arbitrators, appointed pursuant to Clause 39.2.2 below. Such arbitration shall be held in accordance with the Rules of Arbitration of the Indian Council of Arbitration and shall be subject to the provisions of the Arbitration Act.

39.2.2 There shall be a Board of three arbitrators of whom each party shall select one and the third arbitrator shall be appointed in accordance with the Rules of Arbitration of the Indian Council of Arbitration.

39.2.3 The arbitrators shall issue a reasoned Award.

39.2.4 The venue of such arbitration shall be New Delhi, India.

39.3 Arbitration Awards to be Binding

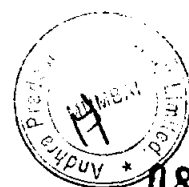
39.3.1 The Concessionaire and NHAI undertake to carry out any decision or award of the arbitrators (the "Award") without delay. Awards relating to any Dispute shall be final and binding on the Parties as from the date they are made.

39.3.2 The Concessionaire and NHAI agree that an Award may be enforced against the Concessionaire and/or NHAI, as the case may be and their respective assets wherever situated.

39.3.3 This Agreement and rights and obligations of the Parties shall remain in full force and effect pending the Award in any arbitration proceeding hereunder.

XL. DISCLOSURE

40.1 The Concessionaire shall make available for inspection by members of public free of charge during normal business hours on all working days copies of this Concession Agreement, the O&M Contract and the State Support Agreement (hereinafter collectively referred to as "Public Documents") at the Concessionaire's Site office during the subsistence of this Agreement. The Concessionaire shall prominently display at appropriate place, public notices about the availability of the Public Documents for inspection and shall make available upon request and payment in advance of copying charges on no profit no loss basis to members of public copies of the said Public Documents.



XLI. REDRESSAL OF PUBLIC GRIEVANCES

- 41.1 The Concessionaire shall maintain a public relations office at an appropriate place on the Project Highway or adjacent to each Toll Plaza, if present, and keep it open to public access at all times. At each such office, the Concessionaire shall open and maintain a register (the "Complaints Register") for recording of complaints by any person (the Complainant") at any time of the day. The availability of and access to such office and the Complaints Register shall be prominently displayed by the Concessionaire so as to bring it to the attention of all persons who are entering and exiting the Project Highway.
- 41.2 The Complaints Register shall be securely bound and kept in proper custody at the public relations office. Each page of the Register shall be duly numbered and each complaint recorded therein shall also be duly numbered. Soon after a complaint is registered the Complainant shall be given a receipt by such office stating the date and complaint number, which the Complainant may refer to in any subsequent correspondence or claim. The Complaints Register shall have appropriate columns including but not limited to the complaint number and date, name and address of the Complainant, the complaint and the action taken by the Concessionaire thereon.
- 41.3 The Concessionaire shall inspect the Complaints Register at reasonable intervals and take prompt steps for redressal of the grievances stated in each complaint. The action so taken by the Concessionaire shall be briefly noted in the 'Action taken' column of the Complaints Register and a suitable reply shall also be sent to the Complainant by post under a certificate of posting.
- 41.4 Within one week following the close of each calendar month, the Concessionaire shall send to NHAI a true photocopy of such pages of the Complaints Register on which any entries have been recorded of any Complaint on the Concessionaire during the course of such month. NHAI may in its discretion direct the Concessionaire to take such further reasonable action as NHAI may deem appropriate for a fair and just redressal of any grievance. Where NHAI is of the opinion that the Complainant is entitled to any further redressal or compensation beyond what the Concessionaire is willing to provide, NHAI may refer the matter to the Consumer Redressal Forum having jurisdiction for its disposal in accordance with the provisions of the Consumer Protection Act, 1986.

XLII. ADVERTISING ON THE SITE

- 42.1 This shall be governed by Applicable Laws, rules, regulations, guidelines and instructions of GOI, NHAI and Government Agency.

XLIII. GOVERNING LAW AND JURISDICTION

- 43.1 This Agreement shall be construed and interpreted in accordance with and governed by the laws of India and the Courts at New Delhi, India shall have jurisdiction over all matters arising out of or relating to this Agreement.



XLIV. MISCELANEOUS

44.1 Video Recording

During the Construction Period, the Concessionaire shall provide a video recording to NHAI every calendar quarter which will be compiled into a 3 (three) hour cassette, covering the construction of the Project Highway in that quarter. Such video recording shall be provided no later than fifteen days after the close of each quarter.

44.2 Waiver

Waiver by either Party of any default by other Party in the observance and performance of any provision of or obligations of or under this Agreement.

- (i) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
 - (ii) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and
 - (iii) shall not affect the validity or enforceability of this Agreement in any manner.
- (a) Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

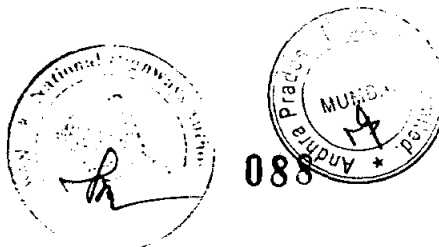
44.3 Survival

Termination of this Agreement (a) shall not relieve the Concessionaire or NHAI of any obligations hereunder which expressly or by implication survives Termination hereof, and (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such termination.

All obligations surviving the cancellation, expiration or Termination of this Agreement shall only survive for a period of 5 (five) years following the date of such Termination or expiry of this Agreement.

44.4 Entire Agreement:

The Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless expressly



previously approved in writing by NHAI and executed by the person expressly authorised by a resolution of NHAI in this behalf.

44.5 Notices

Any notice or other communication to be given by Party to the other Party under, or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- (a) in the case of the Concessionaire, be given by letter delivered by hand to the address given and marked for the attention of the person set out opposite the corresponding signature below or to such other address marked for such other attention as the Concessionaire may from time to time designate by notice to NHAI, provided that notices or other communications to be given to an address outside New Delhi may (if they are subsequently confirmed by sending a copy thereof by first class registered airmail or by courier) be sent by facsimile to the number as the Concessionaire may from time to time designate by notice to NHAI; and
- (b) in the case of NHAI, be given by letter delivered by hand and be addressed to the Chairman, NHAI. Copies of all notices shall also be sent by facsimile and by registered acknowledgement due pre-paid post or courier.

Copies of all notices shall also be sent to the NHAI Representative.

44.6 Severability

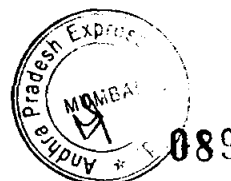
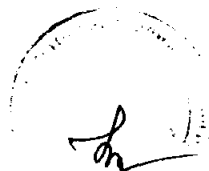
If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to dispute resolution under this Agreement or otherwise.

44.7 No Partnership

Nothing contained in this Agreement shall be construed or interpreted as constituting a partnership between the Parties. Neither Party shall have any authority to bind the other in any manner whatsoever.

44.8 Language

All notices required to be given by one Party to the other Party and all other communications, documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.



44.9 Exclusion of Implied Warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

44.10 Counterparts

This Agreement may be executed in two counterparts, each of which when executed and delivered shall constitute an original of this Agreement.

45.1 IN WITNESS WHEREOF THE, PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN

SIGNED SEALED AND DELIVERED

For and on behalf of

NATIONAL HIGHWAYS AUTHORITY OF INDIA

By

[Signature] (Signature)

In the presence of:

K.C. VARKEYACHARI (Name)

1.

[Signature] (K. RAMCHANDRAN)

GENERAL MANAGER (Designation)

2.

[Signature]

SIGNED, SEALED AND DELIVERED

For and on behalf of

ANDHRA PRADESH EXPRESSWAY LIMITED

By:

[Signature] (Signature)

In the presence of:

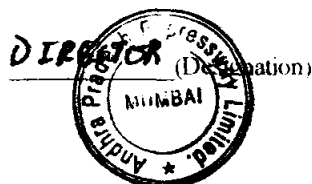
MUKUND SAPRE (Name)

1.

[Signature] (K. RAMCHANDRAN)

2.

[Signature] (S. S. SURESH)



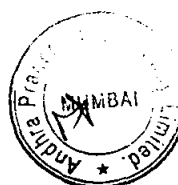
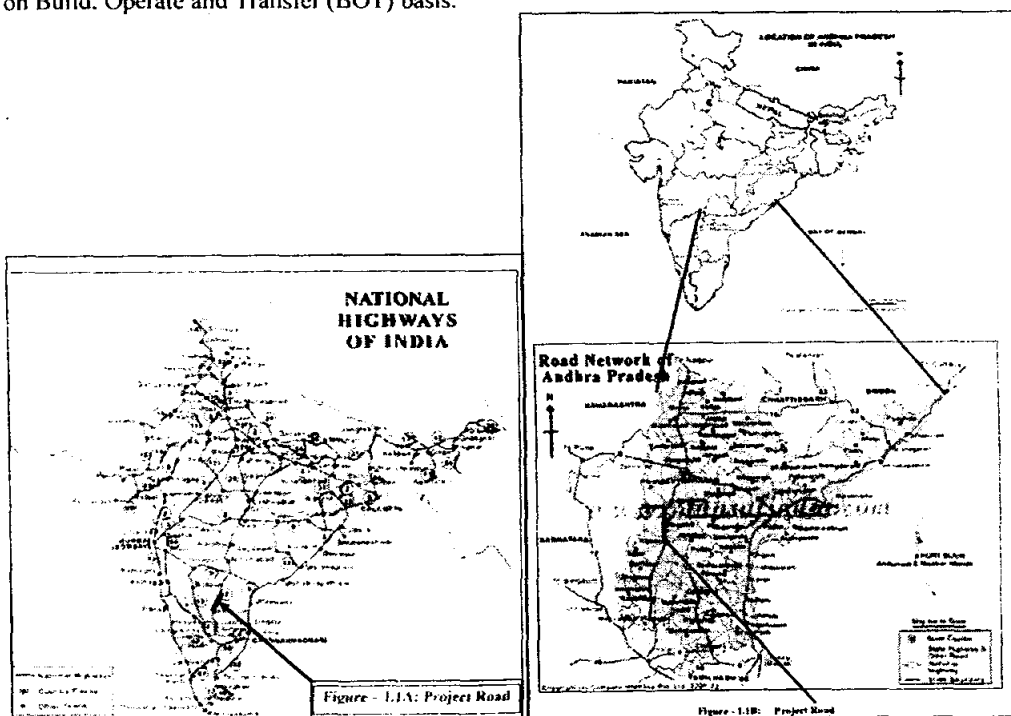
SITE OF THE PROJECT

1. GENERAL

1.1 The Site

The Govt. of India (GoI) through Ministry of Road Transport & Highways (MORT&H) is contemplating to enhance the traffic capacity and safety for efficient transshipment of goods as well as passenger traffic on the heavily trafficked National Highway sections. GoI has entrusted National Highways Authority of India (NHA1) with the responsibility of improving the quality highways of national importance. The Project under consideration aims at developing Kothakutta – Kurnool section of NH-7, located in Andhra Pradesh state to four lane divided carriageway standards along with strengthening of existing two lanes.

In order to provide a better level of service to the vehicular traffic, it has been decided to augment the capacity of the Kothakutta – Kurnool section of NH-7 from existing km. 135.400 (Proposed Chainage 135+400) to existing km 211.000 (Proposed Chainage 210.120), Total Proposed Length 74.720 kms, in the State of Andhra Pradesh by widening the existing 2 lanes to 4 lane divided carriageway facility, including strengthening of the existing 2-lanes on Build. Operate and Transfer (BOT) basis.



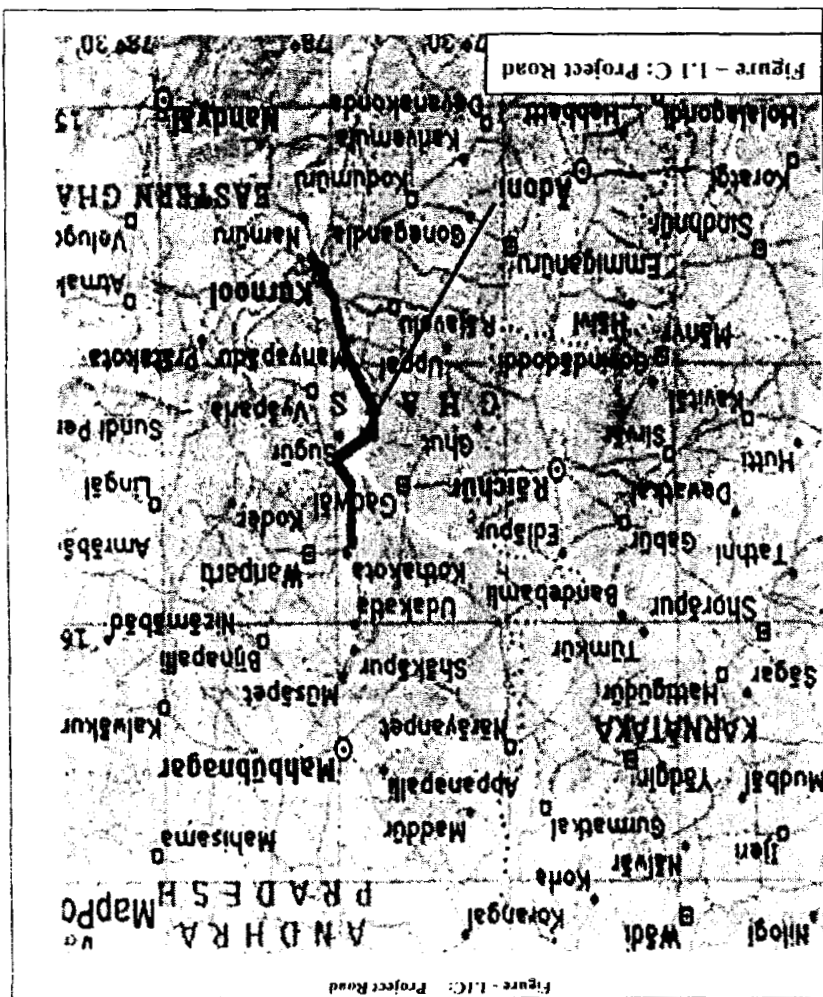


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Construction Package	From	Existing Chainage (Kms)	Proposed Chainage (Kms)	Remarks
Part of BOT Package	From	135.469	135.400	From end point of bypass of Kotakatta town

Thus the Construction package for the Project includes developing the existing two lane Carriageway to four lane divided Carriageway standards including with strengthening of existing two lane between Km 135.400 (end of proposed Kotakatta bypass) to Km 211.000(Kurnool). Therefore, the entire Project would involve construction and strengthening of existing two lane road to four lane road in section from Km 135.400 (end of proposed Kotakatta bypass) to Km 211.000(Kurnool).

The construction package Chainage details are as follows:
Thus the construction package for the Project includes developing the existing two-lane carriageway to four-lane divided carriageway standards including strengthening of existing two-lane between km 135.400 and km 211.000.



	To	211.000	210.120	Up to Existing km stone 211 in Kurnool
	Length	75.600	74.651	

The present schedule describes the features of the Project Highway pertaining to Construction package from km 135.400 to km 211.000 only and Chainages mentioned in this schedule are as per existing chainages. The index plan of the construction package is shown in "Figure - 1.1C" above.

1.2 Disclaimer

The data presented below in this schedule is for an initial understanding and guidance of the Concessionaire. NHAI will not be responsible for any inaccuracy in the information provided and shall not be liable for or be bound by the data used by Concessionaire in evaluating the Project viability. The Concessionaire will carry out his own independent surveys for assessing actual situation on the Project Highway.

The Concessionaire acknowledges that prior to the execution of this Agreement, the Concessionaire has satisfied himself (based on his own independent assessment) of the data, specifications and standards, Site and all information provided by the NHAI. The Concessionaire acknowledges and accepts the difficulties, risks and hazards likely to arise or that may be faced by the Concessionaire in the course of performance of his obligations hereunder.

2. DESCRIPTION OF PROJECT HIGHWAY

2.1 Road Inventory

The Project Highway has a two lane 6.8-7m wide carriageway with varying width of shoulders from 1-1.5m on either side.

The Project Highway generally traverses through plain terrain for most of its length except for few locations where terrain conditions are little undulating. Exposed rock has been observed at several places along the Project Highway.

Existing Chainage of the Project Highway increases from Kothakutta from 135.400 up to km 211.000, at Kurnool.

The Project Highway generally has embankment height varying from 0.5-2m except at major bridge approaches of Krishna River at km 162.800, Tungabhadra River at km 203.400 and Hundri River at km 210.400 and ROB at km 196.400 where an embankment height of 8-10m exists on both sides.

There are nearly 69 intersections with various categories of roads along the Project Highway. Amongst them, 7 intersections are of primary importance with SH and MDR.

The Project Highway crosses the railway alignment between Pebbair and Kurnool at Km 196.400 where 2-lane ROB exists.

Table A-1: Locations of Existing Paved Shoulders

Sr. No.	NH No.	Existing Chainages	Width of Existing Paved Shoulders	Remarks
			BT	
1	NH-7	208.600 to 211.000	1.5m to 2.0m	Existing Kurnool Bypass



2.2 Road Geometry

The Project Highway generally has good geometrics conforming to the standards of IRC for a design speed of 100Kmph. The Project Highway has reverse S curves with a low degree of curvature at some locations which are of concern. Project Highway has smooth vertical gradients for most of its length except for very few locations where they require some correction. Superelevation exists on the Project Highway and appears to be in conformity with IRC provisions. The locations of poor geometry are mentioned in the Table A-2 below:

Table A-2: Locations of Poor Geometry

S. No	Km from	Km to	Remarks
1	171.250	172.040	Sharp curve
2	194.650	195.050	Sharp curve
3	141.825	141.975	Poor vertical profile
4	144.750	144.875	Poor vertical profile
5	146.763	147.711	Poor vertical profile
6	148.960	149.075	Poor vertical profile
7	207.000	207.359	Poor vertical profile

2.3 Abutting land use

Agriculture is the predominant land use along the Project Highway. There are many settlements and ribbon developments on the Project Highway. Generally commercial and residential land use is seen in most of them. Details of urban areas and settlements are given in Table A-3 below:

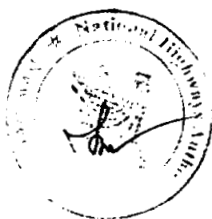
Table A-3: Settlements along the Project Highway

S. No	Km from	Km to	Name
1	139.650	140.250	Mummalapalli
2	146.000	146.650	Natevally
3	152.450	156.320	Pebbair
4	166.725	167.125	Eravalli
5	197.150	198.250	Alampur X-ing
6	202.175	202.725	Pellur
7	206.100	211.000	Kurnool

The Project Highway is characterized by a mix of ribbon development and agricultural lands. The broad land use pattern along the Project Highway is given in Table A-4 below:

Table A-4: Predominant Land Use along the Project Highway

S. No	Starting Chainage	Ending Chainage	Predominant land use
1	137.740	139.650	Agricultural
2	139.650	140.250	Built-up - Mummalapalli
3	140.250	146.000	Agricultural
4	146.000	146.650	Built-up - Natevally
5	146.650	152.450	Agricultural
6	152.450	156.320	Built-up - Pebbair (Proposed to be bypassed)
7	156.320	166.725	Agricultural



8	166.725	167.125	Built-up - Eravalli
9	167.125	197.150	Agricultural
10	197.150	198.250	Built-up - Alampur X-ing
11	198.250	202.175	Agricultural
12	202.175	202.725	Built-up - Pellur
13	202.725	206.100	Agricultural
14	206.100	211.000	Built-up - Kurnool

2.4 Drainage

The drainage facilities along the roadside are found to be very poor for the entire road stretch. The roadside drainage along the Project Highway needs improvement, predominantly in urban stretches. However, overtopping has not been reported on the Project Highway and most of the water bodies are in dry state.

2.5 Soil Characteristics

The Project Highway generally runs through agricultural lands. For most of the length soil along the Project Highway has been observed to be sandy-silt except in between km 178 to km 211 where soil predominantly appears to be clayey, expansive soil (black cotton soil) in nature.

At several places along the Project Highway, exposed rock is seen. Initial appreciation on the Project Highway indicates that there is abundant amount of hard stone material within the Project Influence Area and there would be no dearth of other material for construction.

2.6 Environment and Climate

The climate of the region is marked by heavy rainfall with high humidity in the hot season. The Indian Meteorological Department (IMD) has identified the following four seasons in the region:

Summer	:	March	-	May
Monsoon	:	June	-	September
Post Monsoon	:	October	-	November
Winter	:	December	-	February

Average Monthly Mean values of air temperature at Kurnool are:

- Maximum Mean : 41.4° C (May)
- Minimum Mean : 16.7° C (January)

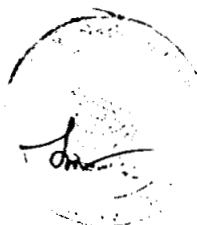
While at Hyderabad are:

- Maximum Mean : 38.8° C (May)
- Minimum Mean : 14.1° C (December)

The average annual rainfall observed based on the 3 years IMD data is 943.10 mm. About 85% of the rainfall is received during the southwest monsoon. On an average there are about 60 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year. The maximum number of rainy days occurs in the month of July. Pre monsoon rains are also observed in the region.

2.7 Land Details

Information on available land width has been collected from local highways department, Govt. of Andhra Pradesh. This information revealed that in general there is a land width of 30-45m available with government for most of the



length. Details of available land width is as given in Table A-5. NHAI is preparing Land Acquisition proposals for acquiring a total land width of 60m along the Project Highway. However the Concessionaire shall also verify, identify and submit proposals for acquiring land in accordance with relevant Land acquisition (LA) act and pursue early accomplishment of land acquisition.

Table A-5: Details of Available Land Width (RoW)

Chainage		Left	Right	Total	Remarks
From	To	(m)	(m)	ROW (m)	
135.400	152.450	15.24	15.24	30.48	
152.450	156.320	Proposed Pebbair Bypass			
156.320	202.650	22.86	22.86	45.72	
202.700	211.000	30.00	30.00	60.00	

2.8 Traffic

The classified mid block traffic volume counts were recorded in January-2004 at three locations along the Project Highway. Table A-6 presents the observed traffic volume on NH-7 by locations, chainages.

Table A-6: ADT by Homogeneous Sections

Mode	National Highway No.7			Remark
	Ch: 154.800	Ch: 197.600	Ch: 203.600	
Two wheelers	1991	690	1068	
Three Wheelers	472	277	285	
Cars	1777	1755	1589	
Tempos	312	99	257	
Buses	939	1216	1264	
Trucks	4124	4858	4904	
Agricultural Tractors	256	290	346	
Others (Non-motorized, Slow Moving)	851	37	213	
TOTAL VEHICLES	10722	9223	9925	
TOTAL PCU	19634	21154	22484	

Source: Primary survey, MSPL, January 2004

2.9 Pavement Composition and Condition

Pavement is mainly composed of a BT layer, WBM base over subgrade; at few places sub base is present in the form of granular material. Total thickness of existing pavement is varying from **minimum 410mm** (from km 154 to km 157) to **maximum 770mm** (from km 204 to km 207). Details of pavement Composition is presented in Table A-7 below:

Table A-7: Pavement Composition along the Project Highway

Roadway Stretch		Pavement Layer			
From Km	To Km	Bituminous Courses (mm)	WBM (mm)	Granular Sub Base (mm)	Total Thickness (mm)
133	135	125	230	250	605



Roadway Stretch		Pavement Layer			
From Km	To Km	Bituminous Courses (mm)	WBM (mm)	Granular Sub Base (mm)	Total Thickness (mm)
135	137	150	140	270	560
137	138	60	450	150	660
138	139	330	140	100	570
139	141	200	250	250	700
141	143	275	160	280	715
143	147	260	150	180	590
147	150	180	160	330	670
150	154	200	200	300	700
154	157	60	150	200	410
157	162	290	120	180	590
163	179	300	200	100	600
179	182	250	200	200	650
182	199	300	200	100	600
199	201	150	180	220	550
201	204	320	100	100	520
204	207	320	150	300	770
207	211	125	200	200	525

The overall condition of the pavement as observed from visual condition surveys is depicted in Table A-8 below:

Table A- 8: Pavement Distress along the Project Highway

Range of Distress	Length in Kilometer			Remarks
	Total Cracking % Area	Patching % Area	Raveling % Area	
>50 %	0	0	0	
30 - 50%	0	0	0	
15 - 30%	3.9	0	1.3	
5 - 15%	28.2	3.9	11.54	
0 - 5%	67.90	96.1	87.16	

The overall condition of the pavement is good. Cracking is the predominant distress along the Project Highway. The Project Highway has a good pavement riding quality with only 18km of its length has IRI more than 4, which is less than 25% of the total length of Project Highway. Details of riding quality as measured in February 2004 are indicated in Table A-9 below:

Table A-9: Roughness values along the Project Highway

Roughness (IRI) Range	Length in Kilometer
2 -3 IRI	2.0
3 -4 IRI	57.0
4 -5 IRI	15.0
5 -6 IRI	1.0
6 - 7 IRI	2.0
Total Length	77.0



2.10 Cross Drainage Structures

There are total 200 cross-drainage structures on the Project Highway. Out of these, 3 nos. are Major Bridges (Total length > 60.0 m), 40nos. are Minor Bridges (6.0 m < Total Length < 60.0m) and the remaining 157nos. structures are slab, arch and pipe culverts. The summary of the cross-drainage structures is given in Table A-10 below:

Table A-10: summary of the cross-drainage structures

S. No.	Type of Structure	Total No. of Cross-Drainage Structure
1.	Major Bridges	3
2.	Minor Bridges	40
3.	Slab Culvert	77
4.	Hume Pipe Culvert	80
5.	ROB	1
Total no. of Structure		201

The condition of all major and minor bridges is generally good. General distress on bridges are damaged expansion joints, non-functional bearings, broken railings, choked drainage spouts, etc. Minor distresses like spalling, exposed reinforcement, honeycombing and corroded reinforcement, scouring were also observed in some of the substructures, superstructures and foundations of the major and minor bridges

The details of major bridges are given in Table A-11 and the details of minor bridges are given in Table A-12 below.

Table A-11: Details of Minor Bridges

S. No.	Existing Bridge No.	Location	Existing Bridge Span Arrangement	Type of Structure
1	136.1	135.8	1 x 7.3	Slab
2	139.1	138.2	5 x 9	Slab
3	140.2	139.2	6 x 6	Slab
4	144.1	143.4	2 x 7.3	Slab
5	145.4	144.2	2 x 7.4	Slab
6	146.2	145.2	3 x 8.8	Slab
7	148.1	147.0	3 x 2.4	Slab
8	149.1	148.2	3 x 3.5	Slab
9	150.3	149.10	3 x 5.5	Slab
10	151.1	150.2	2 x 7.3	Slab
11	152.1	151.4	1 x 7	Slab
12	153.1	152.2	5 x 9	Slab
13	NA	NA	By pass 4 x 6	By pass Slab
14	NA	NA	By pass	By pass Slab
15	158.1	157.6	2 x 3.5	Slab



S. No.	Existing Bridge No.	Location	Existing Bridge Span Arrangement	Type of Structure
18	168.3	167.4	8 x 3	Slab
19	169.2	168.8	4 x 3	Slab
20	171.1	170.4	3 x 3	Slab
21	172.1	171.0	1 x 6.5	Slab
22	172.3	171.4	4 x 3	Slab
23	174.1	173.2	8 x 1.9	Slab
24	176.1	175.0	2 x 2.5	Slab
25	176.2	175.4	3 x 3.3	Slab
26	179.1	178.0	4 x 3.1	Slab
27	179.3	178.8	1 x 7.5	Slab
28	181.1	180.2	3 x 2.9	Slab
29	182.2	181.8	3 x 2.5	Slab
30	186.1	185.6	4 x 4.5	Slab
31	187.5	186.8	2 x 3.0	Slab
32	188.1	187.6	2 x 5.0	Slab
33	193.2	192.8	2 x 3.5	Slab
34	195.2	194.8	2 x 5.0	Slab
35	197.1	196.4	1 x 8.1	ROB (Slab)
36	199.4	198.8	4 x 4.15	Slab
37	201.1	200.0	4 x 6.8	Slab
37	205.1	204.6	2 x 6.6 + 1 x 1.6	Slab
39	205.2	205.2	1 x 28.2	Slab
40	207.1	206.2	5 x 3.0	Slab
41	210.1	209.8	7 x 7.1	Slab

Table A-12: Details of Major Bridges

S. No.	Existing Bridge No.	Location	Existing Bridge Span Arrangement	Type of Structure
1	163.1 Krishna	162.8	56x16m	Slab
2	204.1 Tungabhadra	203.4	32x19.40m	Slab
3	211.1 Hundri	210.4	9x19.4	Slab

In general the condition of all the culverts is satisfactory with some exceptions. The general distress of culverts is exposed reinforcement, corroded reinforcement, honey combing etc in the slab portion and damaged pointing, exposed joints, cracks in PCC substructures, head walls, parapets and PCC wing walls.



3. EXISTING FACILITIES

Though there are number of bus stops along the Project Highway, no bus bays and bus shelters have been provided.

Apart from the above, number of dhabas, petrol pumps, vehicle repair shops, telephone booths etc. have come up along the Project Highway.



SCOPE OF THE PROJECT

1. GENERAL

Apart from the scope of the work of the Project Highway pertaining to construction package from km 135.400 to km 211.000 the following scope of work shall be considered as part of this BOT package.

- The Concessionaire shall strengthen the existing 4-lane section of NH-7 from km 135.400 to km 211.000 as per the details described in Section 7.3 of the present Schedule and shall follow the specifications and standards mentioned in Schedule D.
- The concessionaire shall do the value addition for improving safety by providing traffic safety items and include road furniture from km 135.400 to km 211.000 as per specifications and standards mentioned in Schedule D and Schedule L.

Apart from this the Concessionaire shall maintain the different elements of Project Highway and facilities thereon as per the minimum maintenance requirements described in Schedule L.

In addition to the above, the following sections of this Schedule briefly highlight the scope of the work of the Project Highway pertaining to construction package from km 135.400 to km 211.000 for the information of the Concessionaire. The description of the requirements for the various elements of the Project Highway given herein under are the bare minimum requirements that the Concessionaire needs to undertake/provide for improvement of the same.

The designs for different Project facilities shall follow the locations and indicative designs given in Schedule C and shall comply with design, specifications and standards outlined in Schedule D. The maintenance of the different elements of Project Highway and facilities thereon shall follow the minimum maintenance requirements as described in Schedule L. All the designs and drawings shall be reviewed by the Independent Consultant prior to execution.

2. CORE CONSTRUCTION REQUIREMENT

In the planning, design and execution of the works and other works in connection with the repair, maintenance or improvement of the Project Highway and functions associated with the construction of the Project Highway and roadside facilities, the Concessionaire shall take all such actions and do all such things (including, but not limiting to, organizing itself, adopting measures and standards, executing procedures, including inspection procedures and highway patrols, and engaging and managing contractors, agents and employees) as will :

- a. enable the NHAI to provide an acceptably safe highway in respect of its condition (structural safety) and use (road safety) ; and
- b. enable the NHAI to fulfill its statutory and common law obligations ; and
- c. enable the NHAI to provide a congestion free uninterrupted flow of traffic on the Project Highway;
- d. enable the NHAI to provide a level of highway service to the public not inferior to that provided on the trunk road during construction or improvement works;
- e. enable the police, local authorities, and others with statutory duties or functions in relation to the Project Highway or adjoining roads to fulfill those duties and functions ;
- f. minimise the occurrence and adverse effects of accidents and ensure that all accidents and emergencies are responded to as quickly as possible;
- g. minimise the risk of damage, destruction or disturbance to third party property
- h. ensure that members of the public are treated with all due courtesy and consideration;



- i. provide a safe, clear and informative system of road signs;
- j. comply with any specified programme requirements, including the completion of the new road;
- k. enable standards of reliability, durability, accessibility, maintainability, quality control and assurance, and fitness for purpose appropriate to a highway of the character of the Project Highway to be achieved throughout the Contract Period;
- l. ensure adequate off-street parking facilities for both passenger and goods vehicles;
- m. provide adequate bus bays for stopping of buses and bus shelters for commuters to wait under protection; and
- n. achieve a high standard in the appearance and aesthetic quality of the Project Highway and achieve integration of the Project Highway with the character of the surrounding landscape through both sensitive design and sensitive management of all visible elements including those on the existing road.
- o. Undertake proper safety audit through an appropriate consultant (i.e. apart from the Independent Consultant) before C.O.D.
- p. Carry out accident recording and reporting (to IC/NHAI) by type of accident on regular basis.
- q. Ensure adequate safety of the Project Workers on the work site.

3. Cross Sections

The Project Highway shall be widened to have a 4 lane divided carriageway facility. Table B-1 indicates the location of different types of road cross sections, which shall be followed along with the minimum construction criterion, mentioned below for the development of the Project Highway.

Table B-1: Cross Section Type and Widening Scheme along the Project Highway

S. No.	Existing Chainage*		Length (in M)	C/S Type	Widening Option
	From	To			
1	135.400	135.625	225	TYPE-02	LHS
2	135.625	139.500	3875	TYPE-01	RHS
3	139.500	139.650	150	TYPE-02	LHS
4	139.650	140.275	625	TYPE-08	RHS
5	140.275	143.100	2825	TYPE-02	LHS
6	143.100	144.700	1600	TYPE-01	RHS
7	144.700	146.000	1300	TYPE-02	LHS
8	146.000	146.650	650	TYPE-05	LHS
9	146.650	149.500	2850	TYPE-02	LHS
10	149.500	152.500	3000	TYPE-01	RHS
11	152.500	155.500	3000	TYPE-07	New Construction
12	156.700	159.500	2800	TYPE-01	RHS
13	159.500	163.700	4200	TYPE-02	LHS
14	163.700	165.950	2250	TYPE-03	Concentric
15	165.950	166.800	850	TYPE-02	LHS
16	166.800	167.200	400	TYPE-05	LHS
17	167.200	168.750	1550	TYPE-02	LHS
18	168.750	168.850	100	TYPE-01	RHS
19	168.850	171.350	2500	TYPE-02	LHS



S. No.	Existing Chainage*		Length (in M)	C/S Type	Widening Option
	From	To			
20	171.350	176.550	5200	TYPE-01	RHS
21	176.550	176.700	150	TYPE-03	Concentric
22	176.700	182.550	5850	TYPE-02	LHS
23	182.550	182.650	100	TYPE-03	Concentric
24	182.650	182.850	200	TYPE-02	LHS
25	182.850	183.050	200	TYPE-03	Concentric
26	183.050	185.950	2900	TYPE-02	LHS
27	185.950	197.250	11300	TYPE-01	RHS
28	197.250	197.650	400	TYPE-04	RHS
29	197.650	198.050	400	TYPE-06	Concentric
30	198.050	198.300	250	TYPE-04	RHS
31	198.300	201.025	2725	TYPE-02	LHS
32	201.025	201.200	175	TYPE-02	LHS
33	201.200	203.700	2500	TYPE-02	LHS
34	203.700	205.200	1500	TYPE-02	LHS
35	205.200	205.350	150	TYPE-03	Concentric
36	205.350	205.550	200	TYPE-01	RHS
37	205.550	205.650	100	TYPE-03	Concentric
38	205.650	205.750	100	TYPE-01	RHS
39	205.750	205.900	150	TYPE-03	Concentric
40	205.900	206.100	200	TYPE-01	RHS
41	206.100	207.000	900	TYPE-04	RHS
42	207.000	207.750	750	TYPE-05	LHS
43	207.750	209.300	1550	TYPE-04	RHS
44	209.300	210.300	1000	TYPE-05	LHS
45	210.300	210.622	350	TYPE-01	RHS
46	210.622	211.000	378	TYPE-06	Concentric

* Existing chainages are with respect to distances from previous existing kilometre stones.

Figures B-1 to B-15 presents the typical cross sections that shall be followed for the improvement of Project Highway.



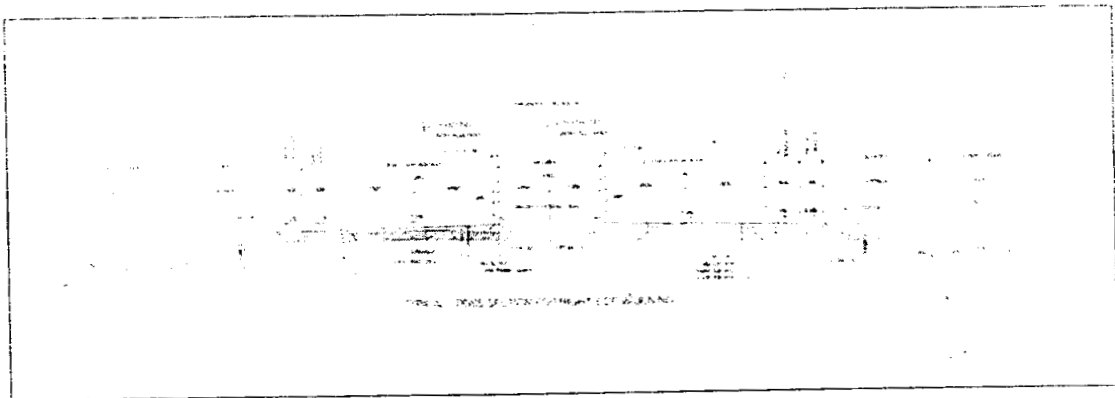


Figure B-1: Typical Cross-Section for Right Side Widening (Type - 1)

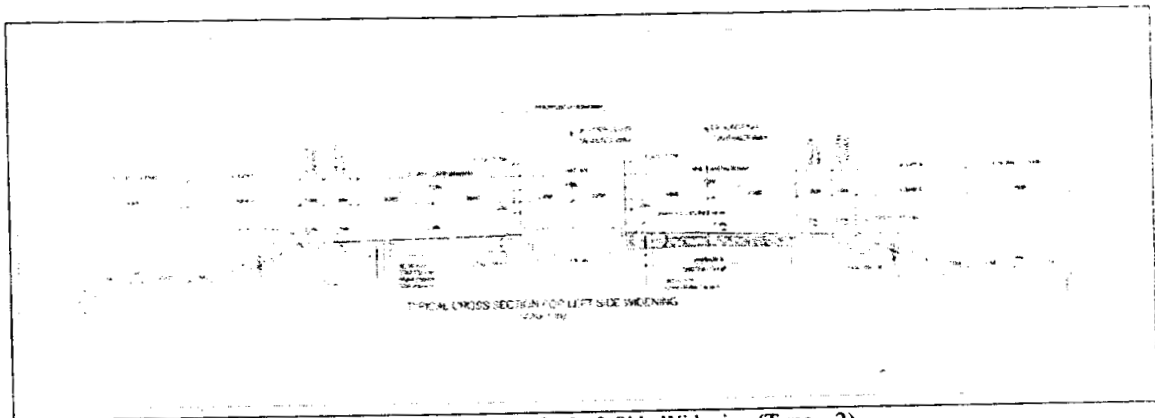


Figure B-2: Typical Cross-Section for Left Side Widening (Type - 2)

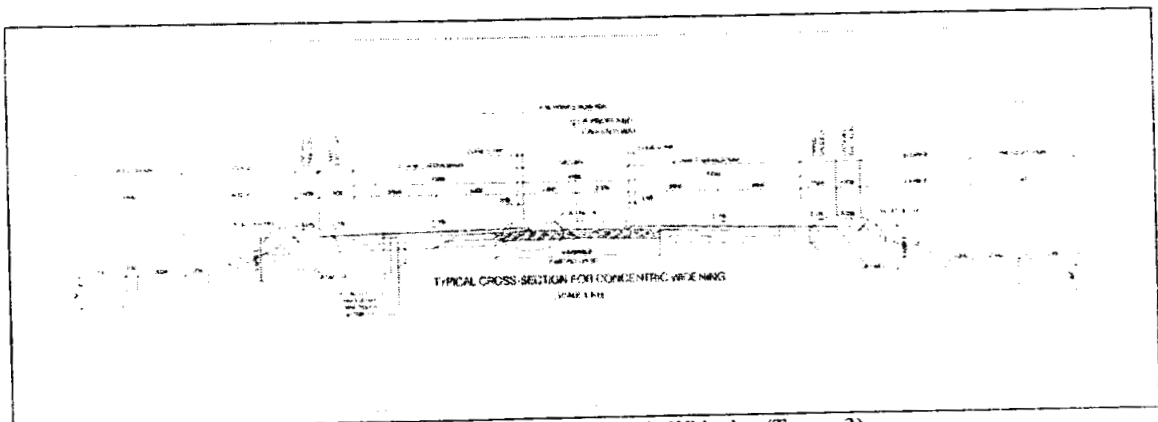


Figure B-3: Typical Cross-Section for Concentric Widening (Type - 3)

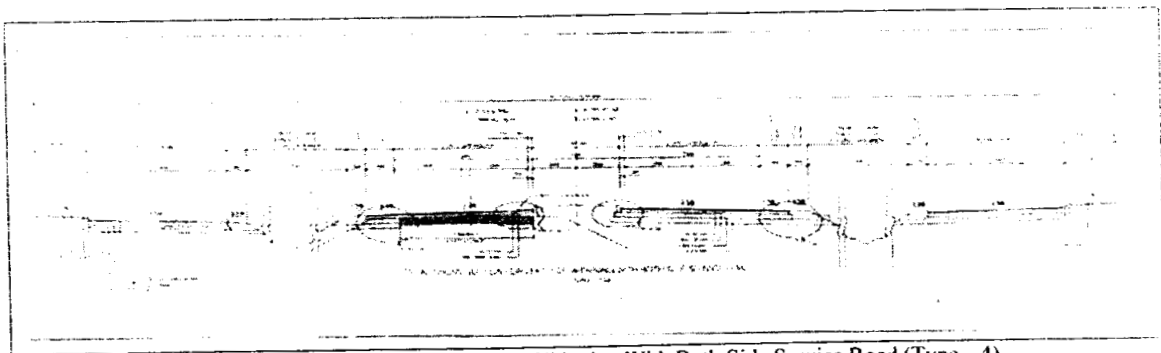


Figure – B4 Typical Cross-Section for Right Side Widening With Both Side Service Road (Type – 4)

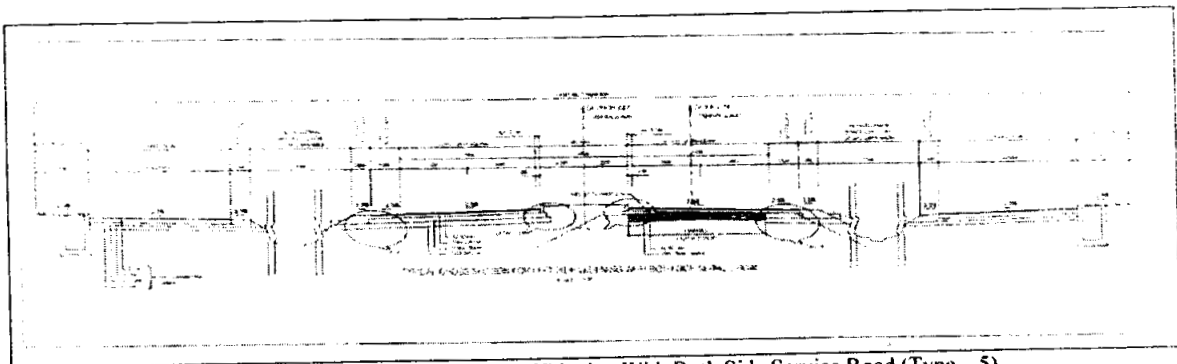


Figure – B5: Typical Cross-Section for Left Side Widening With Both Side Service Road (Type – 5)

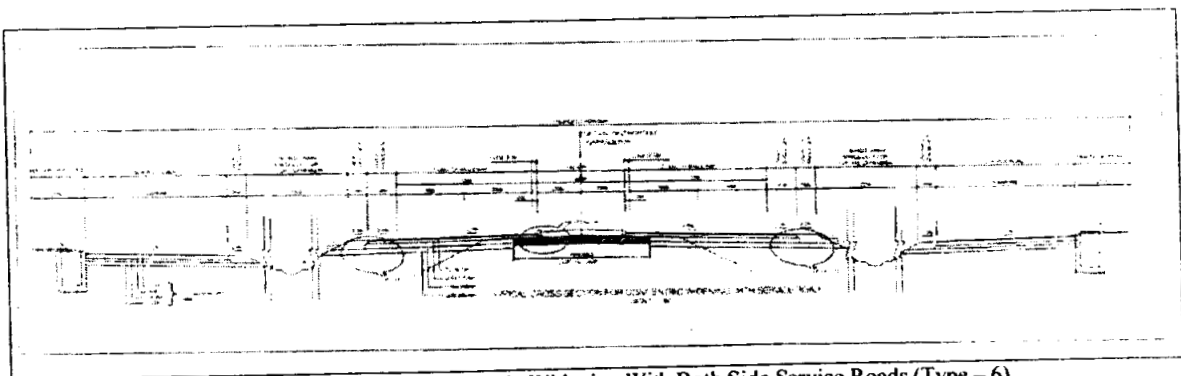


Figure – B6: Typical Cross-Section for Concentric Widening With Both Side Service Roads (Type – 6)



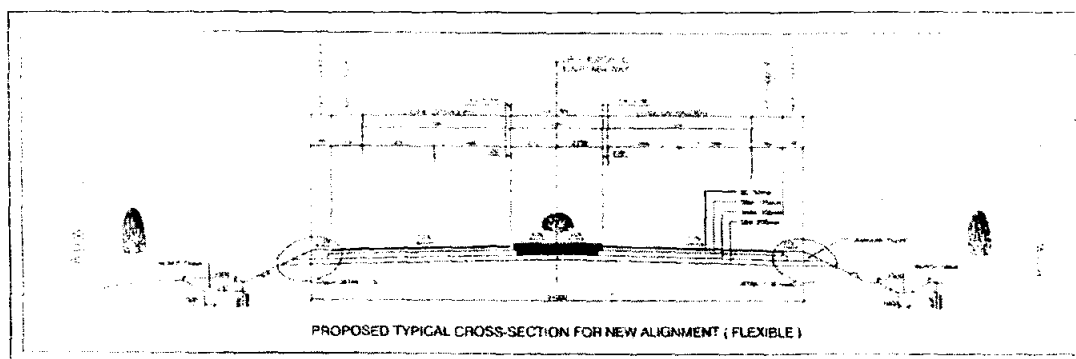


Figure – B7: Proposed Typical Cross-Section for New Alignment - Flexible (Type – 7)

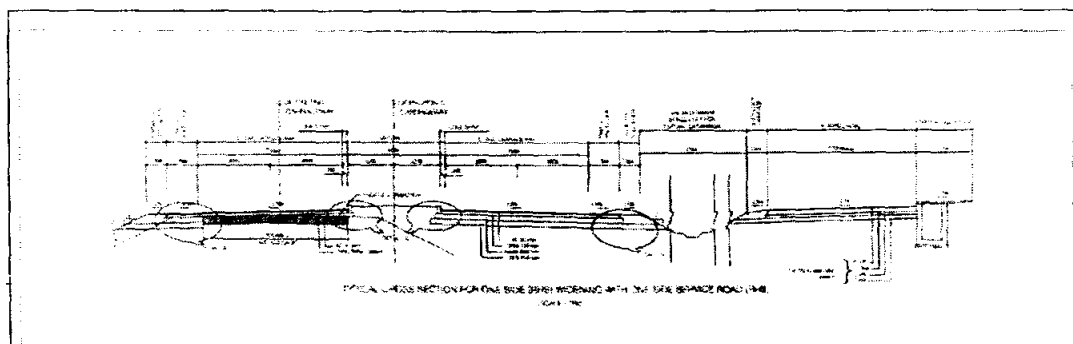


Figure – B8: Typical Cross-Section for One Side (RHS) Widening With One Side Service Road -- RHS (Type – 8)

The utility services, including optical fibre cables, shall be provided in the utility corridor on the side where it is convenient to the Concessionaire or the concerned Authority with the approval of Independent Consultant/ NHAI. In urban sections the utility services shall be provided through underground ducts to be provided for this purpose. For cross connection utility services shall be carried through the nearest cross drainage structure/ cattle crossing below its deck slab and above HFL. In absence of such a structure in the vicinity of the proposed location, it shall pass through separate underground ducts. Location and design of the cross utility ducts shall be finalized at the detailed design stage in consonance with the Independent Consultant and NHAI.

4. Geometric Improvement

- Special attention shall be given while designing the centre line to ensure that the existing trees with large girth along the Project Highway are saved as far as possible.
- The flat gradients shall be corrected in such a way so as to attain an appropriate longitudinal gradient in order to achieve longitudinal drainage. Also, vertical curves shall be improved/ introduced so that the vertical curves meet IRC 73-1980 standards.
- The horizontal alignment along the Project Highway shall be improved as per the standards set out in Schedule D
- Kinks in the horizontal alignment shall be eliminated



5. Service Roads

Table B-2 presents the details of proposed Service Roads and Slip Roads.

Table B-2: Details of Service Roads and Slip Roads

Detailed List of Service Roads										
S. No	Side	Location	Existing Chainage		Proposed Chainage		Width (m)	Length (m)	Paved Area (sqm.)	Remarks
			From	To	From	To				
1A	RHS	Mummalapalli	139.650	140.250	139.650	140.250	5.50	600	3300	
2A	LHS	Natevally	146.000	146.650	146.000	146.650	5.50	650	3575	
2B	RHS		146.000	146.650	146.000	146.650	5.50	650	3575	
3A	LHS	Eravalli	166.725	167.125	165.550	165.950	5.50	400	2200	
3B	RHS		166.725	167.125	165.550	165.950	5.50	400	2200	
4A	LHS	Alampur	197.150	198.250	196.200	197.300	7.00	1100	7700	
4B	RHS	Crossing	197.150	198.250	196.200	197.300	7.00	1100	7700	
5A	LHS	Pellur	202.175	202.725	201.400	201.950	5.50	550	3025	
5B	RHS		202.175	202.725	201.400	201.950	5.50	550	3025	
6A	LHS	Kurnool	204.500	204.850	203.650	204.000	5.50	350	1925	
6B	RHS		204.500	204.850	203.650	204.000	5.50	350	1925	
7A	LHS	Kurnool	206.100	210.350	205.200	209.400	7.00	4200	29400	
7B	RHS		206.100	210.350	205.200	209.400	7.00	4200	29400	
8A	LHS	Kurnool	210.600	211.000	209.700	210.156	7.00	456	3192	
8B	RHS		210.600	211.000	209.700	210.156	7.00	456	3192	
TOTAL								16012	105334	

It is to be noted that the service road details given in Table B-2 are minimum required. For any additional service roads if required shall be finalized in consultation with IC during execution.

6. BYPASS CANDIDATES

The Project Highway presently bypasses the town of Kurnool. There are several other urban areas and ribbon developments along the Project Highway. Amongst them, Pebbair at km 154, bypass need to be constructed along the selected alignment. The detail of the Bypass candidate is given in Table B-3 below:

Table B-3: Details of Bypass Candidate

S. No	From Existing km	Km to Existing km	Length (km)	Side	Name
1	152.450	156.320	2.950	RHS	Pebbair Bypass

7. Pavement

7.1 General

The detailed pavement design including overlay and pavement characteristics requirements of the Project Highway and that of the service roads in Urban Sections shall be done in accordance with Schedule D. Pavement will be flexible for new two lanes, paved shoulders, service roads, truck laybys, bus bays and for cross roads up to ROW limits and Rigid at Toll Plaza Location.

The locations which require reconstruction, new construction of existing carriageway also due to poor pavement conditions, geometric improvements and proposed underpasses are mentioned in Table B-5 below.



Tentative Locations of Pavement Reconstruction

Chainage		Considered
From (km)	To (km)	Length (km)
139.300	140.300	Mummalapally Pedestrian Underpass / Cattle Crossing
145.900	146.600	Natevally Pedestrian Underpass / Cattle Crossing
197.250	198.350	Flyover - Alampur Crossing
204.275	205.180	Vehicular Underpass
208.300	209.500	Flyover - Bellary crossing, Kurnool
171.250	172.040	Realignment
194.650	195.050	Realignment
141.825	141.975	Poor existing vertical profile
144.750	144.875	Poor existing vertical profile
146.763	147.711	Poor existing vertical profile
148.960	149.075	Poor existing vertical profile
207.000	207.359	Poor existing vertical profile

It is to be noted that the reconstruction stretches mentioned in table B-5 refers to poor pavement condition and also includes geometric improvement, underpass locations etc.

Any additional locations, which require reconstruction other than those mentioned in table B-1 and table B-5, shall be finalised in consultation with Independent Consultant.

7.2 Pavement Composition for New Construction/ Reconstruction

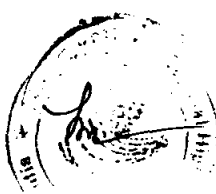
The minimum composition of the new flexible pavement shall be as shown in Table B-4 below for subgrade strength of 8% CBR (4-day soaked value) at 97% Modified Proctor Density. The indicated pavement composition is for the purpose of bidding only. Any additional thickness in the design over that indicated in the bidding documents shall not constitute a change in scope of work, nor qualify for a variation order.

Table B-4: Pavement Composition for New Construction/Reconstruction

Designation of the Pavement Layer	Layer Thickness in mm
Bituminous Concrete (BC/AC)	50
Dense Bituminous Macadam (DBM)	135
Bituminous Macadam (BM)	0
Wet Mix Macadam (WMM)	250
Granular Sub-base (GSB)	230
Selected Subgrade (8% CBR)	500

7.3 Strengthening of Existing Pavement

Strengthening of the existing flexible pavement shall not be less than 50 mm Bituminous Concrete (BC) and 115 mm Dense Bituminous Macadam (DBM) over the profile corrective course. If the



required thickness is more than 150 mm, PCC can be laid with both granular and bituminous layer by completely removing the existing bituminous layers. No grooving and furrowing technique shall be adopted for laying granular layer on bituminous layers.

If the Concessionaire desires to use geo synthetics, geo nets etc as part of strengthening of the existing carriageway, the same shall be finalised in consultation with IC before execution of work. The above-prescribed minimum thickness for overlay shall be laid even with such special provisions.

The composition of profile corrective course shall be as follows.

- If the level difference between the underside of total overlay thickness and existing centre line level is: Up to 150 mm – PCC is by BM
- More than 150 mm and up to 300 mm - Dismantle the existing bituminous course and provide 75mm BM+ rest with WMM as PCC
- More than 300 mm and up to 500 mm- Dismantle the existing bituminous course and Provide 75mm BM+ 250mm WMM + Remaining with GSB (min. 100mm) as PCC
- More than 500 mm and up to 1600 mm – Reconstruction with new carriageway pavement thickness with dismantling of existing pavement to requisite depth
- More than 1600mm- Reconstruction with new carriageway pavement thickness without dismantling the existing bituminous course.

7.4 Paved Shoulder composition

The paved shoulder shall be designed as an integral part of the pavement for the main carriageway. Therefore the total pavement thickness in the paved shoulder would be the same as in the carriageway

7.5 Service Road/ Slip Road Pavement Composition

The minimum pavement thickness for service roads and for slip roads shall be as follows:

Table B-5: Pavement Composition for Service Roads/Slip Roads

Designation of the Pavement Layer	Layer Thickness in mm
Semi Dense Bituminous Concrete (SDBC/AC)	25
Bituminous Macadam (BM)	75
Wet Mix Macadam (WMM)	250
Granular Sub-base (GSB)	150
Selected Subgrade (8% CBR)	500

7.6 Rigid Pavement

The suggested pavement composition of the Rigid Pavement for toll plaza shall be as under for a subgrade of 8% CBR value with an effective K-value of 180 mpa/ m for a design life of 30 years.

300 mm	Pavement Quality Concrete (PQC-M-40)
100 mm	Dry Lean Concrete (DLC) [M-10]
150 mm	Granular Sub-base (GSB)
500 mm	Select Subgrade material (8% CBR at 97% MDD)



7.7 Joints

Expansion & Contraction joints shall be provided.

8. Intersections

The major intersections as mentioned in **Table B-6** and minor junctions/ intersections as mentioned in **Table B-7** shall be designed individually in accordance with standards mentioned in Schedule-D. Typical drawings given in Figure B-9 to B-20 shall be followed for reference purposes only.

Treatment at additional intersections if any, on the Project Highway shall be decided by the Concessionaire in consultation with the Independent Consultant

Table B-6: Improvement Measures for Major Junctions/ Intersections

Detailed List of Proposed Major Junctions												
S. No	Category	Type	Side	Existing Chainage			Proposed Chainage			Area	Side Road(s) Leading to	Remarks
				From	Centre	To	From	Centre	To			
A	Major Junction	T	LHS		153.8		Not Applicable			NA	Wonneparthy	MDR
B	Major Junction	T	LHS		154.8		Not Applicable			NA	Kollapur	MDR
1	Major Junction	Y	LHS		152.43			152+550		2411.64	Pebhair	Starting point of Proposed Pebhair Bypass
2	Major Junction	Y	LHS		156.32			155+500		2425.11	Pebhair	End point of Proposed Pebhair Bypass
3	Major Junction	X			166.35			165+200		1393.11	LHS - Chathalla & RHS - Gachal	MDR
4	Major Junction	X		197.25	197.79	198.35	196.3	196.81	197.4	.	LHS - Alampur & RHS - Raichur	State Highway
5	Major Junction	T	LHS		203.125			202+225		.	Panchalingala Gondiporu	MDR
6	Major Junction	X		204.275	204.7	205.18	203.4	203.811	204.3	.	LHS - Kurnool & RHS - Guddur/ Sankeshla	MDR crossing. There is already existing two lane vehicular underpass
7	Major Junction	X		208.3	208.75	209.5	207.4	207.845	208.6	.	LHS - Bellary & RHS - Adoni	State Highway

Table B-7: Details of Minor Junctions/ Intersections

S. No.	Category	Type	Side	Existing Chainage	Proposed Chainage	Additional Paved Area (Sqm)
1	Minor junction	Y	RHS	135.625	135+625	610
2	Minor junction	Y	LHS	137.200	137+200	389
3	Minor junction	T	RHS	137.200	137+200	473
4	Minor junction	Y	LHS	138.675	138+675	700
5	Minor junction	Y	RHS	139.600	139+600	728
6	Minor junction	Y	LHS	139.950	139+950	335
7	Minor junction	T	LHS	141.250	141+250	699

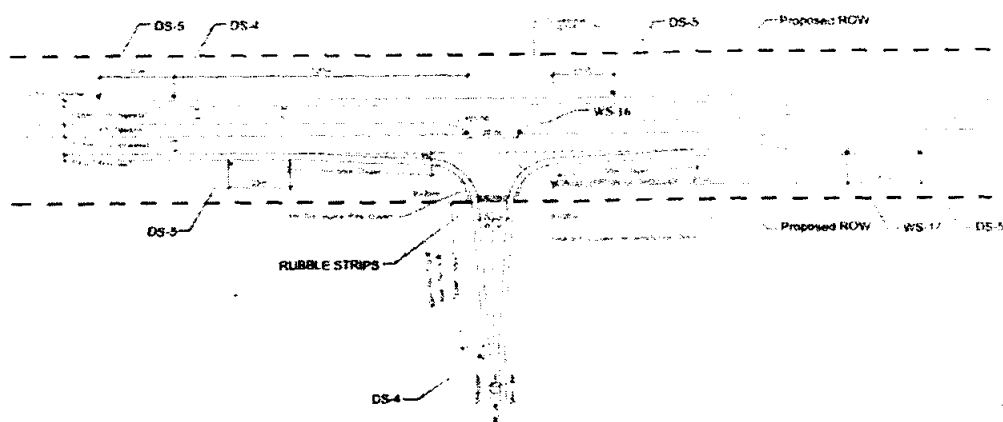


S. No.	Category	Type	Side	Existing Chainage	Proposed Chainage	Additional Paved Area (Sqm)
8	Minor junction	Y	LHS	142.415	142+415	324
9	Minor junction	Y	RHS	142.415	142+415	321
10	Minor junction	T	LHS	143.650	143+650	322
11	Minor junction	T	RHS	144.675	144+675	357
12	Minor junction	Y	RHS	149.050	149+050	334
13	Minor junction	Y	RHS	149.200	149+200	706
14	Minor junction	Y	LHS	151.600	151+600	385
15	Minor junction	Y	LHS	158.168	157+000	365
16	Minor junction	Y	RHS	158.168	157+000	448
17	Minor junction	X	-	159.305	158+150	1204
18	Minor junction	Y	RHS	159.456	158+300	259
19	Minor junction	T	LHS	159.729	158+600	215
20	Minor junction	T	RHS	158.168	158+600	263
21	Minor junction	Y	RHS	159.848	158+700	246
22	Minor junction	Y	RHS	161.607	160+450	177
23	Minor junction	Y	RHS	163.632	162+450	750
24	Minor junction	Y	LHS	163.709	162+525	150
25	Minor junction	Y	RHS	163.770	162+600	88
26	Minor junction	T	RHS	164.093	162+950	55
27	Minor junction	Y	LHS	164.097	162+950	358
28	Minor junction	T	LHS	164.849	163+700	248
29	Minor junction	T	LHS	165.293	164+125	276
30	Minor junction	T	LHS	165.573	164+400	272
31	Minor junction	T	LHS	165.963	164+800	780
32	Minor junction	Y	LHS	166.120	164+950	275
33	Minor junction	Y	LHS	168.032	165+850	290
34	Minor junction	Y	LHS	168.057	165+875	255
35	Minor junction	Y	RHS	169.049	167+900	513
36	Minor junction	T	RHS	170.283	169+100	311
37	Minor junction	T	RHS	169.080	169+650	574
38	Minor junction	T	LHS	173.424	172+300	395
39	Minor junction	Y	LHS	174.424	173+350	269
40	Minor junction	Y	LHS	174.814	173+700	382
41	Minor junction	Y	RHS	174.894	173+750	400
42	Minor junction	Y	LHS	175.567	174+475	360
43	Minor junction	T	RHS	175.851	174+475	387
44	Minor junction	T	RHS	175.760	174+650	395
45	Minor junction	T	RHS	177.379	176+300	455
46	Minor junction	Y	LHS	178.335	177+250	318
47	Minor junction	T	RHS	179.100	178+000	397



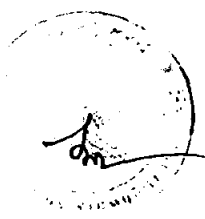
S. No.	Category	Type	Side	Existing Chainage	Proposed Chainage	Additional Paved Area (Sqm)
48	Minor junction	Y	RHS	180.482	179+400	518
49	Minor junction	Y	LHS	180.510	179+400	374
50	Minor junction	Y	LHS	182.161	181+100	382
51	Minor junction	Y	RHS	182.194	181+150	380
52	Minor junction	T	RHS	182.669	181+600	220
53	Minor junction	Y	LHS	182.669	181+600	228
54	Minor junction	Y	LHS	183.960	182+925	422
55	Minor junction	X	-	186.513	185+520	1095
56	Minor junction	Y	LHS	187.606	186+600	320
57	Minor junction	Y	LHS	189.732	188+950	526
58	Minor junction	T	LHS	193.513	192+550	312
59	Minor junction	T	LHS	194.950	193+990	138
60	Minor junction	T	RHS	194.950	193+990	240
61	Minor junction	Y	RHS	202.900	202+000	417
62	Minor junction	Y	LHS	202.900	202+000	345
					TOTAL	24730

Note: Proposed chainages and additional paved areas as given in the above table are just indicative for bidding purposes only.



**TYPICAL DETAIL OF MINOR T-JUNCTION
(With Median Opening)**

**Figure – B-9: TYPICAL DETAIL OF MINOR T-JUNCTION
(WITH MEDIAN OPENING)**



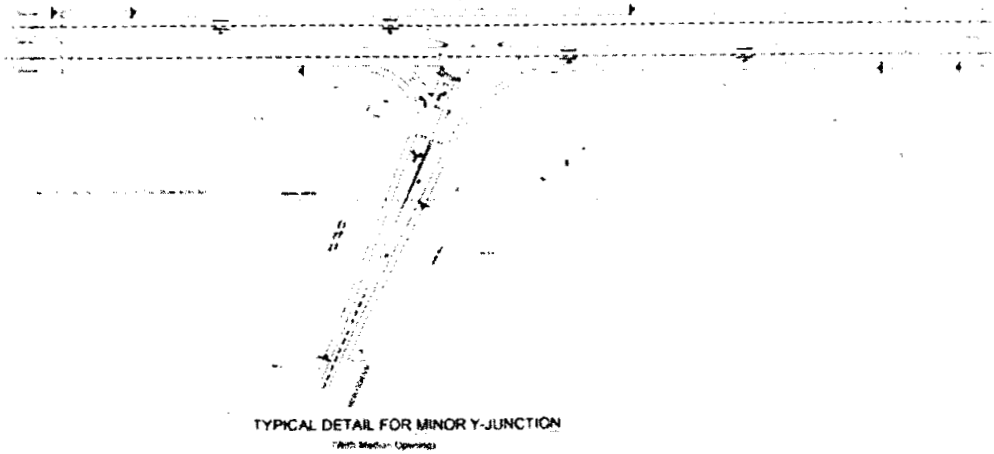


**Figure – B-10: TYPICAL DETAIL OF MINOR Y-JUNCTION
(WITH MEDIAN OPENING)**

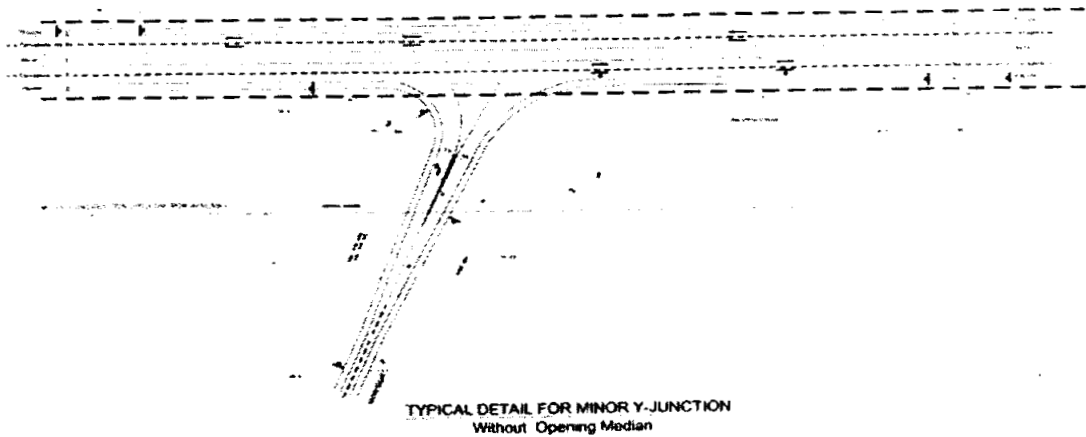
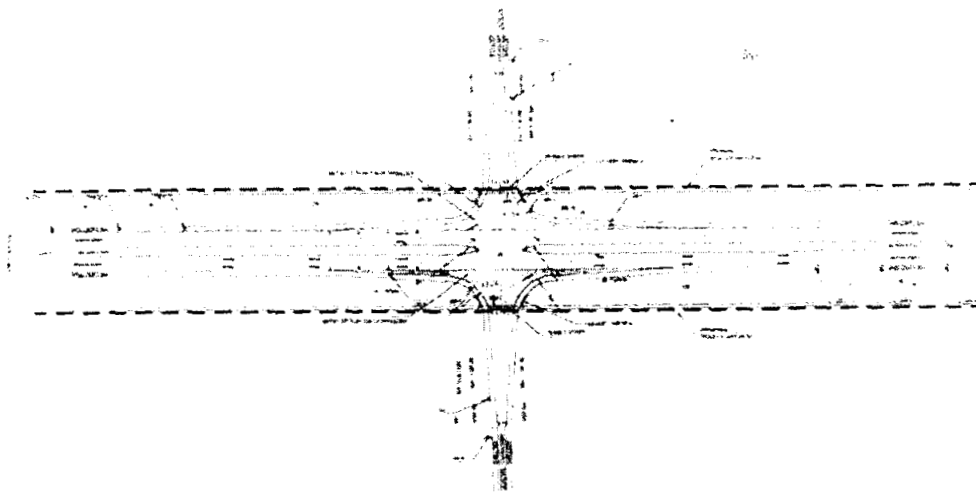


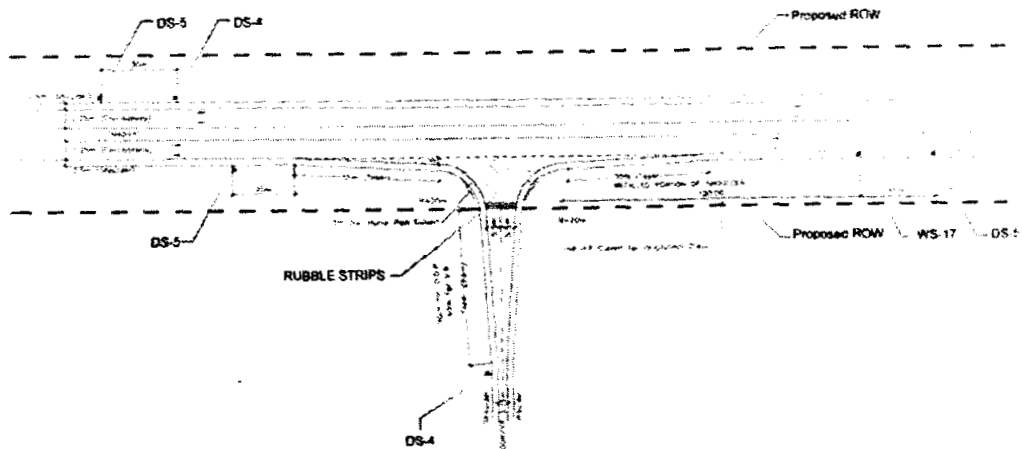
**Figure – B-11: TYPICAL DETAIL OF MINOR Y-JUNCTION
(WITHOUT MEDIAN OPENING)**





TYPICAL DETAIL FOR X-INTERSECTION

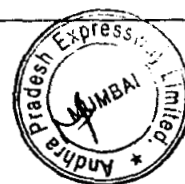
Figure – B-12: TYPICAL DETAIL FOR X-INTERSECTION



TYPICAL DETAIL OF MINOR T-JUNCTION
(Without Median Opening)

Figure – B-13: TYPICAL DETAIL OF MINOR T-JUNCTION
(WITHOUT MEDIAN OPENING)

B-14



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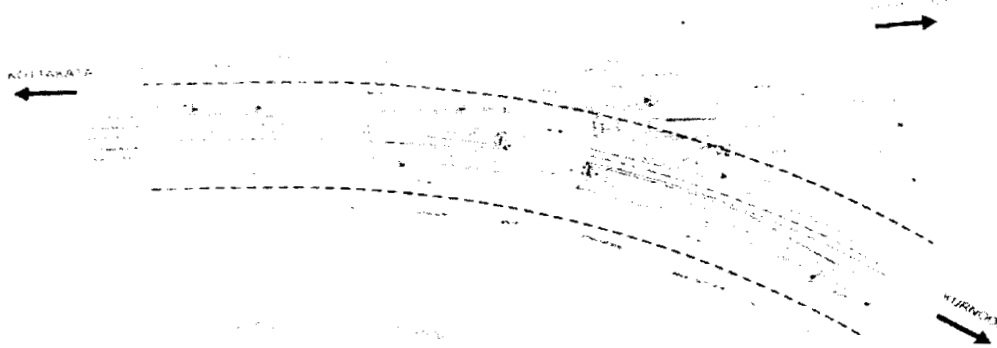


Figure - B-14: MAJOR JUNCTION AT PROP. CHAINAGE - 152+450
(AT THE START OF PEBBAIR BYPASS)

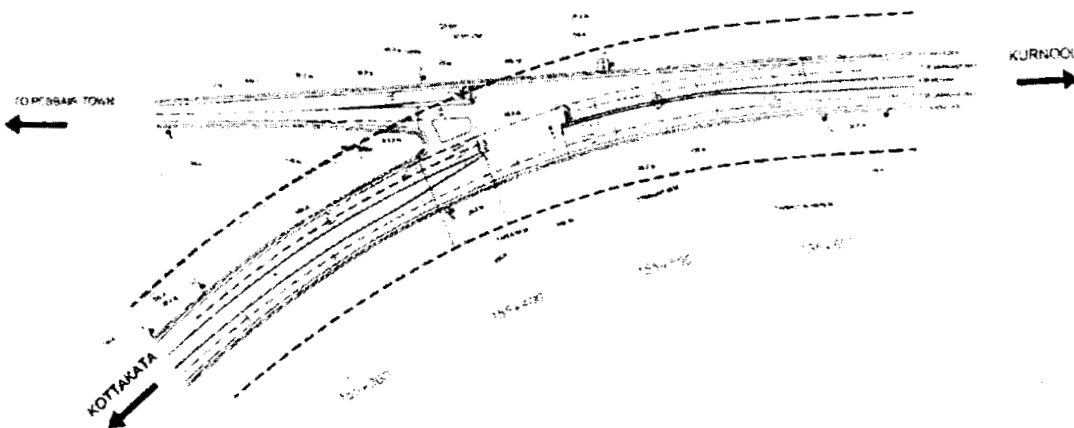


Figure - B-15: MAJOR JUNCTION AT PROP. CHAINAGE - 155+500
(AT THE END OF PEBBAIR BYPASS)

B-15



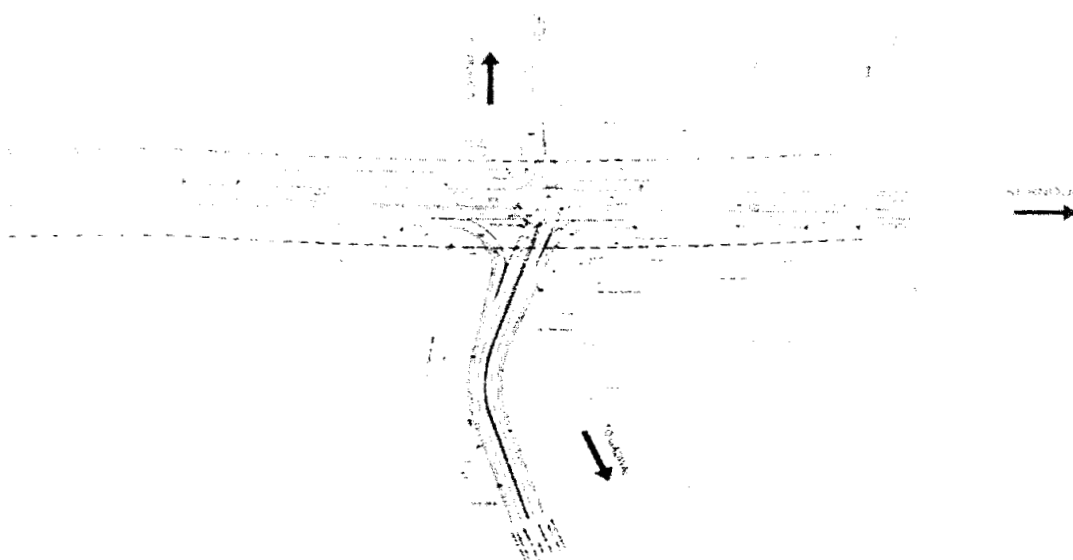


Figure - B-16: MAJOR JUNCTION AT PROP. CHAINAGE - 165+200
(GADWAL JUNCTION) EXIST. CHAINAGE - 166+35

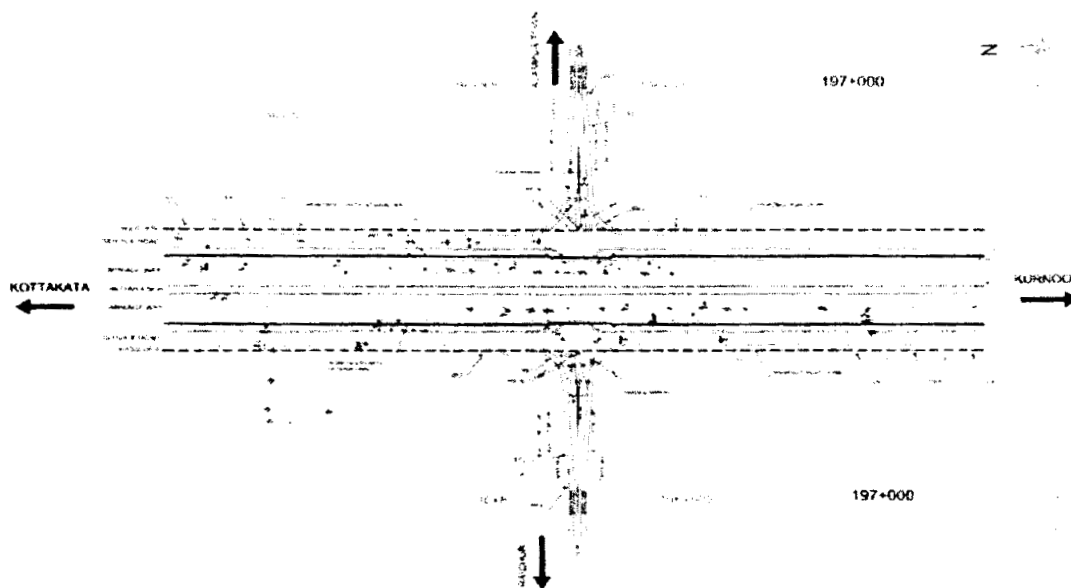
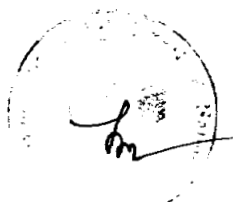


Figure - B-17: MAJOR JUNCTION AT PROP. CHAINAGE - 196+825
(ALAMPUR CROSSING) EXIST. CHAINAGE - 197+790

B-16



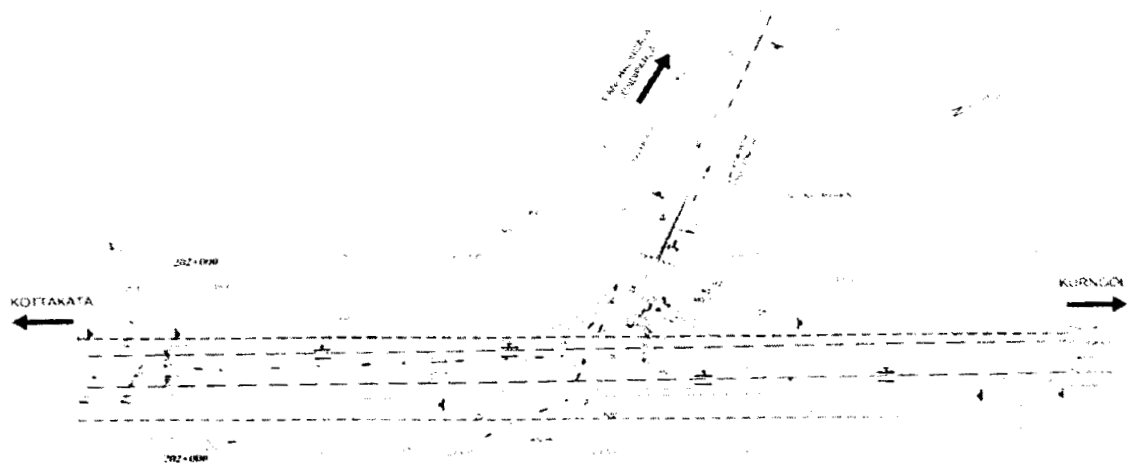


Figure – B-18: MAJOR JUNCTION AT PROP. CHAINAGE – 202+225
(PANCHALINGALA) EXIST. CHAINAGE – 203+125

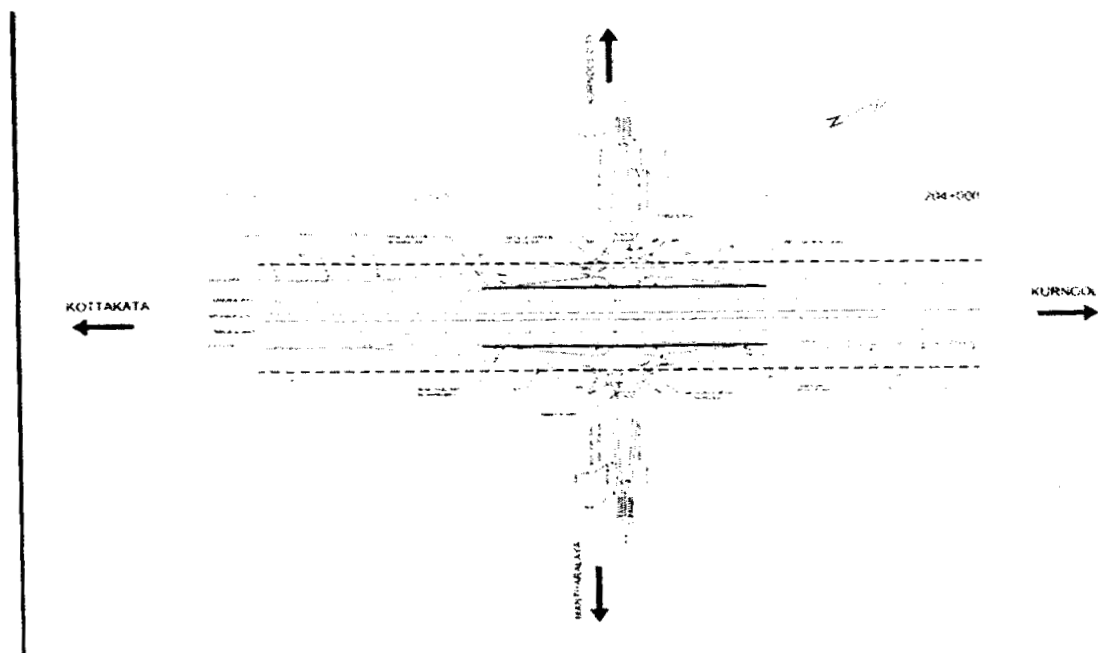


Figure – B-19: MAJOR JUNCTION AT PROP. CHAINAGE – 203+800
(UNDERPASS) EXIST. CHAINAGE – 204+850

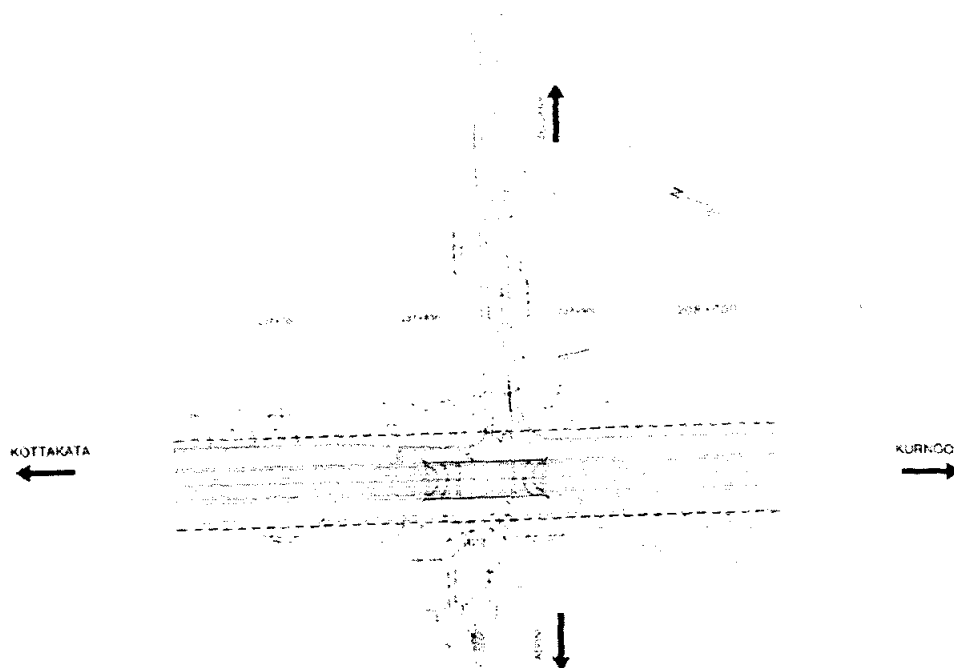


Figure – B-20: MAJOR JUNCTION AT PROP. CHAINAGE – 207+800 .
(BELLARY CHAURASTA) EXIST. CHAINAGE – 208+740

The Concessionaire shall take up 'Detailed Engineering Study' to ascertain further details of all intersections based on conceptual designs as suggested above. The treatment at the intersections shall be designed in accordance with the latest IRC/ MORT&H guidelines spelt out in Schedule D.

9. Structures

Cross sectional elements for structures shall follow the drawings mentioned in figures B-21 to B-31. All the cross-drainage structures and other structures shall be designed in accordance with the design standards set in Schedule D. All the cross drainage structures for the new carriageway shall be designed for 2 lane capacity with 12m outer to outer width. Improvement for the existing cross-drainage structures shall be made as mentioned in Table B-8. Of course, the existing structures shall be widened to match the new road cross sections as required and approved by the IC/ NHAI.

The detailed design for rehabilitation shall be as per standards mentioned in Schedule D. These measures for existing CD structures shall be finalized in consultation with IC at the time of execution.

Table B-8: Recommendation on CD Structures of the Project

Type of structures	Rehabilitation/ Repair/ Widening	Reconstruction	New Construction	Total no. of Structures
ROB	1		1	2
Major Bridge	3	-	3	6
Minor Bridge	40	-	42	82
Slab Culvert	47	-	14	61
Arch Culvert	10	-	-	10



Type of structures	Rehabilitation/ Repair/ Widening	Reconstruction	New Construction	Total no. of Structures
Hume Pipe Culvert	36	-	38	74

9.1 Minor Bridges

There are a total 40 Minor Bridges and one ROB on proposed alignment. The indicative details of minor bridges and ROB are given in the Table-B-9 below. All the existing minor bridges and other structures need to be rehabilitated and repaired as per the actual requirements and as approved by the IC.

Table B-9: Details of Existing and Proposed Minor Bridges and ROB

S. No.	Existing Bridge No.	Location	Existing Bridge Span Arrangement	Type of Structure (Existing)	Proposed Bridge No.	Proposed Chainage	Indicative Proposed Span Arrangement	Type of Structure (Proposed)
1	136/1	135/8	1 x 7.3	RCC T-Beam & Slab	136/1	135+567	1 x 8.6	RCC Solid Slab
2	139/1	138/2	5 x 9	RCC T-Beam & Slab	139/1	138+250	2 x 20.4 + 1 x 10.2	RCC T-Beam & Slab
3	140/2	139/2	6 x 6	RCC Solid Slab	140/2	139+200	2x21.0	RCC T-Beam & Slab
4	144/1	143/4	2 x 7.3	RCC T-Beam & Slab	144/1	143+475	1x17.3	RCC T-Beam & Slab
5	145/4	144/2	2 x 7.4	RCC T-Beam & Slab	145/4	144+226	1x17.4	RCC T-Beam & Slab
6	146/2	145/2	3 x 8.8	RCC T-Beam & Slab	146/2	145+300	1x30.5	PSC T-Beam & Slab
7	148/1	147/0	3 x 2.4	RCC Solid Slab	148/1	147+081	1x9.4	RCC Solid Slab
8	149/1	148/2	3 x 3.5	RCC Solid Slab	149/1	148+134	1x9.4	RCC Solid Slab
9	150/3	149/10	3 x 5.5	RCC Solid Slab	150/3	149+839	1x20.9	RCC T-Beam & Slab
10	151/1	150/2	2 x 7.3	RCC Solid Slab	151/1	150+136	1x16.8	RCC T-Beam & Slab
11	152/1	151/4	1 x 7	RCC Solid Slab	152/1	151+447	1x7.8	RCC Solid Slab
12	153/1	152/2	5 x 9	RCC T-Beam & Slab	153/1	152+195	2x20.6+1x10.3	PSC T-Beam & Slab
13	NA	NA	By pass 4 x 6	RCC Solid Slab	153/5	152+680	1x28.0	
14	NA	NA	By pass	RCC Solid Slab	154/5	153+87	1x7.5	
15	158/1	157/6	2 x 3.5	RCC Solid Slab	157/1	156+421	1x8.4	RCC Solid Slab
18	168/3	167/4	8 x 3	Arch	167/3	166+09	2x16.0	RCC T-Beam & Slab
19	169/2	168/8	4 x 3	RCC Solid Slab	168/2	167+764	1x14.4	RCC T-Beam & Slab
20	171/1	170/4	3 x 3	RCC Solid Slab	170/1	169+246	1x11.1	RCC T-Beam & Slab
21	172/1	171/0	1 x 6.5	RCC Solid Slab	170/4	169+998	1x7.4	RCC Solid Slab
22	172/3	171/4	4 x 3	Arch	171/2	170+392	1x16.4	RCC



S. No.	Existing Bridge No.	Location	Existing Bridge Span Arrangement	Type of Structure (Existing)	Proposed Bridge No.	Proposed Chainage	Indicative Proposed Span Arrangement	Type of Structure (Proposed)
								T-Beam & Slab
23	174/1	173/2	8 x 1.9	Arch	173/1	172+085	1x28.0	PSC T-Beam & Slab
24	176/1	175/0	2 x 2.5	RCC Solid Slab	174/2	173+964	1x6.8	RCC Solid Slab
25	176/2	175/4	3 x 3.3	RCC Solid Slab	175/1	174+305	1 x 12.6	RCC T-Girder
26	179/1	178/0	4 x 3.1	Arch	178/1	177+108	1 x 15.2	RCC T-Girder
27	179/3	178/8	1 x 7.5	RCC Solid Slab	178/3	177+820	1 x 8.5	RCC Solid Slab
28	181/1	180/2	3 x 2.9	RCC Solid Slab	180/1	179+176	1 x 10.4	RCC Solid Slab
29	182/2	181/8	3 x 2.5	RCC Solid Slab	181/1	180+819	1 x 9.3	RCC Solid Slab
30	186/1	185/6	4 x 4.5	RCC Solid Slab	185/1	184+584	1 x 21.6	RCC T-Beam & Slab
31	187/5	186/8	2 x 3.0	RCC Solid Slab	186/5	185+878	1 x 6.8	RCC Solid Slab
32	188/1	187/6	2 x 5.0	RCC Solid Slab	187/1	186+622	1 x 10.4	RCC Solid Slab
33	193/2	192/8	2 x 3.5	RCC Solid Slab	192/2	191+945	1 x 8.2	RCC Solid Slab
34	195/2	194/8	2 x 5.0	RCC Solid Slab	195/1	194+008	1 x 8.0	RCC Solid Slab
35	197/1	196/4	1 x 8.1	(ROB) RCC Solid Slab	196/1	195+423	1 x 31.0	(ROB) PSC T-Beam & Slab
36	199/4	198/8	4 x 4.15	RCC Solid Slab	198/4	197+929	1 x 16.8	RCC T-Beam & Slab
37	201/1	200/0	4 x 6.8	RCC Solid Slab	200/2	199+305	2 x 15.6	RCC T-Beam & Slab
37	205/1	204/6	2 x 6.6 + 1 x 1.6	Frame Structure with Cantilever	204/2	203+811	1 x 7.8 + 22.8 + 1 x 7.8	RCC T-Beam & Slab
39	205/2	205/2	1 x 28.2	Frame Structure with Cantilever	205/1	204+042	1 x 34.0	PSC T-Beam & Slab
40	207/1	206/2	5 x 3.0	RCC Solid Slab	206/1	205+152	1 x 19.75	RCC T-Beam & Slab
41	210/1	209/8	7 x 7.1	RCC Solid Slab	209/2	208+825	1 x 14.2 + 21.3 + 1 x 14.2	RCC T-Beam & Slab

The details given in the above table for the proposed structures are indicative only and shall be finalized in consultation with IC during execution. The requirement of rehabilitation of existing structures as mentioned in the above Table shall be finalized in consultation with Independent Consultant.

If there is any alteration in the span arrangement of ROB, the Concessionaire shall be responsible for getting the clearance from concerned railway authorities.



9.2 Major bridges

There shall be three new major bridges parallel to the existing bridges over river Krishna, Tungabhadra and Hundri. All the existing major bridges need to be rehabilitated and repaired as per the actual requirements and as approved by the IC. Table B-10 presents the Indicative details of major bridge to be constructed.

Table B-10: Details of Existing and Proposed Major Bridges

S. No.	Existing Bridge No.	Location	Existing Bridge Span Arrangement	Type of Structure	Proposed Bridge No.	Proposed Chainage	Indicative Proposed Bridge Span Arrangement
1	163/1 Krishna	162/8	56x16	Slab	162/1	161+650	1x34.45+1x33.825 +24x34.75+1x38.7
2	204/1 Tungabhadra	203/4	32x19.40	Slab	204/1	203+080	1x40.0+14x38.8+1x40.0
3	211/1 Hundri	210/4	9x19.4	Slab	210/2	209+550	1x19.7+4x38.8

The details given in the above Table are indicative only and shall be finalized in consultation with IC during execution.

The requirement of rehabilitation of existing structures mentioned in the above Table shall be finalized in consultation with Independent Consultant.

9.3 Proposed Major Structures (Flyover)

There is one existing vehicular underpass (Flyover) in km 205. For new carriageway, a new vehicular underpass parallel to the existing shall be provided. In addition, two new 4-lane flyovers have also been proposed at Alampur – Raichur State Highway crosses and Bellary – Adoni State Highway crossing as per the details given in the Table B-11.

Table – B-11: Details of Proposed Flyovers/ Grade-Separators/ Vehicular Underpass

S. No	Location	Existing Chainage			Proposed Chainage			Lenth (km)	Remarks
		From	CENTRE	To	From	CENTRE	To		
1	Alampur crossing	197+250	197.790	198+350	196+300	196+810	197+400	1.100	Proposed New 4-Lane
2	Kumool town	204+275	204.700	205+180	203+400	203+811	204+300	0.900	2-Lane Existing and 2-Lane Proposed
3	Bellary Crossing, Kumool	208+300	208.750	209+500	207+400	208+600	208+600	1.200	Proposed New 4-Lane

The details given in the above Table are indicative only and shall be finalized in consultation with IC during execution.

9.4 Cattle Crossing / Underpass

Total three numbers of new underpasses for pedestrian / cattle crossings have been proposed to maintain the smooth flow of the fast traffic on the main carriageways and reduce the accidents and problems encountered by the local people in the crossing of the national highway. Locations of

proposed Pedestrian Crossings / Cattle crossings and name of nearest town/ village are given in the Table

Table B-12: Details of Proposed Pedestrian Underpasses/ Cattle Crossings

S. No	Location	Existing Chainage			Proposed Chainage			Lenth (km)	Remarks
		From	CENTRE	To	From	CENTRE	To		
1	Mummalapally	139+300	139+960	140+300	139+300	139+960	140+300	1.000	Proposed New 4 Lane
2	Natevally	145+900	146+400	146+600	145+900	146+400	146+600	0.700	Proposed New 4 Lane
3	On Pebbair Bypass	Not Applicable			—	154+500	—	—	Proposed New 4 Lane

It is to be noted that the number of underpasses (details given in above Table) are minimum required. Any additional underpasses including dimensions shall be finalized in consultation with IC during execution.

9.5 Culverts

All the slab and box culverts shall be constructed for the full roadway width as per IRC standards. Table B-13 (i) presents the details of rehabilitation/ reconstruction scheme that shall be adopted for existing slab/ arch culverts.

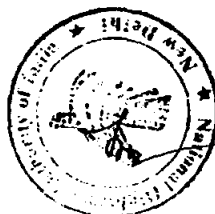


Table B-13 (i): Rehabilitation/Repair Scheme for Slab/ Arch Culverts

Schedule of slab culvert

S. No.	Existing Structure No.	Existing Changeage	Proposed Structure No.	Proposed Changeage	Existing Culvert Type	Formation level (in meter)		Existing formation level	invert level (in meter)	Existing Culvert Details				Reinforcement for existing culvert	Widening Required (m)		New Culvert Details				
						Left	Right			No. of Spans	Clear Span Length (m)	Deck Slab Thickness (m)	Overall Width (m)		R/L	W/R	Type of Culvert	No. of Slab	Clear Span Length (m)	Height from ground level (m)	Deck Thickness (m)
1	157/3	156+266	157/7	156+293	Slab	539.000	539.950	538.374	335.480	2	7.4	0.3	11.97	Case II	0.66	12.48	RCC Slab	2	2.4	3.110	0.3
2	157/5	156+949	157/3	156+916	Slab	536.070	536.500	535.417	333.860	1	7.55	0.3	12.3	Case II	0.74	11.55	RCC Slab	1	2.55	3.110	0.3
3	158/1	157+807	158/1	157+586	Slab	532.570	533.493	532.124	330.780	1	0.9	0.2	12.4	Case II	0.00	12.83	RCC Slab	1	0.9	1.780	0.3
4	158/3	157+965	158/3	157+858	Slab	529.402	530.056	528.088	327.213	1	0.95	0.2	12.3	Case II	0.00	13.33	RCC Slab	1	0.95	2.195	0.3
5	159/2	158+605	159/2	158+476	Slab	529.257	529.579	528.336	326.671	1	0.9	0.2	11.27	Case II	0.36	12.45	RCC Slab	1	0.9	1.571	0.3
6	159/4	159+746	159/4	159+730	Slab	528.110	528.360	528.113	326.441	1	0.9	0.2	11.4	New Construction	1.00	12.77	RCC Slab	1	0.9	1.848	0.3
7	160/3	159+220	160/3	159+262	Slab	527.730	528.950	527.650	325.274	1	0.9	0.2	12.4	New Construction	2.03	11.38	RCC Slab	1	0.9	2.515	0.3
8	160/4	159+458	160/4	158+450	Slab	530.813	530.958	529.450	329.186	1	2.5	0.3	16.1	Case II	8.86	7.50	RCC Slab	1	2.5	1.691	0.3
9	160/6	159+673	160/8	159+686	Slab	535.116	535.118	533.022	331.959	1	2.5	0.3	16.1	Case II	2.96	9.94	RCC Slab	1	2.5	3.164	0.3
10	163/1	162+049	163/1	162+045	Slab	546.864	545.306	544.465	347.501	3	2.4	0.3	11.8	Case II	12.58	0.54	RCC Slab	7	2.4	2.816	0.3
11	156/2	156+400			Slab					1	1.45	0.3	11.30	Culvert	1.0		Town				
12	158/3	155+1000			Slab					1	1.2	0.3	11.65	Culvert	1.0		Town				
13	157/1	156+000			Slab					1	1.2	0.3	11.65	Culvert	1.0		Town				
14	157/3	156+400			Slab					2	3.95	0.3	12.00	Culvert	1.0		Town				
15	157/4	156+500			Slab					1	1.45	0.3	11.64	Culvert	1.0		Town				
16	158/1	157+800			Slab					1	1.8	0.3	11.81	Culvert	1.0		Town				
17			156/1	155+295		501.654	502.073	501.213						Bypass			RCC Slab	1	6		0.45
18	158/2	157+741	157/2	156+581	Slab	528.928	529.653	528.180	326.442	1	1.8	0.2	11.81	Case II	0.82	12.78	RCC Slab	1	1.8	3.488	0.3
19	160/2	159+908	159/2	158+750	Slab	524.764	524.292	523.707	321.967	1	1.5	0.2	11.54	Case II	14.41	0.49	RCC Slab	1	1.5	2.249	0.3
20	161/2	160+580	160/2	159+418	Slab	520.218	520.366	520.070	320.354	1	1.5	0.2	11.54	Case II	12.66	1.28	RCC Slab	1	1.5	1.017	0.3
21	165/1	164+187	164/1	163+037	Slab	528.833	528.833	527.794	326.263	1	1.9	0.2	11.9	Case II	12.15	0.43	RCC Slab	1	1.9	2.579	0.3
22	166/1	165+005	164/3	163+303	Arch	528.398	525.071	524.556	321.894	1	2.4		11.6	Case II	9.70	3.78	RCC Slab	1	2.4	3.377	0.3
23	166/2	165+270	165/1	164+105	Slab	526.844	525.203	524.817	323.349	1	1.55	0.2	11.8	Case II	8.26	3.69	RCC Slab	1	2.042.0	1.854	0.35
24	166/3	165+577	165/2	164+505	Slab	527.787	527.083	527.100	326.743	1	1.25	0.2	11.8	New Construction	8.60	4.25	RCC Slab	1	2.042.0	0.140	0.35
25	166/4	165+826	165/3	164+654	Slab	528.322	528.096	527.408	326.824	1	1.25	0.2	11.43	Case II	10.58	4.48	RCC Slab	1	2.042.0	1.772	0.35
26	167/1	166+127	165/4	164+950	Slab	524.144	524.047	524.057	323.347	1	3.46	0.35	12.06	New Construction	13.90	7.50	RCC Slab	2	2.042.0	1.70	0.45
27	167/2	166+800	166/1	165+826	Arch	524.450	524.497	524.316	322.531	1	1.2		12	Case I	27.31	15.05	RCC Slab	1	1.2	1.968	0.3
28	168/1	168+248	168/1	167+078	Slab	528.284	528.007	527.801	328.301	1	3.85	0.35	12.1	Case II	13.31	0.00	RCC Slab	1	3.95	1.756	0.35
29	170/5	169+888	169/2	168+708	Slab	524.038	524.513	524.483	323.128	1	4	0.35	12.34	New Construction	13.78	0.00	RCC Slab	1	4	1.185	0.35
30	173/1	172+108	171/4	170+968	Slab	528.938	529.600	528.506	326.910	1	1.89	0.2	11.8	Case II	0.00	12.89	RCC Slab	1	1.89	20.28	0.3
31	173/2	172+413	172/1	171+277	Slab	528.830	529.608	528.244	326.757	1	1.5	0.2	11.8	Case II	0.00	12.68	RCC Slab	1	1.5	2.076	0.3
32	173/3	172+548	172/2	171+610	Slab	528.897	529.736	528.719	326.781	1	2.7	0.25	12	Case II	0.75	12.41	RCC Slab	1	2.7	2.218	0.3
33	173/4	172+818	172/3	171+482	Slab	529.007	529.783	528.617	327.188	1	1.2	0.2	11.7	Case II	0.00	12.58	RCC Slab	1	1.2	1.829	0.3
34	175/1	174+257	174/1	173+136	Slab	504.351	505.081	503.977	301.568	1	4.5	0.4	11.5	Case II	0.00	13.29	RCC Slab	1	4.5	2.783	0.4
35	177/1	176+231	176/1	175+130	Slab	502.633	503.635	501.430	329.388	2	1.8	0.2	11.8	Case II	1.00	12.30	RCC Slab	2	1.8	2.545	0.3
36	177/2	176+413	176/2	175+312	Slab	503.283	504.677	502.782	301.534	2	1.8	0.2	11.8	Case II	5.83	9.50	RCC Slab	2	1.8	1.751	0.3
37	177/3	176+689	176/3	175+570	Slab	504.238	506.553	506.370	306.118	1	1.2	0.2	11.6	New Construction	11.42	3.11	RCC Slab	1	1.2	0.675	0.3
38	177/4	176+792	176/4	175+683	Slab	502.741	508.127	507.537	306.006	1	4.1	0.4	11.87	Case II	11.81	1.04	RCC Slab	1	4.1	2.116	0.4
39	178/1	177+224	177/1	176+130	Arch	511.031	510.475	509.749	307.802	1	1.5		11.89	Case II	12.46	1.30	RCC Slab	1	1.5	3.278	0.3
40	179/2	178+820	178/2	177+740	Slab	506.133	507.113	505.811	303.858	2	1.8	0.2	11.46	Case II	13.44	0.00	RCC Slab	2	1.8	3.558	0.3
41	180/1	179+970	179/1	178+903	Slab	509.568	508.931	509.047	307.467	1	1.2	0.2	11.75	New Construction	12.68	0.03	RCC Slab	1	1.2	1.666	0.3
42	182/1	181+027	180/2	179+985	Slab	508.559	505.788	505.083	302.784	2	2.4	0.25	11.58	Case II	12.75	0.00	RCC Slab	2	2.4	3.005	0.3
43	183/1	182+578	182/1	181+319	Slab	505.534	504.840	504.645	302.965	1	1.0	0.2	11.67	Case II	11.07	1.20	RCC Slab	1	1.0	1.881	0.3

Schedule of slab culvert

S. No.	Structure No.	Existing Channage	Proposed Structure No.	Proposed Channage	Existing Culvert Type	Formation level (in meter)		Existing formation level	Invert level (in meter)	No. of Spans	Existing Clear Span (m)	Existing Culvert Details Deck Slab thickness (m)	Overall Width (m)	Roading	Treatment for existing culvert	Width Required (m)		Type of Culvert	No. of lanes	New Culvert Details		Remarks
						Left	Right									W	WR			Clear Span (m)	Height from ground level (m)	
44	183/2	182+536	182/2	181+509	Arch	306.375	305.581	305.224	302.581	1	1.8		11.64	0.357	Case II	8.18	4.90	RCC Slab		1.8	1.158	0.1
45	183/3	182+872	182/3	181+825	Slab	308.308	308.033	307.877	307.251	1	1.8	0.2	11.54	0.356	Case III	8.18	5.40	RCC Slab		1.8	0.805	0.1
46	186/2	185+838	185/2	184+858	Arch	300.545	299.348	299.210	297.298	2	2.4		12.3	1.335	Case III	5.30	8.76	RCC Slab	2	2.4	1.241	0.1
47	187/1	186+183	186/1	185+158	Slab	300.724	300.176	299.549	298.804	1	1.2	0.2	11.85	0.675	Case III	0.90	4.20	RCC Slab		1.2	4.20	0.1
48	187/3	186+448	186/3	185+424	Slab	300.535	300.535	300.044	298.793	1	3	0.25	12.26	0.481	Case III	0.37	12.40	RCC Slab		3	742	0.1
49	187/4	186+736	186/4	185+732	Slab	302.555	302.555	301.003	299.148	1	1.8	0.2	12	1.552	Case III	0.25	14.75	RCC Slab		1.8	1.457	0.1
50	189/1	188+020	188/1	187+006	Slab	310.222	310.511	308.979	307.587	1	1.2	0.2	11.86	1.243	Case III	0.20	12.55	RCC Slab		1.2	1.835	0.1
51	189/3	188+600	188/3	187+598	Slab	309.795	310.731	309.871	309.186	1	1.2	0.2	11.86	---	New Construction	0.53	12.75	RCC Slab		1.2	0.613	0.1
52	189/4	188+900	188/4	187+898	Slab	308.678	309.610	308.041	307.325	1	2.4	0.25	11.78	0.637	Case III	0.50	12.80	RCC Slab		2.4	1.353	0.1
53	189/1	188+091	188/1	188+085	Slab	307.962	308.964	307.455	307.011	1	1.2	0.2	11.69	0.507	Case III	0.33	12.84	RCC Slab		1.2	0.951	0.1
54	189/2	188+353	188/2	188+351	Slab	307.725	308.794	306.883	305.730	2	2.5	0.25	7.34	0.842	Case III	3.02	14.36	RCC Slab	2	2.5	995	0.1
55	191/1	190+510	190/1	189+517	Arch	306.487	306.586	306.110	300.089	2	2.4		11.8	0.377	Case III	1.20	2.47	RCC Slab	2	2.4	6.418	0.1
56	192/1	191+118	191/1	190+126	Arch	307.842	309.053	307.285	305.153	2	2.4		11.5	0.557	Case III	0.30	12.56	RCC Slab		2.4	2.699	0.1
57	192/2	191+690	191/2	190+708	Slab	308.873	309.863	306.683	304.944	1	2.55	0.25	11.6	2.190	Case III	0.70	12.50	RCC Slab	2	2.4	1.929	0.1
58	193/1	192+285	192/1	191+305	Arch	306.111	306.672	305.084	302.344	2	1.8		11.45	1.026	Case III	0.64	2.71	RCC Slab	2	1.8	3.786	0.1
59	194/1	193+122	193/1	192+149	Slab	304.647	305.058	303.808	302.555	1	1.55	0.2	11.75	0.835	Case III	1.54	1.88	RCC Slab		1.55	2.092	0.1
60	194/2	193+288	193/2	192+316	Arch	303.872	304.385	303.639	299.718	1	1.8	0.2	13.95	0.233	Case II	8.00	11	RCC Slab	3	1.8	4.154	0.1
61	196/1	195+134	195/2	194+178	Slab	308.486	309.381	307.690	306.427	1	1.5	0.2	11.8	1.097	Case III	0.00	3.48	RCC Slab		1.5	2.360	0.1
62	196/2	195+810	195/3	194+854	Arch	308.876	309.967	307.944	305.726	2	1.8		11.45	0.955	Case III	0.70	12.7	RCC Slab	2	1.8	3.173	0.1
63	198/1	197+400	197/1	196+462	Slab	312.379	312.379	309.215	308.049	1	1	0.2	11.75	3.164	Case III	18.04	25.70	RCC Slab		1	4.330	0.1
64	198/3	197+850	197/4	196+916	Slab	312.156	312.156	306.277	303.608	1	3	0.25	11.75	5.931	New Construction	23.28	21.46	RCC Box		3.0x3.0	8.352	0.35
65	198/1	198+016	198/1	197+084	Slab	307.394	307.394	304.093	303.646	1	3	0.25	11.7	3.148	New Construction	27.59	22.73	RCC Box		3.0x2.0	4.195	0.35
66	198/2	198+174	198/2	197+241	Slab	303.864	303.724	302.547	301.199	1	1.55	0.2	11.75	1.177	New Construction	25.69	20.30	RCC Box	1	2.0x2.0	2.525	0.35
67	200/1	199+181	199/1	198+262	Slab	300.582	299.616	298.320	296.634	1	1.25	0.2	11.75	0.596	New Construction	13.47	0.00	RCC Box		2.0x3.0	1.790	0.35
68	200/2	199+306	199/2	198+564	Slab	297.150	297.305	296.827	295.417	1	1.5	0.2	11.7	0.678	Case III	12.47	0.80	RCC Slab		1.5	1.888	0.1
69	200/3	199+750	199/3	198+842	Slab	295.175	294.863	294.546	293.172	2	1.5	0.2	11.75	0.317	Case III	12.82	0.00	RCC Slab	2	1.5	1.691	0.1
70	200/4	199+911	200/1	199/007	Slab	293.782	293.385	292.998	291.713	1	1.55	0.2	11.62	0.389	Case III	11.97	0.80	RCC Slab		1.55	1.672	0.1
71	201/2	200+705	200/3	199+810	Slab	294.780	294.780	294.466	293.423	1	1.55	0.2	11.7	0.314	Case III	12.86	0.00	RCC Slab		1.55	1.357	0.1
72	206/1	205+756	205/2	204+857	Slab	287.268	287.268	287.206	286.179	1	2.85	0.25	11.8	0.662	New Construction	8.80	7.75	RCC Slab		2.95	1.292	0.1
73	207/2	206+217	206/2	205+318	Slab	288.090	288.090	287.466	286.581	1	3	0.25	11.8	0.624	Case III	25.88	25.88	RCC Slab		3	1.585	0.1
74	207/3	206+720	206/3	205+660	Slab	289.723	289.723	289.962	289.477	1	1.6	0.2	12.1	0.234	Case II	25.70	25.50	RCC Slab		1.6	1.246	0.1
75	209/1	207+479	207/1	206+560	Slab	295.779	296.179	296.126	295.793	1	3	0.25	11.6	0.653	Case III	27.50	20.69	RCC Slab		3	0.981	0.1
76	210/1	209+348	209/1	208+445	Slab	285.120	285.120	284.740	283.910	1	3	0.25	22.5	0.880	Case III	27.89	17.70	RCC Slab		3	1.271	0.1
77	210/2	209+982	210/1	209+065	Slab	283.218	283.218	282.989	282.380	1	2.7	0.25	11.7	0.229	Case II	38.62	15.79	RCC Slab		2.7	0.834	0.1

Any other culverts, which require reconstruction other than mentioned in above table, shall be finalized in consultation with Independent Consultant.

Table B-13 (ii) presents the details of rehabilitation/ reconstruction scheme that shall be adopted for existing pipe culverts. Pipe culverts shall be constructed to full formation width as per IRC standards.

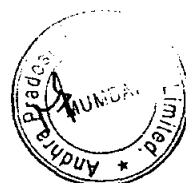


Table B-13 (ii): Rehabilitation/Repair Scheme for Pipe Culverts

Schedule of pipe culvert										Rehabilitation/Repair Scheme for Pipe Culverts										
S. No.	Existing Structure	Existing Channage	Proposed Structure	Proposed Channage	Type of Culvert	Formation level (in meter)	Existing level (in meter)	Proposed level (in meter)	No. of Pipe	Existing Pipe Dia (mm)	Proposed Pipe Dia (mm)	Existing Length (m)	Proposed Length (m)	Treatment of Existing Culvert	Proposed Treatment of Culvert	Existing Bedding (mm)	Proposed Bedding (mm)	Existing Slope (%)	Proposed Slope (%)	
1	137/1	136+111	137/1	136+100	Pipe	340.150	339.900	339.900	1	0.9	12.35	0.200	2.075			0.00	17.85	1.4	1.4	
2	138/2	137+857	138/2	137+850	Pipe	329.825	330.250	329.825	1	0.9	12.4	0.204	0.890			0.00	17.75	1.4	1.4	
3	139/3	136+552	139/3	136+542	Pipe	329.347	329.440	329.347	1	0.9	12.74	0.200	0.237		New Construction	0.00	17.60	1.4	1.4	
4	140/1	136+027	140/1	136+015	Pipe	326.953	327.087	326.953	1	0.9	16.5	0.206	11.884		New Construction	0.00	17.08	1.4	1.4	
5	140/5	136+555	140/5	136+548	Pipe	342.512	342.527	342.512	1	0.9	12.75	1.540	2.114			0.00	17.52	1.4	1.4	
6	140/7	136+977	140/7	136+970	Pipe	338.128	338.974	338.128	1	1	12.75	0.405	2.224			0.00	17.52	1.4	1.4	
7	141/1	140+036	141/1	140+030	Pipe	336.776	336.960	336.776	2	0.9	13.35	0.394	1.004			0.00	17.52	1.4	1.4	
8	141/2	140+400	141/2	140+392	Pipe	342.178	342.073	342.178	1	0.9	11.7	1.245	0.985			0.00	17.52	1.4	1.4	
9	142/1	141+431	142/1	141+425	Pipe	348.303	348.292	348.303	1	1.2	11.8	0.668	0.444			0.00	17.52	1.4	1.4	
10	142/2	141+751	142/2	141+745	Pipe	348.986	348.925	348.986	3	1.2	11.9	1.465	0.840			0.00	17.52	1.4	1.4	
11	143/2	142+089	143/2	142+085	Pipe	340.822	340.822	340.822	2	1.2	11.7	1.315	3.297			0.00	17.52	1.4	1.4	
12	144/2	143+531	144/2	143+529	Pipe	330.484	330.184	330.484	1	0.9	11.75	0.453	1.298			0.00	17.52	1.4	1.4	
13	145/1	144+024	145/1	144+023	Pipe	327.030	327.030	327.030	1	0.9	11.75	2.234	1.177			0.00	17.52	1.4	1.4	
14	145/2	144+090	145/2	144+089	Pipe	325.730	325.730	325.730	1	0.9	11.65	1.987	0.574			0.00	17.52	1.4	1.4	
15	145/3	144+145	145/3	144+145	Pipe	325.333	325.333	325.333	1	0.9	11.75	0.389	0.396			0.00	17.52	1.4	1.4	
16	145/5	144+627	145/5	144+629	Pipe	326.450	326.619	326.450	2	0.9	11.75	0.978	0.848			0.00	17.52	1.4	1.4	
17	145/6	144+984	145/6	144+986	Pipe	326.276	326.509	326.276	2	0.9	11.75	0.915	0.587			0.00	17.52	1.4	1.4	
18	145/7	144+993	145/7	144+996	Pipe	326.086	326.301	326.086	2	0.9	11.75	1.134	0.680		New Construction	0.00	17.52	1.4	1.4	
19	146/1	145+088	146/1	145+091	Pipe	326.087	326.116	326.087	1	0.9	11.8	2.058	1.200		New Construction	0.00	17.52	1.4	1.4	
20	146/3	145+490	146/3	145+496	Pipe	327.411	327.989	327.411	1	0.9	11.7	1.452	1.267		New Construction	0.00	17.52	1.4	1.4	
21	146/4	145+527	146/4	145+530	Pipe	326.208	326.750	326.208	1	0.9	11.7	1.507	0.467			0.00	17.52	1.4	1.4	
22	146/5	145+784	146/5	145+791	Pipe	331.753	330.419	330.419	1	0.9	11.8	2.351	1.585			0.00	17.52	1.4	1.4	
23	146/6	145+983	146/6	145+991	Pipe	332.375	332.521	332.375	2	0.9	11.8	1.085	1.511			0.00	17.52	1.4	1.4	
24	147/1	146+668	147/1	146+660	Pipe	335.481	336.292	335.481	2	0.9	11.8	0.350	4.085			0.00	17.52	1.4	1.4	
25	148/2	148+237	148/2	148+270	Pipe	319.157	319.030	319.157	2	0.9	11.8	0.698	6.184			0.00	17.52	1.4	1.4	
26	149/3	149+840	149/3	149+852	Pipe	314.332	319.491	314.332	2	0.9	11.8	0.173	0.143			0.00	17.52	1.4	1.4	
27	150/1	149+340	150/1	149+368	Pipe	310.448	308.724	310.448	1	0.9	11.85	0.827	1.148			0.00	17.52	1.4	1.4	
28	150/2	149+638	150/2	149+652	Pipe	307.158	307.864	307.158	1	0.9	11.7	0.875	0.457			0.00	17.52	1.4	1.4	
29	152/2	151+683	152/2	151+778	Pipe	304.955	305.407	304.955	1	0.9	11.8	0.901	0.085			0.00	17.52	1.4	1.4	
30	152/3	151+805	152/3	151+982	Pipe	303.088	303.828	303.088	1	0.9	12.25	2.613	0.026			0.00	17.52	1.4	1.4	
31	153/2	152+160	153/2	152+241	Pipe	302.911	303.597	302.911	1	0.9	11.75	0.764	0.217		New Construction	0.00	17.52	1.4	1.4	
32	153/3	152+330	153/3	152+389	Pipe	302.297	302.896	302.297	1	0.9	11.75						0.00	17.52	1.4	1.4
33	153/4	152+600			Pipe				1	0.9	11.85						0.00	17.52	1.4	1.4
34	153/5	152+800			Pipe				1	0.9	11.72						0.00	17.52	1.4	1.4
35	153/6	152+1000			Pipe				1	0.9	11.70						0.00	17.52	1.4	1.4
36	154/1	153+200			Pipe				1	1.2	21.70						0.00	17.52	1.4	1.4
37	154/2	153+400			Pipe				1	0.9	11.70						0.00	17.52	1.4	1.4
38	154/3	153+600			Pipe				1	0.9	11.70						0.00	17.52	1.4	1.4
39			153/4	152+848	Pipe	301.114	301.188	301.114	1	0.9	11.70						0.00	17.52	1.4	1.4
40			153/6	152+820	Pipe	301.039	301.963	301.039	1	0.9	11.70						0.00	17.52	1.4	1.4
41			154/1	153+080	Pipe	301.667	301.086	301.667	1	0.9	11.70						0.00	17.52	1.4	1.4
42			154/2	153+275	Pipe	301.890	301.576	301.890	1	0.9	11.70						0.00	17.52	1.4	1.4
43			154/3	153+520	Pipe	301.809	301.723	301.809	1	0.9	11.70						0.00	17.52	1.4	1.4

Schedule of pipe culvert

S. No	Existing Structure No.	Existing Change No.	Proposed Structure No.	Proposed Change No.	Type of Culvert	Formation level (in meter)	Existing formation level	Invert level (in meter)	No. of Pipe	Existing Culvert Details	Proposed Culvert Details	Treatment of Existing Culvert	Widening Required (m)	New Pipe Details	New Head and Sill		
						Left	Right			Pipe dia (m)	Overall Width (m)	Cushion (m)		No. of Pipe	Pipe Type	Left Side (m)	Right Side (m)
44			154/4	153+700	Pipe	302.029	302.126	299.868					Bypass	2	NP4	5.4	5.4
45			156/1	154+075	Pipe	303.325	303.442	300.165					Bypass	2	NP4	5.4	5.4
46			155/2	154+200	Pipe	303.772	303.890	300.155					Bypass	2	NP4	5.4	5.4
47			155/3	154+375	Pipe	304.308	304.417	300.329					Bypass	2	NP4	5.4	5.4
48			155/6	154+725	Pipe	304.197	304.197	301.042					Bypass	2	NP4	5.4	5.4
49			155/7	154+850	Pipe	303.487	303.701	301.614					Bypass	2	NP4	5.4	5.4
50			156/2	155+450	Pipe	300.825	300.823	298.678					Bypass	2	NP4	5.4	5.4
51	160/1	159+469	159/1	158+306	Pipe	287.406	287.147	286.720	2	0.6	11.85	0.138	0.427	New Construction	NP4	5.4	5.4
52	161/1	160+525	160/1	158+363	Pipe	280.868	279.828	279.565	1	0.45	11.70	0.993	0.361		NP4	5.4	5.4
53	162/1	161+800	161/1	160+430	Pipe	275.431	274.825	274.578	2	0.9	11.82	2.734	0.247		NP4	5.4	5.4
54	165/2	164+731	164/2	163+576	Pipe	283.818	283.818	283.429	1	0.8	11.25	0.195	0.389		NP4	5.4	5.4
55	168/1	167+200	167/1	166+025	Pipe	280.348	280.218	281.286	1	0.8	11.84	1.108	-1.078	New Construction	NP4	5.4	5.4
56	168/2	167+225	167/2	166+057	Pipe	280.287	280.158	280.892	1	0.75	11.82	1.362	-0.733	New Construction	NP4	5.4	5.4
57	168/4	167+435	167/4	166+283	Pipe	281.868	281.363	280.618	1	0.6	11.8	0.184	0.744	New Construction	NP4	5.4	5.4
58	168/5	167+548	167/5	166+375	Pipe	282.892	282.351	281.789	1	0.8	11.8	1.803	0.462	New Construction	NP4	5.4	5.4
59	168/6	167+643	167/6	166+470	Pipe	283.874	282.953	282.527	1	0.6	11.75	0.703	0.426	New Construction	NP4	5.4	5.4
60	170/1	169+063	169/1	167+929	Pipe	287.240	286.634	286.733	1	0.6	11.87	0.890	-0.099	New Construction	NP4	5.4	5.4
61	170/2	169+454	169/2	168+292	Pipe	290.572	289.621	289.243	1	0.6	11.57	0.861	0.378	New Construction	NP4	5.4	5.4
62	171/2	170+488	170/2	169+329	Pipe	293.130	292.877	292.504	1	0.8	11.8	1.330	0.626	New Construction	NP4	5.4	5.4
63	171/3	170+524	170/3	169+371	Pipe	293.273	293.531	293.068	1	0.6	11.8	0.635	0.205	New Construction	NP4	5.4	5.4
64	172/2	171+280	171/2	170+152	Pipe	300.688	300.649	300.188	2	0.75	11.9	1.287	0.483	New Construction	NP4	5.4	5.4
65	172/4	171+880	171/3	170+751	Pipe	299.981	300.267	300.186	2	0.6	11.9	1.723	-0.205	New Construction	NP4	5.4	5.4
66	176/3	175+827	175/2	174+822	Pipe	299.881	301.582	299.210	2	0.9	12.16	0.458	0.671		NP4	5.4	5.4
67	184/1	183+213	183/1	182+187	Pipe	310.049	309.850	308.645	1	0.9	11.95	1.115	1.005		NP4	5.4	5.4
68	184/2	183+418	183/2	182+374	Pipe	311.071	310.338	309.478	1	0.9	11.95	0.457	0.859		NP4	5.4	5.4
69	184/3	183+975	183/3	182+838	Pipe	310.305	310.305	309.683	1	1	11.84	0.760	0.645		NP4	5.4	5.4
70	185/1	184+514	184/1	183+477	Pipe	307.083	306.468	305.711	1	1	12.84	0.755	0.757		NP4	5.4	5.4
71	187/2	188+381	186/2	187+278	Pipe	300.440	300.440	300.192	1	1	12.4	0.528	0.248	New Construction	NP4	5.4	5.4
72	196/2	188+290	188/2	187+278	Pipe	310.796	311.541	308.600	1	0.6	11.94	1.228	2.196		NP4	5.4	5.4
73	190/3	189+946	189/3	188+950	Pipe	308.764	308.892	308.300	1	0.9	11.51	0.792	0.484		NP4	5.4	5.4
74	194/3	193+535	193/3	192+567	Pipe	308.376	308.974	304.084	1	0.6	11.65	1.312	2.910	New Construction	NP4	5.4	5.4
75	198/2	197+774	197/2	196+820	Pipe	303.356	303.356	302.073	1	0.75	16.9	0.535	1.283	New Construction	NP4	5.4	5.4
76	198/3	198+851	198/3	197+540	Pipe	301.508	301.828	298.618	1	0.75	11.7	1.016	3.212	New Construction	NP4	5.4	5.4
77	201/3	200+648	200/4	199+954	Pipe	295.688	295.636	295.080	1	0.6	11.7	0.548	0.595	New Construction	NP4	5.4	5.4
78	201/4	200+997	201/1	200+104	Pipe	296.356	296.204	295.609	1	0.6	11.7	1.043	0.595	New Construction	NP4	5.4	5.4
79	202/1	201+248	201/2	200+356	Pipe	297.294	296.940	296.662	1	0.75	13.5	0.714	0.714	New Construction	NP4	5.4	5.4
80	202/2	201+305	201/3	200+414	Pipe	297.384	296.976	296.152	1	0.8	11.7	0.681	0.574	New Construction	NP4	5.4	5.4

Any other culverts, which require reconstruction other than mentioned in above table, shall be finalized in consultation with Independent Consultant.

Cross-drainage structures as per the site requirements and as approved by the IC shall also be provided for the proposed service roads.

9.6 Typical Cross Sections for structures

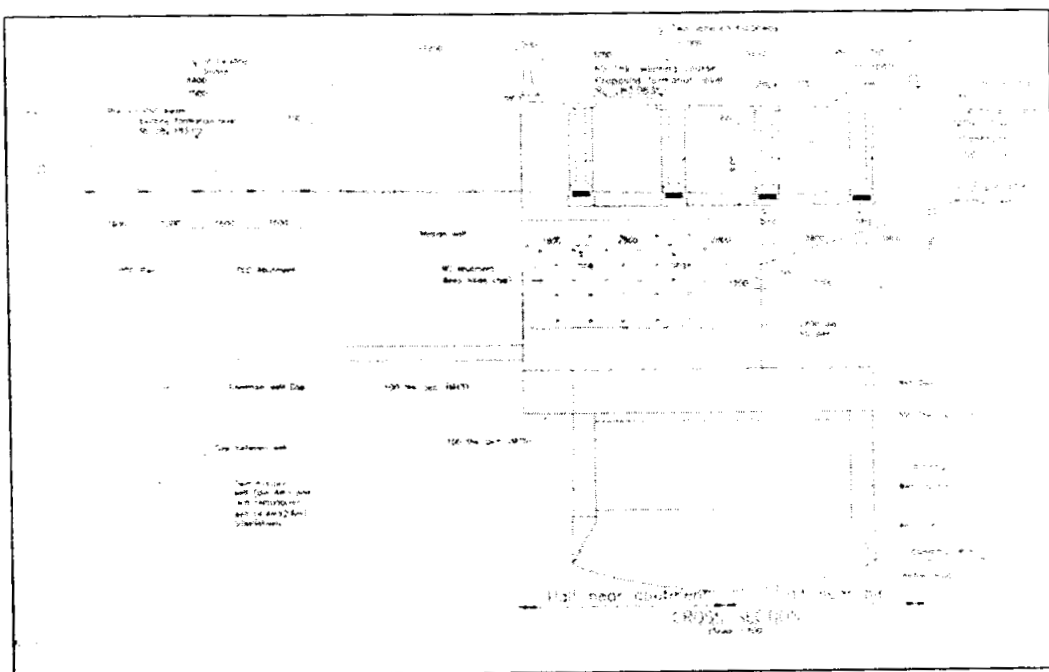


**Figure – B-21: TYPICAL CROSS-SECTION FOR HUNDRI BRIDGE AT PROP. CH. 209+550
EXIST. CH. 210+450**



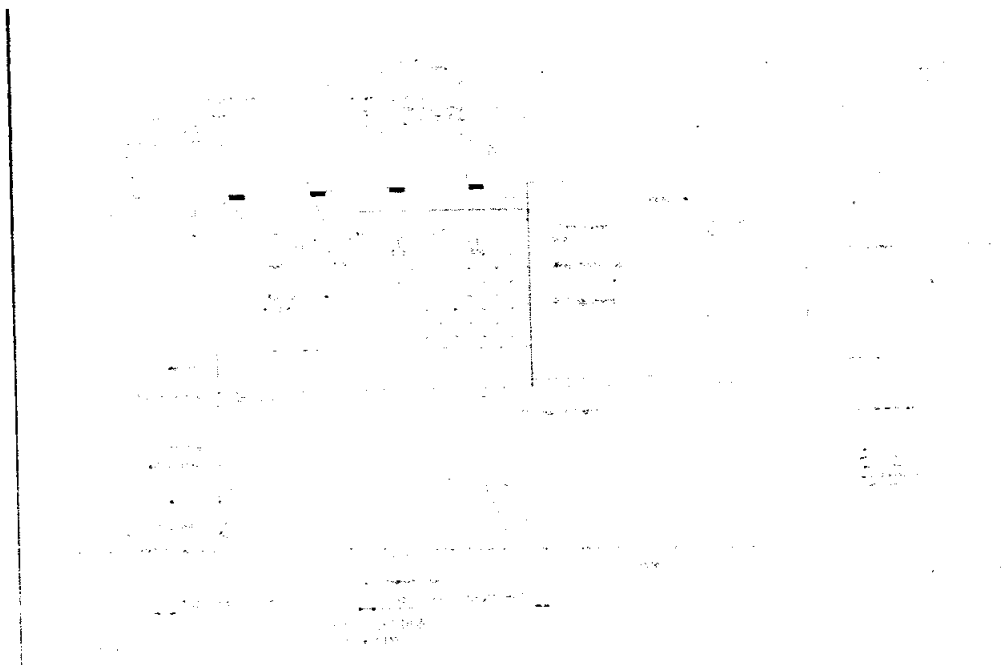


**Figure – B-22: TYPICAL CROSS-SECTION FOR TUNGABHADRA RIVER BRIDGE AT PROP. CHL. 203+080
EXIST. CH. 203+980**

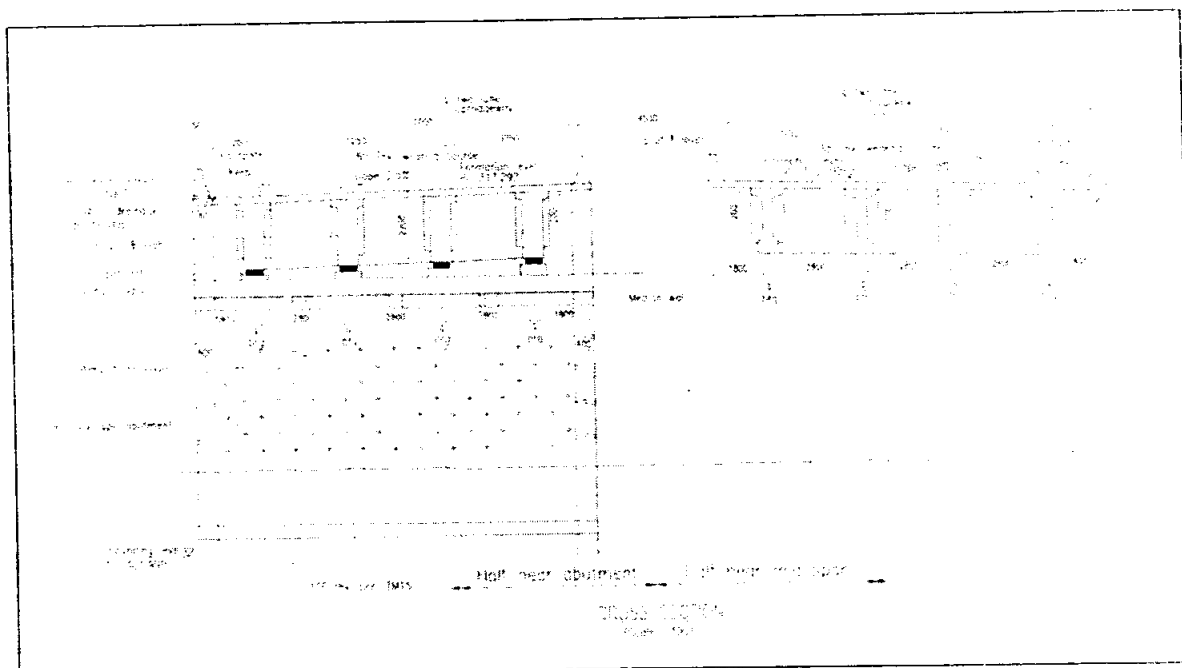
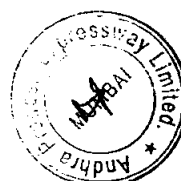


**Figure – B-23: TYPICAL CROSS-SECTION OF FLYOVER AT PROP. CHL. 196+825
(ALAMPUR CROSSING) EXIST. CH. 197+790**



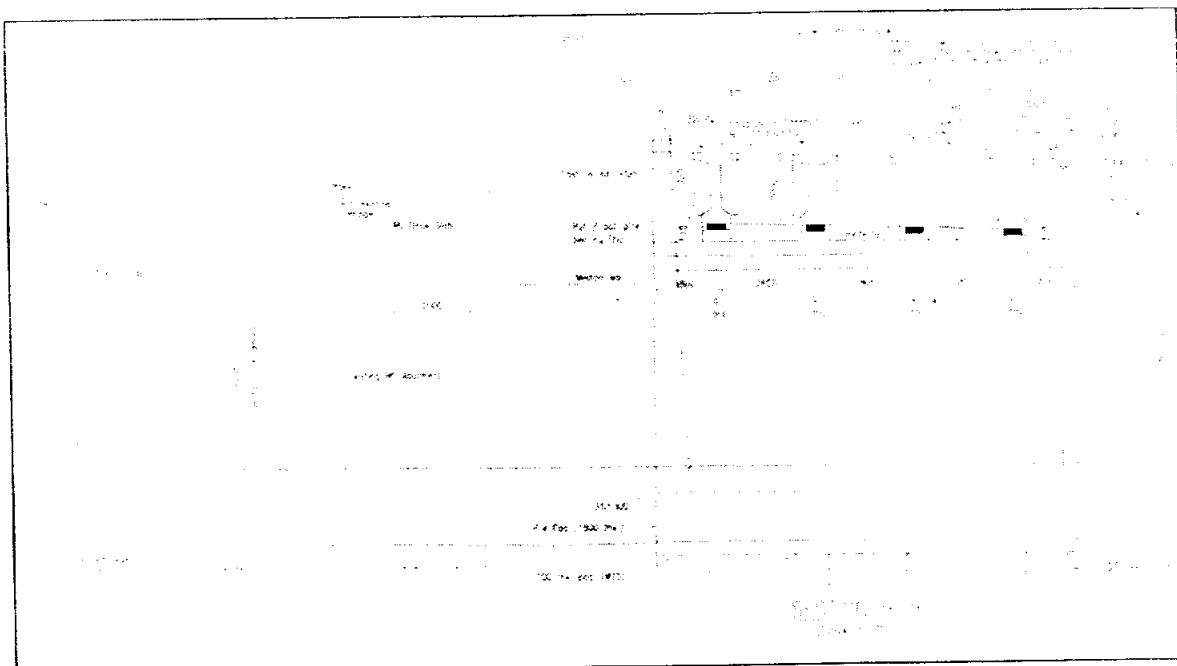


**Figure – B-24: TYPICAL CROSS-SECTION OF ROB AT PROP. CH. 195+423
EXIST. CH. 196+400**

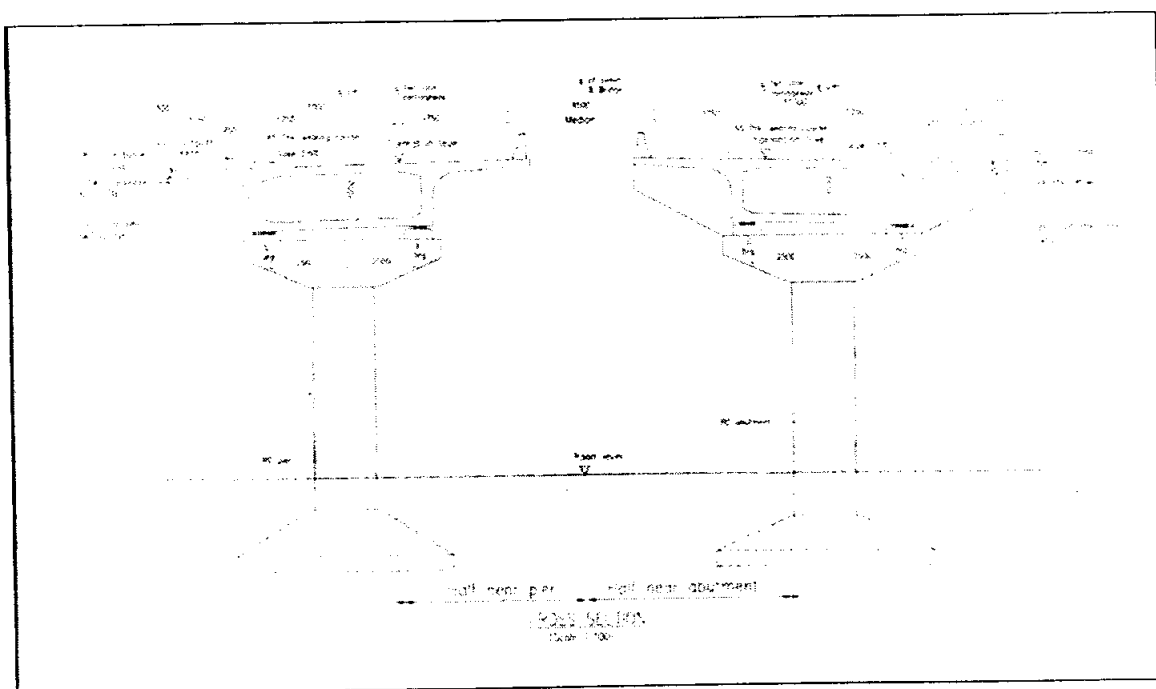


**Figure – B-25: TYPICAL CROSS-SECTION OF FLYOVER AT PROP. CH. 207+800
(BELLARY CHAURASTA) EXIST. CH. 208+740**

B-30



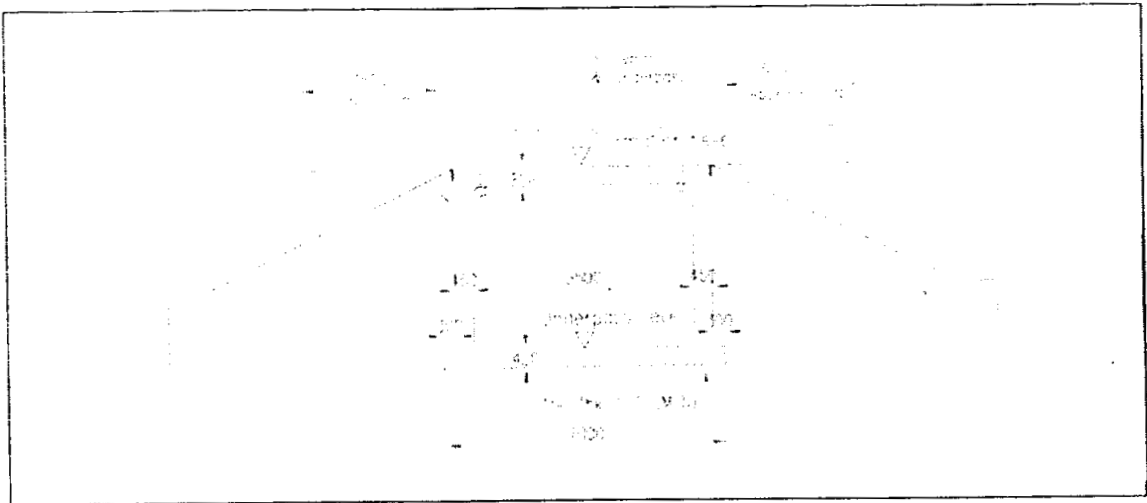


**Figure – B-26: TYPICAL CROSS-SECTION OF VEHICULAR UNDERPASS AT PROP. CH. 203+800
EXIST. CH. 204+850**

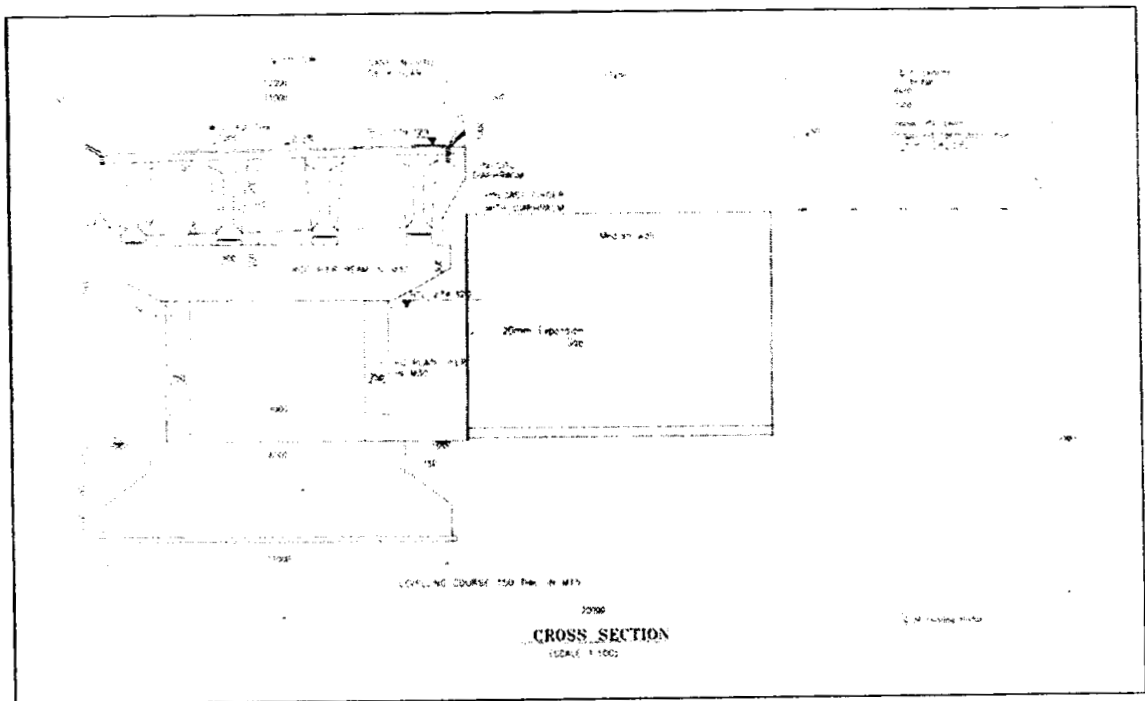


**Figure – B-27: TYPICAL CROSS-SECTION OF KRISHNA BRIDGE AT PROPP. CH. 161+650
EXIST. CH. 162+750**

Figure – B-28: TYPICAL DETAIL OF WIDENING OF RCC SLAB CULVERT

Figure – B-29: TYPICAL DETAIL OF RCC PIPE CULVERT



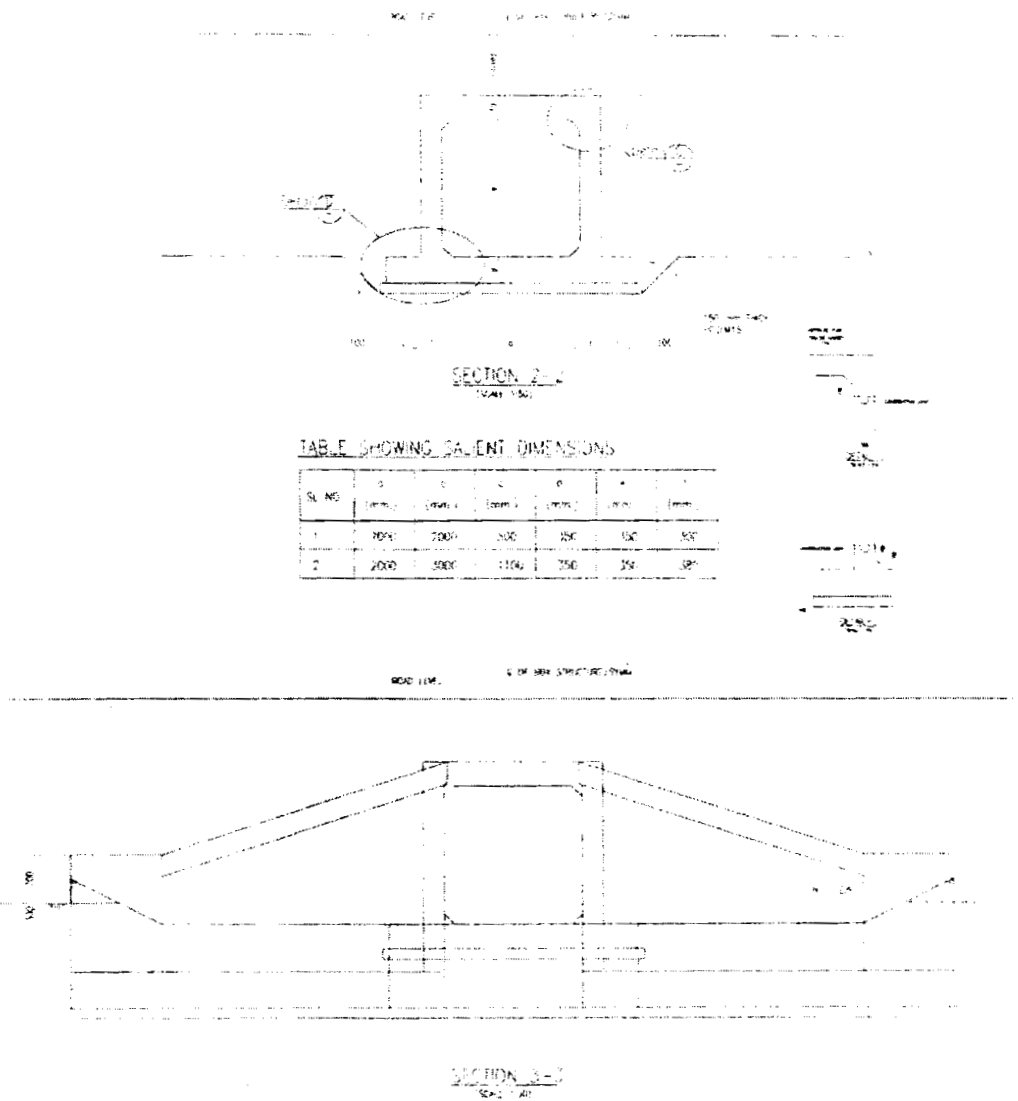
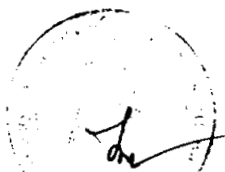


Figure- B-30: TYPICAL DETAIL OF RCC BOX CULVERT



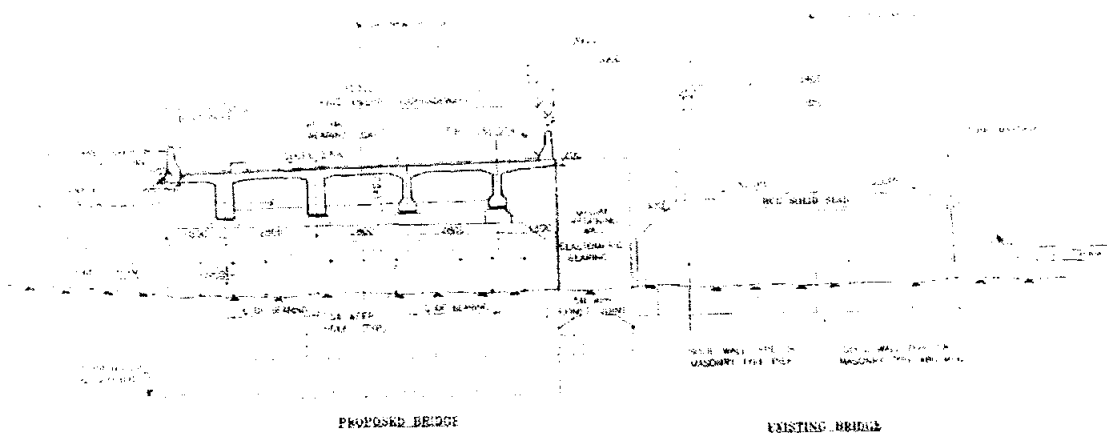


Figure- B-31: TYPICAL CROSS-SECTION FOR MINOR BRIDGE

10. Road Drainage and Slope Protection

The improvements in the drainage and the slope erosion shall be made as per the following norms:

10.1 Road Drainage

Following measures shall be adopted:

- Side ditches of required cross-section for area drainage on both sides of carriageway in rural sections.
- Chute drains along with shoulder drains in high embankment (3m and above);
- Median drains at super elevated sections with proper outfall connections; and

Additional number of culverts required for betterment of drainage shall be provided in consultation with IC prior to execution of work. Hume pipe culverts shall be provided at the location of cross road, i.e. at intersections / service road, to allow the drain water flow. The numbers and location be finalized in consultation with IC at the time of execution

10.2 Slope Protection Measures

Slope protection in the form stone pitching and turfing shall be provided on the embankment slopes. The pitching shall be provided for embankment heights greater than 3m and turfing in the form of local grass and bushes has been provided for the remaining embankment height lower than 3m.

11. Traffic Signage and Pavement Markings

11.1 Pavement Markings

Traffic signs and pavement markings shall include roadside signs, overhead signs, kerb mounted signs and road markings along the Project Highway. The design and marking for the Project Highway shall be as per the design standards indicated in Schedule D and the locations for various treatments shall be finalized in consultation with the Independent Consultant.



11.2 Traffic signage

All signs shall be the reflectorised type with high intensity retro-reflective sheeting of encapsulated type. The height, lateral clearance, location and installation shall be as per relevant clauses of MOST specifications. Overhead signs shall be installed ahead of major intersections, toll plazas and urban areas as per detailed design requirement.

12. Highway Lighting

- Non-conventional energy like solar lighting system shall be provided at all major intersections as per the design standards indicated in Schedule D.
- High mast lightings shall be provided at toll plaza locations and at major intersection as per the design standards indicated in Schedule D.
- The design of lighting system on the Project Highway for different locations shall be as per the design standards indicated in Schedule D.

13. Speed Breaker on Side Roads

Speed Breakers shall be provided on all side roads intersecting the Project Highway as per the design standards indicated in Schedule D.

14. LED

LEDs shall be provided at intersections and median openings as per the design standards indicated in Schedule D.

15. Blinker at Intersection

Blinkers signal shall be provide at all major intersections as per the design standards indicated in Schedule D.

16. Delineators and Guard Posts

Delineators and Guard Posts shall be provided at all Horizontal curves on either side of the carriageway as per the design standards indicated in Schedule D.

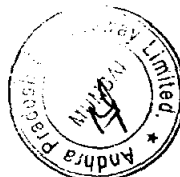
17. Studs

Road studs shall be provided at all curves on both carriageways, at median openings and at intersections as per the design standards spelt out in Schedule D.

18. Pedestrian Guard Rail and Safety Barrier

Pedestrian Guard Rail and Safety Barrier shall be provided, observing the following criterion:

- i) Pedestrian guardrail shall be provided at places where pedestrian activity is high and bus bays mentioned in Schedule-C.
- ii) Safety barriers shall be provided at locations of bridge approaches and high embankments (3 m and more)



- iii) Safety barrier shall be provided along the central median at places where median width is 1.5 m and also in the lengths where median tapers from 5.0 m to 1.5 m.
- iv) Safety barriers shall be provided at bridge approaches as prescribed in Schedule D.
- v) Safety barriers shall also be provided at sharp horizontal curves as per the design standards and specifications spelt out in Schedule D.

19. Road Land Boundary

Proposed Road Land boundary or Right of Way (RoW) shall be demarcated on the Project Highway. For this purpose nail wires and angle posts shall be used in rural section and poles and chain shall be used in urban section. All the components used in delineating road land boundary shall be aesthetically pleasing, sturdy and vandal-proof. A system for the identification of chainages along the Project Highway shall be done in consultation with Independent Consultant.

20. Rain Water Harvesting System along the Project Road

Rain Water Harvesting & Conservation, is the activity of direct collection of Rain Water. The conservation of Rain Water so collected can be stored for direct use or can be re-charged into the Ground Water. The main goal is to minimize flow of Rain Water through Drains/ Nallahs to the Rivers without making any use of the same. It is a known fact that the Ground Water level is depleting and going down and down in the last few decades. Thus Rain Water Harvesting & Conservation aims at optimum utilization of the natural resource, that is, Rain Water, which is the first form of water that we know in the hydrological cycle and hence is a primary source of water for us. The Rivers, Lakes and Ground Water are the secondary sources of water. In present times, in absence of Rain Water harvesting and conservation, we depend entirely on such secondary sources of water and in the process it is forgotten that rain is the ultimate source that feeds these secondary sources. The value of this important primary source of water must not be lost. Rain Water Harvesting & Conservation brings out the value of rain and to make optimum use of Rain Water at the place where it falls. There is great potential of rainwater harvesting through construction of recharge trenches cum recharge shafts/ wells along the available land along the Expressways/ National Highways/ State Highways/ Other roads of our country.

Therefore, Concessionaire has to design and construct a sound rain water harvesting system along the Project Road as per guidelines given in the **CPWD Manual on Rain Water Harvesting and Conservation** and as approved by the IC/ NHAI.

Minimum requirements for rain water harvesting system shall be construction of parallel recharge trenches on both the sides of the Project Highway at suitable distances from the proposed road boundary and construction of recharge shafts/ wells at 500m intervals on either side in staggered manner.

Schematic Diagrams of the proposed **Recharge Trench cum Recharge Shaft/ Well** is shown in **Figure – B-32 and Figure – B33**.



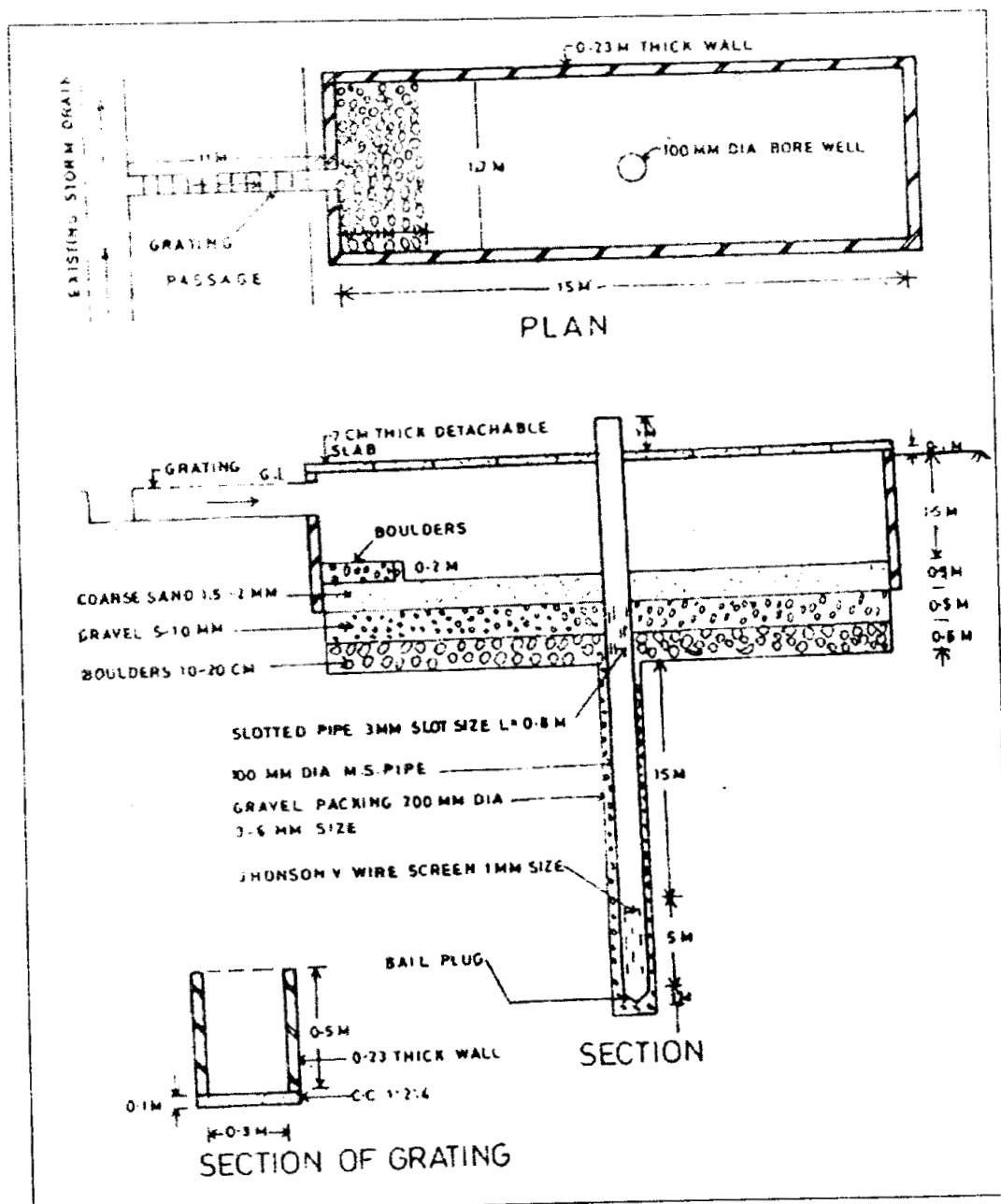


Figure – B-32: Schematic Diagram of Proposed Recharge Trench cum Recharge Shaft/ Well





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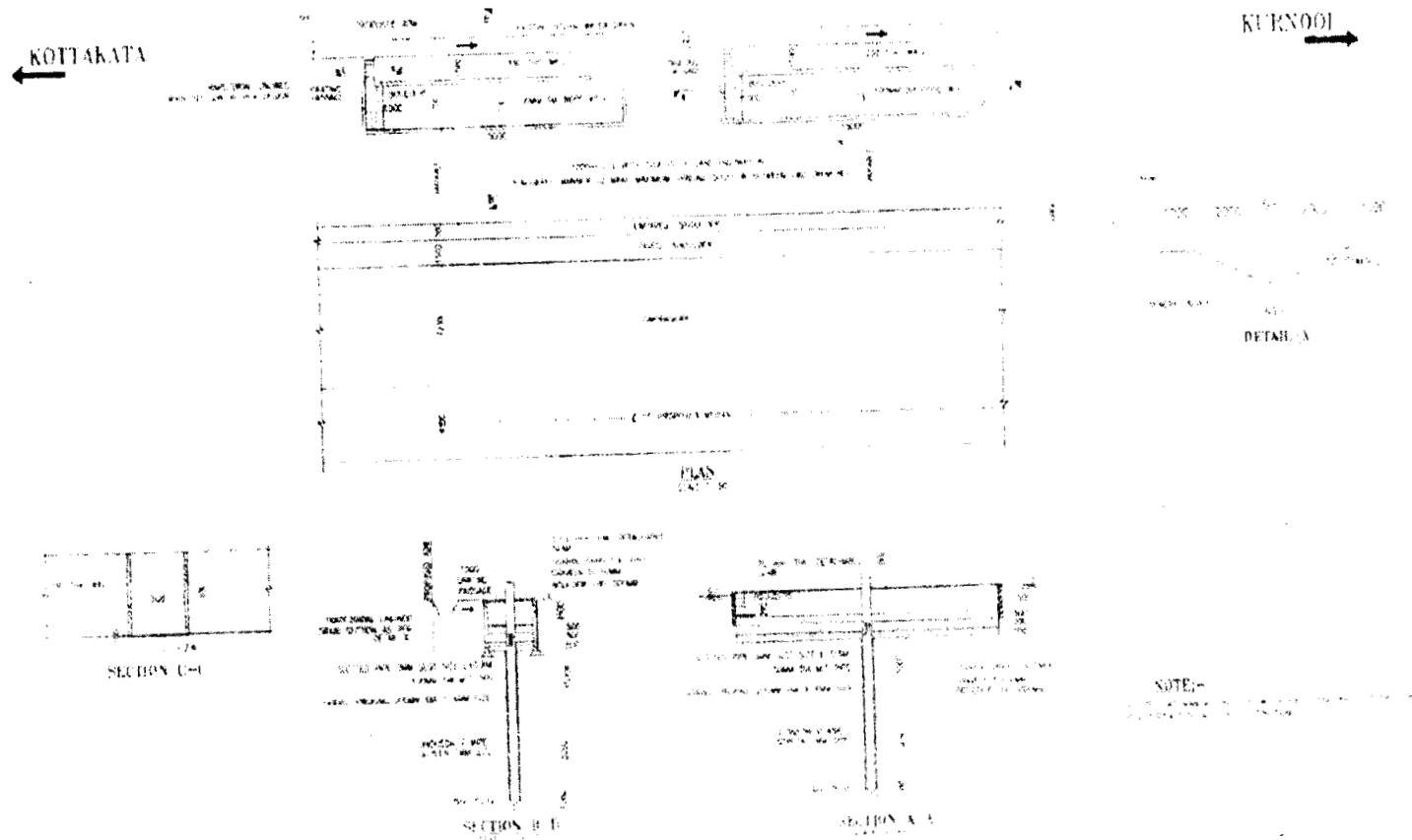


Figure – B-33: Typical arrangement drawing for rain water harvesting along the Project road.

PROJECT FACILITIES

1. GENERAL

The following sections of this Schedule provide the minimum spatial and functional requirements of the facilities to be provided on the Project Highway with an aim to cater to the envisaged demand till the end of the concession period. The Concessionaire shall review the adequacy of the proposed facilities at regular intervals of 5 years and accordingly provide additional facilities with necessary approval from the Independent Consultant in order to meet the demand of the road-users till the end of the concession period.

The present Schedule briefly highlights the minimum spatial and functional requirements of the facilities to be provided on the Project Highway in construction package from km 135.400 to km 211.000 only.

2. TOLL PLAZA

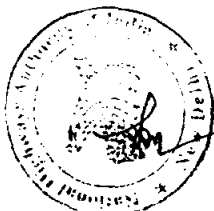
One toll plaza is suggested in-between existing km 200.700 to km 201.250, just before Tungabhadra River, on the Project Highway. The typical layout of toll plaza is given in Figure-C-1 at the end of this Schedule. The toll plaza shall have 6 lanes in each direction including a separate service lane for over sized vehicles and/or toll free traffic. The service lanes are designed for the maximum queue length of vehicles and service time for each vehicle. Normally the service time allowed is 15 seconds for manual/ semi automatic system with a queue length of not more than 5 vehicles at any point of time. High mast lighting shall be provided.

3. WAYSIDE AMENITY COMPLEXES CUM REST AREAS

Two Comprehensive wayside amenity complexes cum rest areas shall be provided with the consultation of Independent Consultant and NHAI at the following locations:

S. No.	Existing Chainage	Proposed Chainage	Side	Remarks
1	NA	154.000	RHS	On proposed Pebbair bypass
2	200.400	199.500	LHS	Near Pullur village

These should have provisions for restaurants, car parking, toilets, vehicle service station, drinking water facility and truck parking area. The typical layout plan of wayside amenity complex is shown in Figure C-2 at the end of this Schedule.



3.1 Truck Laybys

Truck laybys shall be provided where substantial truck parking, Dhabas, Petrol Pumps presently exist. The survey revealed that the major truck parking takes place nearby the following indicative locations:

- near Thomala Palli village in between existing km 149.400 to km 149.800 (LHS),
- near Pebbair town in between existing km 150.800 to km 151.200 (RHS),
- near Pellur village in between existing km 201.800 to 202.200 (LHS); and
- near Pellur village in between km 203.100 to 203.500 (RHS).

Service roads should be constructed at above locations to cater for truck parking. Basic facilities such as drinking water and toilets, with proper disposal system, shall be provided at suitable locations for the truck laybye. Drawing showing the typical details of Truck Lay-bye is presented in Figure C-4 at the end of this Schedule:

Table C-1: Locations of Truck Bays with Shelters

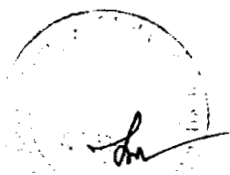
Sr No	Chainages From	Chainages To
1	149.400	149.800
2	150.800	151.200
3	201.800	202.200
4	203.100	203.500

3.2 Bus Bays and Bus SHELTERS

At places where sufficient bus stoppages are there, Bus stops/Shelters are to be provided. These shelters are generally proposed at existing bus stops and at major road intersections. The typical layout of bus bays and Bus stops are shown in Figure C-3 at the end of this Schedule. However, Concessionaire can change the design of shelter with approval from IC and NHAI. Tentative locations of bus bays and bus stops are presented in Table C-2.

Table C-2: Locations of Bus Bays and Bus Stops with Shelters

S. No.	Existing Chainage	Proposed Chainage	Name of Nearest Town/ Village	SIDE
1	135+890	135+650	Kothakota	LHS
2	135+128	135+850	Amadabakula	RHS
3	137+128	137+100	Amadabakula	LHS
4	137+344	137+332	Amadabakula	RHS
5	139+438	139+450	Mummalapalli	LHS
6	141+088	141+100	Mummalapalli	LHS
7	141+399	141+400	Mummalapalli	RHS
8	142+277	142+250	Mummalapalli	LHS
9	142+705	142+700	Konda Tanda	RHS



S. No.	Existing Chainage	Proposed Chainage	Name of Nearest Town/ Village	SIDE
10	144+553	144+500	Konda Tanda	LHS
11	144+801	144+800	Mirsalpalli	RHS
12	148+968	149+025	Thomalapalli	LHS
13	149+223	149+350	Thomalapalli	RHS
14	151+258	151+500	Thomalapalli	LHS
15	151+442	151+750	Thomalapalli	RHS
16	152+149	152+350	Thomalapalli	LHS
17	153+058	152+875	Pebbair	RHS
18	156+200	155+20	Pebbair	RHS
19	154+612	155+725	Pebbair	RHS
20	159+112	157+925	Rangapur	RHS
21	159+304	158+415	Rangapur	RHS
22	159+955	162+715	Beachebelly	RHS
23	159+916	162+700	Beachebelly	RHS
24	166+36	164+825	Beachebelly	LHS
25	166+338	165+400	Earavalli	RHS
26	168+648	167+625	Kondair	LHS
27	169+153	168+000	Kondair	RHS
27A	170+600	169+500	Kondair	LHS
27B	170+900	169+800	Kondair	RHS
28	173+297	172+200	Kondair	LHS
29	173+546	172+450	Kondair	RHS
29A	174+250	173+175	Kondair	LHS
29B	174+523	173+425	Kondair	RHS
29C	180+325	179+300	Kondair	LHS
30	180+561	179+550	Kondair	RHS
32	183+506	182+800	Borevelly	LHS
33	184+100	183+025	Borevelly	RHS
34	186+300	185+250	Borevelly	LHS
34A	186+763	185+700	Borevelly	RHS
35	189+750	188+800	Ittkaylapadu	LHS
36	190+100	189+100	Ittkaylapadu	RHS
37	198+543	197+600	Ittkaylapadu	LHS
38	198+540	197+600	Ittkaylapadu	RHS
39	202+927	202+075	Pellur	LHS
40	203+000	202+100	Pellur	RHS
41	139+897	139+900	Mummalapalli	LHS
42	140+000	140+000	Mummalapalli	RHS
Total Numbers of Bus Bays with Shelters			42	

Note L= Left hand side and R= Right hand side, while traveling from Kottakata to Kurnool
The Chainage mentioned in above table is as per existing Chainage

4. PEDESTRIAN/ CATTLE CROSSING FACILITIES

Cattle/pedestrian underpasses in the form of R.C.C. box cells having inner dimensions 3.75m (clear width) x 3.0 m (clear height) size shall be provided at the locations indicated in Table B-13 of Schedule-B or in close vicinity of these locations in consultation with the Independent Consultant.



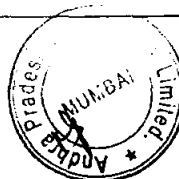
The proposed box cell shall have an opening at its top in full width in the median portion for the provision of daylight. The specifications and standards specified in Schedule-D shall be followed.

5. HIGHWAY TRAFFIC MANAGEMENT SYSTEM (HTMS)

Project Highway shall be provided with Highway Traffic Management Systems (HTMS) to collect/disseminate information for traffic and incident management and for the safety of Users.

The system shall comprise following sub-systems:

- i. Emergency Communication System.
 - ii. Mobile Communication System.
 - iii. Variable Message Sign System.
 - iv. Meteorological Data system.
 - v. Automatic traffic counter- cum-classifier system
 - vi. Power Supply System.
-
- (i) Emergency Communication System shall have Emergency Call Boxes (ECBs) installed at the spacing of 2 kms in a staggered manner on either side of the highway for both directions of travel and connected to the control centre through the transmission system of optical fibre cable and copper cables with suitable interfacing. The main control centre shall be equipped so that any user making emergency call from ECBs can be provided the assistance of ambulance, crane and highway patrol unit depending upon the location of caller.
 - (ii) Mobile Communication System shall have mobile sets provided on ambulances, cranes and patrolling vehicles for facilitating speedy communication even when they are on the move.
 - (iii) Variable Message Signs shall be provided at an interval of 10Km in each direction of traffic to guide and forewarn the users about the traffic and weather conditions on highways. These messages can be varied from control centers based on the data received through surveillance system, highway patrolling, traffic sensors etc. The locations shall be decided for their maximum utility to the users.
 - (iv) Meteorological Data System shall be installed at an interval of 25 Km to provide weather information on temperature, wind speed, humidity and visibility. These informations shall be available to the users through variable message signs as per requirements.
 - (v) Automatic Traffic Counters cum-classifier shall be installed at minimum two locations for traffic data collection and monitoring.
 - (vi) Provision for installing of video cameras shall be made available at all major intersections and at least 4 video cameras shall be made available for use at any of the identified locations on need basis.
 - (vii) These systems shall have outdoor equipments consisting of ECBs, VMS panels, weather sensors, traffic sensors, video camera etc. The outdoor equipment shall be connected to the control centre through transmission system preferably comprising optical fibre cable, copper cable and interface equipment. The control centre shall have monitoring equipment, on line information acquisition equipment, processing equipment etc. It shall also have a graphic display board showing the highway and the locations of equipments and of incidents. The main control centre and sub-centre would also have ambulance, tow away trucks and cranes, and fire tenders for dispatching these emergency services to the required locations.



6. ADMINISTRATIVE, OPERATION AND MAINTENANCE BASE CAMP

Administrative base camp may be provided. Exact location of administrative base shall be finalized in consultation with IC. However it can be preferably located at toll plaza.

The main administrative, operation and maintenance base camp shall be provided to cater to the requirement of the following services.

- Central Traffic Control
- Central Toll Control
- Highway Maintenance
- Facilities for storage and repair of maintenance equipment, vehicles, and materials

The main base camp shall be housed adjacent to the toll complex. An area of approximately 4000 sqm shall be earmarked for this purpose. The layout of the different buildings and facilities shall be finalized in consultation with the Independent Consultant.

The Administrative building shall primarily house the Control Center, the security headquarters, the central store, the toll audit and data processing units in addition to other secondary facilities such as computer room, office space, stores, sanitary facilities, canteen etc. The base camp shall have adequate parking space for staff and visitors.

In addition, the base camp shall have an electric room and supplies room to cater to the power requirements of the camp. The electric room shall house a standby generator to provide the required power in case of failure of normal power.

The camps shall have adequate lighting during dark periods and night.

There shall be underground fuel storage area with delivery facilities at the campsites to be adequate to cater to the demands of maintenance and patrolling activities.

The base camps shall not have more than one entry and one exit point. Both of these shall be manned by security personnel at all times.

The camp shall be landscaped so as to protect the area from dust and noise from the Project Highway.

7. HIGHWAY LIGHTING

The lighting in classified urban areas should be on the Project Highway, grade separators, toll plaza and main administrative base camp. Traffic aid posts shall be provided in accordance with the standards set in Schedule D.

8. LANDSCAPING

Landscape treatment of the Project shall be undertaken through planting of trees and ground cover of appropriate varieties and landscaping on surplus land in the ROW and median in accordance with Schedule D.

Shrubs of low height shall be planted in the median of highway. Plantation scheme shall be prepared in consultation with Forest Department, Government of Andhra Pradesh and the Independent Consultant in accordance with Schedule D.



9. ENVIRONMENT

In view of the statutory requirement of environmental clearance for Highway Projects, the NHAI decided to carry out environmental and social impact assessment of the proposed widening and strengthening of the Project Highway.

The environmental and social assessment study has accordingly, been carried out and is presented in a report titled:

“Kottkata – Kurnool DPR”.
“Environmental Assessment Report” - Volume IVA &
Resettlement Action Plan Volume IVB

The said report brings out the baseline environmental and social conditions, envisaged impacts of the Project, mitigation measures proposed and suitable management plan for monitoring and implementation of measures.

The Project Highway during design, construction, operation and maintenance shall conform to the environmental rules and regulations in force. The Concessionaire shall be responsible for the same. As such a copy of the report in question is enclosed herewith for guidance of the Concessionaire. However this does not absolve the Concessionaire from performance according to the laws on environment.

10. ROAD FURNITURE AND ROAD SIDE FACILITIES

Road furniture and roadside facilities like litterbins, public toilet and drinking water kiosks shall be provided in Project highway as per standards mentioned in Schedule D.

11. FACILITIES TO BE PROVIDED FOR NHAI

The Concessionaire shall provide the following facilities for NHAI

- i. The Concessionaire shall provide a new 4x4 driven A.C. Vehicle to the PIU and all the expenses made against vehicle maintenance including fuel charges, driver salary etc shall be borne by Concessionaire for the entire concession period.
- ii. The Concessionaire shall provide at least two latest mobile phones with connection
- iii. The Concessionaire shall also provide following supporting staff for NHAI including their wages and additional benefits
 - One stenographer
 - One Office attendant/peon

12. LAB FACILITIES FOR IC

The Concessionaire shall provide a well-established highway/ material engineering laboratory with latest state-of-art material testing equipments. This lab will be manned and operated by IC for quality



control. The Lab shall also have power stand by system. The list of equipments shall be finalized in consultation with NHAI/IC.

C-7

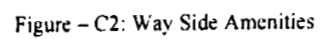


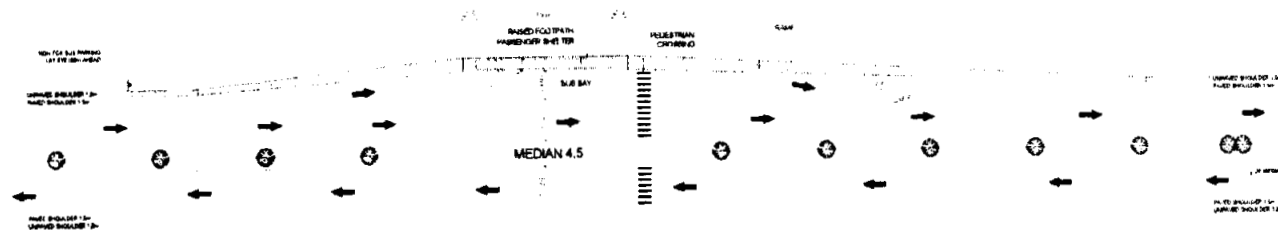
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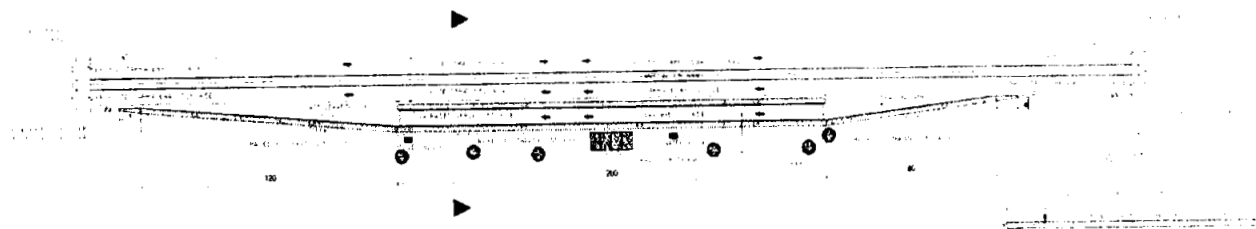






TYPICAL LAYOUT OF PROPOSED BUS-BAY

Figure – C3: Layout of Bus Bays and Bus Stops



LINEAR PLAN FOR TRUCK LAY BYE
SCALE 1:100

RIGID PAVEMENT COMPOSITION

LOCATION OF TRUCK LAY BYES

EXISTING CHAINAGE	PROPOSED CHAINAGE	SIDE
149+300 TO 149+700	149+400 TO 149+800	LHS
201+800 TO 202+200	202+900 TO 201+300	LHS
150+653 TO 151+053	149+800 TO 151+200	RHS
202+800 TO 203+200	201+900 TO 202+300	RHS

SCHEMATIC SECTION A-A
SCALE 1:500

Figure – C4: Truck Lay Bye

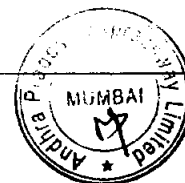
SCHEDULE D**SPECIFICATIONS AND STANDARDS****1. INTRODUCTION**

- 1.1 The Designs for various elements of the Project including facilities shall conform to the minimum design requirements set out in DPR and this Schedule. Alternative or additional designs submitted by the Concessionaire shall also meet these requirements.
- 1.2 Concessionaire in consultation with and approval of Independent Consultant / NHAI can adopt alternative designs for Bridges, Culverts, Flyovers, Retaining Earth Walls, Overpass and Underpass. In case the Concessionaire follows the DPR designs it shall carry out its own engineering surveys and shall be solely responsible for such designs. However, total length of viaduct portion of structure should not be reduced from that of mentioned in Schedule B. Notwithstanding anything to the contrary contained herein, the Concessionaire shall carry out its own engineering surveys and designs and shall be responsible for design, engineering and construction of the Project Highway as per the Specifications and Standards in accordance with the provisions of this Agreement
- 1.3 The Concessionaire shall strictly follow the horizontal alignment given in the DPR. In case DPR alignment design is deficient in terms of standards to be followed for the design speed of 100 kmph, improvements to alignment can be done with consultation and approval of Independent Consultant.
- 1.4 In no case the FRL of the Project Highway be less than the FRL proposed in the DPR. The vertical profile shall conform to the standards mentioned in this Schedule. In no case the depth of cut shall not be more than that mentioned in DPR at any section of the Project Highway.
- 1.5 The Cross sectional elements specified for the Project shall be strictly followed.
- 1.6 All works related to the Project Highway shall conform to the Guidelines and Special Publications as applicable to National Highways and Ministry of Shipping, Road Transport and Highway earlier Ministry of Road Transport and Highway (MORT&H) Specifications and Indian Roads Congress (IRC) standards, Codes, with all updates till 30 days before the date of bid submission by the Concessionaire. In the absence of any definite provisions on any particular issue related to the Specifications and/or standards, reference may be made to the latest codes and Specifications of Bureau of Indian Standards, British Standards, AASHTO, ASTM or any other International standard in that order. But, where even these are



silent, the construction and completion of the works shall conform to sound engineering practice with the approval of the Independent Consultant / NHAI.

- 1.7 Amendments and/ or modifications carried out by the Ministry of Road Transport and Highway in the MORT&H Specifications and IRC standards, and codes and available to public 30 days before the date of receipt of bids shall be applicable.
- 1.8 Whenever any specific provision for any building works is given in the MORT&H Specifications, IRC standards and codes, those shall apply. All building works shall conform to Central Public Works Department (CPWD) Specifications for class I building works or standards given in the National Building Code (NBC) as amended and/or modified from time to time. For the purpose of this clause, building works shall be deemed to include road furniture, landscape elements and /or any other works incidental to the building works.
- 1.9 In case, any further amendments and/ or modifications in the said Specifications and/or standards and codes come into force after the said date (clause 1.8 above) and have financial impact, the matter shall be settled according to the Concession Agreement.
- 1.10 In so far as amended/modified/added clause supersedes a clause or part thereof in the said Specifications and standards, then any reference to the superseded clause elsewhere shall be deemed to refer to the amended/modified /added clause or part thereof.
- 1.11 If amended/modified/added clause provision comes in conflict or be inconsistent with any of the provisions of the said Specifications and standards, the amended/modified/ added clause shall always prevail.
- 1.12 The Concessionaire shall plan and implement the quality assurance programme for the Project Highway and finalize it in consultation with the Independent Consultant at least one month prior to the commencement of the work.
- 1.13 The quality and/ or the quantities of various items shall primarily be the responsibility of the Concessionaire. The Independent Consultant shall, however, ensure and/ or verify it by devising suitable means. On noticing any deficiency in the quality and/ or quantity, corrective measures as ordered by the Independent Consultant shall be carried out by the Concessionaire at the Concessionaire's cost to the satisfaction of the Independent Consultant. In case of any disagreement or non-compliance by the Concessionaire, the dispute will be referred to NHAI to resolve it in terms of the Concession Agreement.



2. DESIGN STANDARDS

2.1 Design Standards comprise of MORT&H policy circulars and IRC codes, guidelines and special publications applicable to National Highways. The design standards adopted in DPR shall be generally followed. NHAI policy guidelines and respective State government current requirements and guidelines shall be adopted for landscaping and tree plantation along the corridor. Where the said standards are silent on any item, the following standards in order of preference shall be adopted with the approval of the Independent Consultant/NHAI.

- i. Bureau of Indian Standards (BIS)
- ii. American Association of State Highway and Transport Officials (AASHTO)
- iii. American Society of Testing Materials (ASTM)
- iv. British Standards (BS)
- v. Any other National or International Standard suggested by the Concessionaire.

Designs offered by the Concessionaire shall comply with the standards as spelt out in clause 2.1 above.

The list of Codes in Annexure I is given to serve as a guide for design of various elements of Project Highway.

Geometric Design Standards

2.3.1 Geometric design standards shall be adopted as per IRC codes as applicable to the National Highways. The design Standards and design criteria adopted in DPR shall be followed.

Geotechnical Design

2.4.1 Cut and fill slopes shall be appropriate to the nature of the material and the height of embankment or depth of cut. The slopes shall be safe against failure.

2.4.2 Material used in the fill and its compaction requirements shall conform to IRC - 36-1970. Where these Specifications are in variance with the MORT&H Specifications the latter shall govern and be followed.

Pavement Design

2.5.1 The Pavement crust thickness requirement as mentioned in Schedule B for various elements shall be the bare minimum requirement for the Project. Any additional thickness above and over that mentioned in Schedule B shall be finalised in consultation with Independent Consultant.

2.5.2 The new flexible pavement shall have Bituminous Concrete (BC) [also termed Asphaltic concrete (AC)] wearing course laid over Dense Bituminous Macadam (DBM). Underneath DBM a bituminous base course of Bituminous Macadam (BM) shall be provided if

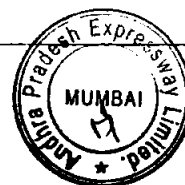
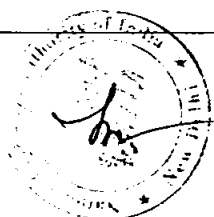


necessary as per design requirements. It will be laid on Wet Mix Macadam (WMM) base course. The subbase granular material shall conform to the grading, density and other physical requirements stipulated in MORT&H Specifications and shall have a minimum CBR of 30% at 97% Maximum Dry Density (MDD). Material Chosen for subgrade shall have CBR not less than that suggested in DPR at 97% MDD.

- 2.5.3 Refinery Modified bitumen shall be used for bituminous concrete wearing courses in accordance with the stipulations of relevant and latest IRC & MORT&H guidelines.
- 2.5.4 The minimum requirement of thickness for Cement concrete pavement shall be as mentioned in Schedule-B. The flexural strength of concrete used for PQC should not be less than 45 Kg/cm². In case Concessionaire desires to adopt rigid pavement for new carriageway or any other facilities, the above mentioned minimum thickness shall be provided in consultation with Independent Consultant.
- 2.5.5 Rigid pavement should be provided below the underpass locations where the Project Highway is flying over the crossroad and proposed underpass is not a RCC box structure. In case the crossroad is NH or SH the rigid pavement of at least same thickness as that as mentioned in Schedule B shall be provided. In case the crossroad is MDR/ODR the rigid pavement shall be designed and finalised in consultation with Independent Consultant.
- 2.5.6 To ensure internal drainage of the pavement structure, the lower drainage layer of the road subbase shall extend upto full formation width.
- 2.5.7 Unevenness index of the pavement on completion shall not be more than 2000 mm per km measured with Bump Integrator fitted in a vehicle or an equivalent device approved by the Independent Consultant/NHAI. The instrument used in the measurement of roughness shall be calibrated as per guidelines given in the World Bank Technical Note No.46.

Drainage System

- 2.6.1 An effective surface and sub surface drainage system of pavement structure shall be designed as stipulated in IRC SP: 42 (1994).
- 2.6.2 Rainwater Harvesting System shall be provided all along the Project Highway as per provisions of DPR and IRC SP 50:1999.
- 2.6.2 Drainage system as designed and adopted in DPR for the drainage of carriageways in urban areas, rural areas, medians, wayside amenities, truck parking areas, bus-bays, rain water



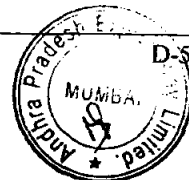
harvesting systems and other highway features are the minimum requirement for the Project and shall be followed. Any further requirement for ensuring more effective drainage system shall be designed and finalised in consultation with Independent Consultant.

Design Standards for Culverts, Bridges, Underpasses, Over bridges

- 2.7.1 The design standards and loading to be considered for culverts, bridges, underpasses and over bridges shall be those laid down in the latest relevant IRC codes and / or IS codes. Where the said codes are found wanting or are silent other codes as stipulated in Clause 2.1 above shall be followed.
- 2.7.2 MORT&H specification (Clause 2607.2) shall be followed for the material of strip seal expansion joints.
- 2.7.3 Design of POT/PTFE bearings design shall be done in accordance with IRC 83 (Part-III) Specifications.
- 2.7.4 Specifications for structural Concrete shall be as per IRC 21: 2000.
- 2.7.5 HDPE sheathing shall be used for pre-stressing.
- 2.7.6 Pre-stressing anchorages shall confirm to the latest BS code CEB-FIP recommendations.
- 2.7.7 Design of voided slabs shall conform to the draft Specifications as considered by the IRC council.
- 2.7.8 Provision of pile foundations if proposed by Concessionaire shall have the approval of Independent Consultant. Pile load test shall be performed by conventional load testing method and not by high-energy method.
- 2.7.9 Conduct of Field Pull Out test for RE walls is mandatory. In addition to this, Specifications given in DPR shall be followed for RE wall design and construction.

2.8 Existing Culverts, Bridges

- 2.8.1 The unsafe and/or deficient bridge and culvert structures on the existing 2 lane carriageway shall be rehabilitated or replaced by sound structures to carry the IRC design loads spelt out in clause 2.7.1 above. The recommendations for rehabilitation of CD structures mentioned in DPR and Schedule-B are the bare minimum and any additional structure, which is required to be reconstructed, or any additional requirement for rehabilitation other than those



mentioned in DPR and Schedule-B shall be finalised in consultation with Independent Consultant.

- 2.8.2 Where the existing structures are retained and extended, the extension shall be done with same type of structure and properly adjusted and matched with the existing structure. The guidelines provided in DPR shall be followed for this purpose.

2.9 Intersections

- 2.9.1 At-grade intersections shall be designed according to IRC Special Publication 41 'Guidelines for the Design of At-grade Intersections in Rural & Urban Areas' and the MORT&H Type Designs for Intersections on National Highways, with modifications where required. The designs set out in DPR for intersections shall form the basis for the design. Treatment at any additional intersection other than those mentioned Schedule-B, shall be finalized in consultation with Independent Consultant.

- 2.9.2 For elements not covered in DPR and the said publication, Guidelines of IRC-92-1985 supplemented by relevant MORT&H and the AASHTO publication 'A Policy on Geometric Design of Highways and Streets' shall be used.

- 2.9.3 Geometric design standards for elements of grade-separated intersections given in DPR shall be adopted.

2.10 Litter Bins

- 2.10.1 The litterbins shall be located at no more than 100 m intervals in the rest area and the truck-parking lay-byes. The bus stops shall be provided with at least one litterbin.

- 2.10.2 The capacity of the litterbin shall be as per requirement, subject to a minimum of 30 litres.

2.11 Public Toilets

- 2.11.1 Requisite number of urinals, WC and bathing places supported by adequate water supply and sewerage facilities and appurtenances as per the National Building Code (NBC) shall be provided at truck parking lay-byes, subject to a minimum of 4 WC, 5 urinals and 3 bathing places. Number of urinals, WC and bathing spaces in all other places including the rest areas will be as per the NBC. The entrance of the ladies toilet shall be clearly marked and segregated from the men's toilet.

2.11.2 At least 2-m wide area around the toilet blocks shall be paved with adequate cross slopes and drainage to ensure speedy disposal of water. Arrangement for sewage disposal shall be provided.

2.12 Drinking Water Kiosk

2.12.1 Drinking water kiosks at the Truck Lay byes and Bus shelters shall have a minimum of 4 taps of push button type. The drinking water kiosks shall be easily accessible to children and handicapped people. The water kiosks shall be properly segregated and shall be at least 3 m away from the toilet blocks, if any. Water supply shall be through existing water pipe line. In absence of this, provisions for ground water extraction shall be made.

2.12.2 Water storage in the drinking water kiosks shall be as per the National Building Code (NBC), subject to a minimum of 200 litres. At least 2 sq.m. area around the drinking water kiosks shall be paved with adequate cross slopes and drainage to ensure speedy disposal of spilt water.

2.13 Highway Lighting System

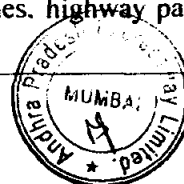
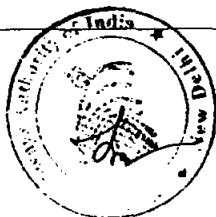
2.13.1 The night-time illumination in the areas used by pedestrian shall not be less than 10 lux. In urban areas, it is recommended that semi-cut-off luminaries shall be provided. Arrangement of lighting installations shall be staggered except at curves. High mast lighting shall be adopted for lighting of all Grade Separated Junctions and any other locations as mentioned in Schedule-B.

2.13.2 The layout of masts, their height and spacing shall be fixed in consultation with the Independent Consultants so that the minimum illumination level prescribed in 2.13.1 above is achieved.

2.13.3 Non-Conventional Sources of lighting system shall be provided at all At-grade Intersections as mentioned in Schedule-B with solar energy. The general Specifications mentioned in DPR shall be followed for this purpose.

2.14 Highway Traffic Management System (HTMS)

HTMS shall provide facilities to the highway users to make emergency calls through Emergency Call Booths (ECBs) to control centre in case of accidents, break down of vehicle and fire and to pre-warn the highway users about unusual conditions on the road. It shall provide information / data to traffic managers on traffic flow, conditions, speed and weather conditions, location of any incident and help required and on incoming calls. Based on these, the traffic managers should be able to exercise control on changing the variable message signs, mobilising the movement of ambulances, cranes, highway patrol units and



fire tenders. HTMS shall also provide on line recording and reviewing of the voice and individual information for record and analysis.

2.14.1 All equipment shall comply and be installed in accordance with IEC 364, with minimum of CENELEC standards EN 50128 software integrity level 2.

2.14.2 The HTMS shall have an overall system mobility of better than 99% and shall be considered unavailable if any of the functions can not be properly executed. The mean time to restore to the normal operation following a failure shall be less than four hours all inclusive. The service life of HTMS shall be 10 years.

All outdoor equipment for the facility of the users such as Emergency Call Booths (ECB) and Message Signs (MS) shall be installed at locations which shall be clearly visible to the approaching drivers. The ECBs shall have proper sign identifications

2.15 Traffic Safety Measures

2.15.1 Highway Patrolling

The Concessionaire is required to provide round the clock route patrols to assist motorists. The patrol personnel should be adequately trained to the satisfaction of the Independent Consultant in traffic management, road safety and in primary First Aid. The purpose of these patrols is to:

- Provide the users of the Project Highway with basic mechanical help for vehicles that break down on the National Highway Section, and protect other motorists from such vehicles
- Immediately identify traffic hazards of whatever nature, such as unauthorised parking, public transport vehicles obstructing traffic during passenger loading and unloading, debris, stray animals and the like. The Concessionaire shall take the necessary measures to remove such obstructions.
- Provide emergency management at accident scenes until such time as the appropriate authorities arrive.
- Assist the motorist, for the removal of damaged or mechanically impaired vehicles from the Project Highway,
- Provide road user information and to further the image of the National Highway Section in a professional and friendly manner.
- Maintain daily records of assistance provided to motorists
- Observe, record and report suspect aspects of the highway, hazards and incidental damage caused by vehicles, floods, storms, or other random events, such that the highway maintenance records and data base are continuously improved.



2.15.1.1 Patrol vehicles

The Concessionaire will provide 4x4 drive Patrol vehicles as stipulated in the Contract. Each vehicle shall accommodate a minimum 3 persons including the driver. The Concessionaire will also make arrangements for standby vehicles.

2.15.1.2 Ambulances

The Concessionaire will provide ambulances having all facilities of emergency assistance required like stretcher to carry the patient, Emergency Medicines, oxygen etc.

2.15.1.3 Cranes

The Concessionaire will provide cranes of 15 MT capacity having all requisite arrangements of pulling and lifting of accidental/break down vehicles. Table D-1 presents the serviceability indicators, required maintenance level that shall be followed by Concessionaire as part of highway patrolling.

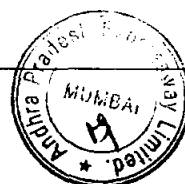
Table D-1: Serviceability Indicators and required maintenance level for Patrolling

Sl. No	Serviceability Indicator	Required Maintenance Level	Frequency of Inspections by Engineer to Ensure Required Level of Service
1.	Tow trucks, cranes & ambulances etc.	within 30 minutes of incident occurrence	Daily on regular basis followed by weekly & monthly inspections
2.	Frequency of highway patrol	Every 4/6 hours on each carriageway for entire stretch (logging system)	Daily on regular basis followed by weekly & monthly inspections

2.15.2 Pedestrian Guard Rails and Safety Barriers**2.15.2.1 Pedestrian guardrail shall be provided at the following locations**

- At the places where pedestrian activity is high
- on raised foot path on the side of carriageway at bus stops and bus bays mentioned in Schedule-C, for adequate length for pedestrian safety, not less than 20 m on either side

The layout of pedestrian guard-rails at crossings, road intersections shall be as per the drawing given in DPR. On kerbed road sections, guard-rails shall be at least 15 cm away from the edge of carriageway.



2.15.2.2 Safety barriers shall be located at the following locations

- i. At high embankments which have height $> 3\text{m}$ when measured from the top of the pavement to the natural ground.
- ii. At sharp horizontal curves whose radius is less than 500 m by the side of ponds, lakes, open wells even when the height of embankment is less than 3 m.
- iii. Along the central median at places where median width is 1.5 m and also in the lengths where median tapers from 5.0 m to 1.5 m.. Typical layout for safety barriers is given in DPR.
- iv. on the approaches of major and minor bridges for a length of at least 25m on both sides even if the embankment height is less than 3m.

Traffic Blinker Signal with Liquid Electromagnetic Display (LED)

The road traffic signals, its configuration, size, location and other requirements shall be as per IRC: 93 - 1985 and IS: 7537 - 1974.

Blinker Signal shall be provided at all intersections with SH/MDR/ODR category roads in rural areas with non-conventional energy sources like solar energy. The general Specifications mentioned in DPR shall be followed for this purpose.

2.15.4 Road Studs

2.15.4.1 Nineteen degree (19°) tilted one-way reflective road studs with anchor and with 1x43 glass elements etc. complete shall be provided at 1 m c/c on pedestrian crossing with red reflective panel as per EN 1463 and BS873 part IV (1987). Road studs shall also be provided at 9 m c/c on edge lanes, lane lines for a length of at least 130 m on the approaching side of the intersection with white reflective panels as per BS873 part IV (1987) replaced partly with BS EN 1463-1: 1998.

2.16 Highway Signs

2.16.1 The design and location of route marker signs for National Highway shall be as per the IRC: 2-1968. The design and placement of highway kilometre stones, the dimensions of stones, size, color, arrangement of letters shall be as per IRC: 26-1967 and IRC: 8-1980. The design, location and materials to be used for Road delineators shall be as per IRC: 79-1981. The color, configuration, size and location of size of traffic signs shall be as per IRC: 67-2001.

2.16.2 For the road signs the standards set in IRC: 67-2001, Code of Practice for Road Signs shall be followed. As regards, the overhead signs the standards prescribed by MORT&H shall be followed. Where these are silent, standards prescribed in BIS/British

Standards/AASHTO/ASTM or any other international standard in that order shall be adopted in consultation with the Independent Consultant / NHAI.

- 2.16.3 All the cautionary/mandatory signs shall be provided on shoulder and median for each direction of traffic for clear visibility during overtaking operations.
- 2.17.3 On kerbed road sections the edges of the road signs shall be at least 60 cm away from the edge of the kerb. where as on un-kerbed road sections the edge of the signs shall be at a distance of 2 m from the edge of the carriageway.

Pavement Markings

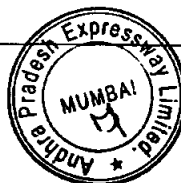
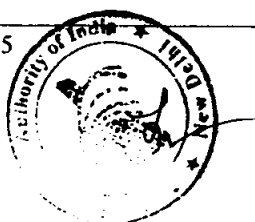
- 2.17.1 Pavement markings shall be designed and provided in accordance with IRC: 35-1997 "Code of Practice for Road Markings" in consultation with the Independent Consultant.
- 2.17.2 Centre line, Edge line (outer), Edge line (inner) and pedestrian crossing shall follow the guidelines mentioned in BS EN 1436 - 1998.

2.18 Pickup Bus Stops & Bus Bays

- 2.18.1 The layout, design and location of the pickup bus stops shall be as mentioned in Schedule C and shall follow the Specifications of IRC: 80 - 1981. The sizes of the bus shelters shall be 0.6 m^2 per person during peak load depending on the frequency of buses to be handled by each stop. Bus stops shall be provided on both sides of the road for either direction of traffic. The plinth height of the bus stop shall be 0.3 m from the bus bay level and shall be 2 risers high. The minimum ceiling height of the structure shall be 2.1 m. The height of seating shall be 0.4 m from floor level while the back of the seat shall be 0.35 m high. Seating space per person shall be $0.45\text{m} \times 0.45\text{m}$, while minimum leg and circulation space for each seat shall be 0.6 m. Each bus stop shall have at least one litter bin. The pedestrian guard rails shall be provided as described earlier in this Schedule.
- 2.18.2 No raised medians shall be constructed at bus bay locations. Chevron marking and bollard system shall be provided at the median portion between main carriageway and bus bay for delineation of bus bay from main carriage way.

2.19 Truck Parking Facility

- 2.19.1 The parking length at bays for each vehicle shall not be less than 15 m and parking width for each vehicle shall be 2.75 m. The length of the lay-bye shall be as per parking requirement subject to a minimum of 100 m and the minimum width of the raised separator between the lay-bye and the carriageway shall be 3m in rural sections. The parking spaces shall be



parallel to the road. Parking lots shall be adequately illuminated and nighttime illumination shall not be less than 10 lux.

2.20 Landscaping

2.20.1 Trees shall be planted in rows and on either side of the road with staggered pitch as per the IRC: SP: 21-1979. A range of 10-15 m c/c is recommended for spacing of trees (parallel to the road). Setback distance of trees needed in different situations shall be as per the IRC: SP: 21-1979 and the IRC: 66-1976. The distance between the kerb, if any, and the nearest edge of tree trunk shall be at least 2 m. Shrubs in medians shall not normally exceed 1-1.5 m in height and shall be as per IRC: SP: 21-1979.

2.20.2 Relevant provisions of NHAI policy guidelines and respective State Government current requirements and guidelines shall be followed for landscaping.

2.20.3 The Environment and Social Impact Assessment Report. (Clause 13 Schedule C) attached shall be followed in respect of plantation.

For safe traffic operation vertical clearance between the crown of the carriageway and lowest part of the overhang of the tree available across the roadway shall conform to the standards set down in IRC: SP: 21-1979. The pit size, fencing, watering and maturing requirements shall also conform to the above standard. Planting shall be such that it does not obstruct the visibility of traffic from any side and shall be pleasing in appearance.

2.21 Utility Ducts

Two (2) Numbers of Utility ducts shall be provided at an interval of 500m in urban sections and 2000m in rural sections for cross connection. These ducts shall be made of NP4 pipes of minimum 300mm diameter and shall be provided below the ground level. The above mentioned size of the pipe is bare minimum. It shall be increased if necessary in consultation with respective service departments and Independent Consultant. Location and level of the cross utility ducts shall be finalized in consultation with the Independent Consultant and NHAI

3. SPECIFICATIONS

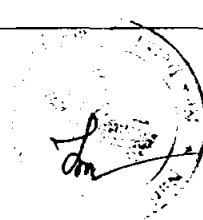
3.1 'Specifications' herein under mean the Specifications relating to the quality and other requirements for the Project Highway as set forth in this Schedule and any modifications there-of, or additions there-to as included in the Specifications of DPR for the Project Highway.



- 3.2 All Specifications (Additional & Modified) for materials used shall be consistent with DPR Specifications and other publications referred to therein.
- 3.3 The materials to be used in the work of the Project Highway (including facilities thereon) shall conform to DPR and MORT&H Specifications. However, where the said Specifications are silent in regard to Specification for the material in question in that case, Specifications under Bureau of Indian Standard/British Standards/AASHTO/ASTM shall apply in that order. But even where these standards are silent, the Concessionaire shall get the Specifications for the material in question approved by the Independent Consultant prior to its use in the work.
- 3.4 Fly ash shall be utilised in the road construction if it is available in adequate quantity within a radius of 100 Km from the Project corridor as per Ministry of Environment and Forest regulations.
- 3.5 In addition to road and bridge works, there will be other works, described herein under, on the Project Highway. Wherever the tailor made Specifications are not available for these works, specific approval of the Independent Consultant shall be obtained by the Concessionaire in respect to that particular item of work.

3.5.1 HIGHWAY LANDSCAPING

- 3.5.1.1 Planting of trees along the Project Highway shall follow a variety of schemes depending upon location requirement as per the IRC: SP: 21-1979. The choice of trees to be planted shall also be made as per IRC: SP: 21-1979: "Manual on Landscaping". Eucalyptus (all species) is not recommended for planting. Local, indigenous species that grow in high salinity microclimate shall be planted.
- 3.5.1.2 On medians and as under-crop, planting of dust and gaseous substance-absorbing shrubs such as nerium oleander album is recommended. To ensure survival from herbivorous animals, shrubs/plants containing latex shall only be planted.
- 3.5.1.3 Preparation of schemes for Project Highway development, restriction on building lines, control lines, control of access, prevention unauthorised occupation of land and removal of encroachment shall be as per IRC: SP : 15-1996
- 3.5.1.4 The treatment of the highway embankment slopes shall be as per the recommendations of IRC: 56-1974, depending upon the soil types involved. Pitching works on the slopes shall be as per the MORT&H Specifications.



3.5.1.5 Construction of CC (M-20) footpaths for pedestrians shall be as per MORT&H Specifications.

3.5.1.6 No advertisement shall be allowed to be erected within the RoW.

3.5.1.7 It shall be ensured that any sign, signal or any other device erected for traffic control, traffic guidance and/or traffic information shall not obscure any other traffic sign.

3.5.2 BUILDINGS

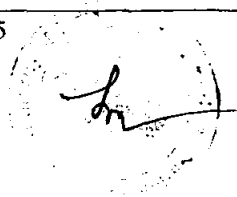
3.5.2.1 All building works shall be designed to meet the functional requirements and shall be compatible with the regional architecture and microclimate. Locally available materials shall be given preference but not at the cost of construction quality. All brick and stone masonry works shall be of first class type and as per good practice. All steel works shall conform to section 6, Part VI of the NBC and section 1900 and 2000 of MORT&H Specifications.

3.5.2.2 Whenever any specific provision for any building works is given in the MORT&H Specifications, IRC standards and codes, those shall apply. All building works shall conform to Central Public Works Department (CPWD) Specifications for class I building works or standards given in the National Building Code (NBC) as amended and/or modified from time to time. For the purpose of this clause, building works shall be deemed to include road furniture, landscape elements and /or any other works incidental to the building works.

3.5.2.3 All the open spaces around the building(s) shall be landscaped. Boundary walls, fencing, controlled entry points and cattle-catches at all entry and exit points to the buildings shall be provided to protect them from intruders and animals.

3.5.2.4 The design of water distribution and storage systems, laying of mains and pipes, cleaning and disinfecting of the water supply system shall be as per relevant clauses of section 1, Part IX of the NBC.

3.5.2.5 The design, layout and construction of drains for sewage disposal system with all ancillary works such as connections, manholes and inspection chambers and septic tanks shall be as per relevant clauses of Section 2, Part IX of the NBC. Each septic tank, if provided, shall have a soak pit of adequate size. The location of the septic tanks and subsurface absorption system shall be as per clause 12.15.1 of part I of NBC.



- 3.5.2.6 The design and location of all electrical installations, distribution system, wiring, fittings, accessories and lightning protection of buildings shall be as per relevant clauses of Section 2, Part VI of the NBC.

3.5.3 HIGHWAY LIGHTING SYSTEM

- 3.5.3.1 The following codes shall be followed while designing the lighting system on the Project Highway for different locations such as urban areas, junctions, bridges, junction of slip roads with elevated roads, pedestrian crossing, base camps etc.

- i) IS: 1944 (Parts I and II) - 1970
- ii) IS: 1944 (Part V) - 1981; and
- iii) IS: 1944 (Part VI - 1981)

The layout of the lighting system together with type of luminaries and level of illumination for different locations shall be determined in consultation with the Independent Consultant.

- 3.5.3.2 Overhead electric power and telecommunication lines erected within the Right of Way (ROW) by the Concessionaire shall be provided with adequate clearance so that safe use of road is not affected. Vertical and horizontal clearances shall conform to the IRC:32-1969.

3.5.4 HIGHWAY TRAFFIC MANAGEMENT SYSTEM

- 3.5.4.1 The system and the equipment shall meet the following main climatic and environmental requirements as specified in IS 9000.

- i) Temperature Range of Operation - Low of 0°C ($\pm 3^{\circ}$ centigrade) to high of 60°C ($\pm 2^{\circ}$ centigrade) Relative Humidity of 95%
- ii) Vibration - Frequency Range of 10 Hz - 55 Hz.

- 3.5.4.2 The Emergency Communication System shall comprise Emergency Call Boxes with loud speaker, micro phone, activation button with LED indicating conversation and housed in a vandal proof fibre glass casing. They shall operate in full duplex mode in a noise level of up to 95 DB and would have in built diagnostic feature for detection in case of damage by any object. They shall be placed at an interval of 2 Km (± 100 meters) on left side of the carriageway for each direction of Traffic. They shall be connected to the transmission system through the integrator by means of copper cable. The System shall have a product support guarentee of 10 years from the manufacturers.

- 3.5.4.3 The mobile communication system shall comprise of mobile radio base station and control centre equipment. Mobile radio shall have provision for mounting mobile set on



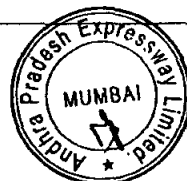
ambulances, cranes and patrolling vehicles. The system shall neither affect functioning of other telecom equipment nor get affected by the presence of other equipment. The system shall have the facility to connect mobile to mobile, mobile to controller and controller to mobile along with the system for waiting, holding and transfer of calls. The system shall use single frequency to be allotted by NHAI with the approval of Wireless planning and co-ordination, Department of Telecom. The equipment shall operate in semi duplex mode at $12V \pm 10\%$ DC.

3.5.4.4 The design for Variable Message Signs (VMS) will be modular with sign panels using LEDs / High Gain Trans Reflective LCDs, for outdoor ambient lights. The sign panel should be such that a display is legible from a distance of about 200 m. For this purpose, panel shall have minimum dimensions of 3m length x 1.8 m height x 0.2 m depth. The minimum height of the characters shall be 300 mm. The contrast ratio shall be more than 30: perpendicular to the bold face and more than 10 at an angle of ± 70 minutes to perpendicular. The equipment shall be capable of storing minimum 10 frames than can be triggered on receiving the tele command. The sign panel shall be installed on structures, which are aesthetically pleasing and can withstand wind pressure. The equipment shall be capable of storing minimum semi duplex mode and other known forces. The minimum vertical clearance available at VMSs shall be 5.5 m from the road surface. Power supply shall be fed from the integrator locations.

3.5.4.5 The meteorological sensors shall comprise thermocouple / pyranometer, humidity meter, anemometer meter, visibility meter and sensor for measuring pavement surface temperature. They shall be installed on a single pole with a specific attachment and power supply fed from integrator. They shall have the facility to communicate on PIJF/Optical Fibre Cable.

3.5.4.6 The Automatic Traffic Counter-cum-Classifer shall be capable of detecting and recording all types of vehicles plying on the Project Highway, based on their length and number of axles. It shall be capable of taking input from portable sensors. The system shall be robust and capable of operating with minimum maintenance.

The temperature range of pavement in which the sensor shall work are -40° Centigrade to $+80^{\circ}$ Centigrade. The recording and display unit shall work accurately between -20° centigrade to $+60^{\circ}$ Centigrade. The sensor shall be combination of piezo electric sensor and inductive loops enabling counting / classification of up to four/six-lane traffic with user set time periods. The logic units shall be micro processors based. Vehicle counting / classification interval shall be programmable from one minute to 1440 minutes (24 hours). The system should be able to record and store vehicle data for a period of at least two weeks



with Daily Traffic Volume upto 30,000 vehicles. The system shall have compatibility to transfer the data on PIJF/ Optical Fibre cable.

3.5.4.7 The control centre shall be designed for round the clock operations of monitoring, on line information acquisition and processing the same for decision taking. The control centre shall have equipment of central computer, call centre, terminal junction box, uninterrupted power supply (UPS), console operator with monitors and joy sticks, rack accommodation, large display board, line printer and general purpose office computer with monitor, printer, fax and telephone. The system shall also have Network Management System (NMS) or real time monitoring of ECBs and network diagnostic.

3.5.5 TRAFFIC SAFETY MEASURES

3.5.5.1 Highway Patrolling

The location and number of patrol control room centers shall be finalised with Independent Consultant. Highway patrolling establishment should have three shifts of 8 hours each. It would consist of at least 3 persons including driver.

Control Centers (Main & Sub) for HTMS would have a crane mounted on truck, Diesel Jeep or Station Wagon, ambulance, Motorcycle and other equipments as per requirement. All the vehicles shall conform to the Motor Vehicles Act 1988. The ambulance unit shall have 1 (one) nurse, 1 (one) compounder, 1 (one) photographer and 1 (one) driver.

3.5.6.2 Pedestrian Guard Rails and Safety Barriers

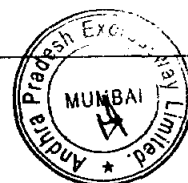
3.5.6.2.1 The Pedestrian Guard Rails along the Highway shall be constructed as per DPR.

3.5.6.2.2 The Safety Barrier shall conform to MORT&H Specifications Clause 810 and shall be constructed as mentioned in DPR. In case not mentioned in DPR it shall be W-beam metal crash barrier.

3.5.7 TRAFFIC CONTROL

3.5.7.1 Traffic Signals

3.5.7.1.1 There shall be no traffic signals on National highway except at the locations of major intersections mentioned in Schedule B, where pedestrian Zebra crossing facilities are to be provided in urban areas. Where provided as pedestrian facility and on the side road crossing/meeting the Project Highway, it will be governed by clause 3.5.7.1.2 herein under.



3.5.7.1.2 The signal foundation shall be constructed as per clause 13 of IRC: 93 - 1985. Constructional requirements shall conform to IS: 7537- 1974, unless otherwise stated in IRC: 93-1985. Posts shall be painted and protected as per clause 3.7 of IS: 7537-1974. Traffic signals shall have a complete electronic mechanism with an auxiliary manual controller.

3.5.7.2 Highway Signs

3.5.7.2.1 The road signs erected on the Project Highway shall conform to IRC 67-2001, Code of Practice for Road signs. Road signs such as Chevron, overhead etc. not covered by IRC 67-2001 will be as per BIS/British Standard/AASHTO/ASTM in that order after approval by the Independent Consultant.

3.5.7.2.2 All road signs shall be with retro-reflective sheeting of high intensity grade with encapsulated lens fixed over aluminium substrata as per Clause 801 of MORT&H Specifications. Hi-intensity grade (micro prismatic type) retro reflective sheeting may also be used for road signage.

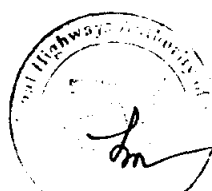
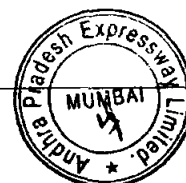
3.5.7.2.3 The overhead signs shall be placed on a structurally sound gantry or cantilever structure made of circular pipes or steel sections approved by the Independent Consultant. The said sign shall be with high intensity retro reflective sheeting. The height, lateral clearance and installation shall be as per the MORT&H Specifications.

3.5.7.3 Pavement Markings

3.5.7.3.1 Pavement markings shall be as per IRC: 35-1997. These markings shall be applied to road centre lines, edge line, continuity line, stop lines, give way lines, diagonal/chevron markings, zebra crossing and at parking areas by means of an approved self-propelled machine which has a satisfactory cut-off value capable of applying broken lines automatically.

3.5.7.3.2 Road markings shall be of hot applied thermoplastic paints with glass reflectorising beads as per relevant clauses of Section 803 of MORT&H Specifications.

3.5.7.3.3 Titanium of rutile grade, minimum 40% glass beads, bead size of 1-1.5 mm, glass beads with minimum 95% true spheres with minimum reflectivity of 100 mcd/lx/sqm for a period of 12 months and minimum wet reflectivity after rain of 25 mcd/lx/sqm on centre line and pedestrian crossing shall be used. It should also have at least a life warranty of 24 months.



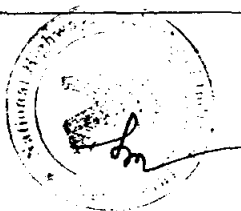
- 3.5.7.3.4 Instruments such as reflectometers shall be available in mobile battery operated units to check the reflectivity in the site.

3.5.8 PROJECT VEHICLES AND EQUIPMENT FOR OPERATION

- 3.5.8.1 All the vehicles used for activities pertaining to the highway operation shall conform to the Motor Vehicles Act 1988.
- 3.5.8.2 All the gadgets, equipment or any systems used for operation and maintenance of the highway shall be of standard make and shall conform to international standards

ROAD FURNITURE AND FACILITIES ON ROADSIDE

- 3.5.9.1 Road furniture on the Project Highway provided as per IRC Codes shall meet requirements of MORT&H Specifications. Where any item is not covered by it, then its specification shall conform to BIS/British standard/AASHTO/ASTM in that order after approval by the Independent Consultant.
- 3.5.9.2 Noise barriers and other measures as suggested in EMP for the Project in DPR shall be strictly adhered to.
- 3.5.9.3 Low height easily mountable kerb shall be placed at locations of pedestrian crossings and other facilities to accommodate physically handicapped people. These locations should be designed suitably to avoid usage of vehicular traffic, particularly two-wheelers. Design of such facilities shall be finalised in consultation with Independent Consultant.
- 3.5.9.2 Roadside facilities such as Litter bins, Pubic Toilets and Drinking Water Kiosks where provided shall follow the Specifications spelt out hereinunder.
- 3.5.9.3 **Litter Bins:** The litter-bin shall be simple in shape and its colour and finish shall be conspicuous. Litter-bin shall be post mounted and/or swivel type. The mounting and fixing components shall be robust. The bin shall have drainage holes for periodic flushing. It shall also be theft, vandal and fire proof. It shall be resistant to wear and tear and the material and design shall be such as to require minimal maintenance.
- 3.5.9.4 **Public Toilets:** The public toilet shall be simple in design and the area around the toilet block shall be paved with cement concrete tiles or any other suitable material, and have cross slope so as to ensure speedy disposal of water. The structure shall conform to relevant sections of clause 3.5.2 of this Schedule.



3.5.9.5 **Drinking Water Kiosk:** The design of the water kiosk shall be such as to require minimal maintenance. Area around the kiosk shall be paved with cement concrete tiles or any other suitable material, and have cross slope so as to ensure speedy disposal of water. The water supplied shall conform to IS: 10500:1991 for quality and purity of potable water.

3.5.10 PICKUP BUS STOPS

3.5.10.1 The bus stop layout shall provide safe entry and exit of buses from Project Highway and movement of passengers. The shelter structure shall be structurally safe and functional so as to protect the waiting passengers adequately from sun, rain and wind. The seating and plinth of the structure shall be of coursed stone masonry. The bus bay area shall be provided with an effective drainage system.

3.5.10.2 The bus bays shall be paved with flexible pavement as that of new carriageway.

3.5.11 TRUCK PARKING FACILITIES

3.5.11.1 The layout of the truck lay-byes and facilities thereon shall be as mentioned in Schedule C to cater to the estimated parking demand and shall be got approved by the Independent Consultant. Parking shall be parallel to the road and the lay-bye shall be setback from the edge of the carriageway. The lay-byes shall be landscaped with low-density plantation to provide shade.

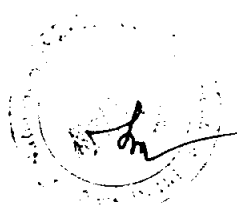
3.5.11.2 The parking spaces shall have flexible pavement as that of main carriageway. Parking bays/lots shall have proper cross slope and drainage. They shall be marked with paint as per IRC: 35-1997 to demarcate parking and circulation spaces. Lighting shall be provided as per IS: 1944 (Part I and II) - 1970.

3.5.11.3 The parking lay-bye shall have drinking water kiosk, independent of other existing facilities and of required capacity. The kiosk shall be well sheltered from the sun and rain and area around it shall be suitably and adequately paved with proper drainage to ensure disposal of spilt water.

3.5.11.4 The parking lay-bye shall have toilet facility to suit the requirement. It shall have covered soak pits and shall be away from the drinking water facility.

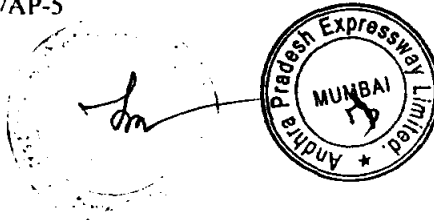
4. Safety During Project Execution, Operation and Maintenance

4.1 The Concessionaire shall ensure complete safety of construction staff during the construction work of the Project Highway. It shall also ensure minimum interference to the flow of traffic during widening of the existing 2-lane pavement. The additional lanes shall



be constructed first and the traffic diverted to it before improvements to the existing road are taken up. Detailed plan for traffic management shall be worked out in consultation with the Independent Consultants prior to implementation. During construction, the Concessionaire shall take all necessary measures for the safety of traffic by providing and maintaining barricades, traffic signs and illumination during night.

- 4.2 The Concessionaire shall also ensure complete safety of the Road Users during the construction work of various nature spelt out in Schedule L.
- 4.3 Guidelines for safety measures during construction, operation and maintenance as given in Schedule S, shall be followed.
- 4.4 A situation arising at site not covered in Schedule L shall be carefully studied for solution, in consultation with Independent Consultant.

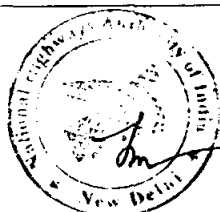


*Annexure-I***LIST OF IRC CODES FOR THE DESIGN OF BRIDGE STRUCTURES AND CULVERTS**

IRC: 5-1998	Standard Specifications & Code of Practice for Road Bridges. Section I - General Features of Design (Seventh Revision)
IRC: 6-2000	Standard Specifications & Code of Practice for Road Bridges. Section II - Loads and Stresses (Fourth Revision)
IRC: 7-1971	Recommended Practice for Numbering Bridges and Culverts (First Revision)
IRC: 18-2000	Design Criteria for Pre-stressed Concrete Road Bridges (Post-Tensioned Concrete) (Third Revision)
IRC: 21-2000	Standard Specifications and Code of Practice for Road Bridges. Section III Cement Concrete (Plain and Reinforced) (Third Revision)
IRC: 22-1986	Standard Specifications and Code of Practice for Road Bridges. Section VI Composite Construction (First Revision)
IRC: 24-2001	Standard Specifications and Code of Practice for Road Bridges. Section V Steel Road Bridges. (Second Revision)
IRC: 45-1972	Recommendations for Estimating the Resistance of Soil Below the Maximum Scour Level in the Design of Well Foundations of Bridges.
IRC: 54-1974	Lateral and Vertical Clearances at Underpasses for Vehicular Traffic.
IRC: 73-1980	Geometric Design Standards for Rural (Non-Urban) Highways
IRC: 78-2000	Standard Specifications and Code of Practice for Road Bridges. Section VII Foundations & Substructure (Second Revision)
IRC: 83-1999	Standard Specifications and Code of Practice for Road Bridges. Section IX Bearings, Part I : Metallic Bearings (First Revision)
IRC: 83-1987	Standard Specifications and Code of Practice for Road Bridges, (Part-II) Section IX-Bearings, Part II: Elastomeric Bearings
IRC: 89-1997	Guidelines for Design & Construction of River Training & Control Works for Road Bridges.(First revision)
IRC: SP:13-1973	Guidelines for the Design of Small Bridges and Culverts
IRC: SP:18-1978	Manual for Highway Bridge Maintenance Inspection
IRC: SP:33-1989	Guidelines on Supplemental Measures for Design, Detailing & Durability of Important Bridge Structures.
IRC: SP:35-1990	Guideline for Inspection and Maintenance of Bridges
IRC: SP:40-1993	Guidelines on Techniques for Strengthening and Rehabilitation of Bridges

LIST OF IRC CODES/STANDARDS/ACTS FOR ROAD WORKS

IRC: 2-1968	Route Marker signs for National Highways (First Revision)
IRC: 8-1980	Type Designs for Highway Kilometer Stone (Second Revision)
IRC: 12-1983	Recommended Practice for Location and layout of Roadside Motor Fuel Filling and Motor Fuel Filling-cum Service Stations (Second Revision)
IRC: 15-2002	Standard Specification and Code of Practice for Construction of Concrete Roads (Third Revision)
IRC: 16-1989	Specification for Printing of Base Course with Bituminous Primers (First Revision)
IRC: 21-2000	Standard Specifications and Code of Practice for Road, Bridges, Section III- Cement Concrete (plain and Reinforced) (Third Division)
IRC: 25-1967	Type Designs for Boundary Stones
IRC: 26-1967	Type design for 200-meter stones
IRC: 30-1968	Standard Letters and Numbers of Different Heights for Use on Highway signs
IRC: 32-1969	Standards for Vertical and Horizontal Clearances of Overhead Electric Power and Telecommunication Lines as Related to Roads
IRC: 35-1997	Code of Practice for Road Markings
IRC: 36-1970	Recommended Practice for the Construction of Earth Embankment for Road Works
IRC: 37-2001	Guidelines for the Design of Flexible Pavement (Second Revision)
IRC: 38-1988	Guidelines for Design of Horizontal Curves for Highways and Design Tables (First Revision)
IRC: 56-1974	Recommended Practice for Treatment of Embankment Slopes for Erosion Control
IRC: 58-2002	Guidelines for the Design of Plain Jointed Rigid Pavements for Highways.
IRC: 62-1976	Guidelines for Control of Access on Highways
IRC: 64-1990	Guidelines for Capacity of Roads in Rural Areas (First Revision)
IRC: 66-1976	Recommended Practice for Sight Distance on Rural Highways
IRC: 67-2001	Code of Practice for Road Signs (First Revision)
IRC: 69-1977	Space Standards for Road in Urban Areas
IRC: 73-1980	Geometric Design Standards for Rural (Non Urban) Highways
IRC: 75-1979	Guidelines for the Design of High Embankments
IRC: 79-1981	Recommended practice for Road Delineators
IRC: 80-1981	Type Designs for Pick-up Bus Stops on Rural (i.e. Non-Urban) Highways



IRC: 81-1981	Tentative Guidelines for Strengthening of Flexible Road Pavements Using Benkelman Beam Deflection Techniques
IRC: 84-1983	Code of Practice for curing of Cement Concrete Pavements
IRC: 86-1983	Geometric Design Standards for Urban Roads in Plains
IRC: 92-1985	Guidelines for the Design of Interchanges in Urban Areas
IRC: 93-1985	Guidelines on Design and Installation of Road Traffic Signals
IRC: 98-1997	Guidelines on Accommodation of Under Ground Utility Services Along and Across Roads in urban Areas (First Revision)
IRC: 103-1988	Guidelines for Pedestrian Facilities
IRC: 106-1990	Guidelines for Capacity of Urban Roads in Plain Areas
IRC: 108-1996	Guidelines for Traffic Prediction on Rural Highways
IRC:SP: 11-1988	Hand Book of Quality Control for Construction of Roads and Runways (Second Revision)
IRC:SP:15-1996	Ribbon Development along Highways and its Prevention
IRC:SP:21-1979	Manual on Landscaping of Roads
IRC:SP:23-1983	Vertical curves for Highways
IRC:SP:31-1992	New Traffic signs
IRC:SP:41-1994	Guidelines on Design of At-Grade Intersections in Rural and Urban areas
IRC:SP:42-1994	Guidelines on Road Drainage
IRC:SP:44-1994	Highway Safety Code
IRC:SP:50-999	Guidelines on Urban Drainage
IRC:SP:53-2002	Guidelines on the use of Polymer and Rubber Modified Bitumen in Road Construction
IRC:SP:58-2001	Guidelines for the use of Fly Ash in Road Embankment
IRC:SP:59-2002	Guidelines for the use of Geotextiles in Road Embankments and Associated Works.
IRC:SP:63-2004	Guidelines for the use of Interlocking Concrete Block Pavement.

Ministry of Road Transport and Highway Publications

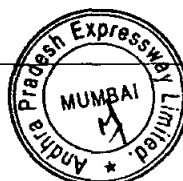
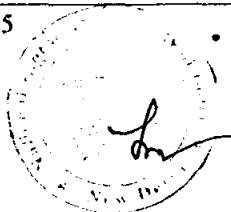
MORT&H, Manual for maintenance of roads, 1983

MORT&H, Specifications for Road and Bridge Works, 2001 (Fourth Revision)

MORT&H, Addendum to Technical Circulars and Directives on National Highways and Centrally Sponsored Road and Bridge Works Projects (Jan 1995 to Dec 1997)

MORT&H, Type Designs for Intersections on National Highways, 1992

MORT&H, Addendum to Ministry's Technical Circulars and Directives on National Highways and Centrally Sponsored Road and Bridge Projects (August 1988 to December 1992), 1993



MORT&H, Addendum to Ministry's Technical Circulars and Directives on National Highways and Centrally Sponsored Road and Bridge Projects (Jan. 1993 to Dec. 1994) 1996

IS Publications

IS:7537-1974	Road traffic signals
IS:10500-1991	Drinking Water
IS: 1944(Parts I&II) 1970	Code of Practice for lighting of Public Thoroughfare: Parts land 2 for main and secondary roads (Group A and B) (first revision) (Amendments No. 1 and 2) Parts 1 and 2 in one volume) (Amendments 2)
IS:1944 (Parts V) 1981	Code of Practice for Lighting of Public Thoroughfares: Parts 5 Lighting for Grade separated junctions, Bridges and Elevated roads (Group D)
IS: 1944 (Parts VI) 1981	Code of Practice for lighting of Public Thoroughfare: Part 6 Lighting for Towns and city centres and areas civic importance (Group E)
IS: 10748-1995	Hot rolled steel for welded tubes and pipes (First Revision)

NBC

Part III, NBC:

Part VI, NBC:

Part VIII, NBC:

Part IX, NBC:

Part IV, NBC:

National Building Code

Development Control rules and general building requirements

Structural Design

Building Services

Plumbing Services

Fire Protection

British Standards

BS 873 part IV (1987)	Road traffic signs and internally illuminated bollards. Specification for road studs
BS EN 1463-1: 1998	Road traffic signs and internally illuminated bollards. Specification for road studs
BS EN 1436:1998	Road marking materials. Road marking performance for road users.




SCHEDULE E**APPLICABLE PERMITS****(to be obtained before/ on financial closure)****1. Ministry of Finance / RBI**

- i) Approval for foreign investment and foreign loans, if required
- ii) Approval for import of equipment and machinery for construction and operation, if required
- iii) Exemption of Excise duty on construction material, if required.

2. Department of Telecommunication

- i) Permission / clearance for setting up of wireless system, if required
- ii) Clearance / permission for the use of optical fibre cables of DOT, if required

3. State Government Permits**Quarrying Permits:**

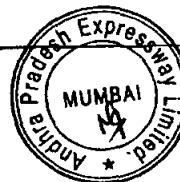
- Permits for extraction of boulder from quarry from Additional District Magistrate (ADM) Mines
- Permit for installation of crusher from village Panchayat and State/Central Pollution Control Board
- License for explosives from the office of Explosive controller
- Explosive license for storing diesel

Electricity:

- Permission required from State Electricity Board (SEB) for installation of Diesel Generator (DG)
- Permission for electrical connection, if power source is available

Water:

- If water has to be taken from river/ reservoir, permission to be obtained from State Irrigation Department



Batching Plant:

- License from inspection of factories
- NOC consent from pollution department

Asphalt Plant:

- Clearance required from village panchayats & State/Central Pollution Control Board

Borrow Earth:

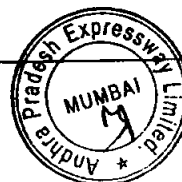
- Permission from irrigation department if land taken from irrigation land
- Permission required from village panchayat and ADM mines for Government & private land
- Permission from Local Municipalities and Development Authorities.

Cutting of trees:

- Permission from Forest Department.

Sewage Lines and Water Mains:

- Permission from Local Municipalities and Development Authorities.





Stamp Office, Mumbai

D. महाराष्ट्र MAHARASHTRA

L.S.V. No. 10 FEB 2006

Super Officer

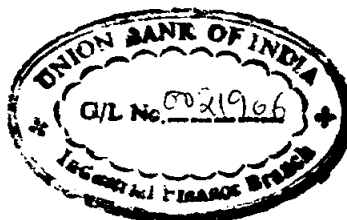
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र. कोलकाता, कोलकाता
23 FEB 2006
Union Bank of India
कोलकाता नगर, कोलकाता नदिरा शेजारी.

पावना कोलकाता नदिरा शेजारी

BANK GUARANTEE FOR PERFORMANCE SECURITY

From: Union Bank of India
Industrial Finance Branch
1st Flr, Union Bank Bhavan
239, Vidhan Bhavan Marg
Mumbai 400 021



To: National Highways Authority of India
G-5&6, Sector -10
Dwarka
New Delhi - 110 075

Andhra Pradesh Expressway Limited (the "Concessionaire") has agreed in accordance with the Letter of Acceptance (LOA) dated February 24, 2006 issued by NHAI to construct and operate the "Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh" Project on BOT (Annuity) basis (the "Project").



Signature



termination of this Guarantee will continue until the amount demanded has been paid in full.

- 
- B. The Concessionaire is required to give ("NHAI") a guarantee by a recognized bank based in India in the sum of Rs. 30.572 Crores only (Indian Rupees Thirty Crores Fifty Seven Lakhs and Twenty Thousand only) as security for compliance with its obligations under the Concession Agreement during the Construction Period.
- C. The Guarantor has agreed to give NHAI the abovementioned guarantee on the terms set out herein.

GUARANTEE

1. We, Union Bank of India (the "Guarantor") with its registered office at 239, Vidhan Bhavan Marg, Nariman Point, Mumbai - 400021 and a branch office at Industrial Finance Branch, unconditionally guarantee to pay NHAI upon first written demand and without any deduction any sum claimed by NHAI up to a maximum of Rupees 30.572 Crores (Indian Rupees Thirty Crores Fifty Seven Lakhs and Twenty Thousand only) (the "Guaranteed Sum") subject to the conditions set out below.
 2. The Guarantor unconditionally and irrevocably promises to pay on demand the Guaranteed Sum, without protest or demur whatsoever upon the receipt of a written demand from NHAI, which shall be final and conclusive as against the Guarantor requiring the Guarantor to make the payment to NHAI.
 3. The Guarantor waives any requirement that NHAI demand any debt or payment from the Concessionaire before presenting it with a demand under this Guarantee.
- NHAI shall notify the Guarantor of its demand for payment of the Guaranteed Sum without any deduction of whatsoever nature and without reference to any claim or counter claim or set off, in accordance with the Concession Agreement.
- Such notification by NHAI, shall be conclusive and binding on the Guarantor.
5. Upon encashment and appropriation of the whole or any portion of the Guaranteed Sum by NHAI in accordance with the Concession Agreement, the Guarantor shall be obliged to replenish the existing Guarantee or provide fresh guarantee of the Guaranteed Sum and the Concessionaire is deemed to have made the request for such fresh guarantee upon the execution and furnishing of this Guarantee in the first instance.
 6. No underlying dispute as between NHAI and the Concessionaire nor any pending application for interim relief or arbitration proceedings or other legal proceedings shall constitute any ground for prevention, delay or obstruction for making payment to NHAI by the Guarantor and the existence of any disputes or differences or claims in arbitration or otherwise shall not constitute any ground for non-payment on this Guarantee.
 7. This guarantee is valid and effective from its date. This guarantee and the Guarantor's obligations under it will terminate on the Commercial Operations Date of the Project as advised to the Guarantor in writing by NHAI. However the Guarantee shall be released earlier by NHAI to the Concessionaire, upon contribution of the Equity (excluding) Equity Support, if any by the Shareholders of the Concessionaire to the extent of 100% and upon the Concessionaire having expended on the Project and paid out an aggregate sum of not less than 20% of the Total Project cost as certified by the Statutory Auditors of the Concessionaire but provided the Concessionaire is not in breach of this Agreement or the Concession Agreement.
 8. The Guarantor agrees that its obligation to pay any demand made by NHAI before the termination of this Guarantee will continue until the amount demanded has been paid in full.



9. This Guarantee shall be valid and effective upto March 31, 2009 for enabling NHAI to lodge a claim for payment under the Guarantee till the date of expiry of the term of the Guarantee. The Guarantor shall be obligated to make payment upon the Guarantee forthwith on demand, if the claim is lodged within the claim validity period and the obligation to pay is subject to normal limitation for payment of claims upon a guarantee. Time is of essence for payment and in the event of failure to make payment, Guarantor shall be obligated to pay compound interest at 2% above the prime lending rate of the Guarantor institution, compounding quarterly in the event of the Guarantor's failure to make payment upon the Guarantee for any reason whatsoever. Payment of interest as provided is no excuse for delayed payment or non-payment of the Guaranteed Sum.
10. No change in the constitution of the Concessionaire or of the Guarantor shall be a ground for release of the Guarantee and no variation in the concession agreement made post selection of the bidder, or post making of the bid, shall constitute a variation, which would, subject to the terms and conditions of this agreement, discharge the Guarantor. The Guarantor shall notwithstanding such change, be bound to make payment upon the Guarantee on demand.
11. The Guarantor agrees that no change, addition to or other modifications to the terms of the Concession Agreement or to any documents which have or may be made between NHAI and the Concessionaire will in any way release it from any liability under this Guarantee and that it waives any requirement for notice of any such change, addition or modification.
12. The Guarantor agrees that it will not assign its obligations under this Guarantee without the prior written consent of NHAI. NHAI will not unreasonably withhold its consent if the proposed assignee is of at least equal financial standing to the Guarantor and the assignee assumes in writing the obligations of the Guarantor under this Guarantee at the same time or before the assignment.
13. This Guarantee binds the Guarantor, its successors and permitted assigns.

SEAL OF [THE BANK]

NAME OF [THE BANK] Union Bank of India

SIGNATURE Per UNION BANK OF INDIA
Industrial Finance Branch

NAME

TITLE

DATE

E-6 MAR 2006

R. RAJMALWALLA
P. A. No. 15219



Union Bank of India
INDUSTRIAL FINANCE BRANCH
First Floor, Union Bank Bhavan
239, Vidhan Bhavan Marg,
MUMBAI-400 021.

Sr. Manager

S. C. OLTIKAR
P. A. No. 11169

Citizens Credit Co-op Bank Ltd.
Dr. Antonio D'Silva School
Annexe S.K. Bole Road, Dadar (W)
Mumbai-400 028
D-5/STP/V/C.R. 1003/2005/1316
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AMENDMENT TO BANK GUARANTEE NO. 495BOIGL0021906 dated March 6,
2006 AS PERFORMANCE SECURITY FOR Rs. 30,57,20,000.00 ISSUED BY UNION
BANK OF INDIA ON BEHALF OF ANDHRA PRADESH EXPRESSWAY LIMITED

From : Union Bank of India

Industrial Finance Branch

1st Floor, Union Bank Bhavan

239, Vidhan Bhavan Marg

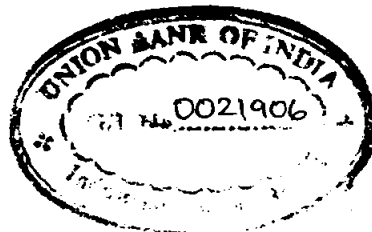
Mumbai 400 021

To : National Highways Authority of India

G-5 & 6, Sector 10

Dwarka

New Delhi - 110 075

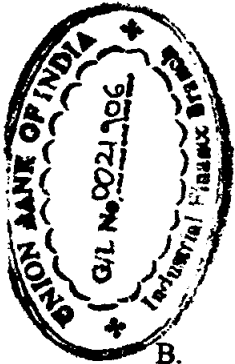


The following amendment is issued to Union Bank of India Bank Guarantee No. 495BOIGL0021906 dated March 6, 2006 issued in favor of "National Highways Authority of India" for Rs 30,57,20,000 on behalf of Andhra Pradesh Expressway Ltd (APEL). Clauses 'A' 'B' and 'C' in preamble of Bank Guarantee No. 495BOIGL0021906 dated March 6, 2006 are amended as follows:

- A. NHAI vide Letter No. NHAI/Tech/NS-2/BOT/AP-5/2005/172 dated February 24, 2006 has issued Letter of Acceptance to the Consortium of Infrastructure Leasing & Financial Services Limited and IL&FS Transportation Networks Limited (the "Successful Bidder") for (i) Design, Construction, Development, Finance, Operation



and Maintenance of Km 135.469 (End of Proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 called the "Project" in the State of Andhra Pradesh on BOT (Annuity) basis (the "Project")



The Consortium of Infrastructure Leasing & Financial Services Limited and IL&FS Transportation Networks Limited has promoted and incorporated a Special Purpose Vehicle in the form of a limited liability company Andhra Pradesh Expressway Limited (the "Concessionaire") having its registered office in the State of Maharashtra, to enter into a Concession Agreement for undertaking, inter alia, the Project and to perform and discharge all its obligations thereunder.

- B. In order to perform and discharge all its obligations concerning the "Project" the Concessionaire is required to give National Highways Authority of India (NHAI) a guarantee by a recognized bank based in India in the sum of Rs 30,57,20,000 only (Indian Rupees Thirty Crores Fifty Seven Lakhs and Twenty Thousand) as security for compliance by the Concessionaire with its obligations under the Concession Agreement during the Construction period
- C. At the request of the successful bidder and / or the Concessionaire the Guarantor has agreed to give NHAI the said guarantee on the terms set out herein

This forms an integral part of our Original Bank Guarantee No. 4958OIGL0021906 dated March 6, 2006

Also, this is to confirm that all other terms & conditions of the Original Bank Guarantee No. 4958OIGL0021906 for Rs 30,57,20,000.00 (Indian Rupees Thirty Crores Fifty Seven Lakhs and Twenty Thousand) on behalf of Andhra Pradesh Expressway Ltd (APEL) remain unchanged

SEAL OF UNION BANK OF INDIA
For UNION BANK OF INDIA
Industrial Finance Branch
UNION BANK OF INDIA

RAIMALWALLA
P. A. No. 15 Manager

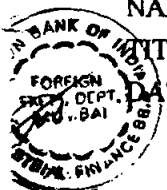
Sr. Manager PA 11169
S. C. OLTA KAR

SIGNATURE

NAME

TITLE

DATE 18 MAR 2006



Union Bank of India
INDUSTRIAL FINANCE BRANCH
First Floor, Union Bank Bhavan,
239, Vidhan Bhavan Marg,
.....



PricewaterhouseCoopers Pvt. Ltd.

PwC Centre, Saidulajab
Opposite D-Block, Saket
Mehrauli Badarpur Road
New Delhi - 110 030
Telephone +91(11) 41250000
Facsimile +91(11) 41250250
www.pwc.com

Mr K C Verkeyachan
General Manager (S-2)
National Highways Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi 110 075

20th March 2006

Sub: 4 laning of NS2/BOT/AP -5 under North – South corridor (NHDP Phase II) in the State of Andhra Pradesh on BOT (Annuity) basis – Performance Security.

Dear Sir,

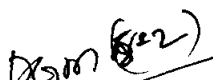
We have received a copy of the Performance Security for Rs 30.572 crores dated 6th March 2006 and its amendment dated 18th March 2006 for the above mentioned Project and ^{the} same have been found in order.

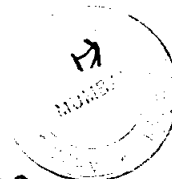
With regards,

Sincerely


Vishwas Udgirkar
Associate Director


20/3/06


20/3/06



182

CITIZENS Co-op. Bank Ltd.,
Dr. Antonio D'Silva School
Anand, S.K. Road, Dady (W),
Mumbai-400 028.
D-61STPV/C.R.18and2006/1310
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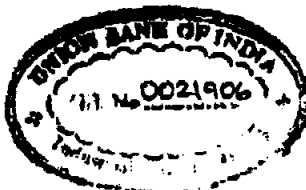
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AMENDMENT TO BANK GUARANTEE NO. 495BOIGL0021906 dated March 6, 2006 AS PERFORMANCE SECURITY FOR Rs. 30,57,20,000 ON BEHALF OF ANDHRA PRADESH EXPRESSWAY LIMITED

From : Union Bank of India

Industrial Finance Branch
1st Floor, Union Bank Bhavan
239, Vidhan Bhavan Marg
Mumbai 400 021

To : National Highways Authority of India
G-5 & 6, Sector 10
Dwarka
New Delhi - 110 075

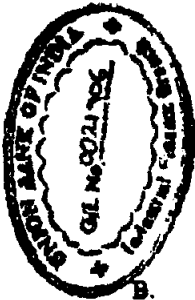


The following amendment is issued to Union Bank of India Bank Guarantee No. 495BOIGL0021906 dated March 6, 2006 issued in favor of "National Highways Authority of India" for Rs 30,57,20,000 on behalf of Andhra Pradesh Expressway Ltd (APEL). Clauses 'A' 'B' and 'C' in preamble of Bank Guarantee No. 495BOIGL0021906 dated March 6, 2006 are amended as follows:

- A. NHAI vide Letter No. NHAI/Tech/NS-2/BOT/AP-5/2005/172 dated February 24, 2006 has issued Letter of Acceptance to the Consortium of Infrastructure Leasing & Financial Services Limited and IL&FS Transportation Networks Limited (the "Successful Bidder") for (i) Design, Construction, Development, Finance, Operation



and Maintenance of Km 135.469 (End of Proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 called the "Project" in the State of Andhra Pradesh on BOT (Annuity) basis (the "Project")



The Consortium of Infrastructure Leasing & Financial Services Limited and IL&FS Transportation Networks Limited has promoted and incorporated a Special Purpose Vehicle in the form of a limited liability company Andhra Pradesh Expressway Limited (the "Concessionaire") having its registered office in the State of Maharashtra, to enter into a Concession Agreement for undertaking, inter alia, the Project and to perform and discharge all its obligations thereunder.

- B. In order to perform and discharge all its obligations concerning the "Project" the Concessionaire is required to give National Highways Authority of India (NHAI) a guarantee by a recognized bank based in India in the sum of Rs 30,57,20,000 only (Indian Rupees Thirty Crores Fifty Seven Lakhs and Twenty Thousand) as security for compliance by the Concessionaire with its obligations under the Concession Agreement during the Construction period
- C. At the request of the successful bidder and / or the Concessionaire the Guarantor has agreed to give NHAI the said guarantee on the terms set out herein

This forms an integral part of our Original Bank Guarantee No. 495BOIGL0021906 dated March 6, 2006

Also, this is to confirm that all other terms & conditions of the Original Bank Guarantee No. 495BOIGL0021906 for Rs 30,57,20,000.00 (Indian Rupees Thirty Crores Fifty Seven Lakhs and Twenty Thousand) on behalf of Andhra Pradesh Expressway Ltd (APEL) remain unchanged

SEAL OF UNION BANK OF INDIA
For UNION BANK OF INDIA
Industrial Finance Branch
UNION BANK OF INDIA

H. RAJMALWALA
P. A. No. 138828282

Sr. Manager P. 11169

SIGNATURE

S. C. S. T. K. R.

NAME

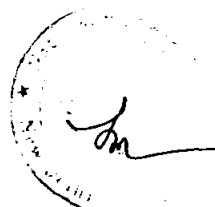
TITLE

DATE

18 MAR 2006



Union Bank of India
INDUSTRIAL FINANCE BRANCH
First Floor, Union Bank Bhavan,
239, Vidhan Bhawan Marg,
MUMBAI-400 021.



युनिफाई बैंक ऑफ इंडिया



UNION BANK OF INDIA

UNION BANK OF INDIA
INDUSTRIAL FINANCE BRANCH: MUM
1 FLOOR, UNION BANK BHAVAN,
232 VIDYAN BHAVAN MARG, MARINA POINT
MUMBAI
MAHARASHTRA

Swift code

Telex

GRAM

Tel 1 02220053522

LC Confirmation Letter

NATIONAL HIGHWAYS AUTHORITY OF INDIA

C-3 SECTOR-10 DHARMA, NEW DELHI 110075

DATE : 16 03 2006

Dear Sir/Madam,

Guarantee No.

425001810031706 Dated 06 03 2006

We confirm having issued the following Guarantee on
behalf of INFRASTRUCTURE LEASING & FINANCIAL SERVICES LTD
the details of which are as under.

CL No.	Amount	Validity Mnth/Day	Expiry date	Claim Exp date
425001810031706	305720000.00	9 20	31 03 2007	31 03 2007

We confirm that the officials who have executed the
guarantees are empowered to do so.

Thanking you.

Yours faithfully,

UNION BANK OF INDIA



Schedule G

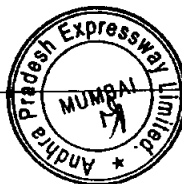
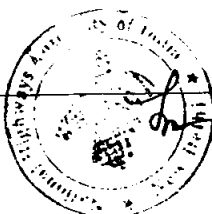
ANNUITY PAYMENT SCHEDULE

Date of signing of Agreement: 20th March 2006Appointed Date: 15th September 2006

Construction Period: 30 months

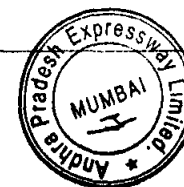
Scheduled Project Completion Date: 15th March 2009

S.No.	Annuity Payment Date	Annuity Amount (Rs. crores)
1.	13-Sep-2009	Rs. 56.52 crores
2.	15-Mar-2010	Rs. 56.52 crores
3.	13-Sep-2010	Rs. 56.52 crores
4.	15-Mar-2011	Rs. 56.52 crores
5.	13-Sep-2011	Rs. 56.52 crores
6.	15-Mar-2012	Rs. 56.52 crores
7.	13-Sep-2012	Rs. 56.52 crores
8.	15-Mar-2013	Rs. 56.52 crores
9.	13-Sep-2013	Rs. 56.52 crores
10.	15-Mar-2014	Rs. 56.52 crores
11.	13-Sep-2014	Rs. 56.52 crores
12.	15-Mar-2015	Rs. 56.52 crores
13.	13-Sep-2015	Rs. 56.52 crores
14.	15-Mar-2016	Rs. 56.52 crores
15.	13-Sep-2016	Rs. 56.52 crores
16.	15-Mar-2017	Rs. 56.52 crores
17.	13-Sep-2017	Rs. 56.52 crores
18.	15-Mar-2018	Rs. 56.52 crores
19.	13-Sep-2018	Rs. 56.52 crores
20.	15-Mar-2019	Rs. 56.52 crores
21.	13-Sep-2019	Rs. 56.52 crores
22.	15-Mar-2020	Rs. 56.52 crores
23.	13-Sep-2020	Rs. 56.52 crores
24.	15-Mar-2021	Rs. 56.52 crores
25.	13-Sep-2021	Rs. 56.52 crores
26.	15-Mar-2022	Rs. 56.52 crores
27.	13-Sep-2022	Rs. 56.52 crores
28.	15-Mar-2023	Rs. 56.52 crores
29.	13-Sep-2023	Rs. 56.52 crores
30.	15-Mar-2024	Rs. 56.52 crores
31.	13-Sep-2024	Rs. 56.52 crores
32.	15-Mar-2025	Rs. 56.52 crores
33.	13-Sep-2025	Rs. 56.52 crores
34.	15-Mar-2026	Rs. 56.52 crores
35.	14-Sep-2026	Rs. 56.52 crores



SCHEDULE H**PROJECT COMPLETION SCHEDULE**

S. No.	Project Mile Stone	Months																													
		1	2	3	4	5	6	7	8	9	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	30	
Preconstruction Activities																															
1	Achievement of Financial Closure																														
2	Project Design																														
3	Handing Over the site to the Concessionaire																														
4	Mobilisation at site by concessionaire																														
5	Shifting of utilities including tree cutting																														
Construction Activities																															
6	Bridges and CD Structures																														
7	ROB, Underpass & Grade Separator																														
8	New Carriageway																														
9	Existing Carriageway																														
10	Toll Plaza and Administrative Blocks																														
11	Safety Features																														
12	C.O.D.																														



SCHEDULE I

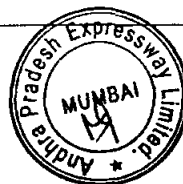
DRAWINGS

1. The Project Highway drawings, as defined in Clause 1.1, Definitions, Article I, Definition and Interpretation, Chapter I – Preliminary, of the Concession Agreement shall consist:

- A. Working drawings of all the components/elements of the Project Highway as determined by Independent Consultant/NHAI, and
- B. As-Built drawings for the Project Highway components/elements as determined by Independent Consultant/NHAI.

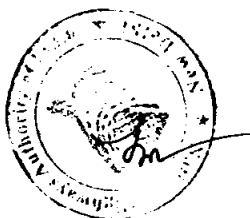
As-Built drawings shall be duly certified by the Independent Consultant.

2. Annexure “A” of this schedule gives the list of drawings (only drawing as defined in Dictionary) of the main components/elements of the Project Highway required to be submitted by the Concessionaire .



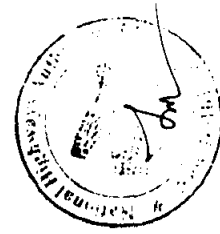
Annexure A**LIST OF DRAWINGS TO BE SUBMITTED BY CONCESSIONAIRE SHOULD INCLUDE BUT NOT BE LIMITED TO:**

- a) Drawings of horizontal alignment, vertical profile and cross-sections.
- b) Drawings of interchanges, major intersections and grade separators.
- c) General arrangement drawings of toll plaza layout, toll collection system and roadway near toll plaza.
- d) Drawings of Administrative Base Camps and Control Centre.
- e) Drawing of a bus-bay and bus shelters with furniture and drainage system.
- f) Drawing of a truck parking layby with furniture and drainage system.
- g) Drawings of road furniture items including traffic signage, markings, safety barriers etc.
- h) Drawing of traffic diversion plans and traffic control measures.
- i) Drawings of road drainage measures.
- j) Drawings of typical details of slope protection measures.
- k) Drawings of landscaping and horticulture.
- l) Drawings of Pedestrian Crossings.
- m) Drawings of Street Lighting.
- n) Drawings of general arrangement of cross-drainage works.
- o) Layout/ Configuration of HTMS.



*Schedule J***TESTS TO BE CONDUCTED**

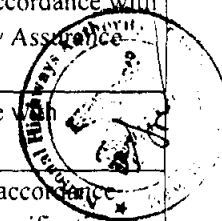
During the Construction Period / Operations Period, the Concessionaire shall carry out the Tests and Independent Consultant will carry out quality audit of the tests carried out by the Concessionaire. Independent Consultant may carry out more tests as per a pre-determined programme. These tests and quality audit shall include but not be limited to the following:

Sl. No.	Item	Test	Testing Procedure
1.0 Earthwork for embankment, subgrade construction and cut formation			
1.1	Embankment and subgrade borrow materials	Quality Audit of the following tests performed during construction for soil type, density, moisture content and CBR as required by Ministry of Surface Transport specifications for Road and Bridge works - Moisture Content test as per IS : 2720 (Part 2) - Sand Content Test according to IS : 2720 (Part 4) - Plasticity Characteristics of soils according to IS : 2720 (Part 5) - Moisture Content-Dry Density relationship using heavy compaction according to IS: 2720 Part 8. - Determination of total soluble sulphate content as per IS : 2720 Part 37 - IS : 2720 (Part 40): Determination of Free Swelling Index of solutions	As per relevant parts of IS - 2720 
1.2	Compaction	Quality Audit of the following Tests performed during construction as required by MORT&H specifications for Road and Bridge works. - Compaction density and - Determination of dry density of soils in place according to IS-2720, Part 28 by the Sand Replacement Method	As per IS-2720, Part 28 

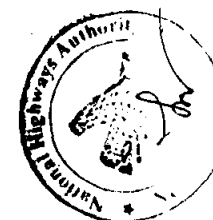
Sl. No.	Item	Test	Testing Procedure
2.0 Pavement Structure			
2.1	Granular Sub base and base courses	Quality Audit of quality control tests on soils, aggregate and moisture content - density tests and CBR tests as required by MORT&H specifications for Road and Bridge works. • Plasticity Characteristics of soils according to IS : 2720 Part 5 • Dry density of soils in place according to IS : 2720 Part 28 • Determination of total soluble sulphate content as per IS : 2720 Part 37 • CBR test as per IS : 2720, Part 16 • Dry density-moisture content relationship as per IS: 2720 Part 8 • Aggregate grading as per Job Mix Formula • Aggregate Impact value as per IS: 2386 (Part 4) or IS : 5640 • Particle size and shape as per IS : 2386 (Part I)	As per relevant parts of IS – 2720, IS 2386 and IS 5640
2.2	Bituminous base and wearing courses	Quality Audit of quality control tests on aggregates and bitumen and on bituminous mixes as laid down in clause 903.4 of MORT&H specifications for Road and Bridge works. • Aggregate Impact Value as per IS2386 (Part 4) • Particle size and shape as per IS : 2386 (Part I) • Stripping value test as per AASHTO T182 • Water absorption as per IS : 2386 (Part 3) • Soundness Test as per IS : 2386 Part 5 • Marshall stability test as per ASTM D-1559	As specified in the codes IS 2386, parts 1,3,4 and 5, AASHTO T182 and ASTM D-1559
2.3	Cement concrete Pavement	Quality audit of sampling and testing of cubes and beams for strength of concrete and quality control tests on aggregates • Aggregate Impact Value as per IS : 2386 (Part 4) • Soundness Test as per IS: 2386 (Part 5) • Alkali Aggregate Reactivity IS : 2386 (Part 7) • Strength of Concrete (Tests on Cubes and beams) as per IS : 516 • Workability of fresh Concrete - Slump Test IS : 1199	As per relevant parts of IS 2386, IS 516 and IS 1199



Sl. No.	Item	Test	Testing Procedure
2.4	Riding Quality of Surface	Checking International Roughness index of the finished pavement surface for compliance with the requirement stated in clause 2.5.7 of Schedule D.	Roughness measurement by bump integrator (Annexure A) or an equivalent device approved by NHAI/IC
3.0 Bridges			
3.1	Cement, aggregate, reinforcement pre-stressing steel and Concrete	Tests and Standards of Acceptance as per MORT&H Specifications of Tests performed during construction	The Auditing shall be carried out in accordance with the IRC special publication on Quality Assurance
3.2	Superstructure	Static load testing of any one span of the structure for carrying design load as per IRC SP 37-1991	Test shall be carried out in accordance with Annexure B
3.3	Bearings	Checking and verification of the bearings to ascertain proper functioning as per MORT&H Specifications.	The inspection shall be carried out in accordance with requirement laid in MORT&H specifications for Road and Bridge works and shall meet the prescribed criteria.
3.4	Expansion Joints	Checking and verification of the Expansion joints to ascertain proper functioning as per MORT&H Specifications	The inspection shall be carried out in accordance with requirement laid in MORT&H specifications for Road and Bridge works and shall meet the prescribed criteria.
3.5	Foundation & Substructure	Checking and verification of the Foundation settlement and rotation	The settlement of foundation for superstructure load at completion shall be measured with reference to a fixed datum. (For this purpose, the records of measurements taken before the superstructure concreting should also be available.)
4.0	Highway Lighting System	Level of illumination	The illumination level shall be measured with luxmeter following the method as specified in its manual (Annexure C).
5.0	Traffic Signals	Test in accordance with the relevant clauses of IRC:93 and IS 7537	Meet the prescribed criteria in IRC 93 and IS 7537



Sl. No.	Item	Test	Testing Procedure
6.0	Toll System Operations	1. Certified report of Factory Acceptance test (FAT) 2. Post installation site test to conform to the functionability and specifications of the contract	Real time test for individual functionality of each component which should conform both specifications / codes stipulated in the country of manufacture. It should include manual operations in case of no power.
7.0	Rest Area Operations	Test in accordance with the functioning of facilities built in RAO	Standard building safety procedures as presented by NBC
8.0	Emergency Telephone System	Independent Systems to be developed to operate on the Project site	Real time test to be carried out to conform to the designed system.
9.0	Traffic Signage and Pavement Marking	Tests in accordance with ASTM standard E:810 relevant clauses of section 800 of MORT&H specifications for Road and Bridge works published by IRC 1997	To follow ASTM Standard E:810 as per section 800 of MORT&H specifications for Road and Bridge Works published by IRC 1997



1 Schedule for Tests

- 1.1 The Concessionaire shall, not later than 30 (thirty) days prior to the likely completion of [Four-Lanning], notify the Independent Consultant and NHAI of its intent to subject the Project Highway to Tests, and not later than 10 (ten) days prior to the actual date of Tests, furnish to the Independent Consultant and NHAI a detailed inventory and particulars of all works and equipment forming part of [Four-Lanning].
- 1.2 The Concessionaire shall notify the Independent Consultant of its readiness to subject the Project Highway to Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Independent Consultant shall, in consultation with the Concessionaire, determine the date and time for each Test and notify the same to NHAI who may designate its representative to witness the Tests. The Independent Consultant shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 16 and this Schedule-J.

2 Tests

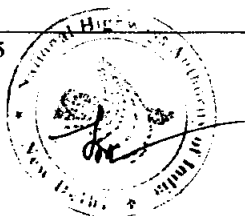
- 2.1 **Visual and physical Tests:** The Independent Consultant shall conduct a visual and physical check of [Four-Lanning] to determine that all works and equipment forming part thereof conform to the provisions of this Agreement.
- 2.2 **Test Drive:** The Independent Consultant shall take test drive of the Project Highway by a Car and a fully loaded Truck to determine that the quality of service conforms to the provisions of this Agreement.
- 2.3 **Riding quality Test:** Riding quality of each lane of the carriageway shall be checked with the help of a calibrated bump integrator as mentioned at annexure A of this Schedule.
- 2.4 **Pavement Composition Test:** The thickness and composition of the pavement structure shall be checked on a sample basis by digging pits to determine conformity of such pavement structure with Specifications and Standards. The sample shall consist of one pit in each direction of travel to be chosen at random in each stretch of 5 (five) kilometers of the Project Highway. The first pit for the sample shall be selected by the Independent Consultant through an open draw of lots and every fifth kilometer from such first pit shall form part of the sample for this pavement quality Test.



- 2.5 **Cross-section Test:** The cross-sections of the Project Highway shall be checked on a sample basis through physical measurements of their dimensions for determining the conformity thereof with Specifications and Standards. For the road portion, the sample shall consist of one spot to be selected at random in each stretch of 1 (one) kilometer of the Project Highway. The first spot shall form part of the sample shall be selected by the Independent Consultant through an open draw of lots and the spots located at every one kilometer from such first spot shall form part of the sample. For the bridge portion, one spot shall be selected at random by the Independent Consultant in each span of the bridge.
- 2.6 **Structural Test for bridges:** All major and minor bridges constructed by the Concessionaire shall be subjected to the Rebound Hammer and Ultrasonic Pulse Velocity tests, to be conducted in accordance with the procedure described in Special Report No. 17; 1996 of the IRC Highway Research Board on Non-destructive Testing Techniques, at two spots in every span, to be chosen random by the Independent Consultant.
- 2.7 **Environmental audit:** The Independent Consultant shall carry out a check to determine conformity of the Project Highway with the environmental requirements set forth in Applicable Laws and Applicable Permits.
- 2.8 **Safety Review:** Safety audit of the Project Highway shall have been undertaken by the Safety Consultant as set forth in Schedule-L and on the basis of such audit, the Independent Consultant shall determine conformity of the Project Highway with the provisions of this Agreement.

3 **Completion/Provisional Certificate**

Upon successful completion of Tests, the Independent Consultant shall issue the Completion Certificate or the Provisional Certificate, as the case may be, in accordance with the provisions of Article 16.4.



Schedule J

Annexure-A

TEST PROCEDURE FOR MEASURING ROUGHNESS INDEX OF THE RIDING SURFACE OF A FLEXIBLE PAVEMENT***EQUIPMENT – Bump Integrator Fitted in a Vehicle******Test Procedure:***

The following test procedure shall be adopted for the test

- 1) Check that the installation and operation of the equipment is in order and meets the requirements prescribed in its operational manual. The tyre pressure of wheels should be as prescribed.
- 2) The instrument shall be calibrated prior to its use for measurement as prescribed in its operational manual.
- 3) The operators shall familiarise themselves with the Bump Integrator & other equipment associated with its operation using its Test Mode before commencing a survey.
- 4) Generally a speed varying between 30 km./hour-40 Km/hour shall be maintained during measurements. The readings shall be taken for each carriageway independently.
- 5) The equipment shall run on a lane in both the directions once and the average of two values taken for its roughness index.
- 6) Pavement unevenness/roughness of 2/3 lane carriageway shall be obtained from the average of the values of the 2/3 lanes recorded.
- 7) The roughness index value is obtained by using the internationally accepted software associated with the equipment from the measured Bumps.
- 8) All data shall be properly recorded with appropriate referencing and stored in a prescribed manner as in the operational manual.
- 9) The roughness measurements shall be properly calibrated using the procedure recommended in the World Bank Technical Publication No. 46.



Schedule-J

Annexure-B

LOAD TESTING OF A BRIDGE SUPERSTRUCTURE

The load test shall be carried out to check and establish the serviceability and working strength of the superstructure.

1.0 Test Load

The "Test Load" is the equivalent static load equal to the impacted working design Live Load (applied in addition to all dead loads) placed for maximum effect (bending moment, shear, deflection, etc. as the case may be) and applied either through an appropriate test loading truck or through loading platforms resting on tyre-contact area plates simulating the actual areas of wheels.

2.0 Load Application and Testing Procedure

- I. Fix deflection gauges (supported on unyielding supports) under the superstructure, just touching its soffit, at the pre-marked critical 'points'.
- II. Apply the test load in five equal increments (including the weight of platforms of trucks in the first increment), allowing about two hours in between completion of one load increment and commencement of the next. About an hour after completing a load increment, note the deflections and any crack patterns together with maximum crack widths.
- III. After measuring the deflections, etc. one hour after applying the fifth increment, i.e. the final load increment, keep the test load maintained for about 24 hours and again measure the deflections and crack widths (if any)
- IV. Remove the test load in five equal decrements, allowing about two hours in-between completion of one load decrement and commencement of the next. Note the deflections and crack widths (if any) at the end of each load decrement.
- V. Note the deflection and crack widths (if any) 24 hours after removal of the test load in order to see whether the recovery is complete or there is any residual deflection, etc.

3.0 Acceptance Criteria

- I. Increase and decrease in deflections at a point shall follow a linear relation, with actual deflections not exceeding the theoretically estimated ones by more than 10%;
- II. The maximum crack width in reinforced concrete shall not exceed 0.25 mm to 0.30 mm (but no cracks in case of prestressed concrete);
- III. The deflections at the end of the 24 hours of maintaining the test load shall not exceed the corresponding values at the start of this 24 hour period by 5% and



- IV. The residual deflection at any point 24 hours after complete unloading shall not exceed 10% of the maximum observed deflection at that point (i.e. recovery: 90% or more);

4.0 Observation

The cracks in reinforced concrete shall close upon removal of test load but may not completely disappear.



Schedule-J

Annexure-C

Testing Procedure for Illumination intensity by Luxmeter

Instrument : Luxmeter
(make of renowned company)

Basis : Comparison with a calibrated Luxmeter through a standard lamp
by renowned Photometric Lab.

Test Procedure:

Following steps shall be taken for the test

- Calibration of the luxmeter.
- Put off the lights to be tested.
- Take calibrated luxmeter reading.
- Put on the lights in the area to be tested
- Observe the luxmeter reading
- Difference (positive or negative) in addition with standard light luminance level will give the actual luminance of existing lighting system.

Note: The testing procedure shall be as per the Manual of the Luxmeter used.



SCHEDULE - K**COMPLETION CERTIFICATE**

(In case the Completion Certificate is being issued without the Provisional Certificate already being issued.)

I/We, **(Name of Independent Consultant)** acting as Independent Consultant on the Project "Design, Construction, Development, Finance, Operation and Maintenance of km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), on Kotakatta - Kurnool section of NH 7 in the State of Andhra Pradesh, India on BOT Annuity basis" through the Concessionaire, **Andhra Pradesh Expressway Limited** hereby issue this Completion Certificate in-terms of sub-clause 16.4 of Concession Agreement since the said Project has been completed and successfully tested as per Schedule 'J' as stipulated in the said Concession Agreement and is ready for commissioning of traffic commercially as provided in the Concession Agreement dated **(Date of Agreement)** between the said Concessionaire and the NHAI. The date of issue of this Completion Certificate shall be the COD, as defined in the said Concession Agreement.

Dated _____
(Date of Issue)

Team Leader

Authorised Representative of the
Independent Consultant



**(In case the Completion Certificate is being issued with the Provisional
Certificate already issued.)**

I/We, (Name of Independent Consultant) acting as Independent Consultant on the Project "**Design, Construction, Development, Finance, Operation and Maintenance of km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), on Kotakatta - Kurnool section of NH 7 in the State of Andhra Pradesh, India on BOT Annuity basis**" through the Concessionaire, **Andhra Pradesh Expressway Limited** hereby issue this Completion Certificate in-terms of sub-clause 16.4 of Concession Agreement since the said Project has been completed and successfully tested as per Schedule 'J' as stipulated in the said Concession Agreement and all the Punch List items as mentioned in the Provisional Completion Certificate issued on completed as provided in the Concession Agreement dated (Date of Agreement) between the said Concessionaire and the NHAI.

Dated _____

(Date of Issue)

Team Leader

**Authorised Representative of the
Independent Consultant**



SCHEDULE – K₁**PROVISIONAL COMPLETION CERTIFICATE****Provisional Completion Certificate**

I/We **(Name of Independent Consultant)** acting as Independent Consultant on the Project, “Design, Construction, Development, Finance, Operation and Maintenance of km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), on Kotakatta - Kurnool section of NH 7 in the State of Andhra Pradesh, India on BOT Annuity basis” through the Concessionaire, **Andhra Pradesh Expressway Limited** hereby issue this Provisional Certificate of Completion in-terms of sub-clause 16.5 of Concession Agreement dated **(Date of Agreement)**, between the said Concessionaire and the NHAI, on the request of the said Concessionaire subject to the appended Punch List containing a list of outstanding items since the tests stipulated in Schedule ‘J’ have been successfully carried-out and all parts of Project Highway can be legally, safely and reliably placed in commercial operations though certain works and things forming part thereof are not yet complete as indicated in the said Punch List. All the items of the said Punch List shall be completed by the said Concessionaire with in 120 (one hundred and twenty) days of the date of issue of this Provisional Certificate of Completion. The date of issue of this Provisional Completion Certificate shall be the COD, as defined in the said Concession Agreement.

Dated _____

(Date of issue)_____
Team Leader_____
**Authorised Representative of the
Independent Consultant**

SCHEDULE L

OPERATION AND MAINTENANCE REQUIREMENTS

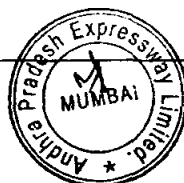
1. Introduction

The Concession Agreement stipulates that length of **Project Highway** shall be constructed, operated and maintained during the Concession Period by the Concessionaire in accordance with scope defined in Schedules B & C and thereafter transferred to National Highways Authority of India (NHAI). In addition, the Concessionaire is also responsible for improvement and operation and maintenance of the **Additional Highway** considered for the BOT Annuity package as mentioned in Schedule A. This Schedule elaborates the operation and maintenance requirements of the Concession and is to be read together with the Concession Agreement for this purpose. For clarification of doubt, the period during which the Concessionaire shall comply with the O&M requirements covers the entire Concession Period including the Construction Period. In particular, during the *Construction Period*, the Concessionaire is required to operate and maintain the existing two lanes as provided in the Concession Agreement and this Schedule. The Concessionaire shall operate and maintain the Project Highway such that during the Construction Period, the two existing lanes are ordinarily open to traffic at all times and from Commercial Operations Date (COD), lane availability at the end of each year of the Concession will be a minimum of 99% on a cumulative basis. For this purpose, lane availability at the end of each year will be computed as follows:

$$\frac{(\text{Length in Km} \times \text{no. of lanes} \times \text{number of days since COD}) - \sum (\text{lane kms closed} \times \text{number of days for which closed})}{(\text{Length in Km} \times \text{no. of lanes} \times \text{number of days since COD})}$$

Note:

- In the above formula the lane Km closed does not include the Additional Highway considered for BOT Annuity package if the same has not been completed by the time the Concessionaire completes developments to Project Highway.
- If the Additional Highway considered for BOT Annuity package is completed in all respects and handed over to Concessionaire, the above formula shall include



total length of BOT Annuity package from the day of handing over the Additional Highway to the Concessionaire.

- Any Lane closure due to emergency reasons shall be excluded for computing lane availability.

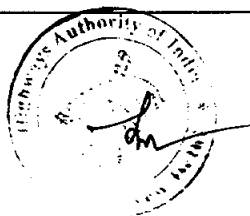
2. Operation and Maintenance (O&M) Requirements

2.1 The Concessionaire shall take all such actions and do all such things (including without limitation, organising itself, adopting measures and standards, executing procedures such as inspection procedures, highway patrols, and engaging and managing contractors, agents and employees) as will secure:

- a) The safety of users of the Project Highway, workers or other persons on the Project Highway and/or facilities thereon;
- b) Unimpaired performance of statutory duties and functions of the NHAI and other Authorities in relation to the Project Highway and/or other adjoining roads and facilities;

and, subject to paragraphs a) and b), above, ensure that:

- 2.1.1. adequate safety measures, taking into account Schedule 'S', are taken up on the Site during the Construction and Operation periods.
- 2.1.2. delay to users of the Project Highway and of adjoining roads or facilities is minimised;
- 2.1.3. risk of adverse effects on the environment and on the amenity enjoyed by the owners and occupiers of property and/or land adjacent to the Project Highway, adjoining roads and facilities is minimised;
- 2.1.4. accidents and emergencies on the Project Highway and facilities thereon are responded to as quickly as possible and their adverse effects minimised;
- 2.1.5. risk of disturbance or damage or destruction to property of third party is minimised;
- 2.1.6. members of the public are treated with due courtesy and consideration;
- 2.1.7. users are given adequate information and forewarning of any event on or any other matter affecting the Project Highway which will enable them to minimise any adverse consequences on them of that event or matter;
- 2.1.8. members of the public and others are given adequate opportunity to bring to the attention of the Concessionaire any matters affecting its ability to meet the O&M Requirements;
- 2.1.9. Traffic data and data relating to the operation and maintenance of the Project Highway and Project Facilities and events on the Project Highway are collected and disseminated



such that the NHAI and other persons or bodies with statutory duties or functions in relation to the Project Highway or adjoining roads are able to perform those duties and functions efficiently;

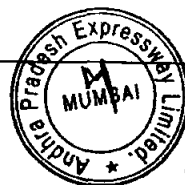
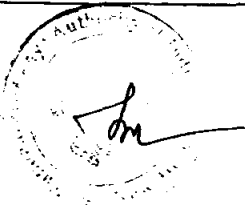
2.1.10. the Project Facilities shall be operated and maintained in order to fulfil the requirements set forth in the Concession Agreement and in this Schedule L:

2.1.11. The Scope for operation and maintenance includes but not limited to following:

- Improvement – this includes improvement in the existing assets as per requirement of this Agreement and safety audit if any in consultation with IC.
- Road maintenance – this includes routine maintenance, major maintenance, periodic preventive maintenance, disaster maintenance and inspections;
- Traffic Management – incident management; enforcement of regulations together with the relevant authorities, hazard response; information gathering and dissemination, road patrols and surveillance;
- Safety – accident prevention; after care; user behaviour; education; enforcement; data collection and analysis.
- Facility management – including periodic inspections, routine maintenance, rehabilitation and expansion planning
- Road property management – management of access, encroachment and ribbon development
- General responsibilities – including budgeting, compliance with legal and accounting requirements, and public relations
- Planning of Operations and Maintenance Centre. – including the basic planning, comment on the detail design, and design co-ordination.
- Maintaining public relations unit to interface with and attend to suggestions from users of the highway, the media, Govt. agencies and other external agencies.

The broad limit of responsibilities of the Concessionaire shall be as described below:

- (a) In general the limit of the Concessionaire's responsibility is to maintain all areas within the Right-of-Way (RoW) of the Project Highways inclusive of all facilities such as interchanges, street lighting facilities, traffic light facilities, emergency telephone



networks and other facilities constructed by the Concessionaire within the Project Highways.

- (b) Limit of maintenance by the Concessionaire for another road joining or crossing the concession limit, shall be according to the following conditions:
- (i) Where the other road crosses an underpass, the Concessionaire shall be responsible to maintain the crossing structure, viz., culverts, bridges and their abutments and related facilities, such as drainage, turfing, etc. The Concessionaire shall not be responsible for maintenance of the road surface, or the roadside drains of the other roads that are 100m beyond the RoW of Project Highway.
 - (ii) For the road that crosses an overhead bridge, and the bridge is not a part of an interchange, the Concessionaire shall be responsible for maintenance of the surface of the bridge, joints repairs, drainage linked to the bridge and its abutments.
- (c) The Concessionaire shall operate and maintain all the street lighting, traffic light system, structures, roadway surface and the related facilities such as drainage, turfing, etc within the interchanges, and such maintenance shall be extended until the end of the flare and the deceleration and acceleration lanes of the interchanges.
- (d) The Concessionaire shall be responsible for maintaining all cross roads indicated in Schedule B up to a length of 100 meters from the Right-of-Way of the Project Highways, and their flares to junctions at any interchange within the Project Highway, whichever is more.
- (e) For setting out the limit of maintenance for the Concessionaire, National Highways Authority of India shall be responsible for negotiating with the local authorities or where required, with other relevant third parties. The Concessionaire shall maintain all the drainage system within the Right-of-Way including the culvert crossings and the drains. However, the Concessionaire shall not be liable to maintain rivers and the streams under the jurisdiction of Irrigation Department, except when such maintenance is required as a result of exceptional discharge.



2.2. TRAFFIC MANAGEMENT AND LANE CLOSURE

2.2.1. Traffic Management during the entire Concession Period is an important activity that the Concessionaire has to attend to ensure safety of the road users as well as the construction workers simultaneously throughout the concession period. It is an usual activity to carryout various types of construction works at different stages and at different periods as per site requirements. Also, it is a vital activity during unforeseen and/or emergency situations arising on account of natural causes or accidents or administrative reasons.

2.2.2. Traffic Management is required during planned / scheduled construction and maintenance activities. However, traffic management will also be called for during unscheduled activities such as

- (i) Emergency situation arising on account of
 - a) Force Majeure;
 - b) Accident/Incident on the Project Highway;
- (ii) Special repairs required on account of failure of an element of the Project Highway; and
- (iii) Default of the Concessionaire with respect to an operational activity on the Project Highway.

2.2.3. The basic principles to be followed for traffic management and lane closure on the Project Highway shall be as follows:

2.2.3.1. Work programme schedule shall be prepared such that diversion roads for the main traffic are minimized. The existing two lane carriageway is utilized to the maximum extent possible.

2.2.3.2. Measures shall be taken that the traffic is guided from a closed lane onto the operating lane without its conflict with the traffic from the opposite direction.

- 2.2.3.3. The activity of renewal of pavement surface and/or strengthening of the pavement structure shall not be taken up in a continuous length of more than 2 kilometres at a time to avoid long detour of the traffic.
- 2.2.3.4. The traffic diversion road where provided shall be appropriately designed for the traffic plying on the highway. It shall also be properly maintained during its operation period.
- 2.2.3.5. During Traffic detour involving traffic diversion adequate safety measures, Schedule 'S' shall be followed.
- 2.2.3.6. Proper and adequate information about the maintenance activity shall be notified to the users of the Project Highway in advance and displayed at the Site during the Operation Period.
- 2.2.4. Traffic Management plan and programme for a planned scheduled construction and/or maintenance activity shall be prepared in advance of that activity keeping 2.2.1 above in view and got approved by the Independent Consultant/NHAI as the case may be.
- 2.3. In case of un-scheduled activities, described in 2.2.2 (I) to (iii) above, an emergency traffic management for the affected reach of the highway shall be prepared and implemented in consultation with the Independent Consultant immediately. This emergency traffic management plan shall take into account the various requirements spelt out in the Concession Agreement as well as in this Schedule.
- 2.4. Lane closure is a vital activity during construction and/or maintenance in the Concession Period that the Concessionaire shall carryout in an organized, planned and disciplined manner.
- 2.4.1. Lane Closure involves traffic management in the affected reach of the highway, as such it is always a time bound activity and the Operation and Maintenance Manual incorporates it accordingly. In case where the Concessionaire fails to perform in time, a penalty shall be levied on the Concessionaire for the delay in reopening the closed lane to the traffic in terms of the Concession Agreement.



2.4.2. The basic principles to be followed in preparation of a planned lane closure shall be as follows:

2.4.2.1. The activity of renewal of pavement surface and/or strengthening of the pavement structure shall be taken up in one lane of the 2/3 lane carriageway so that at least one lane of that carriageway is available to the traffic.

2.4.2.2. The activity of renewal or strengthening, item 2.5.1 below, shall not be carried out in a continuous length of more than 2 km in rural section and 1 km in urban section so that the closure of a lane is not more than 2 days and 1 day in rural and urban sections respectively.

2.4.2.3. Lane closure adopted for diverting the main traffic on account of the traffic management during construction works of the Project Highway shall be governed by the approved programme of Construction Works.

2.4.2.4. Lane Closure in short lengths less than or equal to 500 metres for carrying out a routine maintenance activity defined in item 4.2.1.1 of this Schedule shall not be for more than a continuous period of 1 day.

2.4.2.5. The lane closure needed on account of emergency shall be distinguished from the lane closure described in item 2.4.2.3 above. The lane closure on account of the Emergency shall be dealt with under sub clause 18.9, Emergency De-Commissioning, Article XVIII Operation and Maintenance, Chapter IV, Project Development and Operation of this Agreement.

Traffic Management and Lane Closures Requirements during various situations arising on the Project Highway needing Traffic Management are detailed below:

2.5. Initial Construction Stage

2.5.1. Rural Section



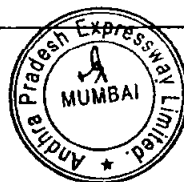
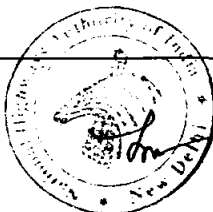
- i) The widening of the existing 2 lane carriageway shall be generally eccentric to make a four/six (4/6) lane divided carriageway facility. A new 2/3 lane carriageway separated from the existing carriageway with a 4.5m central median will be constructed in the first instance and then strengthening and widening of existing 2 lane carriageway shall be undertaken.
- ii) The construction sequence in this case will be as under:
 - a) 2/3 new lanes will be constructed initially. There will be no conflict area for the main traffic using the existing two lanes during this construction stage. It shall be ensured that the construction traffic does not conflict with the main traffic in this stage.
 - b) On completion of the 2/3 new lanes throughout, the total traffic will be diverted on it and the existing 2 lanes will be widened with paved shoulders /additional lane with paved shoulder depending upon the new carriageway configuration upto the existing road level, Thereafter, entire width including the existing 2 lanes and the widened portion shall be given bituminous base courses uniformly.

2.5.2. Urban Section

- i) The widening of the existing 2 lane carriageway shall be generally concentric to make it a 4/6 lane divided carriageway facility. The divider will be a 1.5 m wide central median.

In addition, service road will be provided on either side of the 4/6 lane carriageway facility.

- ii) The construction sequence in this case will be as under:
 - a) Service roads and side drains on both the sides will be constructed initially.
There will be no conflict area for the main traffic, which will be using the existing two lanes. It will be ensured that the construction traffic does not conflict with the main traffic at exit and entry points.
 - b) On completion of the service roads on both sides, the main traffic will be diverted on them direction wise and the existing 2 lanes will be widened to 2/3



lanes on each side duly accounting for the 1.5 m wide central median. On completion of the widening upto the existing road level, the median will be constructed. On its completion, the existing road will be strengthened in such a manner that the bituminous base courses and the wearing course layers are laid uniformly in 2/3 lanes and paved shoulder on either side of the 1.5 m wide central median. During this operation, the construction traffic will not be conflicting with the main traffic on the service roads.

- c) On completion of the divided lane carriageway of the Project Highway, the main traffic from the service roads shall be restored on them.

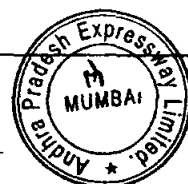
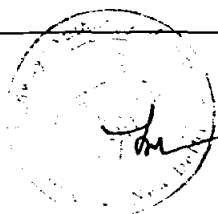
2.6. Operation and Maintenance Stage

2.6.1. This is applicable for the entire Operations Period for the Project Highway during the entire Concession Period. Various important activities to be carried out during this stage are:

- a) Regular periodic maintenance activities:
- i) Renewal of the wearing surface of the road pavement once every 5 years;
 - ii) Strengthening course to be provided on 'as required' basis.
- b) Maintenance activities arising out of the specific need(s) on account of the site conditions are:
- i. Strengthening course required on account of the Benkelman Beam Deflection (B.B.D). values in excess of the prescribed criteria obtained during regular testing as per the Concession Agreement requirement;
 - ii. Wearing course required on account of the IRI values higher than the prescribed criteria obtained during regular testing as per the Concession Agreement requirement;
 - iii. Localized repairs in short lengths less than 500 m on account of pot holes, cracking, subsidence in isolated spots or in scattered areas.

2.6.2. In order to cater to the execution of the said activities, para 2.6.1 above the main traffic will have to be diverted to an extent dependent on the site requirement.

2.7. EMERGENCY STAGE



2.7.1. This stage could arise any time in an emergency situation and shall have to be addressed to on its own merits. The extent of the traffic management shall be assessed as per the site requirement and situation.

2.7.2. The emergency situation could be faced in the following three situations.

- a) During the period between the award of the work and commencement of the construction works on financial close.

In this situation the existing two lane facility is available only. The traffic management will have to be tailored accordingly. Either the existing one lane will have to be closed passing the traffic on another lane and its adjoining shoulder or both the existing lanes will be closed and a diversion road provided.

- b) During the period when construction works are in progress.

In this case the availability of the carriageway at site shall decide the nature and extent of the traffic diversion.

- c) During the period when the Project Highway is under operation and/or maintenance. the nature of emergency requirement in this case will determine the type and extent of the traffic diversion.

2.7.3. Traffic Management in emergency situation shall be provided immediately in consultation with the Independent Consultant

3. OPERATIONS

3.1. Introduction

3.1.1 The Concessionaire shall in consultation with the Independent Consultant evolve an Operations and Maintenance Manual (Maintenance Manual) as per sub-clause 18.2 of this Agreement.

3.1.2. The said Maintenance Manual shall have two separate sections, namely

- (i) Section I - Operations; and
- (ii) Section II - Maintenance

These are briefly described in items 3.2 and 4 of this Schedule respectively.

3.2. Section I - Operations



It shall prescribe procedures and systems for activities including but not limited to the following for the regular and emergency operations of the Project Highway and Project Facilities thereon.

3.2.1. Regular Operations

- Permitting smooth and uninterrupted flow of traffic during normal operating conditions.
- Functioning of the lighting system;
- Functioning of the Patrolling System
- Functioning of rescue and medical aid services
 - Ambulance
 - Fire Brigade
 - Tow away truck and cranes
- Functioning of the Highway Traffic Management System
 - Emergency Call Boxes (ECBs) for Road Users
 - Central Control System
- Functioning of the Project Facilities
 - Administrative, Operational and Maintenance Base Camp
 - Rest Areas
 - Truck Parking Laybys
 - Electrical Services at Laybys, Bus Stops and Rest Areas
 - Potable Water supply system including supply of drinking water at truck parking laybys, rest areas etc.
 - Public toilets and other sanitary facilities
 - Pickup Bus
 - Solid waste disposal system including those from litterbins.

3.2.2. Emergency Operations

Minimising disruption to traffic in the event of accidents and/or incidents affecting the safety and use of the Project Highway by providing a rapid and effective response and maintaining liaison procedures with emergency services.

- Reasonably smooth and safe movement of traffic during emergency activities such as special repairs during floods, storms, hurricanes and earthquakes.



- Failure of a system due to human error, electrical or mechanical failure.

3.3. The Concessionaire shall keep regular record of accidents that occur including the nature of accident, location of occurrence, time and date in the prescribed format, included in the Maintenance Manual and shall forward the monthly particulars of the same to the Independent Consultant and the NHAI regularly in the first week of the following month.

3.4. The Concessionaire shall programme inspections of the Project Highway for its smooth operations in terms of the Concession Agreement classified in the following categories :

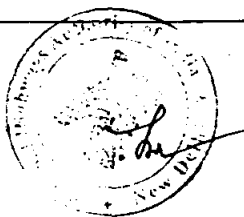
- Visual Inspection
 - Close Inspection
 - Thorough Inspection
- and described herein under

3.5. **Visual Inspection**

Visual Inspections are broad general inspections carried out quickly and frequently by highway /bridge maintenance engineers having knowledge of road structures. The purpose of this visual inspection is to report the obstacles to traffic and fairly obvious deficiencies, which could lead to accidents or maintenance problems. Such inspections should be frequent. The visual inspection may be carried out by visual assessment with careful observation of the specific object/item of the Project Highway for identification and for quantification of the deficiencies or damages of the Project Highway.

3.6. **Close Inspection**

The close inspection may be visual and/or supplemented by standard instrumental aids for assessment of defects / deficiencies of Project Highway with careful observation of specific element(s). The close inspection may be daily / periodic but it is more intensive and would require detailed examination of elements of the Project Highway. It should cover all the aspects of the specific element of Project Highway against a checklist. The close inspections are to be carried out quite frequently depending upon the nature of structure of Project Highway. This inspection is to be carried out by the Highway/Bridge Engineer having good knowledge of road structures with theoretical background to



analyse the nature, and extent of defects/deficiencies, suggest suitable remedial measures to rectify/remedy them and quantify repair work.

3.7. Thorough Inspection

A thorough inspection is comprehensive and detailed for assessment of defects/deficiencies of the Project Highway by visual inspection or with aid of standard equipment and non-destructive testing where necessary. Such an inspection is to be carried out on the basis of comprehensive checklist of items related to the materials, condition and situation of the structure etc. The checklist is to be prepared meticulously well in advance of inspection. The thorough inspection should be undertaken during the most critical weather condition, which is generally rainy season in India. During rainy season the Road/Bridge structures are under severe condition, thereby the damage and deficiencies of the Project Highway are more pronounced. The inspection carried out during the said period offer the most critical evaluation of the performance of the structure.

The thorough inspections are all the more important for Bridges, Culverts and drainage structures, as well as road pavements during adverse weather condition of monsoon period.

Besides being a qualified Highway/Bridge engineer; the inspection team leader must be familiar with design and construction features of the Highway /Bridges to be inspected so that the condition can be properly and accurately assessed for a meaningful report and quantification of repair works. The competence of team leader to recognise any structural distress/deficiencies and assess its seriousness with complete recommendation for appropriate repairs are important pre-requisites for entrusting this assignment to him.

3.8. Frequency of Inspections

The inspection frequency of various items of Project highway has been indicated in the Table L-1 hereunder. The frequency of inspection can be suitably revised in consultation with the Independent Consultant if the emergencies so warrant.

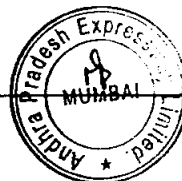
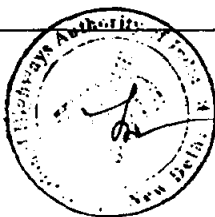


Table L-1: Objective and Frequency of Inspection

(The objective and minimum frequency of inspections under normal circumstances shall be as under. If some exigencies arise, the interval of inspection may be reduced)

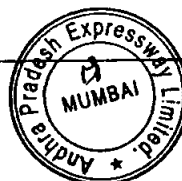
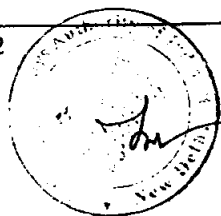
Object	Item	Daily	Monthly	Quarterly	Before and after rainy season
Riding Surface	Pavement				
	Expansion joints				
Median	Kerb				
Side Slopes	Shape				
	Turfing				
	Pitching & masonry				
	Retaining wall				
Drainage	Shoulder drain	❖			
	Median drain	❖			
	Side slope drain	❖			
	Bridge catch basin	❖			
	Gullies and catch pits	❖			
Bridges	Superstructure				
	Substructure				
	Head walls and aprons				
	Painting				
	Hand rail				
Culverts	RC Culverts				
	HP Culverts				
Guard rails	Shoulders				
	Medians				



Object	Item	Daily	Monthly	Quarterly	Before and after rainy season
Traffic operation facilities	Signs				
	Marking				
	Delineator				
	Lighting				
Other facilities	Vegetation / landscaping				
	Way side amenities				
Traffic conditions					
Encroachments					

LEGEND*visual inspection**close inspection*● *thorough inspection*❖ *visual inspection during rainy season only***4. MAINTENANCE****4.1. Introduction**

- 4.1.1. The Concessionaire shall maintain the Project Highway in traffic-worthy condition and the Project Facilities in usable condition throughout the Concession Period or any extension thereof in terms of the Concession Agreement through regular maintenance and preventive maintenance of the various items and elements of the Project Highway.



4.1.2. The Concessionaire shall maintain the existing 2/3 lanes of the Project Highway and already constructed 4/6 lanes of the Project Highway during construction of new lanes in such a manner that the unevenness index of the pavement does not exceed 3000 mm per km, or the present roughness value of the existing pavement, whichever is lesser and it is free of pot holes.

4.1.3. The following MORT&H and IRC publications shall be referred for preparation of the said Section - II Maintenance of the "Operation and Maintenance Manual"

- MORT&H Manual for Maintenance of Roads.
- IRC-SP-35-1990, Guidelines for Inspection and Maintenance of Bridges.
- The manufacturer's Maintenance manual(s) of the equipment to be used in the Project Highway Operations shall form part of the said O&M Manual.

4.2. Maintenance Section of Maintenance Manual

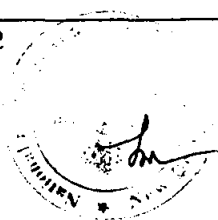
The Section II Maintenance, of the Operation and Maintenance Manual, shall include the activities described hereinunder amongst other activities required for the regular and preventive maintenance of the equipment during the Operations Period, so that the Project Highway is maintained in a manner that at all times it complies with the specifications and standards and at the time of Divestment of Rights and Interests by the Concessionaire in terms of Article XXXIII of this Agreement it is in sound, durable and functional condition.

4.2.1. Regular Maintenance

It consists of the routine maintenance and periodic maintenance throughout the Concession Period and extension thereof, if any, for all elements of the Project Highway.

4.2.1.1 Routine Maintenance

The Concessionaire is required to perform all routine maintenance activities along the project road. The Routine Road Maintenance means planned ongoing works and activities required to ensure public safety, repair small defects and to maintain the road and the entire RoW in the required condition.



The Concessionaire is required to develop maintenance sheets for each component of the works. The Concessionaire has to utilise mechanised equipment, method and innovative solutions and technology to perform these obligations and include such process in the Maintenance Manuals.

All maintenance activities are to be carried out in accordance with relevant IRC Codes, Guidelines and Special Publications as are applicable to National Highways, MORT&H specifications and Technical circulars with all updates. In the absence of any definite provisions on any particular issue related to the specifications and/or standards, reference may be made to the latest codes and specifications of the Bureau of Indian Standards (BIS), AASHTO, ASTM, British Standards or any other International Standards. But where even these are silent, the work shall conform to sound engineering practice with the approval of the IC. The requisite Quality Control Tests as per specifications and codes are to be carried out by the Concessionaire at his cost as per the directions of the IC.

Routine Maintenance broadly includes:

- (i) Maintenance of pavement
- (ii) Maintenance of *turfed* areas.
- (iii) Maintenance of landscaping
- (iv) Maintenance of drainage system
- (v) General cleaning including CD structures
- (vi) Cleaning, maintenance of buildings within concession limits.
- (vii) Maintenance of *main line* structures.
- (viii) Maintenance of Right-of-Way fences.
- (ix) Maintenance of Highway Accessories.
- (x) Maintenance of guardrails.
- (xi) Other miscellaneous responsibilities such as stand by/on-call, emergency plant & equipment, stray animal catching operations etc.
- (xii) Provision of traffic and safety control devices during the routine maintenance works or any accidents.

4.3. Periodic Maintenance of Pavement



The framework of activities relating to pavement maintenance and rehabilitation in respect of flexible and rigid pavement are given in the flow charts in Appendix 3.1 and Appendix 3.2 respectively. The Concessionaire shall set forth in the Operations and Maintenance Manual the detailed procedures to be followed under each of these activities, and also choose the operational and performance criteria from the performance standards set forth in this Schedule.

4.3.1. Pavement Riding Quality

The riding quality of the pavement shall be ensured by satisfying the minimum requirements given herein under.

- i) Surface roughness of the Project Highway on completion of construction shall be 2000 mm/km as measured by vehicle mounted Bump Integrator.
- ii) Surface roughness shall not exceed 3000 mm/km during the service life of pavement at any time. A renewal coat of bituminous concrete shall be laid every 5 years after initial construction or where the roughness value reaches 3000 mm/km whichever is earlier to bring it to the initial value of 2000 mm/km.

4.3.2. Structural Condition of the Pavement

- I) The structural condition of the flexible pavement of the Project Highway shall be assessed every year by taking Benkelman Beam Deflections and working out characteristic deflections of homogeneous sections of the Project Highway as per IRC-81-1997. Wherever the characteristic deflection exceeds 1.2 mm a bituminous overlay shall be provided appropriately designed according to IRC-81-1997 or its latest versions or amendments to it.
- II) Recycling of existing crust using milling as an option can be explored by the Concessionaire in consultation with the IC to maintain the FRL at the same level throughout the concession period. However, while adopting such measures, the residual strength of existing pavement shall be estimated and equivalent thickness of new material added before laying the designed overlay. The design of profile with altered pavement treatments shall be finalised in consultation with IC.



- III) In the case of cement concrete pavement, joints shall be thoroughly inspected every year and the loss of sealing compounds made good.

4.3.3. Preventive Maintenance

Preventive Maintenance shall include the activities related to each element and the system as a whole of the Project Highway to ensure that during the Concession Period and at its end, it is in sound, durable and functional condition.

4.3.4. Special Repairs

Damages occurring due to natural calamities like heavy floods, sand storms, hurricanes, cyclones, earthquakes to any element or system of the Project Highway, shall be rectified and the system restored to function as per programme prepared in consultation with Independent Consultant. All such activities shall fall under 'Maintenance' and shall form a part of the said Maintenance Manual.

4.4. Minimum Requirements of Maintenance Activities

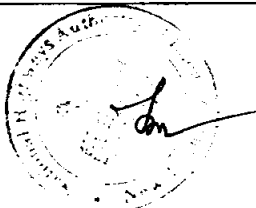
4.4.1. Major Breaches in the Roadway

Major breaches in the roadway of any type endanger safety of traffic and cause obstruction in movement of vehicles. These breaches shall be repaired urgently. Steps as mentioned in O&M manual shall be followed by the Concessionaire for repairing the breaches.

The Concessionaire shall ensure speedy restoration of traffic and take immediate action to repair the damages as permanent measures for the Project Highway. The restoration of traffic shall be made within 24 hours of its occurrence. The permanent measures shall be completed within a period of one week.

4.4.2. Minor cuts, rutting or blockage

Minor cuts, rutting and damages on Project Highway which do not completely obstruct the traffic but endanger the safety of traffic, shall be attended to on an urgent basis. For this purpose any cut which is in width more than 1 m shall be repaired within 24 hours.



Any minor blockage, which partially obstructs the traffic and endangers safety, shall be removed by the Concessionaire immediately.

4.4.3. Branches of trees

The branches of the roadside trees if hanging closer than 5.5m over the road level of the Project Highway shall be cut, trimmed or lopped within 24 hours.

4.4.4. Shoulders

The shoulder (Earthen/Hard) shall be maintained in such a way that the shoulder drop off shall not be more than 25 mm for a length of 10m in a section length of 100m and/or there shall not be any false ditch causing the water to drain in reverse direction i.e. towards pavement instead of away from pavement surface, the same shall be rectified within 2 days as described below:

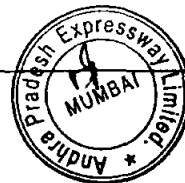
If the shoulders are deformed or scoured and are lower than 25mm from the adjacent carriageway, these shall be corrected by excavation, filling, dressing and compacting a material matching the existing material and it shall conform to the relevant MORT&H Specifications. In case of earthen shoulder repairs shall be carried out as per MORT&H Specifications 3003.

4.4.5. Drainage / Side Drains.

4.4.5.1. The Concessionaire must ensure that all drainage elements and structures are without any obstructions, which may reduce their normal cross section and impede the free flow of water. They should not have silting more than 25% of their size at any part of length.

4.4.5.2. All the Pipe and Box culverts shall have less than 10% deteriorated barrel and have more than 90% of the diameter/size open. There should be no evidence of flooding with end protection intact and no dip on the road over culvert indicating structural weakness.

4.4.5.3. Routine maintenance under this category shall cover pipe drainage system, slot drains, porous drains, gullies, catch-pits, open grills, ditches, side drains and median drains etc.



4.4.5.4. If the side drains / median drains where provided, and other drainage structures have been silted up in such a manner that it is causing obstruction in flow of water, the same shall be cleared off regularly within 7 days after detection in order to keep the drains free from obstructions all the time.

4.4.5.5. If the drainage system of Project Highway is covered and damaged, it obstructs the flow of water causing damage to the road pavement. Such damaged structures shall be reconstructed to required shape, size and proper slope within 21 days after detection or as instructed by IC.

4.4.6. Cross Drainage Works & Other Structures

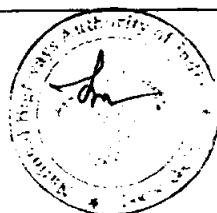
4.4.6.1. The Concessionaire shall set forth in the Operation and Maintenance Manual, the detailed procedures to be followed for the maintenance and repairs of bridges and other structures keeping in view IRC-SP-35: 1990 'Guidelines for the Inspection and Maintenance of Bridges' in consultation with the Independent Consultant. The flow chart for Bridge and Culverts maintenance activities is given in Appendix 3.3.

4.4.6.2. The scouring of piers and abutments of bridges and culverts shall be observed carefully particularly before and after rainy season and suitable remedial measures as deemed fit looking to site conditions shall be taken in consultation with IC.

4.4.6.3. The bridge deck must be clean and have minimal spalls, cracks or scaling. The drains /scuppers on the deck must be clean and functional always.

4.4.6.4. The Super-structure should not have any cracks or loss of section. There should be no spalling and have proper vertical clearance and opening height. Paint on the super structure must be in good shape.

4.4.6.5. The sub-structure should not have spalls, cracks and scaling. The bearing assembly should be functional and lubricated periodically. Abutment /pier seats should be clean and sound.



4.4.6.6. The joints on the structures shall not be loose and should be sealed always.

4.4.6.7. Retaining walls should not have spalling or cracks and its weep holes must be open always. There should be no indication of settlement or rotation.

4.4.6.8. If any settlement cracks are appearing in substructure and superstructure of the CD works beyond permissible limits, the same shall be carefully observed and suitable remedial measures as per sound engineering practice taken.

4.4.6.9. The treatment for the damaged culverts/bridges shall be assessed at site after ascertaining the damaged portion as per site exigencies. The repair shall be carried out expeditiously in consultation with IC.

4.4.7. Pavement

As part of pavement maintenance the pavement shall be treated for various distresses occurring as described below.

4.4.7.1. Cracking

Cracking of bituminous pavements shall include all types of cracks such as hairline, alligator, longitudinal, transverse, shrinkage, reflective and edge cracking, linear and slippage etc. For any 50 m section of the pavement, the cracked area should not be more than 10% of the pavement surface of that section and/or the cracked area shall not exceed 0.5 sq.m at a place. The treatment shall be completely done within 7 days after their detection. The treatment shall be followed as described below:

- i. If the width of the cracks is less than 3mm and resulting into settlement of pavement up to 10 mm in depth and exceeding in area more than 0.5 sq.m. at a place, such cracking shall be sealed by fog sealing in accordance with the MORT&H Specification 3004.



- ii. If the width of the cracks is more than 3mm and resulting into settlement of pavement up to 10 mm in depth and exceeding in area more than 0.5 sq.m. at a place, such cracked surface shall be repaired by slurry sealing in accordance with MORT&H Specification 516.
- iii. If the cracked portion has settled more than 10mm and its area exceeds 0.5 sqm, such areas shall be repaired by patching as per MORT&H Specification 3004.
- iv. In case of alligator cracks, the permanent repair by full depth patching shall be carried out. The slippage cracks shall be repaired by removing the affected bituminous layer and replacing it with surface patch. In edge cracking, if shoulders are not providing adequate lateral support, the shoulder shall be reconstructed with good quality materials.

4.4.7.2. Rutting

For any 50 m section of the pavement, there shall not be ruts deeper than 10 mm and/or the length of rutting should not be more than 5m. The treatment shall be completely done within 15 days after their detection. The pavement surface shall be rectified/corrected as per directions laid out in IRC 82-1982 and based on sound engineering practice at such locations.

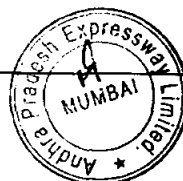
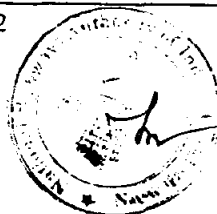
4.4.7.3. Corrugations and Shoving

If corrugations and shoving in the pavement area exceeds 1 sq. m at any place and depth / height of corrugation / shoving exceeds 10mm, the same shall be rectified/corrected within 2 days after its detection, as per directions laid out in IRC 82-1982 and based on sound engineering practice.

4.4.7.4. Settlement or Grade Depressions

If the settlements and grade depressions exceed 1 sqm in area and their depth is within 10mm, such defects shall be treated within 3 days after detection as per directions laid out in IRC 82-1982 and based on sound engineering practice.

4.4.7.5. Upheaval or Swell



For any 50 m section of the pavement, there shall not be upheaval or swell that exceeds 0.5 sq. m in area; if its height is more than 10mm, the same shall be treated within 7 days after its detection as per as per directions laid out in IRC 82-1982 and based on sound engineering practice.

4.4.7.6. Ravelling

For any 50 m section of the pavement, if the ravelling of bituminous surface is not more than 3% of the pavement surface of that section and/or the ravelled area does not exceed 1 sq.m. at a place, the same shall be rectified within 7 days after their detection by slurry seal treatment in accordance with the MORT&H Specification.

4.4.7.7. Potholes

There shall not be any pothole on the pavement surface. Irrespective of the size and depth, the potholes shall be repaired by patching / pothole filling in accordance with MORT&H Specification 3004. The potholes shall be repaired immediately if causing a threat to safety; other potholes shall be repaired within 2 days after their detection.

4.4.7.8. Skid Hazards

The skid resistance of the pavement surface shall be maintained in such a way that the skid number is a minimum of 55 when tested as per BS-812 Part 114ASTM-274. Skid hazards, irrespective of size, shall be corrected by improving the surface drainage and skid resistance including cleaning the surface of contamination, surface treatments or milling or resurfacing.

4.4.7.9. Bleeding or Flushing

For any 50 m section of the pavement, if the bleeding surface area is not more than 1% of the pavement surface of that section and/or the bleeding surface area does not exceeds 0.25 sq.m. at a place, the same shall be treated immediately within a day after its detection in accordance with IRC:82-1982 or any other relevant guidelines in consultation with the IC.

4.4.7.10. Edge deformation/Breaking

For any 100 m section of the pavement, if the edge breaking is more than 1m and/or the width of edge breaking is more than 0.1m at a place, the same shall be treated immediately within a day after its detection in accordance with IRC:82-1982 or any other relevant guidelines in consultation with the IC.

4.4.7.11. Loss of Cover Aggregate

If the loss of cover aggregate occurs in area exceeding 1 sqm of the pavement, treatment of seal coat shall be applied.

4.4.7.12. Longitudinal / Transverse Streaking

If the longitudinal and transverse streaking appears on the pavement surface in area exceeding 5sqm, the same shall be treated by application of new surface treatment or by a second treatment over the streak surface.

4.4.8. If any defects other than those mentioned above occur on the pavement of the Project Highway, the same shall be rectified/corrected by the Concessionaire as per directions laid out in IRC 82-1982 and based on sound engineering practice.

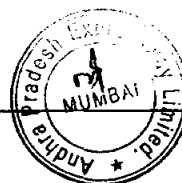
4.5. Other Maintenance Activities**4.5.1. Maintenance of Traffic Signals**

The traffic signals shall be maintained at all times as per clause 18 of IRC: 93 -1985 and shall be periodically inspected, maintained and repaired so as to be in satisfactory working condition all the time.

4.5.2. Maintenance of Highway Lighting System

4.5.2.1. Maintenance of all lighting installations and related appurtenances shall be as per relevant clauses of IS : 1944 (Part I-V) 1981.

4.5.2.2. Lighting wherever provided shall be maintained by the Concessionaire in a condition nearly similar to original condition.



4.5.2.3. The faults shall be repaired instantly and lighting restored. Missing and damaged items shall be replaced instantly.

4.5.2.4. Cleaning shall be done at regular intervals to be mentioned in the Maintenance Manual to ensure that lighting is not below the specified standard.

4.5.2.5. All installations shall be safeguarded against weathering and ageing effects by repainting and other preventive measures.

4.5.2.6. The servicing of stand-by power generation units shall be carried out in accordance with the manufacturer's instructions.

4.5.3. Maintenance of Highway Signs and Pavement Markings

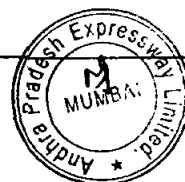
4.5.3.1. All traffic signs and markings shall always be kept clean, visible and in correct alignment and position.

4.5.3.2. Any damage to traffic signs, which reduces or threatens to reduce full and clear visibility shall be rectified within twenty four (24) hours of its occurrence. If they are used as base for posters, the posters shall be removed and the signs cleaned within 24 hours. Signs shall be washed using detergent solution followed by clean water to maintain their visibility and reflectivity unimpaired due to dust etc.

4.5.3.3. Any part of traffic signs damaged due to weathering, corrosion, vandalism or any other cause shall be replaced by the Concessionaire within seven days.

4.5.3.4. Any mandatory signs including those for traffic safety, 'damaged beyond repair' shall be replaced within 2 days and all other signs with similar condition shall be replaced within 3 days.

4.5.3.5. Appropriate devices for measuring the luminosity and reflectivity shall be used to check visibility and reflectivity of signs, delineators and markings. These shall be replaced by similar material if the reduction in the level of these two requirements falls below 50% of the original level.



4.5.3.6. Pavement marking with thermo plastic paint shall be carried out soon after any overlay/renewal coat is provided.

4.5.4. Maintenance of Pickup Bus Stops

4.5.4.1. Maintenance of pickup bus stops shall include attending to repairs to the bus-bay pavement and also to various parts of the passenger shelter and connected facilities as and when necessary. Replacement of irreparable items shall be done within 2 days.

4.5.5. Maintenance of Control Centre

4.5.5.1. There shall be periodic inspection and maintenance of the Control Centres. This shall include attending to repairs and maintenance (both regular and periodic) to various parts of the building and connected services and facilities as and when necessary, and replacement of irreparable items of work. Cleaning & disinfecting of the water supply systems, inspection and maintenance of drainage/sanitation systems and electrical installations shall be as per relevant clauses of National Building Code (NBC).

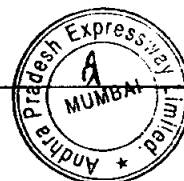
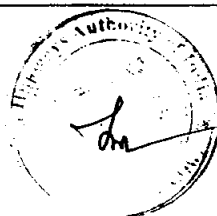
4.5.5.2. Maintenance of Emergency Telephone system including its equipment shall include periodic servicing, checking of the system, replacement of components, attending to all necessary repairs and other incidentals to keep the system in working condition.

4.5.5.3. All the vehicles shall be maintained in smooth running condition at all times. In the event of any vehicle being off the road for maintenance or on account of breakdown, substitute vehicle shall be provided immediately.

4.5.5.4. At the end of the Concession Period or the extended period thereof, Control Centres together with all equipment in working order shall be handed over to NHAI.

4.5.6. Maintenance of Buildings

4.5.6.1. Maintenance of buildings shall include routine maintenance and attending to repairs to various parts of the building and connected services as and when necessary, and replacement of irreparable items of work, cleaning & disinfection of the water supply



systems, inspection and maintenance of drainage/sanitation systems and electrical installations shall be as per relevant clauses of NBC.

4.5.6.2. At the end of the concession period or the extended period thereof, all buildings shall be in useable condition and handed over to NHAI.

4.5.7. Maintenance of Road Furniture and Facilities

4.5.7.1. Maintenance of road furniture and facilities shall include attending to repairs to various parts of the road furniture and connected services as and when necessary, and replacement of irreparable items of work in reasonable period.

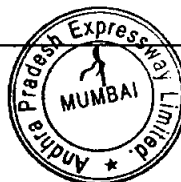
4.5.7.2. All the hectometre stones, Kilometre stones and 5th Km stones shall be kept 100% clear of obstruction; and up to 5% surface damage shall be rectified within 3 days after detection and shall bring it to its original state. If the surface damage is more than 10%, the same shall be removed and replaced with new ones meeting IRC standards.

4.5.7.3. At the end of the concession period or extended period thereof, all road furniture and facilities in useable and in working order shall be handed over to NHAI.

4.5.8. Maintenance of Highway Landscape

4.5.8.1. Maintenance of Highway Landscape shall include attending to repairs to elements of the landscape connected services as and when necessary, and replacement of irreparable items of work.

4.5.8.2. Trees shall be maintained as per the guidelines in IRC: SP: 21-1979 and no indiscriminate felling of trees shall be resorted to while upgrading, widening and improving the highway. The felling of trees shall be undertaken in consultation with the Independent Consultant and after obtaining due permission of the Forest Department, as applicable.



4.5.8.3. While borrowing earth from roadside land for routine maintenance it shall be ensured that no earth is removed around root of trees. All borrowing operations shall be as per IRC : 10-1961.

4.5.8.4. Maintenance operations include numbering and maintaining a register of all road side trees within the Right of Way.

4.5.8.5. The routine maintenance such as trimming and shaping shall also cover those hedges and trees within the RoW, which affect the performance of the Project Highway.

4.5.8.6. Cutting or clearance to safeguard visibility at intersections, road bends, accesses and signs shall be carried out in such a way as to avoid permanent damage to hedges and trees. Hedges and trees overhanging carriageways shall be trimmed to provide a minimum headroom of 5.5 metres at all times.

4.5.8.7. Turfing within the RoW shall be mown as to achieve a visual pattern in harmony with adjacent areas. Mowing shall be done when the height of cut reaches 150 mm.

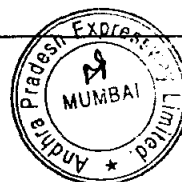
4.5.8.8. The grass/turf within RoW shall be maintained in such away that the roadway is free of obstruction and the availability of sight distance is ensured at intersections, passing zones, curves etc. The grass/turf around crash barrier, headwalls, paved ditches etc. shall be maintained neatly.

4.5.8.9. The Operation and Maintenance Manual shall include a maintenance and management plan for trees, shrubs, turfing and hedges to sustain their development in a manner pleasing in appearance.

4.6. Incident Management

4.6.1. Scope

- The Concessionaire shall initiate, co-ordinate and maintain an Incident Management System (IMS) and supply regular incident statistics to client.

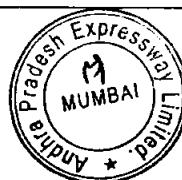


- Incident Management entails a set of co-ordinated activities initiated by the Concessionaire when an incident (an extraordinary event resulting in the reduction of road capacity or creates a hazard for users) occurs, in order to minimise the effects of the incident and restore normal capacity and safety levels to all affected road facilities as efficiently as possible.
- If at the commencement date, there is no existing IMS at the site, then the Concessionaire should develop and implement an IMS within a period of not more than 3 months from the commencement date.
- The client shall assist the Concessionaire to identify relevant agencies (e.g. rescue, fire, hazardous materials, traffic, police, ambulance, alternative routes, cleanups) and their representatives and to liaise with these representatives on behalf of the Concessionaire.
- The Concessionaire shall set up a steering committee, which shall include representatives of the various relevant agencies, to identify current & potential issues and problem areas which need addressing.
- The incident management centre shall be continuously staffed on a 24 hour basis. The Concessionaire shall record all incoming calls, along with the description of the nature of the call and the corresponding action taken.
- The Concessionaire shall record and maintain records of the details of all the SOS calls received (e.g. collision, hazardous material, breakdown, etc)
- After occurrence of any major incident, resulting in multiple loss of life, significant periods of road closure or major route rehabilitation work, an incident debriefing report shall be produced and forwarded to the client within one month of occurrence.

4.6.2. Levels of Service

The following levels of service apply to the incident management system:

- Implementation of fully functioning IMS system – 3 months after commencement



- Staffing – 24 hrs/day and 365 days/year
- Response time to a single incident – ½ an hour after receiving notification
- Multiple incidents – as soon as possible
- Incident debriefing reports – 1 month
- Steering committee monitoring report – quarterly

4.7. Safety Management

4.7.1. Scope & Levels of Service.

The following scope of operations and levels of service applies to facilities under management:

- The Concessionaire shall comply with all the requirements of the relevant Indian Laws on Occupational Health and safety, and the necessary certification/documentation proving compliance shall be made available by the Concessionaire at any time.
- The Concessionaire shall take all necessary measures to minimize accident occurrences on the highway section. For this purpose he shall liaise with the relevant local agencies such as Police, Hospital, Fire Brigade, Highway Police, etc. as required.
- The Concessionaire shall maintain a comprehensive register and database of all accidents occurring on the Project Highway Section. The Concessionaire shall utilize this data to define and identify "Black Spots" and the like, make the necessary analysis of the cause of the "Black Spot" and make appropriate recommendations to the client for counter measures.
- The Concessionaire shall provide educational programs for the improvement of safety for the Users of Roads under operation. This shall occur four times per annum. This shall be carried out by the issuing of pamphlets, billboards, etc. The Road Patrols shall in addition take every opportunity at events such as accidents and the like to educate Users.



- The Concessionaire shall repair all damaged fencing that prevents access to animals and pedestrians to the highway. In addition the Concessionaire shall recommend to the client for installation of additional fencing where necessary to prevent access to the Highway.

In addition, the Concessionaire shall assume full responsibility for the safety of employees by providing competent training, safety clothing and safety equipment.

In addition, the Concessionaire shall be responsible for the security of the project:

- Security guards shall patrol the route facilities areas and shall be provided by the Concessionaire. These guards shall operate on a 24 hour basis, for 365/6 days per year.
- The Concessionaire shall be responsible for maintaining/upgrading all facilities for site security, including fencing, intercom system, emergency communications system, access control system and the like.

4.8. Road Asset Management

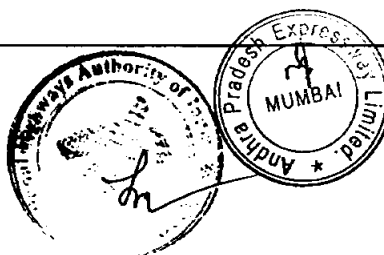
4.8.1. Scope

The Concessionaire shall ensure the maximum availability and efficient utilisation of the assets for the client. This shall also include the protection of the right of way from encroachments and other unauthorised activities.

In addition to the main carriageways, the Concessionaire shall also provide for the management of rest areas, bus bays, bus parking areas and other facilities for highway users, so that these facilities operate without hindrance to the through traffic.

The Concessionaire shall maintain the buildings, plaza facilities in a manner that projects a well managed professional image to the motoring public. This shall require the Concessionaire to:

- Keep the plaza neat and litter free at all times.
- Maintain the vegetation, lawns and shrubs etc
- Maintain the parking areas and approaches neat and litter free.
- The Concessionaire shall ensure that any visual defects of the buildings, occasioned by accident or wear and tear are rectified within one week.



4.8.2. Encroachments:

The Concessionaire's enforcement of the requirements of the client shall be a significant obligation under the Contract. The client shall define the Right of Way and their requirements with respect to unauthorised accesses, encroachments and the like".

From the date of the commencement of O&M period, the Concessionaire shall be required to determine all encroachments and unauthorised accesses to the highway. The Concessionaire shall list the encroachments with a description, location and extent of each encroachment, draw up a method statement and programme for the removal of the accesses or encroachments for approval by the client. All encroachments shall be removed, and unauthorised accesses closed within 3 months of the commencement of O&M period.

4.8.3. Inspections

Full and component inspections of the highway section shall be undertaken at appropriate intervals. The Concessionaire shall draft Inspection procedures for each part and component of the National Highway Section that requires periodic inspection.

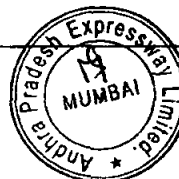
4.9. Inspection Reports and Remedial Measures

4.9.1. Periodicity of inspections for maintenance activities by the Concessionaire shall be regulated as per this Agreement and governed by the exigencies of the situation. The said inspections shall be followed by reports to the Independent Consultant and the NHAI. Based on reports, detailed investigations shall be undertaken by the Concessionaire itself and/or on advice of the Independent Consultant and the NHAI as the case may be.

4.9.2. The Concessionaire shall carry out any maintenance, repair or rehabilitation works found necessary by these investigations in accordance with the Maintenance Manual and this Agreement.

4.10. Maintenance of Facilities for Road Users

4.10.1. The Concessionaire shall ensure that all the Project Facilities provided for users of all categories are kept in a neat, hygienic and tidy condition. Special attention shall be given



to the preparation of food items so that they are cooked with unadulterated ingredients in a hygienic manner.

4.11. Items of Maintenance

4.11.1. The Concessionaire shall maintain the Project Highway, Project Facilities and Project Assets in working and orderly condition at all times during the Concession Period or any extension thereof.

4.12. The specifications and standards for maintenance items shall be governed and regulated as per Schedule 'D' of this Agreement.

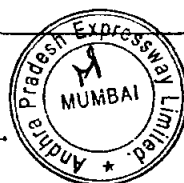
5. DIVESTMENT

5.1. The Concessionaire shall take action(s) in terms of Article XXXIV Defects Liability and Article XLIV Miscellaneous of this Agreement prior to proceeding with Transfer of the Project Highway, Facilities and Assets thereon to NHAI.

5.2. The Concessionaire shall obtain a Transfer Certificate as per Schedule L₁ appended to this Schedule, from the Independent Consultant, who shall issue it after satisfying itself that the Project Highway and Facilities and Assets thereon have been constructed, operated and maintained in terms of this Agreement during the Concession Period and meet the divestment requirements as per this Agreement for the issue of Vesting Certificate (Schedule V) by NHAI.

5.3. The Concessionaire shall take action(s) under Article XXXIII Divestment of Rights and Interests of this Agreement after obtaining the Transfer Certificate (Schedule L₁) from the Independent Consultant as spelt out in 5.2 above in order to obtain Vesting Certificate (Schedule V) from NHAI.

5.4. The issuance of the Vesting Certificate (Schedule V) by NHAI as per sub clause 33.4 of Article XXXIII Divestment of Rights and Interest, to the Concessionaire shall result in the completion of the transfer of the Project Highway in terms of this Agreement.



*Schedule L,***TRANSFER CERTIFICATE**

I/We, _____ (name of the Independent Consultant) issue this certificate, designated Transfer Certificate for widening of the existing 2-lanes to 4/6 lanes divided carriageway facility including rehabilitation of existing 2-lanes, from km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), on Kotakatta - Kurnool section of National Highway No. 7 (NH-7) in the State of Andhra Pradesh, India on Build, Operate and Transfer (BOT) Annuity basis by the Concessionaire **Andhra Pradesh Expressway Limited** on Build, Operate and Transfer (BOT) Annuity basis as per the Concession Agreement between the National Highway Authority of India (NHAI) and the said Concessionaire, being satisfied that the Project Highway has been constructed, operated and maintained during the Concession Period is in sound, durable and operational condition on completion of the said concession period, and it is in a fit condition for transfer by the said Concessionaire to the NHAI or its nominee. The transfer of the said Project Highway together with facilities thereon shall be effected on the strength of this certificate.

Place of Issue _____

Date of Issue _____

(Independent Consultant)

Schedule L
Equivalent Rating Conditions

Appendix – 3.4

Category	Status	Rating
Very Good condition	on completion as per specification and standards	9
Good Condition	no repairs needed	8
Generally good condition	potential exists for minor maintenance	7
Fair condition	potential exists for major maintenance	6
Generally fair condition	potential exists for minor rehabilitation	5
Marginal condition	potential exists for major rehabilitation	4
Poor Condition	repair or rehabilitation required immediately	3
Critical condition	need for repair or rehabilitation is urgent. Facility should be closed until the indicated repair is complete	2
Very Critical condition	facility is closed. Study should determine the feasibility for repair	1
Unserviceable	facility is closed and is beyond repair	0

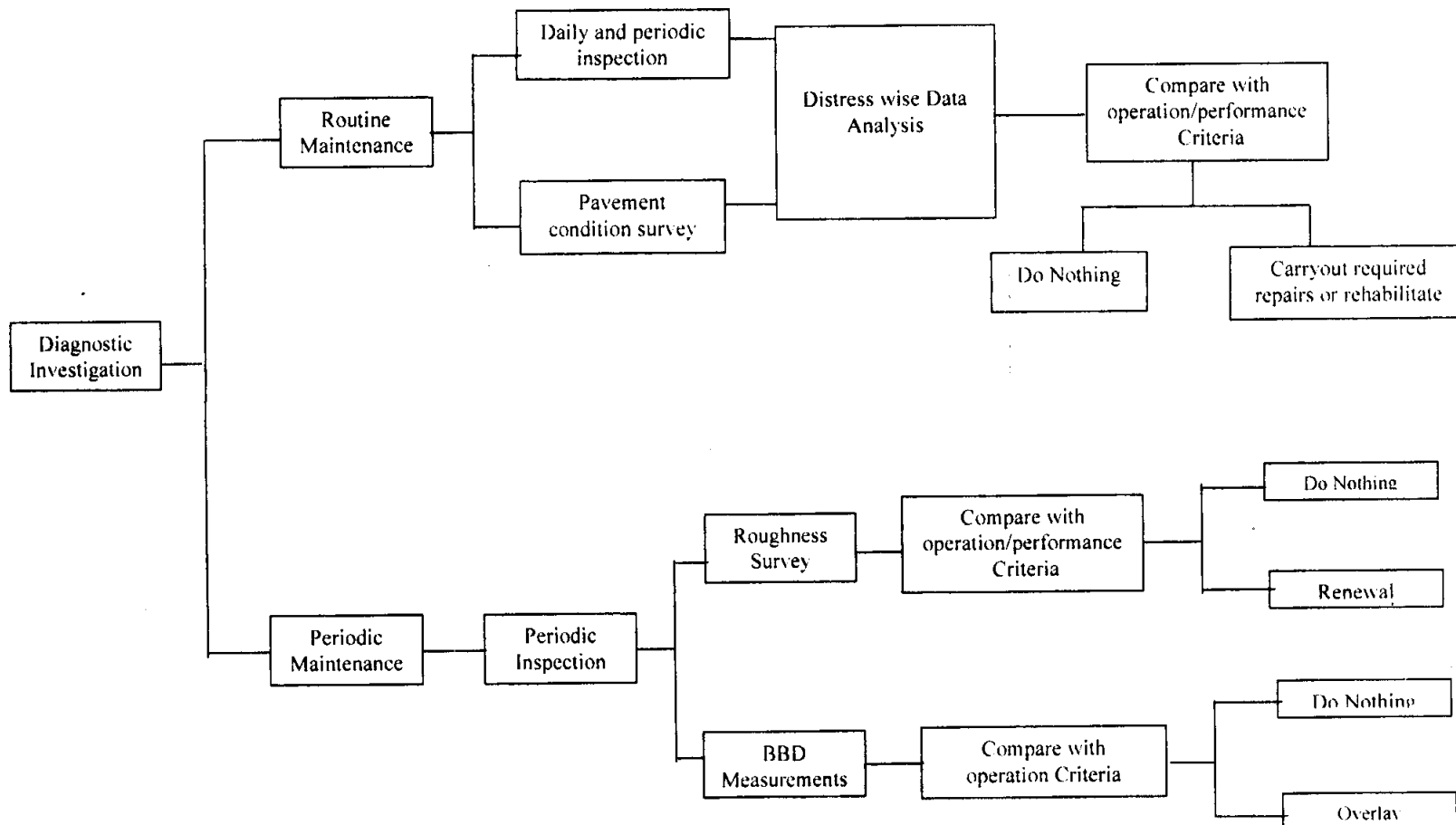
Sufficiency Rating System

1. Load Performance
2. Safety Performance
3. Remaining Life



Schedule-L

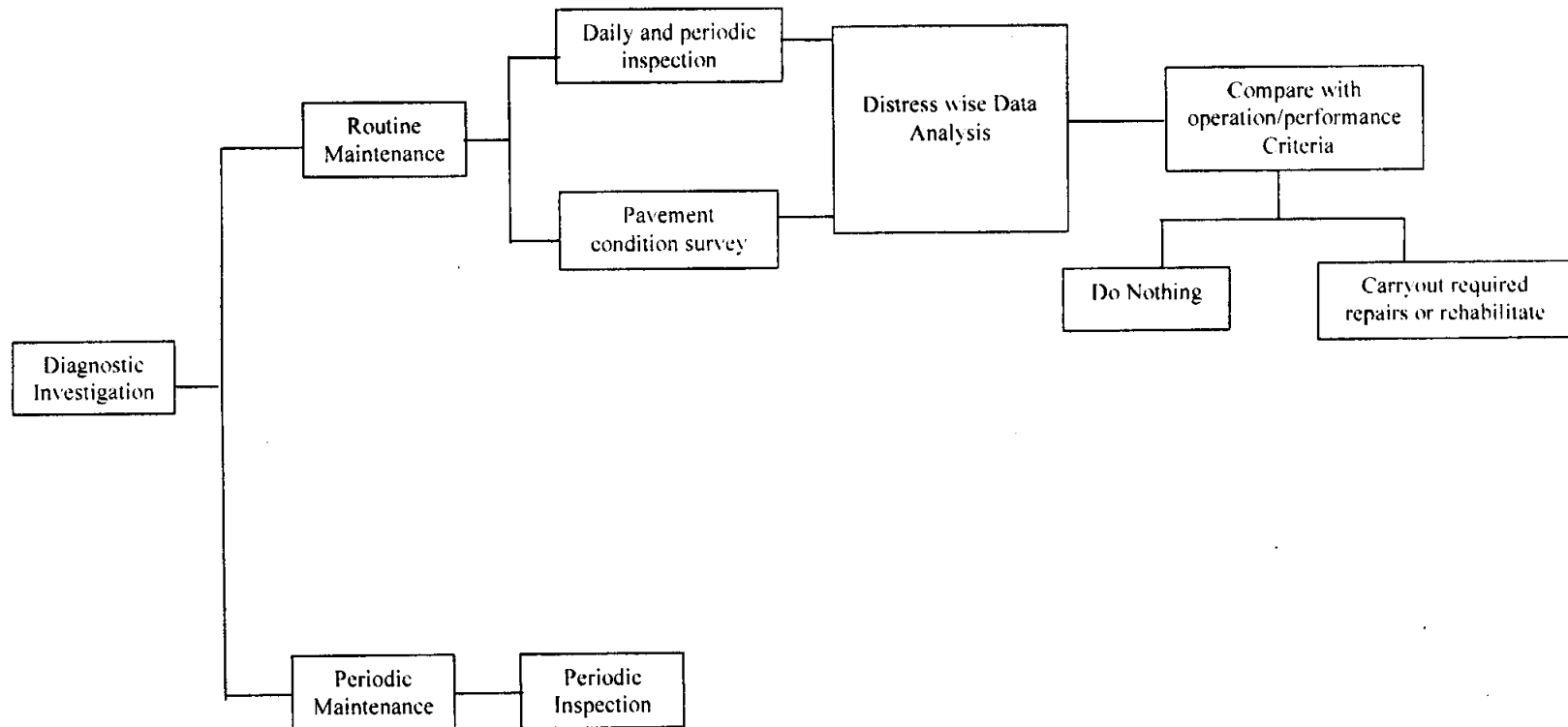
Appendix 3.1



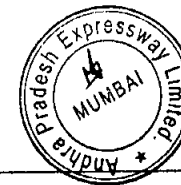
FLOW CHART FOR FLEXIBLE PAVEMENT MAINTENANCE

Schedule-L

Appendix 3.2

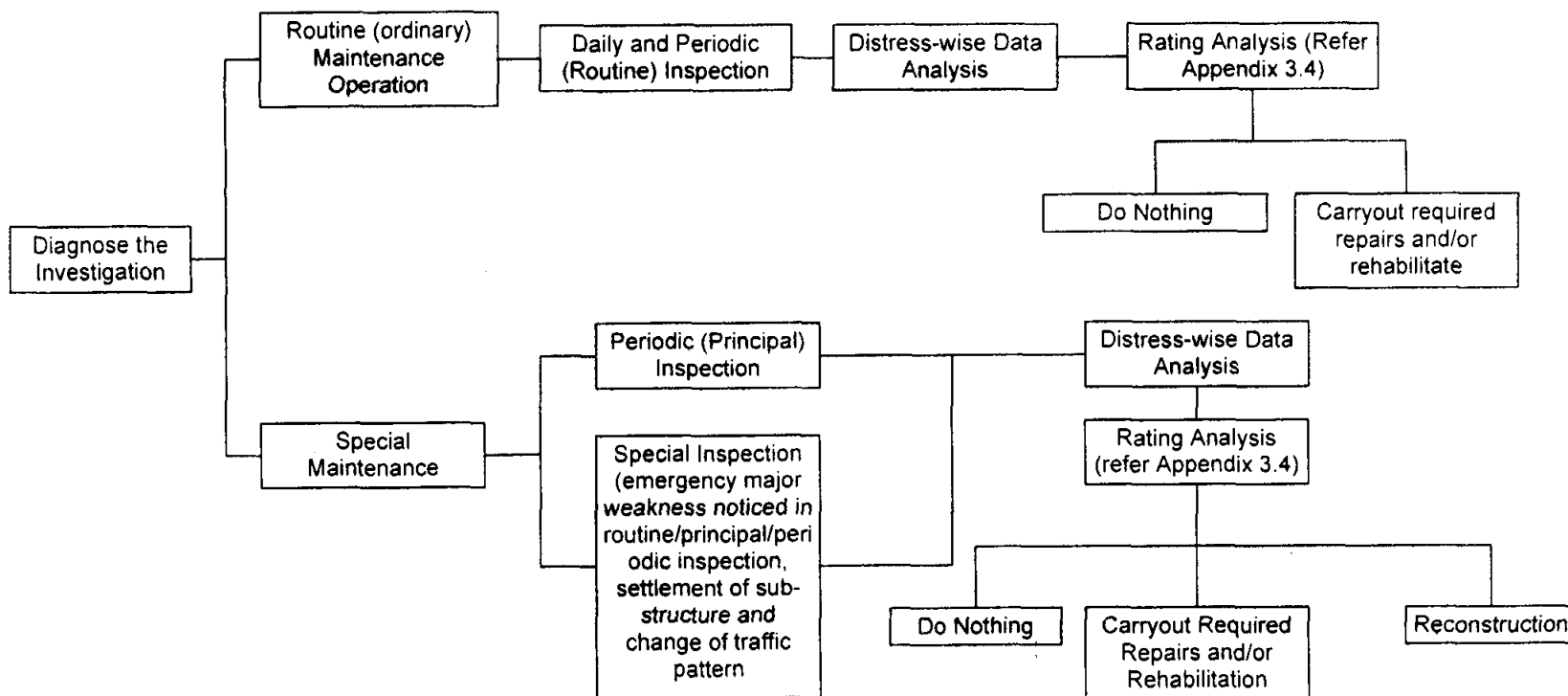


FLOW CHART FOR RIGID PAVEMENT MAINTENANCE



Schedule-L

Appendix 3.3



FLOW CHART FOR BRIDGES AND CULVERTS MAINTENANCE



ANDHRA PRADESH EXPRESSWAY LIMITED

May 2, 2006

To

Mr. C. Kandasamy
Chief General Manager (NS)
National Highway Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi – 110 075

Dear Sir,

Reg. : Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh under North-South Corridor (NHDP Phase II) on BOT (Annuity) basis

Ref. : Concession Agreement dated March 20, 2006

This is with reference to the Concession Agreement signed on March 20, 2006 between NHAI and Andhra Pradesh Expressway Limited (APEL) for the captioned project. In this regard, we would like to inform you that the Cash Flow Statement as given in Schedule M has been arrived with the annuity amount as Rs. 62.00 Crores which needs to be changed with the new annuity amount as agreed at Rs. 56.52 Crores

In view of the above, attached is the revised Cash Flow Statement (Schedule M) with revised annuity amount of Rs. 56.52 Crores and IRR calculated per annum. Also, enclosed is Schedule H i.e. Project Completion Schedule duly filled with the necessary details.

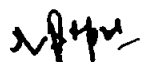
You are requested to include the above-mentioned Schedules as part of the Concession Agreement signed on March 20, 2006 for the captioned project.

Thanking you and assuring you of our best services at all times

Sincerely,

For

Infrastructure Leasing & Financial Services Limited


Mukund Sapre
Director

Encl. As above

Regd. Off : IL&FS Financial Centre, Plot C-22, G Block, Bandra Kurla Complex, Bandra East, Mumbai – 400051

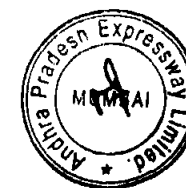
Schedule M : Cash Flow Projections

Rs in Crores

Cash Flow Projections											
	DID										
End of semi-annual period from SPCD		1	2	3	4	5	6	7	8	9	10
End of Month	31-Mar-07	30-Dec-08	30-Jun-09	30-Dec-09	30-Jun-10	30-Dec-10	30-Jun-11	30-Dec-11	30-Jun-12	30-Dec-12	30-Jun-13
Initial Investment (1)	611.44										
Annuity Amount (2)	0.00	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52
Less:											
Projected Routine Maintenance Cost (3)	0.00	2.54	2.60	2.67	2.73	2.80	2.87	2.94	3.02	3.09	3.17
Projected Periodic Maintenance Cost (4)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.34
Projected Total O&M Expenses (5) = (3) + (4)	0.00	2.54	2.60	2.67	2.73	2.80	2.87	2.94	3.02	3.09	29.51
Projected Net Cash Flows (6) = (2) - (1) - (5)	-611.44	53.98	53.92	53.85	53.79	53.72	53.65	53.58	53.50	53.43	27.01
Internal Rate of Return – IRR of (6)	12.98%										



11	12	13	14	15	16	17	18	19	20	21	22	23
30-Dec-13	30-Jun-14	30-Dec-14	30-Jun-15	30-Dec-15	30-Jun-16	30-Dec-16	30-Jun-17	30-Dec-17	30-Jun-18	30-Dec-18	30-Jun-19	30-Dec-19
56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52
3.25	3.33	3.41	3.50	3.59	3.68	3.77	3.86	3.96	4.06	4.16	4.26	4.37
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.71	0.00	0.00	0.00
3.25	3.33	3.41	3.50	3.59	3.68	3.77	3.86	3.96	37.77	4.16	4.26	4.37
53.27	53.19	53.11	53.02	52.93	52.84	52.75	52.66	52.56	18.75	52.36	52.26	52.15



24	25	26	27	28	29	30	31	32	33	34	35
30-Jun-20	30-Dec-20	30-Jun-21	30-Dec-21	30-Jun-22	30-Dec-22	30-Jun-23	30-Dec-23	30-Jun-24	30-Dec-24	30-Jun-25	30-Dec-25
56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52	56.52
4.48	4.59	4.71	4.82	4.94	5.07	5.19	5.32	5.46	5.59	5.73	5.88
0.00	0.00	0.00	0.00	0.00	0.00	43.16	0.00	0.00	0.00	0.00	0.00
4.48	4.59	4.71	4.82	4.94	5.07	48.35	5.32	5.46	5.59	5.73	5.88
52.04	51.93	51.81	51.70	51.58	51.45	8.17	51.20	51.06	50.93	50.79	50.64



REVISED SCHEDULE N**SELECTION CRITERIA FOR INDEPENDENT CONSULTANT**

Selection of the Independent Consultant shall consist of the following steps:

1. Issue of Request of Proposal for selection of Independent Consultant by NHAI
2. Evaluation of Firms Credentials
3. Evaluation of Technical Proposal.
4. Evaluation of Financial Proposal of the firm.
5. Calculation of the combined score of a firm based on Technical and Financial score
6. Negotiation and selection of Independent Consultant.

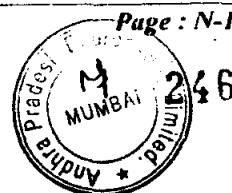
SELECTION COMMITTEE

A selection committee shall do the selection; NHAI shall nominate the members of this committee.

DETAILS OF THE SELECTION PROCESS**1. Issue of Request of Proposal for selection of Independent Consultant by NHAI**

NHAI will issue a Request for Proposal (RFP) for selection of Independent Consultant through single stage bidding process. This RFP shall include a Letter of Intent (LoI) and the Terms of Reference (ToR) besides information (Data Sheet) to the firms and the proposed form of contract. It shall contain the guidelines for the preparation of proposals by the firms and submission. ToR shall include the following details:

1. Project background
2. Objectives
3. Scope of services
4. Interaction with NHAI
5. Reporting requirement
6. Performance clause
7. Consultant's Proposal
8. Period of Services



- 1.1** The Lol shall state the intention of the NHA to enter into a contract for the provision of consulting services and the date, time and address for submission of proposals. The Proposal should be submitted in Three Parts in 3 separate envelopes / packages and put together in one single outer envelope/package. The three parts of the proposal will be:

Part 1: Firms Credentials,

Part 2: Technical Proposal, and

Part 3: Financial Proposal

The proposal must be submitted in a hard bound form (hard bound implies binding between two covers through stitching or otherwise whereby it may not be possible to replace any paper without disturbing the document - spiral bound form, loose form, etc. will be not accepted) with all pages numbered serially, along with an index of submissions. All figures quoted in the financial Proposal should be covered with a transparent adhesive tape

2. Evaluation of Firms Credentials

The envelop containing the firms credentials (Part 1 of the proposal) would first be opened and evaluated based on the following criterion

S.no	Description	Marks
1	Year of Establishment of Firm	10
2	Average annual turnover (last three years)	10
3	Number of Key personnel	10
4	Experience of the firm in DRP preparation for Highways projects during the last 7 years.	10
5	Experience of the firm in DPR preparation/design review/supervision of major highway structures of length more than 200m during the last 7 years.	10
6	Experience of the Firm in as Independent Consultant or in Construction Supervision for Highway projects during the last 7 years.	50
	TOTAL	100

The firms should score at least 70 marks for qualifying to the next stage.

3. Evaluation of Technical Proposal

The technical proposals (Part 2 of the proposal) received from short listed firms shall be evaluated for selection of firms based on the following:



Evaluation Criteria for Technical Proposal

S.No.	Description	Marks
1	Specific Experience of the firm related to the assignment	20
2	Adequacy of the proposed work plan and methodology in response to the ToR	05
3	Qualifications and competence of the key staff for the assignment	75
	Total	100

Sub criteria for Specific Experience of the firm related to the assignment

Experience as Independent Consultant / Construction Supervision in Highway Projects	12
Experience in DPR preparation for Highway Projects	4
Experience in Construction Supervision/DPR /Design Review of Major structures having length of more then 200 meter.	4

Sub criteria for Adequacy of the proposed work plan and methodology in response to the ToR

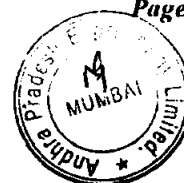
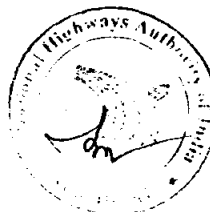
Comments & Suggestions on TOR	1
Quality of Approach and Methodology	3
Work Programme & Manning Schedule	1

Sub criteria for qualification of key staff

General qualifications	25
Adequacy for the project	70
Experience in Region and language	5

Qualification and competence of key staff for the assignment. The weightage for various key staff are as under:-

Key Personnel	Marks.
Team Leader Cum Senior Highway Engineer	20
Senior Pavement Specialist	7
Senior Bridge Design Engineer	8



Highway Design Engineer	8
Bridge/Structural Engineer	10
HTMS/Toll Expert	6
Road Safety Expert	6
Senior Quality cum Material Expert	10

The technical proposal should score at least 75 points to be considered responsive for financial evaluation.

4. Evaluation of Financial Proposal

The Financial proposals (Part 3 of the proposal) of the firms shall be opened and evaluated as under:

The financial score of the lowest bidder shall be 100 marks. The financial score for the remaining bidders shall be calculated in proportionate to the lowest bidder by the following formula :

Financial Score of 'X' = $\{100 \times \text{Bid price of lowest bidder}\} / \{\text{Bid price of 'X'}\}$

5. Calculation of the combined score of a firm

The combined score of the firm will be calculated as under:

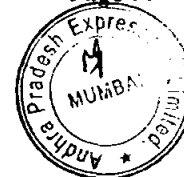
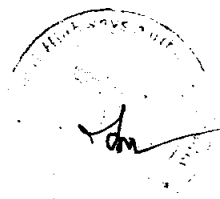
The weightage given to the technical proposal : 80%

The weightage given to financial proposal : 20%

The combined score of bidder 'X' = $0.20\{\text{Financial score of bidder 'X'}\} + 0.80\{\text{Technical score of bidder 'X'}\}$

6. Negotiation and Selection of Independent Consultants

The combined score of technical and financial proposals shall be calculated and the firm scoring maximum marks shall be called for negotiations. After satisfactory agreement of all matters by both the parties, NHA will appoint the said firm as Independent Consultant for the initial term of 48 months.



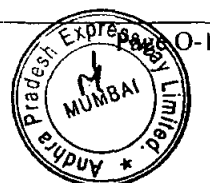
REVISED SCHEDULE O**TERMS OF REFERENCE OF INDEPENDENT CONSULTANT****SECTION 1. LETTER OF INVITATION**

Sub.: Independent Consultancy Services for 4/6 laning of 15 projects on North-South & East-West Corridors (NHDP - Phase II) in the States of Tamil Nadu, Andhra Pradesh, Karnataka, Kerala and Uttar Pradesh on BOT or BOT (Annuity) Basis

1. The National Highways Authority of India (NHAI) invites proposals for Independent Consultancy Services on the basis of international Competitive Bidding for the following 15 packages in the State of Tamil Nadu, Andhra Pradesh, Karnataka, Kerala and Uttar Pradesh on North-South & East – West Corridor under NHDP programme.

Details of packages to be given.

2. The BOT projects basically comprises up-gradation and construction of 4/6-lane highways, construction and rehabilitation of bridges and culverts, construction of high embankment/elevated structures/ROBs etc. along the existing highways including realignment and bypasses. The proposed construction work will involve use of modern equipments and construction practices.
3. NHAI intend to appoint Consultants to act as Independent Consultants for implementation of the above BOT projects. As per Terms and Conditions of the Concession Agreement (s), the Independent Consultant is required to: (i) independently review activities associated with design, design review, construction and operation and maintenance of the project on behalf of both NHAI and Concessionaire so as to ensure compliance of requirements of Concession Agreement (ii) report to NHAI on the Financial and Technical aspects of the project, (iii) assist the parties to the Concession Agreement in arriving at an amicable settlement of disputes, if any.
4. The interested consultancy firms may obtain the RFP from NHAI office from address given below up to [] on all working days within 1000 hrs and 1700 hrs. IST by payment of non-refundable Demand Draft amounting to Rs. 5,000/- drawn in favour of "National Highways Authority of India" payable at any schedule bank in New Delhi. The RFP document is also available on NHAI website from []. The Consultant who down load the RFP document from the website will be required to pay the non-refundable fee of Rs. 5,000/- at the time of the submission of the document.
5. For submission, evaluation and selection of Consultant a "single stage" process has been planned. The proposal should be submitted in three parts in three separate envelopes/packages and put together in one single outer envelope/package. The three parts of the proposal are (i) Part 1: Firms credential, (ii) Part 2: Technical Proposal and (iii) Part 3: Financial Proposal. Part 1 of the proposal would be first opened and evaluated and the firms scoring the qualifying marks as mentioned in RFP would be



considered for further evaluation. The financial proposal of only those firms, who score qualifying marks in the technical proposal would be opened and evaluated. The final selection of the firm would be based on combined score of technical and financial proposal. The weightage to technical and financial score would be 80% & 20% respectively.

6. The total time period for the assignment as independent consultant will be for [48] months.
7. A firm either individually or in joint venture/association may apply for _____. A firm cannot be a part of other joint venture/association for applying in more than _____ package. In case of Joint venture/association, maximum _____ firms are permitted.
8. NHA1 will not be responsible for any delay, loss or non-receipt of RFP document sent by post/courier. Further, NHA1 shall not be responsible for any delay in receiving the Proposal and reserves the right to accept/reject any or all applications without assigning any reason thereof.
9. The three parts of the Proposal (firms credentials, technical proposal and financial proposal) must be submitted in a hard bound form (hard bound implies binding between two covers through stitching or otherwise whereby it may not be possible to replace any paper without disturbing the documents-spiral bound form, loose form, etc. will be not accepted) with all pages numbered serially, along with an index of submission. All figures quoted in the financial Proposal should be covered with a transparent adhesive tape. In the event, any of the instructions mentioned herein have not been adhered to, NHA1 will reject the Proposal.
10. RFP submission must be received not later than 1100 hrs on [] in the manner specified in the RFP document at the addressed given below.

Mr. Pranavant
General Manager (NS-2)
National Highways Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi 110 075.
Tel:- 011-25074100/4200 Ext 1312
Fax:- 011-25074100/4200 Ext 2423



SECTION 2. INFORMATION TO CONSULTANTS**1 INTRODUCTION**

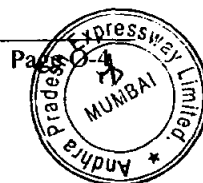
- 1.1 You are hereby invited to submit a proposal for consulting services required for the assignment named in the attached Letter of Invitation. Your proposal could form the basis for future negotiations and ultimately a contract between your firm and the NHAI.
- 1.2 A brief description of the assignment and its objectives are given in the Terms of Reference (TOR).
- 1.3 The assignment shall be implemented in various stages such as Design, Construction supervision, and Operation and Maintenance supervision. Continuation of services for the next stage shall be subject to satisfactory performance of the previous stage, as determined by the NHAI.
- 1.4 To obtain first hand information on the assignment and on the local conditions, you are encouraged to pay a visit to the NHAI before submitting a proposal and attend a pre proposal conference as specified in the data sheet. You must inform yourself of local conditions and take them into account in preparing your proposal.
- 1.5 Please note that (i) the costs of preparing the proposal and negotiating for the contract, including a visit to site, are not reimbursable as a direct cost of assignment and (ii) NHAI is not bound to accept any of the proposals received by it and reserves the right to annul the selection process at any time prior to contract award, without thereby incurring any liability to the Consultants.
- 1.6 We wish to remind you that in order to avoid conflict of interest situations, any firm associated with the Concessionaire of the Project Highway and its Design and/or Supervision Consultant and/or the Contractor(s) as Design Consultant and/or Construction Supervision Consultant is not eligible to participate in the bidding.
- 1.7 Consultant have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Client, or than may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultant or the termination of its Contract.
- 1.8 It is the NHAI's policy that the consultants observe the highest standard of ethics during the selection and execution of such contracts. In pursuance of this policy, the NHAI:
 - (a) Defines, for the purpose of this paragraph, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the selection process or in contract execution;
 - (ii) "fraudulent practice" means a misrepresentation or omission of facts in order to influence a selection process or the execution of a contract;
 - (iii) "collusive practices" means a scheme or arrangement between two or more consultants with or without the knowledge of the Client, designed to establish prices at artificial, noncompetitive levels;



- (iv) "coercive practices" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract.
- (b) will reject a proposal for award if it determines that the Consultant recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the contract in question;
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract; and
- (d) will have the right to require that a provision be included requiring consultants to permit the NHAI to inspect their accounts and records relating to the performance of the contract and to have them audited by authorized representatives of NHAI.
- 1.9 Consultants, their Sub-Consultants, and their associates shall not be under a declaration of ineligibility for corrupt and fraudulent practices. Furthermore, the Consultants shall be aware of the provisions on fraud and corruption stated in the specific clauses in the General Conditions of Contract.
- 1.10 Consultants shall furnish information on commissions and gratuities, if any, paid or to be paid to agents relating to this proposal and during execution of the assignment if the Consultant is awarded the Contract, in the Financial Proposal.
- 1.11 The Data Sheet indicates how long Consultants' Proposals must remain valid after the submission date. During this period, Consultants shall maintain the availability of Professional staff nominated in the Proposal. The Client will make its best effort to complete negotiations within this period. Should the need arise, however, the Client may request Consultants to extend the validity period of their proposals. Consultants who agree to such extension shall confirm that they maintain the availability of the Professional staff nominated in the Proposal, or in their confirmation of extension of validity of the Proposal, Consultants could submit new staff in replacement, who would be considered in the final evaluation for contract award. Consultants who do not agree have the right to refuse to extend the validity of their Proposals.

2. CLARIFICATIONS AND AMENDMENT OF RFP DOCUMENTS

- 2.1 Consultants may request a clarification of any of the RFP documents up to the number of days indicated in the Data Sheet before the Proposal submission date. Any request for clarification must be sent in writing by paper mail, cable, telex, facsimile, or electronic mail to the Client's address indicated in the Data Sheet. The Client will respond by cable, telex, facsimile, or electronic mail to such requests and will send copies of the response (including an explanation of the query but without identifying the source of inquiry) to all invited consultants who intend to submit proposals.
- 2.2 At any time before the submission of Proposals, the Client may for any reason, whether at its own initiative or in response to a clarification requested by an



invited firm, modify the RFP documents by amendment. Any amendment shall be issued in writing through addenda. Addenda shall be sent by mail, cable, telex, facsimile or electronic mail to all invited consultants and will be binding on them. The Client may at its discretion extend the deadline for the submission of Proposals.

3. PREPARATION OF PROPOSAL

- 3.1 You are requested to submit your proposal in Three Parts in 3 separate envelopes / packages and put together in one single outer envelope/package. The three parts shall be:

Part 1: Firms Credentials.

Part 2: Technical Proposal and

Part 3: Financial Proposal.

The proposal shall be written in the language specified in the data sheet.

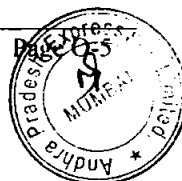
Part 1: Firms Credentials

- 3.2 This submission shall contain the following information/ details and should not include any other information

- Year of Establishment of Firm
- Average annual turnover (last three years)
- Number of Key personnel
- Experience of the firm in DRP preparation for Highways projects during the last 7 years.
- Experience of the firm in DPR preparation/design review/supervision of major highway structures of length more than 200m during the last 7 years.
- Experience of the Firm as Independent Consultant or Supervision Consultant for Highway projects during the last 7 years.

Part 2: Technical Proposal

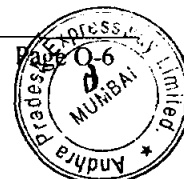
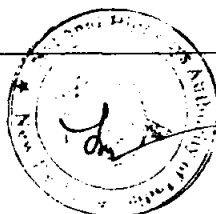
- 3.3 You are expected to examine all terms and conditions included in the documents. Failure to provide all requested information will be at your own risk and may result in rejection of your proposal.
- 3.4 During preparation of the technical proposal you may give particular attention to the following :
- i. The estimated man months for the assignment is stated in the Terms of Reference for your information. The proposal shall however be based on the number of professional staff months estimated by the firm.
 - ii. The majority of the key professional staff proposed must be permanent staff of the firm.
 - iii. No alternative to key professional staff may be proposed and only one Curriculum Vitae (CV) may be submitted for each position and
 - iv. A good working knowledge of the language specified in the data sheet is essential for key professional staff on this assignment. Reports must be in the language (s) specified in the data sheet.



- v. Joint venture are allowed as detailed in the data sheet
- 3.5 Your technical proposal must provide the following information, using but not limited to the formats attached in the Appendix I.
- A brief description of the firm's organisation and an outline of recent experience of the Consultants and, in the case of Joint Venture, for each partner, on assignments of a similar nature. The information which you shall provide on each assignment should indicate, *inter-alia*, the profiles of the staff provided, duration, contract amount and firm's involvement.
 - Any comments or suggestions on the ToR and a description of the methodology (work plan) which the firm proposes to execute the services, illustrated with bar charts of activities.
 - The composition of the proposed staff team, the tasks which shall be assigned to each and their timing;
 - CVs recently signed in blue ink on each page by both the proposed professional staff and the authorised representative submitting the proposal. Key information should include years with the firm and degree of responsibility held in various assignments. Photocopy or unsigned CVs shall not be evaluated.**
 - Estimates of the total time effort (person x months) to be provided for the services, supported by bar chart diagrams showing the time proposed (person x months) for each professional staff and
 - Any additional information requested in Data Sheet.
- 3.6 The technical proposal must not include any financial information.

Part 3: Financial Proposal

- 3.7 In preparing the Financial Proposal, consultants are expected to take into account the requirements and conditions of the RFP documents. The Financial Proposal should follow Standard Forms. It lists all costs associated with the Assignment, including (a) remuneration for staff (foreign and local, in the field and at headquarters), and (b) *rentals/fixed rates/reimbursable such as subsistence (per diem, housing), transportation (international and local, for mobilization and demobilization), services and equipment (vehicles, office equipment, furniture, and supplies), office rent, insurance, printing of documents, surveys, and training, if it is a major component of the assignment. If appropriate, these costs should be broken down by activity and if appropriate into foreign and local expenditures.*
- 3.8 The Financial Proposal should clearly identify as a separate amount, the local taxes (including social security), duties, fees, levies and other charges imposed under the applicable law, on the consultants, the sub-consultants, and their personnel (other than nationals or permanent residents of the government's country); unless the Data Sheet specifies otherwise.
- 3.9 Consultants may express the price of their services in the Local currency (Indian Rupees) and/or US Dollar at the rate prevalent at the time of submission of the proposals. The Client may require consultants to state the portion of their price representing local cost in the national currency if so indicated in the Data Sheet.



4. SUBMISSION, RECEIPT AND OPENING OF PROPOSALS

- 4.1 The original proposal shall be prepared in indelible ink. It shall contain no interlineation or overwriting, except as necessary to correct errors made by the firm itself. Any such corrections must be initiated by the person or persons who sign(s) the Proposals.
- 4.2 An authorized representative of the firm shall initial all pages of the Proposal. The representative's authorization in *original/notarized* is confirmed by a written power of attorney accompanying the Proposal.
- 4.3 You must submit one original proposal only. The envelope must be clearly marked.

"DO NOT OPEN, EXCEPT IN PRESENCE OF THE EVALUATION COMMITTEE"

- 4.4 This outer envelope shall include three separate envelopes, each clearly marked as "Part 1: Firms Credentials", "part 2: Technical Proposal" or "Part 3: Financial Proposal" (each envelope indicating original or copy as appropriate).
- 4.5 The proposal must be submitted in a hard bound form (hard bound implies binding between two covers through stitching or otherwise whereby it may not be possible to replace any paper without disturbing the document - spiral bound form, loose form, etc. will be not accepted) with all pages numbered serially, along with an index of submissions. All figures quoted in the financial Proposal should be covered with a transparent adhesive tape
- 4.6 Your completed proposal must be delivered on or before the time and date stated in the data sheet.

5 PROPOSAL EVALUATION

- 5.1 A three -stage procedure shall be adopted in evaluating the proposals : (i) Firms Credentials, firms securing the qualifying marks mentioned in Clause 5.2 will be eligible for Technical and Financial evaluation (ii) Technical Evaluation, firms securing the qualifying marks mentioned in Clause 5.3 will be eligible for Financial evaluation and (iii) Financial Evaluation.

Firms Credentials

- 5.2 The Evaluation Committee appointed by the NHAI shall carry out its evaluation applying the evaluation criteria and point system specified in the data sheet. The firms should score at least 70 marks for qualifying to the next stage

Technical Proposal

- 5.3 The Evaluation Committee appointed by the NHAI shall carry out its evaluation applying the evaluation criteria and point system specified in the data sheet. Each responsive proposal shall be attributed a technical score (St.) The technical proposal should score at least 75 points to be considered responsive for financial evaluation.

Financial Proposal

- 5.4 After the evaluation of technical proposal is completed, the Client may notify those consultants whose proposals were considered non-responsive to the RFP and Terms of Reference, indicating that their Financial Proposals will be returned unopened after completing the selection process. The Client shall simultaneously notify the consultants that have secured the minimum qualifying mark, indicating the date and time set for opening the Financial Proposals. The opening date should allow Consultants sufficient time to make arrangements for attending the opening. The notification may be sent by registered letter, cable, telex, facsimile, or electronic mail.
- 5.5 The Financial Proposals shall be opened publicly in the presence of the consultants' representatives who choose to attend. The name of the consultant, the quality scores, and the proposed prices shall be read aloud and recorded when the Financial Proposals are opened. The Client shall prepare minutes of the public opening.
- 5.6 The Evaluation Committee will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount, or between word and figures the formers will prevail. In addition to the above corrections, activities and items described in the Technical Proposal but not priced, shall be assumed to be included in the prices of other activities or items. In case an activity or line item is quantified in the Financial Proposal differently from the Technical Proposal, (i) if the Time-Based form of contract has been included in the RFP, the Evaluation Committee shall correct the quantification indicated in the Financial Proposal so as to make it consistent with that indicated in the Technical Proposal, apply the relevant unit price included in the Financial Proposal to the corrected quantity and correct the total Proposal cost, (ii) if the Lump-Sum form of contract has been included in the RFP, no corrections are applied to the Financial Proposal in this respect. Prices shall be converted to a single currency using the selling rates of exchange, source and date indicated in the Data Sheet. The evaluation shall exclude those taxes, duties, fees, levies, and other charges imposed under the applicable law; and those applied to foreign and non-permanent resident consultants.
- 5.7 The Evaluation Committee shall determine if the financial proposal is complete and without computational errors. The lowest financial proposal (Fm) shall be given a financial score (Sf) of 100 points. The financial score of the proposals shall be computed as follows : $Sf = 100 \times Fm / F$ (F-amount of financial proposal).
- 5.8 Proposals shall finally be ranked according to their combined technical (St) and financial (Sf) scores using the weights indicated in the data sheet.

6 NEGOTIATIONS

- 6.1 Prior to the expiration period of validity of proposal, the NHAI shall notify the successful firm who submitted the highest scoring proposal in writing by registered letter, cable telex or facsimile and invite it to negotiate the contract.
- 6.2 Negotiations normally take two to five days. The aim is to reach agreement on all points, and initial a draft contract by the conclusion of negotiations
- 6.3 Negotiations shall commence with a discussion of your technical proposal, the proposed methodology (work plan), staffing and any suggestions you may have made to improve the ToR. Agreement must then be reached on the final ToR, the staffing and bar charts, which shall indicate activities, staff, periods in the field and in the



home office, staff months, logistics and reporting. Special attention shall be paid to optimise the required outputs from the firm within the available budget and to define clearly the inputs required from the NHAI to ensure satisfactory implementation of the assignment.

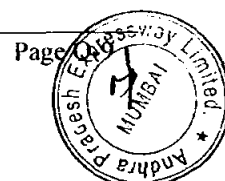
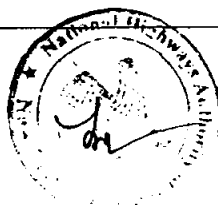
- 6.4 It is the responsibility of the Consultant, before starting financial negotiations, to contact the local tax authorities to determine the local tax amount to be paid by the Consultant under the Contract. The financial negotiations will include a clarification (if any) of the firm's tax liability in the Client's country, and the manner in which it will be reflected in the Contract; and will reflect the agreed technical modifications in the cost of the services. Unless there are exceptional reasons, the financial negotiations will involve neither the remuneration rates for staff nor other proposed unit rates.
- 6.5 Changes agreed upon shall then be reflected in the financial proposal, using proposed unit rates (no negotiation of the unit rates, including the man months rates).
- 6.6 Having selected a firm, among other things, on the basis of an evaluation of proposed key professional staff, the NHAI expects to negotiate, a contract on the basis of the staff named in the proposal and, prior to contract negotiations, will require assurance that this staff shall be actually available. NHAI shall not consider substitutions during contract negotiations except in cases of unexpected delays in the starting date or incapacity of key professional staff for reasons of health.
- 6.7 The negotiations shall be concluded with a review of the draft form of Contract. The NHAI and the firm will finalise the contract to conclude negotiations.

7 AWARD OF CONTRACT

- 7.1 After completion of negotiations with the consultants, the Client shall award the Contract to the selected Consultant. However, after signing of the Contract, the Client may return the unopened Financial Proposals to the unsuccessful Consultants.
- 7.2 The successful firm with whom the contract is signed is expected to commence the assignment on the date and at the location specified in the data sheet.

8. CONFIDENTIALITY

Information relating to evaluation of proposals and recommendations concerning awards shall not be disclosed to the consultants who submitted the proposals or to other persons not officially concerned with the process, until the winning firm has been notified that it has been awarded the contract.



DATA SHEET
(As Mentioned in Information to Consultants)

Sub clause No. in Information to Consultants

1.4 **Pre-Proposal Conference shall be held at: no pre-proposal conference shall be held.**

1.11 The proposal shall be valid for 120 days after the last date of submission.

2.1 Clarification may be requested 15 days prior to last date of submission. The address for requesting clarification are:

Mr. Pranavant,
GM (NS-II)
National Highways Authority of India
G-5&6, Sector 10, Dwarka,
New Delhi
Tel : 91-11-25074100

3.1 **The Language** of documents and correspondence will be English

3.4 Limitations to joint ventures or sub-consultant are : Joint Venture consisting of maximum two firms are permitted. In case of JV the experience of both the firms shall be counted. In case of association/sub-consultant the experience of associated firm/sub-consultant shall not be counted whereas the key personnel of the associated firm would be considered for evaluation.

All the personnel shall have working knowledge of English and all the reports etc shall be written in English.

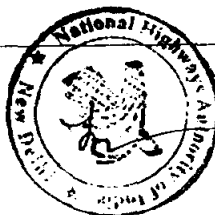
3.8 Taxes – consultants are requested to consult Tax Consultants for details.

3.9 The Consultants to state local cost in INR.

4.6 The time and date of submission: 1100 hrs on 16.8.2005.

5.2 Firms Credentials

S. no	Description	Marks
1	Year of Establishment of Firm	10
2	Average annual turnover (last three years)	10
3	Number of Key personnel	10
4	Experience of the firm in DRP preparation for Highways projects during the last 7 years.	10
5	Experience of the firm in DPR preparation/design review/supervision of major highway structures of length more than 200m during the last 7 years.	10
6	Experience of the Firm as Independent Consultant or Supervision Consultant for Highway projects during the last 7 years.	50



TOTAL	100

The firms should score at least 70 marks for qualifying to the next stage.

5.3 The points assigned to Technical Evaluation criteria are :

S.No.	Description	Marks
1	Specific Experience of the firm related to the assignment	20
2	Adequacy of the proposed work plan and methodology in response to the ToR	05
3	Qualifications and competence of the key staff for the assignment	75
	Total	100

Sub criteria for Specific Experience of the firm related to the assignment

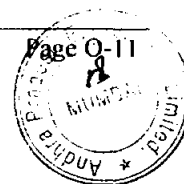
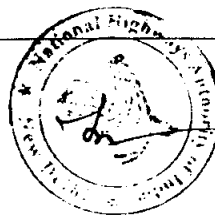
Experience as Independent Consultant / in Construction Supervision in Highway Projects	12
Experience in DPR preparation for Highway Projects	4
Experience in Construction Supervision/DPR /Design Review of Major structures having length of more then 200 meter.	4

Sub criteria for Adequacy of the proposed work plan and methodology in response to the ToR

Comments & Suggestions on TOR	1
Quality of Approach and Methodology	3
Work Programme & Manning Schedule	1

Qualification and competence of key staff for the assignment. The weightage for various key staff are as under:-

Key Personnel	Marks.
Team Leader Cum Senior Highway Engineer	20
Senior Pavement Specialist	7
Senior Bridge Design Engineer	8



Highway Design Engineer	8
Bridge/Structural Engineer	10
HTMS/Toll Expert	6
Road Safety Expert	6
Senior Quality cum Material Expert	10

Sub criteria for qualification of key staff

General qualifications	25
Adequacy for the project	70
Experience in Region and language	5

The technical proposal should score at least 75 points to be considered responsive for financial evaluation.

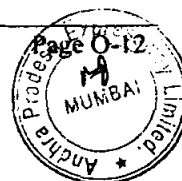
- 5.6 The single currency for price conversion is INR. The conversion rate shall be RBI Reference Rate as was applicable 7 days prior to the last date for submission of proposal.
- 5.8 The weightage given to technical proposal is 80%.
The weightage given to financial proposal is 20%.
- 7.2 Commencement of Assignment : The firm shall begin carrying out the services within one month of signing of the Consultancy Agreement.

SECTION 3. FORMATS FOR SUBMISSION OF FIRMS CREDENTIALS

The proposal should contain the following information in enclosed format attached at Appendix A.

- Year of Establishment of Firm
- Average annual turnover (last three years)
- Number of Key personnel
- Experience of the firm in DRP preparation for Highways projects during the last 7 years.
- Experience of the firm in DPR preparation/design review/supervision of major highway structures of length more than 200m during the last 7 years.
- Experience of the Firm as Independent Consultant or Supervision Consultant for Highway projects during the last 7 years.

Note: The Firm shall submit Certificate of Incorporation and audited balance sheet for the last three years (FY 2002-2003, FY 2003-2004 and FY 2004-2005). In case audited balance sheet FY 2004-2005 is not available, firm may submit the audited balance sheet of 2001-2002. For



claiming experience of Highway projects completion certificate from employer should be enclosed. The proposal should also contain the details of the key personnel viz. their name, qualification, expertise area, experience and years of association with the firm.

Appendix A

Firms credentials (to be filled by each of the constituent firm in case of JV).

1. Name of the packages to be applied for:-
2. Year of establishment of firm.

Consultant	Year of Establishment	Country	Type of Organisation			
			Individual	Partnership	Corporation	Other
Lead Partner						
Other Partner						

3. Office/Business Address/Telephone nos./Cable Address.
4. Consulting firms former name and year of establishment.
5. Narrative description of firms (Use other sheet, if necessary)
6. Name of, not more than two (2) principals who may be contacted with title and telephone number /fax number.
7. Number of Personnel in the Organisation.

Discipline	Number
Key Personnel	With experience more than 10 years and associated with the firm with at least 1 year.

8. Financial Statement of the last three years.

Sl. No.	Particulars	2004-2005	2003-2004	2002-2003
i.	Annual turnover from Consulting business			
ii.	Total Assets			
iii.	Current Assets			
iv.	Total Liabilities			
v.	Current Liabilities			
vi.	Net Worth			



vii.	Working Capital			
viii.	Net Profit.			

- Note: i) The amount shall be stated in INR.
 ii) The currency conversion rate for the respective years shall be mentioned for other international currencies.
 iii) **The application with amount sated in currencies other than INR shall be treated as non responsive.**

9. HIGHWAY PROJECTS HANDLED BY THE CONSULTING FIRMS DURING THE LAST SEVEN YEARS (Only those projects be included, which are supported the certificated of the Engineer/Employer mentioning that the consultancy work has been completed satisfactorily or has been substantially completed in case of project supervision works (substantial completion means 90% works in financial value having been executed) satisfactorily.

Sl. No.	Projects Name/Year	Type of Services Rendered	Length of Projects (kms)	Employer	Duration.
1	2	3	4	5	6

10. Supporting Statements to Employer's Certificates may be furnished giving full details of the projects carried out as below:

Name of the Project: _____

Owner's Name and Address: _____

Completion (Actual and Estimated): _____

Description of Project: _____

Description of Services Provided by the Firm: _____

I certify that the information in the above Expression of Interest forms is true to the best of my knowledge.

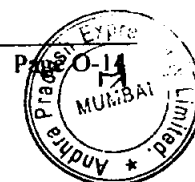
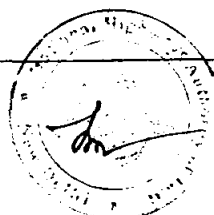
**PRESIDENT/MANAGING DIRECTOR OR
AUTHORIZED SIGNATORY#**

SUBSCRIBED AND SWORN to before me this
date of _____,

2005 _____ at _____.

Please attach Power of Attorney as described or valid authorisation.

NOTARY PUBLIC



SECTION 4. FORMAT FOR SUBMISSION OF TECHNICAL PROPOSAL

Appendix B-1	Technical proposal submission form. .
Appendix B-2	Firm's references
Appendix B-3	Firm's comments and suggestions on the Terms of Reference and on data, services, and facilities to be provided by the NHAI.
Appendix B-4	Approach paper on methodology and work plan for performing the assignment.
Appendix B-5	Composition of the team and task(s) of each team member
Appendix B-6	Curriculum vitae of proposed professional staff.
Appendix B-7	Time schedule for deployment of professional personnel
Appendix B-8	Activity (works) schedule.

APPENDIX B-1**Technical Proposal submission Form.**

FROM (Name of Firm)

To: (Name and Address of Client)

Ladies/Gentlemen:

Subject:

We, the undersigned, offer to provide the consulting services for the above in accordance with your Request for Proposal dated (Date), and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal and a Financial Proposal sealed under a separate envelope.

If negotiations are held during the period of validity of the Proposal i.e. before (Date) we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from contract negotiations.

We understand you are not bound to accept any Proposal you receive

We remain,

Yours sincerely,

Authorised Signature
Name and Title of Signatory:
Name of Firm:
Address:



APPENDIX B-2 : FIRM'S REFERENCES**Relevant Services Carried Out in the Last Seven Years
That Best Illustrate Qualifications**

Using the format below, provide information on each reference assignment for which your firm/entity, either individually as a corporate entity or as one of the major companies within an association, was legally contracted.

Assignment Name :		Country :
Location within Country :		Professional Staff Provided by Your Firm:
Name of Client :		No. of Staff :
Start Date (Month/Year)	Completion Date (Month/Year)	No. of Staff-Months :
		Approx. Value of Services (in Current INR)
Name of Associated Consultants, if any:		No. of Months of Professional Staff. Provided by Associated Consultants :
Name of Senior Staff involved :		
Narrative Description of Project :		
Description of Actual Services Provided by Your Staff :		

Firm's Name : _____

Note: In case of claiming experience of Highway projects completion certificate from employer must be enclosed.



**APPENDIX B-3: COMMENTS AND SUGGESTIONS OF CONSULTANTS ON
THE TERMS OF REFERENCE AND ON SERVICES AND FACILITIES TO BE
PROVIDED BY THE NHAI**

On the Terms of Reference :

1.

2.

3.

4.

....

On the services and facilities to be provided by the NHAI

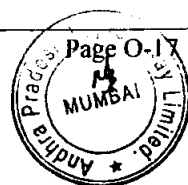
1.

2.

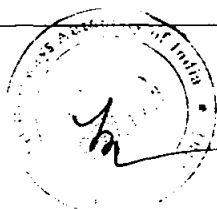
3.

4.

....



**APPENDIX B-4 : APPROACH PAPER ON METHODOLOGY AND WORK PLAN
FOR PERFORMING THE ASSIGNMENT**



**APPENDIX B-5 : COMPOSITION OF THE TEAM PERSONNEL, AND TASK(S)
OF EACH TEAM MEMBER****1. Technical/Managerial Staff**

Sl. No.	Name	Position	Task
1			
2			
3			
4			
..			
..			

2. Support Staff

Sl. No.	Name	Position	Task
1			
2			
3			
4			
..			
..			



APPENDIX B-6 : FORMAT OF CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF

Proposed Position :

Name of Firm :

Name of Staff :

Profession :

Date of Birth :

Years with Firm/Entity : Nationality :

Membership of Professional Societies :

Detailed Task Assigned :

Key Qualifications :

[Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use about half a page.]

Education :

[Summarise college/university and other specialised education of staff member, giving their names, dates attended, and degrees obtained. Use about one quarter of a page.]



Employment Record :

[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, name of employing organisations, titles of positions held, and locations of assignments. For experience in last ten years, also give types of activities performed and client references, where appropriate. Use about three-quarters of a page.]

Languages :

[For English language indicate proficiency : excellent, good, fair, or poor; in speaking, reading, and writing]

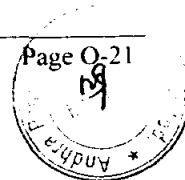
Certification

I, the undersigned, (Name and Address) certify that I have not left any assignment with the consultants engaged by NHAI / contracting firm (firm to be supervised now) for any continuing work of NHAI without completing my assignment. I will be available for the entire duration of the current project (named.....). if I leave this assignment in the middle of the completion of the work, NHAI would be at liberty to debar me from taking any assignment in any of the NHAI works for an appropriate period of time to be decided by NHAI. I have no objection if my services are extended by NHAI for this work in future.

.....Date :

[Signature of staff member or authorised representative of the Firm]

Day/Month/Year.



APPENDIX B-7: TIME SCHEDULE FOR PROFESSIONAL PERSONNEL**A. Activity Schedule**

Sl. No.	Name	Position	Monthwise Program (in form of Bar Chart) [1 st , 2 nd , etc. are months from the start of assignment]												
			1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th and subsequent years	Number of Months
1															Subtotal (1)
2															Subtotal (2)
3															Subtotal (3)
4															Subtotal (4)
-															-
-															-



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APPENDIX B-8 : ACTIVITY (WORKS) SCHEDULE**A. Activity Schedule**

Sl. No.	Item of Activity (Works)	Monthwise Program (in form of Bar Chart)											
		[1 st , 2 nd , etc. are months from the start of assignment]											
		1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th
1													
2													
3													
4													
-													
-													

B. Completion and Submission of Reports

S.No	Reports :	Programme : (Date)
1	Monthly reports (Design and Construction)	
2	Quarterly Reports	
3	Various others reports as provided in the Concession Agreement such as Completion Report	

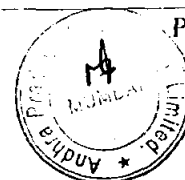
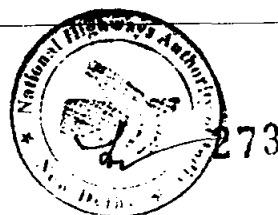
SECTION 5. FORMAT FOR SUBMISSION OF FINANCIAL PROPOSAL.

Appendix C-1 Financial proposal submission form

Appendix C-2 Summary of costs

Appendix C-3 Breakdown of local currency costs

Appendix C-4 Breakdown of foreign currency cost.



APPENDIX C-1 : FINANCIAL PROPOSAL SUBMISSION FORM**FROM : (Name of Firm)****TO :**National Highways Authority of India
G-5&6, Sector-10, Dwarka
New Delhi (India) - 110045**Subject :**

We, the undersigned, offer to provide the consulting services for the above in accordance with your Request for Proposal dated [Date], and our proposal. Our attached financial proposal is for the sum of [Amount in words and figures]. This amount is exclusive of the local taxes which we have estimated at (Amount in Words and Figures).

Our financial proposal shall be binding upon us subject to the modifications resulting from contract negotiations, up to the expiration of the validity period of the proposal, i.e., [Date].

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

Commission and gratuities, if any, paid or to be paid by us to agents relating to this proposal and contract execution, if we are awarded the contract, are listed below :

Name and Address of Agents	Amount and Currency	Purpose of Commission or Gratuity
.....		
.....		

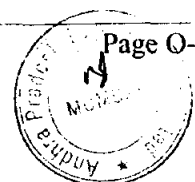
We understand you are not bound to accept any proposal you receive.

We remain,

Yours sincerely,

Authorised Signature :

Name and title of Signatory :

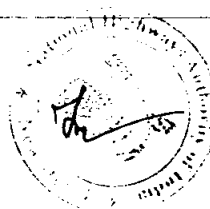


APPENDIX C-2 : SUMMARY OF COSTS

No.	Description	Amount (:LC)*	Amount (FC**)
	<u>Local Consultants</u>		
I	Remuneration for Local Key Personnel		
II	Supporting Staff		
III	Transportation		
IV	Duty Travel to Site		
V	Office Rent		
VI	Office supplies, Utilities and communication		
VII	Office Furniture and Equipment		
VIII	Reports and Document Printing		
	Survey Equipment		
	Subtotal Local Consultants		
	<u>Foreign Consultants</u>		
F-I	Remuneration for Expatriate Staff		
F-II	Mobilization and Demobilisation		
F-III	Accommodation for Consultants' Staff		
F-IV	Other Costs		
	Subtotal Foreign Consultants		
	<u>Total Cost Net of Tax</u> (Local & Foreign Consultants)		
Local Taxes and Duties	Tax payable in India on fees for technical services provided by foreign consultants, including duties on equipment imported.		
	Consultancy Services Tax payable in India		
	TOTAL COSTS (Including Tax)**		

LC* Local Currency FC** in US Dollar (1+1)

Note: The ceiling cost of the consultancy is as shown in the Summary of Costs. Payments will be made as per stipulations of the Conditions of Contract.



APPENDIX C-3 : BREAKDOWN OF LOCAL CURRENCY COSTS**REMUNERATION FOR STAFF**

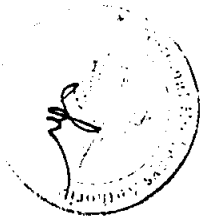
No.	Position	Name	Year 1			Year 2			Year 3			Year 4		
			Rate	SM	Amount	Rate	SM	Amount	Rate	SM	Amount	Rate	SM	Amount
	Key Personnel													
1.														
2.														
3.														
4.														
5.														
6.														
7.														
8.														
	Sub - Total													
	Sub-professional													
1.		TBN												
2.		TBN												
3.		TBN												
4.		TBN												
5.		TBN												
6.		TBN												
7.		TBN												
8.		TBN												
9.		TBN												



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10.		TBN												
	Sub-Total													
	TOTAL													

*SM = Staff Month**TBN = To be Named*

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II. Support Staff

No.	Position	Name	Staff Months	Billing Rate ()	Amount ()
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
				Total :	

III Transportation (Fixed costs)

S.No	Description	Qty.	Nos. of months	Rate/ Month	Amount
1	The vehicles provided by the Consultants shall include the cost for rental, drivers, operation, maintenance, repairs, insurance, etc. A. For use of consultants				
Total					

IV. Duty Travel to Site (Fixed Costs)

Trips	NO	Rate	Amount

V. Office Rent (Fixed Costs)

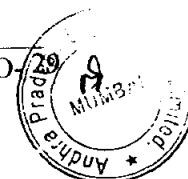
The rent cost includes maintenance, cleaning, repairs, etc.

__ months x

Total

VI. Office Supplies, Utilities and Communication (Fixed Costs)

No	Item	Months	Monthly Rate	Amount in Rs.
1.	Office Supplies			

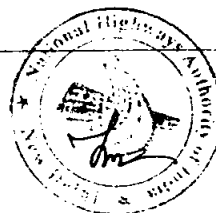


2.	Drafting Supplies			
3.	Computer Running Costs			
4.	Domestic and International Communication			

TOTAL : -----

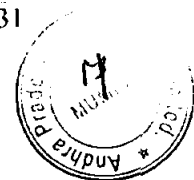
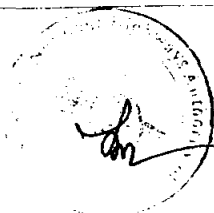
VII. Office Furniture and Equipment (Rental)

No.	Description (*)	Unit	Quantity	Rate ()	Amount ()
1	Office Furniture (Purchase)				
2					
3					
4					
5					
6					
7					
8					
9					
10					
1	Office Equipment (Purchase)				
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
				Total	



VII. Reports and Document Printing

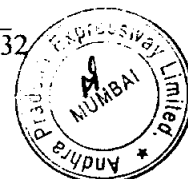
No.	Description*	No. of Volumes	No. of Copies per Volume	Rate per Copy ()	Amount
1	Monthly reports (Design and Construction)				
2	Quarterly Reports				
3	Various others reports as provided in the Concession Agreement such as Completion Report				
				Total	



APPENDIX C-4 BREAK UP OF COSTS IN FOREIGN CURRENCY

No.	Description	Currency*	Amount
I.	Remuneration for Expatriate Staff		
II.	Mobilisation and Demobilisation		
	1. International Airfares		
	2. Inland travel in Home Country		
	3. Inland Travel in Overseas Country		
	4. Excess Luggage Allowance		
	5. Unaccompanied Luggage Allowance		
	6. Relocation/Storage Allowance		
	7. Miscellaneous Travel Expense		
	8. Temporary Lodging during Mobilisation/demobilization		
	9. Establishment		
	10. Exit charges		
III	Accommodation of Consultant's Expatriate Staff		
IV	Other costs		
	TOTAL COSTS ()		

* In US Dollar plus local currency (INR).



1. Remuneration to Expatriate Staff

No.	Position	Name	Years 1 to 3		
			Rate ()	SM	Amount ()
			Total:		

2. Mobilization and Demobilization**1. International Airfares (Reimbursable)
(Economy Class)**

Position	Round trips	Dependents
Total:		

Total costs for round trips home office to site at cost per person per round trip conform to the official IATA economy class fares

2. Inland Travel in Home Country (Fixed Rate)

Total cost for travel between consultants' Head office and airport

_____ x _____

**3. Inland Travel in Overseas Country (Fixed Rate)
local cost for travel from the airport to hotel**

_____ x _____ x _____ = _____



1. Excess Luggage Allowance (Reimbursable)At cost per person per single trip to conform to the
Official IATA rates

___x___kg. x___

2. Unaccompanied Luggage Allowance (Fixed Rate)

At cost per family per round trip

___x___kg x___

3. Relocation/Storage Allowance (Fixed Rate)

For long term staff with an assignment of more than 12 months

- family(es) x___

4. Travel Documents and Miscellaneous Costs (Fixed Rate)

Travel documents, visa, health certificates, etc.

(a) Short term staff, first trip

___x___

(b) Short term staff subsequent trips

___x___

(c) Long term staff first trip

- Family (es) x___

(d) Long term staff subsequent trip

- Family(es) x___

Total _____

8. Temporary Lodging during Mobilization/Demobilization (Reimbursable)

___Family x___ day(s) x___



9. Establishment allowance (Fixed Rate)

Expenses for legal documents in country extension
Of permits, work permits, etc.

- (a) For short term staff assignments less than
6 months

_____ x _____

- (b) Long term staff

_____ person(s) x _____ trip (s) _____

Total: _____

10. Exit Charges (Reimbursable)

Allow for expatriate staff with assignments of
More than 6 months _____ per exit at cost

_____ person(s) x _____ trip(s) _____

3. Accommodation for Consultants' Expatriate Staff (Fixed Rate)**1. Per Diem allowance Short Term Staff**

Total _____ staff months of _____ days is _____ days
Reimbursement of the cost will be on actual day basis.

_____ days x _____

2. Housing of Long Term Expatriate Staff (Fixed Rate)

Housing including furniture, costs for utilities and maintenance has to be
Arranged for 1 family

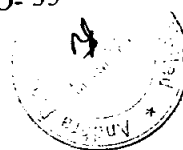
_____ months x _____

4. Other Costs (Reimbursable)

Purchase of documents

Budget for purchase of documents, books, maps
Software, International standards etc. to be
Reimbursed at cost. Allow as ceiling amount

TOTAL



SECTION 6: TERMS OF REFERENCE**1. PROJECT BACKGROUND**

- (1) The Govt. of India (GoI) through Ministry of Shipping, Roads & Highways (MoSRT&H) is contemplating to enhance the traffic capacity and safety for efficient transportation of goods as well as passenger traffic on the heavily trafficked National Highway sections. The Project under consideration aims at developing section of NH-___ as mentioned in Schedule A, by widening the existing 2-lanes to 4/6 lanes dual carriageway, including strengthening of the existing 2-lanes on Build, Operate and Transfer (BOT) basis/ BOT (Annuity) basis.
- (1) NHAI has started the process of Land Acquisition for acquiring land to accommodate the Project facilities along the Project corridor and shall make the land available to the Concessionaire as per the provisions of the Concession Agreement. NHAI will bear the cost of land to be acquired on the award of concerned Revenue Authority.
- (2) The Concessionaire shall make necessary arrangements clearing the encumbrances along the Project corridor under the directions of the concerned agencies and officials at his own cost.
- (3) The Concessionaire shall operate and maintain the Project Highway by itself, or through O&M Contractors including tolling contractor, if any, after carrying out improvements to comply with Standards and Specifications spelled out by the NHAI in the Concession Agreement.
- (4) NHAI intends to appoint an Independent Consultant (IC) to oversee the activities of the Concessionaire during Design, Construction, Operation and Maintenance of the Project Highway.

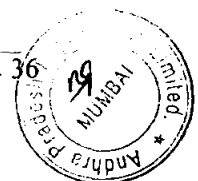
2. OBJECTIVES

The objectives of consultancy service are to:

- i) Act independently and on behalf of the NHAI to review all activities associated with Design Review, Construction and O&M to ensure compliance of requirements of Concession Agreement in order to have a sound Project.
- ii) Report to NHAI on the financial and technical aspects of the project, after visiting the site at least once a week.
- iii) Assist the parties to the Concession Agreement in arriving at an amicable settlement of dispute.
- iv) Act, if required on behalf of the lenders and fulfil various reporting requirements of the lenders.

3. SCOPE OF SERVICES

The Project Highway provides for widening and strengthening of existing two lanes Section of NH ___ and its Operation and Maintenance (O&M) on BOT / BOT (Annuity) basis. The work also includes the widening of existing bridges and culverts



and construction of new bridges and culverts for new carriageway. The Project Highway shall include but not be limited to the following:

- Road works
- Fee Collection system including buildings and related structures, hardware and software
- Communication systems
- Administration and Maintenance Depots
- Rest Area and Fuel and Service facilities
- Rest areas
- Lighting system
- Interchanges
- Bridges
- Service Roads
- Lay bays, Bus bays
- Traffic safety, Landscaping, arboriculture and other Project facilities.

The Concession Agreement envisage the appointment of an Independent Consultant (IC) by the National Highways Authority of India (NHAI). The IC shall be, in principle, responsible for review of Designs, Drawings, Construction, Progress Monitoring, affirmation of all certifications done by the Concessionaire, etc. The IC shall be involved in day-to-day implementation of the Project. The Concession Agreement also envisages the appointment of a Consultant by the Concessionaire to undertake the design related work and the day-to-day technical audit and quality control of Construction, monitoring of progress, certification of works of the Contractor(s) to be appointed by the Concessionaire for the Project Highway.

The Independent Consultant shall supervise that all the requirements of the Concession Agreement and various schedules are met by the Concessionaire and in case of any discrepancy/ deviations, he shall inform NHAI and the Concessionaire. The responsibility of the IC during various stages of Design Review, Construction and Operation and Maintenance shall be as follows but not be limited to :

3.1 Design Review Stage

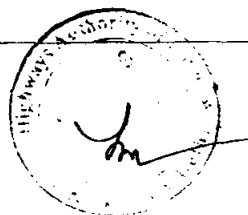
- i) Review the adequacy of the geotechnical and sub-soil investigations for road, bridge and other structures and building works, hydrological investigation and the topographical survey.
- ii) Review the Design and working drawings prepared for the construction of various components of the highway, bridges / structures, analysis of rates, estimates, reports and other deliverables.
- iii) Review the impact of widening proposal on the Archaeological structures, if any.
- iv) Review the Project report prepared by the Concessionaire, with respect to the traffic, toll management (only for BOT Projects), traffic management, etc.



- v) Review the implementation schedule of Engineering, Design, Procurement and Construction of the Project submitted by the Concessionaire.
- vi) Review the Planning and Design of way-side amenities, toll plazas, toll collection system (only for BOT Projects), communication facilities, emergency relief arrangements, traffic operation and safety arrangements.
- vii) Review all Project contracts including Detailed Engineering and Design Consultancy Contract, Construction Supervision Consultancy contract, any other EPC contract, O & M Contract and Tolling contract (only for BOT Projects), made by the Concessionaire.
- viii) Review the environmental management plan for the Project Highway during Construction and Operation and Maintenance phases.
- ix) Review quality assurance and quality control provisions during the design, construction and maintenance stages.
- x) Audit the safety of the Project Highway both during Construction and Operation and Maintenance stages.
- xi) To mediate and assist in resolving disputes between NHAI and Concessionaire.
- xii) Provide Management Information System to NHAI.

3.2 Construction Stage

- 3.2.1 The duties of the IC are to supervise the works on a day-to-day basis and to approve the materials and workmanship of the works. During the construction phase it should be made mandatory that, IC's key staff should check at least 25-30% of Request for Inspection (RFI) pertaining to each item of construction and close them. IC's Team Leader should at least close 5-10% of RFI as per such provisions of Inspection in the Concession Agreement. He/she shall have no authority to relieve the Concessionaire of any of their duties or to impose additional obligations. The IC shall administer the works contracts and ensure that the Contractual Clauses, whether related to quality or quantities of works, are respected. Request for Inspection (RFI) is a formal application from the Concessionaire (or EPC contractor) to Independent Consultant to examine all the aspects of work or activity pertaining to construction or development of the Project Highway. Submission of a RFI for construction activity must be made a minimum of 48 hours in advance of the time the Concessionaire (or EPC contractor) plans to begin work on the RFI activity.
- 3.2.2 Review and approve works programme.
- 3.2.3 Review the material testing results and Mix Designs and to order special tests of materials and/or completed works, and/or order removal and substitution of substandard materials and/or works as required.
- 3.2.4 Review quality assurance and quality control during Construction period.
- 3.2.5 Ensure that the Construction work is accomplished in accordance with the technical specifications.
- 3.2.6 Identify Construction delays and recommend to the NHAI the remedial measures to expedite the progress.

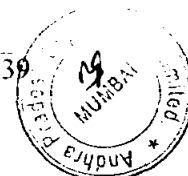


- 3.2.7 Review and certify the 'As Built' drawings for each component of the works prepared by the Concessionaire.
- 3.2.8 Review the safety measures provided for the traffic and Project workers.
- 3.2.9 Determine any extension of the Project Completion Schedule and the Concession period, to which the Concessionaire is entitled and shall notify the NHAI accordingly.
- 3.2.10 To mediate and assist in resolving disputes between NHAI and Concessionaire during Construction stage.
- 3.2.11 Assist the NHAI in arriving at any cost variation and its impact on Concession Agreement.
- 3.2.12 Evolve MIS and provide it to the NHAI
- 3.2.13 Issue Completion Certificate after checking the results of prescribed tests, with the approval of NHAI.
- 3.2.14 Issue Provisional Certificate duly appended with a list of outstanding items (Punch List, as defined in the Concession Agreement) established after joint inspection with the Concessionaire, if the Concessionaire requests for it, after approval of NHAI.
- 3.2.15 In case of Change in scope, while calculating the cost implications to the Concessionaire of complying with such Change of Scope Notice, the rates shall be worked out by based on the concerned State PWD (NH) current schedule of rates based on MORTH data book. In case an item is not covered under the above-mentioned schedule of rates, the rate of such item shall be worked out by the Concessionaire on the basis of the prevailing market rate so far as found reasonable and competitive by the IC.
- 3.2.16 To direct the Concessionaire in all matters concerning construction safety and care of the works and if required, to request the concessionaire to provide any necessary lights, guard, fencing etc.

3.3 Operations and Maintenance Stage

Maintenance shall include cleaning, replacement of equipment/consumables, roadside facilities, horticultural maintenance and repairs to equipment, pavements, bridges, structures, HTMS and other civil works. Maintenance shall not include the extension of any existing pavements, bridges, structures and other civil works unless part of the Project Highway.

- 3.3.1 Review work plan and schedules of various operation and maintenance activities.
- 3.3.2 Review Operation and Maintenance manual prepared by the Concessionaire.
- 3.3.3 Review the performance of Operation and Maintenance (O & M) activities including equipment, service, traffic operation and safety, toll plazas and fees collection system (only for BOT Projects), landscaping, environmental issues and way side amenities.
- 3.3.4 To mediate and assist in resolving disputes between NHAI and Concessionaire during O&M stage.
- 3.3.5 Initiate necessary action to undertake maintenance obligations of the Concessionaire at risk and cost of the Concessionaire in the event of his failure to carry out O&M.



- 3.3.6 Undertake audit of the traffic using the Project Highway at least once a month.
- 3.3.7 Review and inspect the Project Highway at least once a month during the O&M period and issue an Inspection Report of such inspections.
- 3.3.8 Review the accident record on the Project Highway and suggest remedial measures.

3.4 **Transfer/Termination**

Satisfy itself that the entire divestment requirement have been met by the Concessionaire.

- 3.5 All other activities as per provisions of the Concessionaire Agreement

4. **INTERACTION WITH NHAI**

The Independent Consultants shall interact with the NHAI on a regular basis. NHAI shall generally hold meetings every month to review the progress etc. during the phase of Design and Construction, and every second month during the Operation and maintenance stage. Within 30 days of the receipt of the Drawings, the Independent Consultant shall review the same and convey its comments/observations to the Concessionaire with particular reference to the conformity or otherwise with the specifications and standards set forth in the Agreement.

5. **REPORTING REQUIREMENT**

The Independent Consultants shall prepare and submit to the NHAI three copies and Concessionaire two copies each of the following reports.

(a) **Design Review Phase**

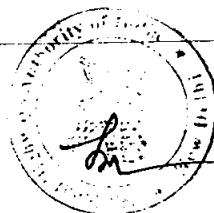
- Monthly Progress Report.

(b) **Construction Phase**

- Monthly and Quarterly Inspection Report covering all aspects such as Progress Monitoring, Quality Assurance (QA)/Quality Control (QC) etc.

(c) **Operation and Maintenance Phase**

- Monthly and Quarterly report on existing condition of facility including advise on all aspects of Operation And Maintenance, Toll Booths, Bridges or other Structures, Traffic Management & Safety, Telephone, Ambulance, etc.
- Monthly report on audit of the traffic using the Project Highway at least once a month.
- Monthly and quarterly reports for Lane Availability (Including non-availability) (only in case of BOT (Annuity))



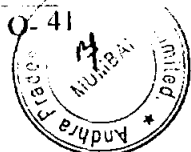
- Certification of Annuity Claims (only in case of BOT (Annuity))
- (d) Various other reports as provided in the Concession Agreement such as Completion Report.

6. PERFORMANCE CLAUSE

Independent Consultants shall be expected to fully comply with all the provisions of the 'Terms of Reference', and shall be fully responsible for supervising that Designs, Construction and maintenance and operation of the facility takes place in accordance with the provisions of the Concession Agreement and other schedules. Any failure of the Independent Consultant in notifying to NHAI and the Concessionaire on non-compliance of the provisions of the Concession Agreement and other schedules by the Concessionaire, non-adherence to the provision of ToR and non-adherence to the time schedule prescribed under ToR shall amount to non-performance.

7. CONSULTANT'S PROPOSAL

- 7.1 Apart from the list of the key professionals, as mentioned herein below, the Independent Consultant shall appoint its authorised representative, who shall issue on behalf of the IC, the Provisional Completion Certification and Completion Certificate along with the Team Leader and shall carry out any such task as may be decided by NHAI. The IC shall take prior approval of NHAI before issuing Provisional Completion Certification and Completion Certificate. The proposal submitted shall also include the name of the authorised representative along with the authorisation letter and power of attorney.
- 7.2 List of key personnel to be fielded by the Consultants shall be as below :
- i. Team Leader Cum Senior Highway Engineer
 - ii. Senior Pavement Specialist
 - iii. Senior Bridge Design Engineer
 - iv. Highway Design Engineer
 - v. Bridge/Structural Engineer
 - vi. HTMS/Toll Expert
 - vii. Road Safety Expert
 - viii. Senior Quality cum Material Expert
- 7.3 In addition to above, consultants are required to propose other key personnel, sub-professional staff and other field engineers as detailed in **Enclosure B**, and the minimum qualification requirements for the same is enclosed in **Enclosure-A**.
- 7.4 Broad job-description and minimum qualification for key personnel mentioned above is enclosed as **Enclosure-A**. However, higher marks shall be accorded to the Candidate with higher relevant qualification and experience. The Consultant should feel free to submit their proposal on the basis of the man-months which they consider to be necessary to undertake the assignment. All the key personnel mentioned in para 7.1 above shall be evaluated at the time of



evaluation of technical proposal. Consultants are advised in their own interest to frame the technical proposal in an objective manner as far as possible so that these could be properly assessed in respect of points to be given as part of evaluation criteria. The bio-data of the key personnel should be signed on every sheet by the personnel concerned and the last sheet of each bio-data should also be signed by the authorised signatory for the Consultant. The key personnel shall also certify at the end of their bio-data proforma that they have not left any of the NHAI works without completing of their assignment and have not accepted any other offer at the time of signing of the bio-data and as such shall be available to work with the Independent Consultant, if the Project is awarded. In case the key personnel leaves the assignment without approval of NHAI, NHAI would be at liberty to take any appropriate action against that key personnel including debarment.

8. PERIOD OF SERVICES

- 8.1 The services of an Independent Consultant will be in phases as per Article XX - Independent Consultant; of Concession Agreement.
- 8.2 The appointment of the Independent Consultant shall initially be for a period of **48 months**. Estimated Design and Construction schedule for completion of the Project for commercial operation is **30 months**. The proposed manpower deployment for this period shall be matching the activities to be performed during the said period. The time frame for services during the deployment of key personnel during this period shall be as shown in **Enclosure B**.
- 8.3 Thereafter, the services of the Independent Consultant shall be for a maximum period of 3 years each time till completion of the Concession period and transfer of the Project Highway.



Enclosure A**MINIMUM QUALIFICATION OF KEY PERSONNEL****TEAM LEADER CUM SENIOR HIGHWAY ENGINEER**

This is the senior most position and the expert engaged as the team leader shall be responsible for reviewing the entire Project preparation and implementation activities of the Concessionaire. He shall check all the Designs being prepared by the Concessionaire, ensure execution of works on site as per specification and standards, and continuously interact with the NHAI and the Concessionaire. He shall undertake Project site visits and shall guide, supervise, coordinate and monitor the work of other experts in his team as well as those of the Concessionaire. The candidate should have a proven record of supervising, organising and managing of Project preparation and construction of highway projects of large magnitudes, as defined below, financed by international lending agencies and others. Knowledge of Project management shall be an added advantage.

This position requires a Senior Highway Engineer who shall be a graduate in Civil Engineering with higher qualifications and specialisation in highway engineering. He should have a minimum 20 years of experience of highway engineering including 5 years of experience in similar capacity. He should have involved for at least 5 years for Highway Development Projects in developed countries. He should have handled as Team Leader or similar capacity at least two Project Preparation and Construction supervision work of major highway Project of four laning/ six-laning/ expressway costing more than Rs. 2000 million or of at least 50 km length.

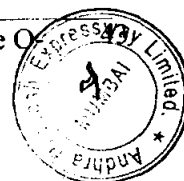
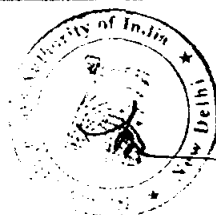
SENIOR PAVEMENT SPECIALIST

The expert shall be continuously interacting with the Concessionaire, to ensure life cycle cost effectiveness and viable design of pavement including appropriate rehabilitation / strengthening of the existing two lane pavement which is significantly distressed. He shall also be responsible for ensuring complete adherence to maintenance standards during Construction and Operation period. Thus, the position requires a pavement specialist with thorough knowledge and understanding of international 'best practices' in the field of Design, Construction and maintenance of flexible/rigid type of pavements including latest codal stipulations and specifications.

The candidate should be a graduate in Civil Engineering with higher qualification and specialisation in Pavement Design. He should have a minimum of 15 years of professional experience of pavement Design, Construction and its maintenance out of which 5 years should be in similar capacity for 4 laning of major highway projects. This position also requires experience of developed countries. The candidate should have involved in at least 2 major highway projects.

SENIOR BRIDGE DESIGN ENGINEER

The Senior Bridge Design Engineer shall be responsible for checking the designs of bridges, ROB's, interchanges and any other structure to be constructed in the Project highway. He shall also review the rehabilitation measures to be proposed by the Concessionaire for existing structures based on site condition and structural requirement



basis. His expertise shall include computer aided design methods for Civil/Structural Engineering with particular reference to Structural design.

He should be a graduate in Civil Engineering from a recognized University. Post Graduation in Structural Engineering would be preferred. Bridge Design Engineer should have a minimum of 15 years experience in Bridge Design out of which a minimum of 10 years experience in similar capacity for major highway bridges is required. He should have handled at least 4 major highway bridges. Experience in other countries, involvement in innovative bridge designing works with use of computer aided software and involvement in designing of bridges more than 200m span would be preferred.

HIGHWAY DESIGN ENGINEER

The Highway Design Engineer shall be responsible for the review of highway designs and drawings using sophisticated computer software. Should be a graduate in Civil Engineering from a recognized University (higher qualifications will be preferable); His expertise shall include computer aided design methods for Civil/Highway Engineering with particular reference to CAD application to the geometric design for highway rehabilitation and/or upgrading projects.

Highway Design Engineer should have a minimum of 15 years experience in Highway Designing work out of which a minimum of 5 years in major highway engineering projects. He should have handled at least 2 major road four laning improvement projects. He should have exposure of computer software programmes for design of highways. Experience in other countries would be preferred.

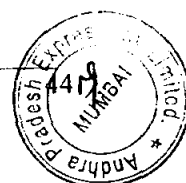
BRIDGE /STRUCTURAL ENGINEER

The Bridge Engineer shall be responsible for supervising the works of bridges, interchanges and any other structure to be constructed by the Concessionaire for this project. He shall also inspect the bridge rehabilitation and repair works to be undertaken by the Concessionaire.

The position requires a graduate in Civil Engineering, (preference would be given to Post Graduation in Structural Engineering). He should have minimum 15 years experience out of which at least 10 years in Construction of bridges/interchanges/any other structures including rehabilitation. He should have supervised at least two major highway bridges. The candidate should have a thorough understanding and experience with international 'best practices', and of modern bridge construction technology.

HTMS/TOLLING SYSTEM EXPERT

The candidate should be a senior Systems Engineer having experience of at least 15 Years. He should be an expert in preparation of standards for projects of toll collection and HTMS. He should have bachelors degree in Civil Engineering/Electronics/Computer Science/other relevant areas. He should have experience of international latest practices in the field of HTMS and tolling. He should have work experience on at least 2 similar projects in similar capacity.



ROAD SAFETY EXPERT

The candidate should be a graduate in Civil Engineering preferably Post Graduation in Traffic/Transportation/Safety Engineering. He should have at least 15 years of experience out of which 5 years should be in road safety works. The candidate should have undertaken at least 2 projects of roads safety audits, including at least 1 in design stages. The candidate should have international exposure in the fields of road safety management plan. Preference would be given to the candidate who have been involved in preparation of road safety policy for any national/state/city. The experience for preparing road safety management plan for inter-urban highways in both developed and developing countries would be desirable.

SENIOR QUALITY/MATERIAL EXPERT

The Quality/Material Expert shall review the test results of bore holes, quarry and borrow area material to find out their strength characteristics and suitability for using them in construction. He shall inspect the Concessionaire's field laboratories to ensure that they are adequately equipped and capable of performing all the specified testing requirements of the contract. He shall look into the quality assurance aspect of the construction works and supervise the setting-up of the various Concessionaire's rock crushers and bituminous mixing plants to ensure that the specified requirements for such equipments are fully met.

The position requires a graduate in Civil Engineering, preferably Post Graduation in Geotechnical Engineering. He should have a minimum of 15 years of professional engineering experience including 5 years in similar capacity for major highway projects. He should have handled at least 2 similar highway projects in similar capacity. He should have exposure quality assurance programs in highway projects using modern technology.

SUB PROFESSIONAL**SURVEY ENGINEER**

The candidate should be Graduate in Civil Engineering/Survey Engineering. He should have at least 6 years experience in the field of surveying out of which 3 years should be for highway projects. He should have involved in at least 1 similar highway projects. This position requires thorough understanding of modern computer based method of surveying with total station digital level etc.

ASSISTANT HIGHWAY ENGINEER

The Candidate should be Graduate in Civil Engineering with 3 years experience. He should have handled at least 1 road project.

CAD EXPERT

He should be Graduate in Civil Engineering/Computer Science having experience in computer related design method for highway engineering. The incumbent should have 3 years experience and should have handled at least 1 road project.

ENVIRONMENTAL ENGINEER

The Candidate should be Graduate in Civil Engineering/Environmental Engineering or other relevant qualification. He should have at least 6 years experience out of which 2



years in highway projects. He should have good knowledge of MOEF guidelines/requirements for mitigation measures.

ASSISTANT BRIDGE ENGINEER

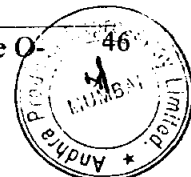
The Candidate should be Graduate in Civil Engineering with 3 years experience. He should have handled at least 1 major bridge project.

ASSISTANT QUALITY CUM MATERIAL ENGINEER

The Candidate should be Graduate in Civil Engineering with 3 years experience or diploma in Civil Engineering with 5 years experience. He should have handled at least 1 road project.

ELECTRICAL ENGINEER

The Candidate should be Graduate in Electrical Engineering from recognised institute. He should have at least 6 years experience.



Enclosure B

**MANMONTH INPUT FOR KEY PERSONNEL OF
INDEPENDENT CONSULTANTS**

S.No.	Key Personnel	Man month in Construction	Man month in O & M
1.	Team Leader Cum Senior Highway Engineer	33	3
2.	Senior Pavement Specialist	7	2
3.	Senior Bridge Design Engineer	7	0
4.	Highway Design Engineer	30	12
5.	Bridge/Structural Engineer	30	6
6.	HTMS/Toll Expert	3	2
7.	Road Safety Expert	3	1
8.	Senior Quality cum Material Expert	30	6
	Sub Total	143	32
	Sub Professional		
1.	Survey Engineer	30	2
2.	Assistant Highway Engineer	2 X 30	12
3.	CAD Expert	8	0
4.	Environmental Engineer	8	2
5.	Assistant Bridge Engineer	2 X 30	6
6.	Assistant Quality cum Material Engineer	2 X 30	6
7.	Electrical Engineer	6	2
	Sub Total	232	30
	Total	375	62

Note: The qualification and experience of Sub Professional would not be accounted in the evaluation. However, Consultant would have to get their CVs approved from NHAI before mobilisation. The other inputs like traffic engineer, financial expert, legal expert etc. would also be provided by the Consultant as a Head Quarters input out of the contingency provision.



SCHEDULE P**TRAFFIC SAMPLING**

NHAI through independent Consultant shall have the right to undertake traffic sampling for the purpose of determination and/ or verification of the actual traffic on the project highway. This shall be done through Automatic Traffic Count -cum-classifier.

For the purpose of traffic sampling, the Concessionaire shall procure a portable type automatic traffic count-cum-classifier and provide it to the Independent Consultant. The traffic count -cum-classifier shall be light weight and portable with weather resistant casing. The system shall be capable of detecting and recording all types of vehicles plying on the Project Highway and of classifying any other vehicle category as per user needs. The vehicle classification shall be user selectable based on length of vehicle and number of axles. It would have the following main components:-

Sensor - combination of piezo electric sensor and inductive loops. The sensor shall be portable as well as permanent so that either of these could be used as per the needs.

Electronic - the logic unit shall be micro processor based and programmable through a key board. It shall have legible electronic display with requisite number of entry ports and exit to communication system. The vehicle counting/classification interval shall be programmable from one minute to 1440 min. (24 hours). The system shall count and classify vehicle by each lane.

Data Collection - The system shall be capable of recording for later analysis on an individual vehicle basis time, date, speed, direction, lane, number of axles, axles spacing and site identification. The system should be able to record and store vehicle data for a period of at least two weeks.

Data Retrieval - The system shall have the capability of data retrieval through removable floppy diskette, data cartridge, direct data transfer through a serial link to a portable computer and telemetry transmission via telephone link by modem.

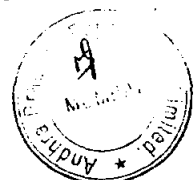
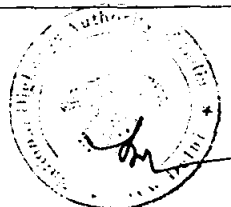
Software - The system shall have software and manuals to analyse the data from output of vehicle count, classification speed and head-way. It should have capability of graphic/tabular representation of analysis data.



Before the use of portable automatic traffic counter cum classifier, it shall be validated and calibrated through sample counts to establish the reliability and acceptability of automatic Traffic Counter-cum-Classificater both by Concessionaire and the Independent Consultant.

The sampling shall be done at intervals of 15 days by continuous 24 hrs counting for three days. If no abnormal trends are observed in three days counting at the frequency of 15 days, the frequency would be increased to 1 month after a period of one year. The sensor/loops shall be permanently installed to capture the traffic on all the approaching lanes, in accordance with the instructions of the supplier. They shall be located about 5 kms away from the toll plaza transitions taking care that no diversion of traffic is possible in between. The portable logic unit shall be plugged to these sensors whenever counting is to be done. Portable sensor can be utilised for traffic counting at any other location as per the need.

Apart from these periodical counts, the Independent Consultant shall have the right for traffic counting at a request from the NHAI. The traffic count as obtained from the samples shall be taken as actual traffic on the Project Highway at the locations of the counting.



SCHEDULE Q

**DRAFT
ESCROW ACCOUNT AGREEMENT**

Among

Andhra Pradesh Expressway Limited (THE COMPANY)

And

.....
As Lenders Representative

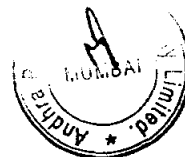
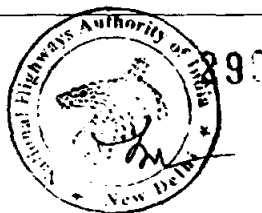
And

.....
As Escrow Agent

And

NHAI

(Subject to terms of the facility Agreement(s) between the Concessionaire and Senior Lenders. However, NHAI position in the cashflows shall not be changed)



THIS AGREEMENT (the "Agreement") is made on the day of 200...
by and among:

Andhra Pradesh Expressway Limited a company incorporated in India whose registered office is at IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400051 (the "Company");

and

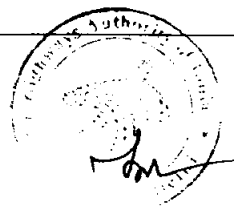
..... and having its registered office at as Senior Lenders Representative (the "Lenders Representative");

and

..... and having its registered office at (the "Escrow Agent").

And

National Highways Authority of India (NHAI), Government of India, as Employer and Sub-ordinate Lender (the "NHAI").



WHEREAS:

- The Company is undertaking a project for “NS2/BOT (Annuity)/AP-5 in the state of Andhra Pradesh, India on BOT (ANNUITY) basis”
- The Company has entered into a Concession Agreement dated as of 200... with NHAI (the “Concession Agreement”) wherein NHAI has granted Concession to Company for the work referred to above, on BOT (ANNUITY) basis.
- The Company has entered into Financing Documents with Senior Lenders wherein Senior Lenders (the “Lenders”) have agreed to lend and advance to the Company Rupee amounts aggregating Lacs and foreign currency amounts aggregating US Dollars in terms thereof;
- One of the terms of the Concession Agreement and the Financing Documents is that the Company is required to establish an Escrow Account, inter alia, on terms and conditions satisfactory to Senior Lenders.

NOW IN CONSIDERATION FOR THE PREMISES IT IS AGREED BY THE PARTIES AS FOLLOWS:-

1. Definitions and Construction

1.1 Definitions: Each capitalized term used herein and not otherwise defined shall have the definition assigned to such term in the Concession Agreement or the Substitution Agreement as the case may be

- “Account” means the Escrow Account to be opened by the Company in accordance with this Agreement;
- “Authorised Investment” means any authorised investments which Lenders Representative may, from time to time permit the Company to make in accordance with this Agreement;



- “Business Day” means any day on which banks are open for business in or in relation to any notice or communication to be made under this Agreement, a day on which banks are open for business in the place of receipt of such notice or communication;
- “Company Account” shall mean any bank account of the Company, other than the Escrow Account.
- “Enforcement Notice” means any enforcement procedure commenced by the Lenders Representative under any of the Security Documents;
- “Escrow Account” means an Escrow Account established in terms of and under this Agreement;
- “Event of Default” means an event of default as defined and detailed in the Financing Documents;
- “INR” means the lawful currency of India;
- “Payment Date” means in relation to any Permitted Payment, the date(s) specified for such payment;
- “Permitted Payment” means the Payments Agreed to in this Agreement excluding payment to the Company Accounts as more particularly given in clause 3.3.1;
- “Required Balance” means on any Date in relation to the Sub-Account of the Escrow Account, an amount in INR/Dollars which if proportionately built over the months, would be sufficient to meet Permitted Payment on the Payment Date(s).
- “Security Documents” means all or any of the Documents executed, delivered or furnished to secure the Financial Assistance under the Financing Documents including but not limited to the Deed of Hypothecation, Mortgage Deed, Equitable



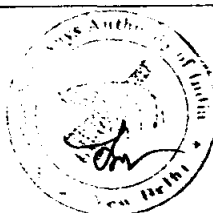
Mortgage, Deed of Guarantee, Pledge Agreement, Undertakings, Negative Lien and other incidental or supplemental documents related thereto.

- “Sub-Accounts” means the Sub-Accounts of the Escrow Account, into which the monies due in relation to Permitted Payment would be credited every month and paid out if due and if not due in a month then appropriated proportionately in such month and retained in the Sub Account and paid out therefrom on the Payment date.
- “Year” means each twelve month period ending on March 31.

1.2 Construction

In this Agreement:

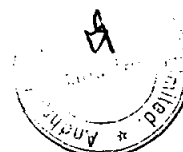
- Unless the context otherwise requires, the singular includes the plural and vice versa;
- Headings and the use of bold typeface shall be ignored in its construction;
- A reference to a Clause, or Schedule is, unless indicated to the contrary, a reference to a clause or schedule to this Agreement;
- References to this Agreement shall be construed as references also to any separate or independent stipulation or agreement contained in it;
- The words “other”, “or otherwise” and “whatsoever” shall not be construed to be as any limitation upon the generality of any preceding words or matters specifically referred to;
- References to the word “includes” or “including” are to be construed without limitation;



- References to a person shall include such person's successors and permitted assignees or transferees;
- All references to agreements, documents or other instruments include (subject to all relevant approvals) a reference to that agreement, document or instrument as amended, supplemented, substituted, novated or assigned from time to time.
- The words "herein", "hereto" and "hereunder" refer to this Agreement as a whole and not to the particular Clause in which such word may be used;
- Words importing a particular gender include all genders;
- "person" includes any individual, partnership, firm, trust, body corporate, government, governmental body, authority, agency, unincorporated body of persons or association;
- any reference to a public organization shall be deemed to include a reference to any successor to such public organization or any organization or entity which has taken over the functions or responsibilities of such public organization;
- references to "Party" means a party to this Agreement and references to "Parties" shall be construed accordingly; and
- references to any law shall include references to such law as it may, after the date of this Agreement, from time to time be amended, supplemented or re-enacted.
- terms and expressions not expressly defined herein shall subscribe the meanings ascribed thereto in the Concession Agreement

2. THE ACCOUNTS

2.1 Acceptance of Appointment of Escrow Agent



- (a) The Escrow Agent hereby agrees to act as such and to accept all payments and other amounts to be delivered to or held by the Escrow Agent pursuant to the terms of this Escrow Agreement. Escrow Agent shall hold and safeguard the Escrow Account during the term of this Escrow Agreement and shall treat the amount in the Escrow Account as monies deposited by Company / NHAI with the Escrow Agent, as agent for the benefit of the Lenders Representative, or its nominee, successors or assigns, in trust in accordance with the provisions of this Escrow Agreement. In performing its functions and duties under this Escrow Agreement, the Escrow Agent shall act as agent for the Lenders Representative.

The Company also hereby declares that all right, title and interest in and to the Escrow Account, the Authorised Investments and Permitted Payments made from the Escrow Accounts shall be vested in the Escrow Agent and held in trust for the Senior Lenders acting through Lender's Representative, NHAI and the Company in accordance with the terms of this Agreement and as their respective interests are provided for herein. Amounts deposited in the Escrow Account from time to time shall be held by the Escrow Agent in trust and received and applied as provided in and in accordance with the Agreement. No person other than the Lenders Representative, NHAI and the Company shall have any rights hereunder as the beneficiaries of or as third party beneficiaries under this Agreement.

- (b) The rights of Company/NHAI in the monies held in Escrow Account are set forth in their entirety in this Escrow Agreement and Company/NHAI shall have no other rights against or to the monies in the Escrow Account.

2.2 Establishment of Escrow Account

At least thirty (30) days prior to seeking any disbursement (including issue of guarantees or all forms of Financial Assistance), the Company shall establish the Escrow Account with the Escrow Agent.

2.3 Maintenance of the Account



The Escrow Agent shall maintain the Escrow Account in accordance with the terms of this Agreement and its usual practices and applicable regulations and pay the maximum rate of interest payable to its customers on the balance in the said account from time to time.

2.4 Operating Procedures

The Escrow Agent and the Company shall agree (after consultation with the Lenders Representative) on the detailed mandates, terms and conditions and operating procedures for the Escrow Account but in the event of any inconsistency between this Agreement and such mandates, terms and conditions or procedures, this Agreement shall prevail.

3. Currency

3.1 The Escrow Account shall be established with the Branch of the Escrow Agent. The Escrow Account shall be denominated in INR.

3.2 Deposits

3.2.1 The Company

(A) agrees, confirms and undertakes that it shall deposit and/or credit the Escrow Account with:

- (i) all its receivables;
- (ii) all proceeds received pursuant to any insurance claims; and
- (iii) all monies received from any other sources in relation to and in respect of the Project.



- (B) may make other deposits of the Company's other funds into the Escrow Accounts at any time. Provided however that the terms of this Agreement shall apply to such other funds deposited in the Escrow Account by the Company.

The NHAI agrees, confirms and undertakes that it shall deposit and/or credit the Escrow Account with:

- (i) all Fees collected by NHAI in exercise of its rights under Concession Agreement;
- (ii) **Revenue Shortfall Loan;**
- (iii) Grant, termination payments and other monies paid or disbursed in accordance with the provisions of the Concession Agreement and/or the Substitution Agreement..

3.2.2 The Escrow Agent shall ensure that all interest, if any, on the balances of the Escrow Accounts and interest on Authorised Investments made from the Escrow Accounts shall be credited to or deposited in the Escrow Account.

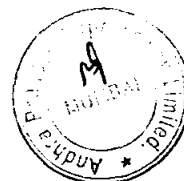
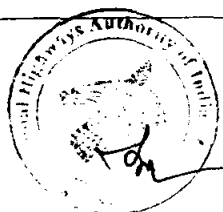
3.3 Withdrawals

3.3.1 The Escrow Agent shall withdraw amounts from the Escrow Accounts and appropriate in the following order every month as more particularly given in the Bank Proforma in Schedule I and deposit in the relevant Sub-Account for payments and if not due in a month then appropriate proportionately in such month and retain in the Sub-Account and pay out therefrom on the Payment Date(s):

- (a) All taxes due and payable by **Andhra Pradesh Expressway Limited;**
- (b) All expenses in connection with and relevant to the Construction of Project Highway by way of payment to the EPC Contractor and such other persons as may be specified in the Financing Documents.



- (c) O&M Expenses including Fees collection expenses incurred by **Andhra Pradesh Expressway Limited** directly or through O&M Contractor and/or Tolling Contractor, if any, subject to the items and ceiling in respect thereof as set forth in the Financing Documents but not exceeding one twelfth (1/12) of the annual liability on this account;
- (d) The whole of the expense on completion of Punch List items incurred by NHAI and 2.0 times of such expenses subject to a minimum of Rs. 1,000,000 (Rs. One million) in case the Punch List items are not completed by the Concessionaire within 120 days from the issue of the provisional completion certificate in accordance with the Specifications and Standards and as detailed in clause 16.5 of the Concession Agreement
- (e) The whole or part of the expense on repair work or O&M Expenses including Fees collection expenses incurred by NHAI, and 1.25 times of the O&M expenses incurred by the NHAI, if any, in the event of repair and maintenance work being carried out by NHAI (pursuant to the failure on part of the Company in doing so) to maintain and / or repair the Project Highway or a part thereof up to and in accordance with the Specifications and Standards and / or failure on part of the Company to commence remedial works within 30 (thirty) days of receipt of notice in this regard from NHAI or the Independent Consultant, if any, including those on account of exercise of any of its rights under this Agreement provided NHAI certifies to the Escrow Agent that NHAI had incurred such expenses in accordance with the provisions of this Agreement;
- (f) All Concession Fees and Negative Grants payments due to NHAI from **Andhra Pradesh Expressway Limited** under this Agreement.
- (g) Monthly proportionate provision of Debt Service Payments due in an Accounting Year and payment of Debt Service Payments in the month when due;



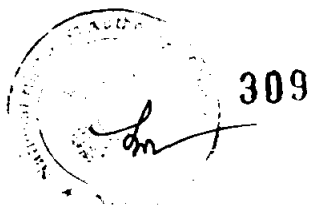
- (h) Reimbursements of expenditure incurred by NHAI, if any, for payment of insurance premia, etc., which are otherwise company's responsibility, on account of failure on part of the Company to keep such insurance(s) effective and in force.
- (i) One-half of such remuneration, cost and expenses of the Independent Consultant in case the Concessionaire does not reimburse the remuneration, cost and expenses of the Independent Consultant to NHAI within 15 (fifteen) days of receiving a statement of expenditure from NHAI.
- (j) Any payments and Damages due and payable by **Andhra Pradesh Expressway Limited** to NHAI pursuant to this Agreement including Recovery due to reduction in Scope of Work and repayment of Revenue Shortfall Loans; and
- (k) Balance in accordance with the instructions of **Andhra Pradesh Expressway Limited**.

The amounts specified in Clause 3.3.1 (a) to (i) constitute the Permitted Payments.

For each year, Bank Proforma would be separately provided by the Company to the Escrow Agent, with the permission of Lenders Representative, not later than 60 days prior to the first day of each year.

3.3.2 Notwithstanding anything to the contrary contained in this Agreement upon the earlier of (i) issue of Termination Notice (ii) termination of Concession Agreement, or (iii) the expiry of Concession Period, all amounts standing to the credit of the Escrow Account shall be appropriated and dealt with in the following order:-

- (a) all taxes due and payable by **Andhra Pradesh Expressway Limited**;
- (b) all Concession Fees (including Negative Grant) due and payable to NHAI under this Agreement;



- (c) all accrued Debt Service Payments;
- (d) any payments and Damages due and payable by Andhra Pradesh Expressway Limited to NHAI pursuant to this Agreement, including Recovery due to reduction in Scope of Work, Termination claims and repayment of Revenue Shortfall Loans;
- (e) all accrued O&M Expenses;
- (f) any other payments required to be made under this Agreement; and
- (g) balance, if any, on the instructions of the Company.

3.3.3 Notwithstanding anything to the contrary contained in this agreement, any termination payments made by NHAI into the Escrow account shall not be appropriated therefrom for any purpose whatsoever, until the Vesting Certificate has been issued by NHAI. Provided, however, that this restriction shall not apply to appropriation in favour of the Senior Lenders to the extent of debt due.

3.3.4 From the date, which is two years prior to the expiry of the Concession period, a sum equal to the fees realizable during the last two years of the Concession period for a traffic volume calculated at the rate of 10,000 (ten thousand) PCUs per day per year, or, a higher sum estimated by the Independent Consultant for renewal works, shall not withstanding anything to the contrary contained in this agreement, be retained in the Escrow Account provided that if a Bank Guarantee of an equivalent sum in the form and content acceptable to NHAI has been furnished by the Company to NHAI, no such retention shall be made. If following the second Inspection, it is agreed or determined that no renewal works are required, then within 14 days of such agreement, 50 % of the sums thus retained shall be released from the Escrow account to the company. Within 14 days after the issue of Vesting Certificate issued (in accordance with Article XXXIII of the Concession agreement) the sums thus retained shall be released from the Escrow account to the Company.

3.4 Application of Insufficient Funds

As provided in Clause 3.3, the application of funds in the Escrow Account shall be in the serial order of priority set forth therein. If the funds available for payment to the Sub-Accounts are sufficient to pay a portion, but not all, of the amount required



to be paid to any Sub-Account, the Escrow Agent shall apply such funds in the serial order of priority set forth in Clause 3.3, until exhaustion thereof.

4. Authorised Investments

4.1 Power to Invest

The Escrow Agent shall invest the amounts standing to the credit of any of the Sub-Accounts in Authorised Investments on the instructions of the Company as approved by the Lenders Representative, from time to time, in accordance with the provisions of the Agreement. The Escrow Agent shall not be bound to and shall not make investments under the Indian Trusts Act, 1882 without prior approval of the Lenders Representative.

4.2 Procedure for Investments

4.2.1 All Authorised Investments shall be made and/or realized by the Escrow Agent on the instructions of the Company as approved by the Lenders Representative from time to time, in accordance with the provisions of this Agreement.

4.2.2 All documents of title or other documentary evidence of ownership with respect to Authorised Investments made out of any Escrow Account will be held in the custody of the Escrow Agent.

4.3 Realizations

Upon the realization of any investment made under this Clause, the proceeds of realization shall immediately be credited to the relevant Sub-Account by the Escrow Agent or immediately invested in another Authorised Investment in accordance with the Company's instructions as approved by the Lenders Representative.

4.4 Mandatory Realizations



In the event that the Company becomes aware that any Authorised Investment has ceased to be an Authorised Investment, the Company shall immediately instruct the Escrow Agent on a best efforts basis to realize such Authorized Investment on its maturity date or earlier if possible under intimation to the Lenders Representative or NHAI.

4.5 Accounts include Investments

Any reference in this Agreement to the balance standing to the credit of the Escrow Account shall be deemed to include a reference to the amount of the Authorised Investments in which all, or part of, such balance is for the time being invested.

4.6 Interest on Investments

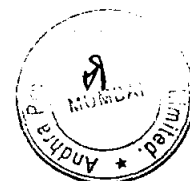
Any interest or other income received on account of Authorised Investments shall be to the credit of the Escrow Account.

4.7 Enforcement Notice

On receipt of an Enforcement Notice from the Lenders Representative, the Escrow Agent shall realize the Authorised Investments, whether such investments have matured or not on a best effort basis, and apply the proceeds as directed by the Lenders Representative.

5. Withdrawals following Event of Default

- 5.1** If the Lenders Representative notifies the Escrow Agent that an Event of Default is likely to occur or has occurred, and is continuing, then, until such time as the Lenders Representative has notified the Escrow Agent that the Event of Default has been cured or waived under the Financing Documents, the Escrow Agent shall only make withdrawals from the Escrow Accounts which constitute Permitted



Payment and shall not make any payments from the Escrow Account to the Company Accounts.

6. Escrow Agent Provisions

6.1 The Escrow Agent and the Lenders

The Company hereby appoints the Escrow Agent to act as trustee for the Lenders Representative in connection herewith and authorizes the Escrow Agent to exercise such rights, powers, authorities and discretion as are specifically delegated to the Escrow Agent by the terms hereof together with all such rights, powers, authorities and discretion as are reasonably incidental hereto, and the Escrow Agent accepts such appointment pursuant to the terms hereof.

6.2 Particular Duties of the Escrow Agent

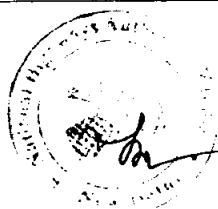
The Escrow Agent:

(A) may, in the absence of bad faith or gross negligence on its part, rely as to any matters of fact which might reasonably be expected to be within the knowledge of the Company upon a certificate signed by or on behalf of the Company;

(B) may, in the absence of bad faith or gross negligence on its part, rely upon the authenticity of any communication or documents believed by it to be authentic;

(C) shall, within five (5) Business Days after receipt, deliver a copy to the Lenders Representative of any notice or document received by the Escrow Agent in its capacity as the Escrow Agent from the Company or any other person hereunder or in connection herewith; and

(D) shall, within five (5) Business Days after receipt, deliver a copy to the Company of any notice or document received by the Escrow Agent from the Lenders Representative in connection herewith.



6.3 Segregation of Funds

Monies and other property received by the Escrow Agent under this Agreement shall, until used or applied in accordance with this Agreement, be held by the Escrow Agent in trust for the purposes for which they were received, and shall be segregated from other funds and property of the Escrow Agent.

6.4 Termination

6.4.1 This Agreement shall remain in full force and effect so long as amounts remain outstanding from the Company in respect of the Financial Assistance received by it from the Senior Lenders or its obligations to NHAI, unless terminated earlier by the mutual consent of the parties or otherwise in accordance with the provisions of this Clause.

6.4.2 The Company may, by not less than 45 days prior notice to the Escrow Agent, NHAI and the Lenders Representative, terminate this Agreement and appoint a new Escrow Agent, provided that the new Escrow Agent is acceptable to the Lenders Representative and arrangements are made satisfactory to the Lenders Representative for transfer of amounts deposited in the Escrow Account to a new Escrow Account established with the successor Escrow Agent.

6.5 Fees

The Company shall pay the Escrow Agent fees in an amount and at such times as may be agreed between the Escrow Agent and the Company.

7. Escrow Agreement Defaults

7.1 If the Company is in breach of any of its obligations under this Agreement and, following a notice of default from the Lenders' Representative, fails to remedy the same:



- (A) in the case of a failure to deposit funds received by the Company in the Escrow Account, by depositing the same in the Escrow Account within five Business Days of receipt of such notice;
- (B) in the case of a breach consisting of causing the Escrow Agent to transfer funds to any Company Account in breach of the terms of this Agreement, by depositing the relevant funds in the Escrow Account or any Sub-Account in which such transfer should have been made within five Business Days of receipt of such notice.
- (C) in the case of a breach of the Company's obligations under Clause 4, by instructing the Escrow Agent to realize any investment made in breach of Clause 4 within five (5) Business Days of receipt of such notice; or
- (D) in the case of any other breach, by remedying the same within five (5) Business Days to the satisfaction of the Lenders Representative.

7.2 The Company and the Escrow Agent agree and confirm that any default by either the Company or the Escrow Agent in the performance of their respective obligations under this Agreement resulting, in the opinion of the Lenders Representative, in a breach of this Agreement, shall qualify as an Event of Default under the Financing Documents/Security Documents.

8. Miscellaneous

8.1 Closure of Accounts

The Escrow Agent shall, at the request of the Company made on or after the payment by the Company of all outstanding amounts under the Financing Documents / Concession Agreement and upon confirmation of receipt, close the Escrow Accounts and pay any amount standing to the credit thereof to the Company.

Notwithstanding anything to the contrary contained in this Agreement, this



Agreement shall remain in full force and effect till the Transfer Date provided however if NHAI shall certify to the Escrow Agent that Concession Agreement and/or the Concession has been terminated on account of default of the Concessionaire under this Agreement, then notwithstanding anything to the contrary contained herein, all the amounts standing to the credit of the Escrow Account shall be dealt with in accordance with provisions of Clause 3.3.2.

8.2 Successors and Assignors

This Agreement shall be binding on and shall enure to the benefit of the Parties and their respective successors and permitted assigns.

8.3 No Set Off

The Escrow Agent agrees not to claim or exercise any right of set off, banker's lien or other right or remedy with respect to amounts standing to the credit of the Escrow Accounts. For the avoidance of doubt, it is declared by the Escrow Agent that the monies and properties held by the Escrow Agent shall not be considered as part of the assets of the Escrow Agent and being trust property, shall in the case of bankruptcy or liquidation of the Escrow Agent be wholly excluded from the assets of the Escrow Agent in such bankruptcy or liquidation.

8.4 Notices

8.4.1 All notices or other communications to be given or made under this Agreement shall be in writing, shall either be delivered personally or sent by courier, registered or certified mail or facsimile. The address for service of each Party and its facsimile number is set out under its name on the signing pages hereto. All notices shall be effective upon actual receipt save that where a notice is received after 5.30 p.m. on a Business Day or on a day that is not a Business Day, such notice shall be deemed to be received on the first Business Day following the date of actual receipt. Without prejudice to the foregoing a Party giving or making a notice or communication by facsimile shall promptly deliver a copy of such notice



or communication personally, by courier or mail to the addressee of such notice or communication.

- 8.4.2** Any party may by notice change the addresses and/or addresses to which such notices and communications to it are to be delivered or mailed. Such change shall be effective when all the Parties have notice of it.

8.5 Waiver

Failure by any Party at any time to enforce any provision of this Agreement or to require performance by other Parties of any provision of this Agreement shall not be construed as a waiver of such provision and shall not affect the validity of this Agreement or any part of it or the right of the relevant Party to enforce any provision in accordance with its terms.

8.6 Severability

If any condition, Clause or provision of this Agreement not being of a fundamental nature, is held to be illegal or unenforceable, the validity or enforceability of the remainder of this Agreement shall not be affected thereby.

8.7 Amendments

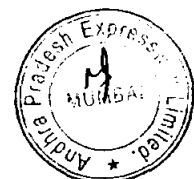
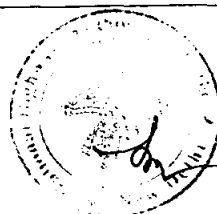
No amendment to this Agreement shall be binding unless in writing and signed by the duly authorised representatives of the Parties.

8.8 Governing Law

This Agreement shall be governed by and construed in accordance with Indian law.

8.9 Regulatory Approvals

The Escrow Agent shall use its best efforts to procure and shall thereafter maintain and comply with all regulatory approvals required for it to establish and operate the Escrow Accounts. The Escrow Agent represents and warrants that it is not aware



of any reason why such regulatory approvals will not be ordinarily granted to the Escrow Agent.

8.10 Notification of Balances

Seven Business Days prior to each Payment Date (and for this purpose the Escrow Agent shall be entitled to rely on an affirmation by the Company and/or the Lenders Representative as to the relevant Payment Dates), the Escrow Agent shall notify the Lenders Representative of the balance of the Escrow Account as at the close of business on the immediately preceding Business Day.

IN WITNESS whereof the Company has caused its Common Seal to be affixed hereto and to a triplicate hereof on the date first above written and the Escrow Agent, NHA and the Lenders Representative have caused the said triplicate to be executed by the hand of an authorised official.

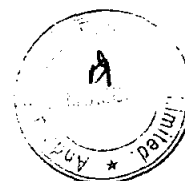
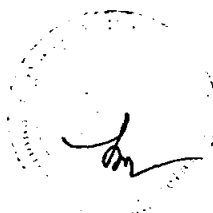
SIGNED AND DELIVERED BY)
..... within named Escrow Agent)
by the hand of)

an authorised official of the Account)
Trustee)
Address:

Fax Number:

Attention:.....

SIGNED AND DELIVERED by THE)
..... within named Lenders)
Representative by the hand of)



)
an authorised official of the Lenders)

Representative

Address:

Fax Number:

Attention:

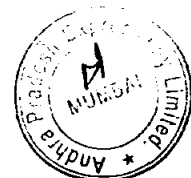
SIGNED AND DELIVERED by)
NHAI within named by the hand of)
)
an authorised official of the NHAI)

Address:

Fax Number:

Attention:.....

THE COMMON SEAL OF)
has pursuant to the Resolution)
of its Board of Directors passed in)
that behalf on the day of 200)
hereunto been affixed in the presence of)
Shri and Shri)
Directors who have signed these)
Presents in token thereof and)
Secretary/authorised)
Person who has countersigned the)



Same in token thereof.)

Address:

Fax Number:

Attention:.....



SCHEDULE R**STATE SUPPORT AGREEMENT**

THIS SUPPORT AGREEMENT is made on this _____ day of _____ 200__
AMONG

- 1 THE GOVERNOR OF THE STATE OF **Andhra Pradesh** through the Secretary, Ministry of _____, **Government of Andhra Pradesh**, (hereinafter referred to as "**GOAP**" which expression shall unless repugnant to the context or meaning thereof include its successors and assigns),
- 2 **National Highways Authority of India, Government of India**, (hereinafter referred to as "**NHAI**" which expression shall unless repugnant to the context or meaning thereof include its administrators, successors and assigns),

AND

- 3 **Andhra Pradesh Expressway Limited**, a company incorporated under the provisions of the Companies Act, 1956 and having its registered office at IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400051 (hereinafter referred to as the "**Concessionaire**", which expression shall unless repugnant to the context or meaning thereof include its successors and substitutes).

WHEREAS

- A. The NHAI intends to take up the improvement of NS2/BOT/AP-5 in the state of Andhra Pradesh India on BOT (Annuity) basis.
- B. NHAI had invited Request for Proposals for selection of BOT Entrepreneurs for executing the Project on BOT / BOT (Annuity) basis.
- D. After evaluation of the bids so received, NHAI had accepted the bid of the Consortium and issued its Letter of Acceptance No.NHAI/Tech/NS-2/BOT/AP-5/2005/172 dated 24th February 2006 (the "LOA") to the Consortium requiring, inter alia, the execution of an Concession Agreement pursuant thereto.
- E. The Consortium has promoted and incorporated the Concessionaire as a limited liability company to enter into the Concession Agreement pursuant to the LOA for undertaking, inter alia, the design, engineering, financing, procurement, utility shifting, tree cutting, construction, operation and maintenance of the Project Highway, as defined hereinafter on BOT (Annuity) basis as referred to in Recital 'A' and to fulfill other obligations of the Concessionaire pursuant to the LOA and has requested NHAI to accept the Concessionaire as the entity which shall undertake and fulfill and perform the obligations and exercise the rights of the



Consortium under the LOA, including the obligation to enter into the Concession Agreement for the design, engineering, financing, procurement, Utility Shifting, Tree cutting, construction, operation and maintenance of the Project Highway on BOT (Annuity) basis.

- F. NHAI has agreed to the said request of the Consortium and has accordingly agreed to enter into the Concession Agreement with the Concessionaire pursuant to the LOA for, inter alia, the design, engineering, financing, procurement, Utility Shifting, Tree cutting, construction, operation and maintenance of the said Project Highway on BOT (Annuity) basis.
- G. **GOAP**, NHAI and the Concessionaire agree that the implementation of the Concession including performance of its obligations by the Concessionaire under and in accordance with the Concession Agreement requires extensive continued support and grant of certain rights and authorities as hereinafter set forth by **GOAP** and is an essential pre-condition for mobilization of resources therefore by the Concessionaire.

NOW THEREFORE THE PARTIES HERETO HEREBY AGREE AND THIS AGREEMENT WITNESSETH AS FOLLOWS:

I. DEFINITIONS AND INTERPRETATIONS

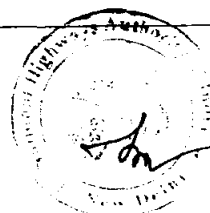
- I.1 For the purposes of this Agreement the following terms shall have the meaning hereinafter respectively assigned to them.
- I.1.1 "Agreement" means this Support Agreement and all annexures hereto and amendments if any thereto made in accordance with the provisions contained herein in this behalf.
- I.1.2 "Concession Agreement" means the Concession Agreement dated _____ entered into between NHAI and the Concessionaire, and shall include all of its annexures and appendices and any amendments made thereto in accordance with the provisions contained in this behalf therein.
- I.1.3 "MOSRTH" means Ministry of Shipping, Road Transport and Highways, earlier Ministry of Road Transport & highways
- I.1.3. "Substitution Agreement" means the Substitution Agreement dated _____ entered into between the Senior Lenders, NHAI and the Concessionaire providing for substitution of the Concessionaire by the Selectee selected by the Senior Lenders in the manner and subject to and on the terms and conditions set forth therein. A copy of the said Substitution Agreement is annexed hereto and marked as "Annexure 'B'."
- I.1.4. "**GOAP Support**" means the obligations assumed and the facilities agreed to be provided by **GOAP** to the Concessionaire hereunder or pursuant hereto.



1.2. The words and expressions beginning with or in capital letters used in this Agreement and not defined herein but defined in the Concession Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Concession Agreement. Words and expressions used in this Agreement and neither defined herein nor in the Concession Agreement but defined in the Substitution Agreement shall have the meaning respectively assigned to them in the Substitution Agreement.

1.3. In this Agreement unless the context otherwise requires-

- (a) any reference to a statutory provision shall include such provision as is from time to time modified and re-enacted or consolidated so far as such modification or re-enactment or consolidation applies or is capable of applying to any transactions entered into hereunder;
- (b) the words importing singular shall include plural and vice versa, and words denoting natural persons shall include partnerships, firms, companies, corporations, joint ventures, trusts, associations, organizations or other entities (whether or not having a separate legal entity);
- (c) the headings are for convenience of reference only and shall not be used in and shall not affect the construction or interpretation of this Agreement;
- (d) terms beginning with capital letters and defined in this Agreement shall have the meaning ascribed thereto herein;
- (e) the words "include" and "including" are to be construed without limitation.
- (f) any reference to a "day" shall mean reference to a calendar day;
- (g) any reference to "month" shall mean reference to a calendar month;
- (h) the Annexures and appendices to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- (i) any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference provided that this clause shall not operate so as to increase liabilities or obligations of GOAP hereunder or pursuant hereto in any manner whatsoever.
- (j) References to Recitals, Clauses, Sub-clauses, Paragraphs, Annexures or Appendices in this Agreement shall, except where the context otherwise requires, be deemed to be references to Recitals, Clauses, Sub-clauses, Paragraphs, Annexures and Appendices of this Agreement.



- (k) Any agreement, consent, approval, authorization, proposal, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or Senior Lender(s) shall be valid and effectual only if it is in writing under the hands of duly authorized representative of such Party or the Senior Lender(s), as the case may be, in this behalf and not otherwise; and
- (l) Any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both days or dates.
- (m) "Concessionaire" shall include Selectee under the Substitution Agreement.

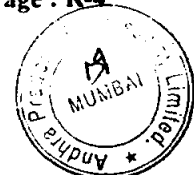
2. TERM

- 2.1. This Agreement shall come into force the date hereof and shall continue to be in full force and effect for the period the Concession Agreement is in force and effect including any extension thereof.

3. SUPPORT OF GOAP

- 3.1. Upon and with effect from the date hereof, GOAP agrees:

- (i) so long as the Concessionaire is not in breach of its obligations under this Agreement, **GOAP** agrees to enable access to the Site to the Concessionaire for peaceful use of and operations at the Site by the Concessionaire under and in accordance with the provisions of the Concession Agreement without any let or hindrance from **GOAP** or persons claiming through or under it;
- (ii) subject to the Concessionaire complying with Applicable Laws, provide to the Concessionaire Applicable Permits to the extent **GOAP** or any Governmental Agency of **GOAP** is entitled to issue;
- (iii) upon written request from the Concessionaire, assist the Concessionaire in obtaining access to all necessary infrastructure facilities and utilities, including water, electricity and telecommunication facilities at rates and on terms no less favorable to the Concessionaire than those generally available to commercial customers receiving substantially equivalent services;
- (iv) ensure that no barriers are erected or placed by **GOAP** or any Governmental Agency of **GOAP** that interrupts free flow of traffic on the Project Highway except on account of any law and order situation or upon national security considerations;
- (v) provide the Concessionaire with assistance through a dedicated team against payment of prescribed fee and charges, if any, for regulation of traffic on the Project Highway;



- (vi) provide the Concessionaire with police assistance in the form of dedicated highway patrol parties against payment of prescribed costs and charges, if any, for patrolling and provision of security on the Project Highway;
 - (vii) observe and comply with its obligations set forth in this Agreement;
 - (viii) support, cooperate with and facilitate NHAI and the Concessionaire in the implementation of the Project;
 - (ix) subject to and in accordance with the Applicable Laws, assist the Concessionaire in the procurement of all Applicable Permits required from any municipal and other local authorities and bodies including Panchayats in the State of Andhra Pradesh for the implementation of the Project;
 - (x) ensure, subject to and in accordance with the Applicable Laws, that all relevant municipal and other local authorities and bodies including Panchayats in the State of Andhra Pradesh do not put any barriers or other obstructions that interrupt free flow of traffic on the Project Highway; and
 - (xi) not do or omit to do any act, deed or thing which may in any manner be violative of or cause the Concessionaire to violate any of the provisions of the Concession Agreement.
- 3.2 Notwithstanding anything to the contrary contained in the Agreement, **GOAP** may construct and operate either itself or have the same, inter alia, built and operated on BOT (Annuity) basis or otherwise any Expressway or other toll road, not being a bye-pass, between inter alia, km 135.469 (End of proposed Kotakatta Bypass) to km 211.000 (Kurnool), covering 74.651 kilometers, on National Highway No.7 (NH-7) in the State of Andhra Pradesh (the "Additional Tollway"), provided that such Additional Tollway shall not be opened to traffic before expiry of 8 (eight) years from the Appointed Date.
- 3.3 **GOAP** agrees and undertakes that it shall not levy any additional toll, fee, charge or tax on the use of whole or any part of the Project Highway. **GOAP** acknowledges the rights of Senior Lenders and NHAI under the Substitution Agreement and hereby covenants that upon substitution of the Concessionaire by the Selectee pursuant to the Substitution Agreement, it shall be deemed for the purposes of this Agreement that as if Selectee is a Party hereto and the Selectee shall accordingly be deemed to have succeeded to the rights and obligations of the Concessionaire under this Agreement on and with effect from the date of substitution of the Concessionaire by the Selectee.
4. **CONCESSIONAIRE'S OBLIGATIONS**
- 4.1 Concessionaire agrees and undertakes to perform, observe and comply with the following :

- (i) All Applicable Laws and Applicable Permits;

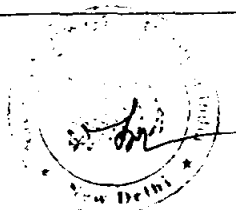


- (ii) The provisions of the Concession Agreement, the Substitution Agreement, and the Project Agreements; and
- (iii) Observe, comply and perform its obligations under this Agreement.

5. REPRESENTATIONS AND WARRANTIES

5.1. The Concessionaire represents and warrants to **GOAP** that :

- (i) It is duly organized, validly existing and in good standing under the laws of India.
- (ii) It has power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (iii) It has taken all necessary corporate and other action under Applicable Laws and its constitutional documents to authorize the execution, delivery and performance of this Agreement;
- (iv) This Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (v) It is subject to civil and commercial laws of India with respect to this Agreement and it hereby expressly and irrevocably waives any immunity in any jurisdiction in respect thereof;
- (vi) All the information furnished to the **GOAP** pertaining to the Concessionaire including its constitution and existing and proposed shareholding structure is now and shall be true and correct as on the Appointed Date and COD and the Balance Sheet and Profit and Loss Account of the Concessionaire for each of its Accounting Year after the Appointed Date furnished to **GOAP** shall give true and fair view of the affairs of the Concessionaire.
- (vii) The Concessionaire shall furnish a copy of its audited Balance Sheet within 120 (one hundred twenty) days of the close of its each Accounting Year after the Appointed Date and any material change subsequent to the date of such Balance Sheet shall be notified to **GOAP** by the Concessionaire within 30 (thirty) days of its occurrence and warrants that the Balance Sheet and the information furnished as aforesaid shall be true and correct;
- (viii) The execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under or accelerate performance required by any of the terms of the Concessionaire's Memorandum and Articles of Association or any member of the Consortium or any Applicable Laws or Applicable Permits or any covenant, agreement, understanding, decree or order



to which it is a party or by which it or any of its properties or assets is bound or affected;

- (ix) There are no actions, suits, proceedings or investigations pending or, to the Concessionaire's knowledge, threatened against it at law or in equity before any court or before any judicial, quasi judicial or other authority, the outcome of which may result in the breach of or constitute a default of the Concessionaire under this Agreement or which individually or in the aggregate may result in any material adverse effect on its business, properties or assets or its condition, financial or otherwise, or in any impairment of its ability to perform its obligations and duties under this Agreement;
- (x) The Concessionaire has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Governmental Agency which may result in any material adverse effect or impairment of the Concessionaire's ability to perform its obligations and duties under this Agreement;
- (xi) The Concessionaire has complied with all Applicable Laws and Applicable Permits, and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have material adverse effect on its financial condition or its ability to perform its obligations and duties under this Agreement;
- (xii) Each Consortium Member was and is duly organized and existing under the laws of the jurisdiction of its incorporation and has full power and authority to consent to and has validly consented to the Concessionaire entering into this Agreement with the GOAP;
- (xiii) No representation or warranty by the Concessionaire contained herein or in any other document furnished by it to GOAP, or to any Governmental Agency in relation to Applicable Permits contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;
- (xiv) The Concessionaire warrants that no sums have been paid or will be paid, by or on behalf of the Concessionaire, to any Person by way of fees, commission or otherwise for entering into this Agreement or for influencing or attempting to influence any officer or employee of NHAI, GOI or GOAP in connection therewith; and
- (xv) The Concessionaire is subject to civil and commercial laws of India with respect to this Agreement.

5.2. GOAP represents and warrants to the Concessionaire that :



- (i) It has full power and authority to execute, deliver and perform this Agreement.
- (ii) It has taken all necessary governmental action to authorize the execution, delivery and performance of this Agreement; and
- (iii) This Agreement constitutes the legal, valid and binding obligation of GOAP enforceable against it in accordance with its terms.

6. SOVEREIGN IMMUNITY

6.1. GOAP hereto unconditionally and irrevocably:

- (i) Agrees that the execution, delivery and performance by it of this Agreement do not constitute sovereign acts;
- (ii) Agrees that should any proceedings be brought against it or its assets in relation to this Agreement or any transaction contemplated by this Agreement, no sovereign immunity from such proceedings, execution, attachment or other legal process shall be claimed by or on behalf of itself or with respect to any of its assets, to the extent permitted by law; and
- (iii) to the extent permitted by law, waives any right of sovereign immunity, which it or its assets now has or may acquire in the future.

6.2. Notwithstanding anything to the contrary herein contained such waiver of right of immunity shall not apply to

- a) Property and assets of any consular or diplomatic mission or consulate or
- b) Property belonging to the Defence services and such assets of the Union of India.

7. Breach and Compensation

7.1. In case GOAP is in breach of any of its obligations under this Agreement, which breach is not cured within 30 days of receipt of a notice in writing from the Concessionaire to GOAP and NHA and which has not occurred as a result of Concessionaire's breach of its obligations under this Agreement or the Concession Agreement, GOAP shall pay to the Concessionaire, all direct additional costs suffered or incurred by the Concessionaire, determined by MOSRTH as arising out of such material default by GOAP.

7.2. In case of any dispute by GOAP on admissibility of the claim or extent of compensation determined by MOSRTH, the claim shall be settled as per provisions of the Dispute Settlement mechanism provided in Article IX of this Agreement.



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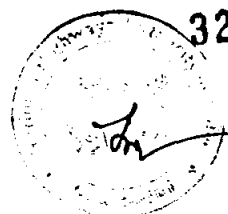
- 7.3. Any such compensation payable shall be paid to the Concessionaire, in one lumpsum within 90 (ninety) days of receiving MOSRTH's determination of compensation.

8. INDEMNITY

- 8.1. The Concessionaire will indemnify, defend and hold **GOAP** harmless against any and all proceedings, actions and claims for any loss, damage, cost and expense of whatever kind and nature arising out of design, engineering, construction, operation and maintenance of the Project Highway or arising out of any breach by the Concessionaire of any of its obligations under this Agreement or on account of failure of the Concessionaire to comply with, and observe Applicable Laws and Applicable Permits;
- 8.2. **GOAP** will, indemnify, defend and hold harmless the Concessionaire against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of **GOAP** to fulfill any of its obligations under this Agreement adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement other than any loss, damage, cost and expense, arising out of acts done in discharge of their lawful functions by **GOAP**, its officers, servants and agents;
- 8.3. Without limiting the generality of Clause 8.2, the **GOAP** shall indemnify the Concessionaire and shall save it harmless from and against any payments required to be made by the Concessionaire with respect to levy of any Local Taxes provided nothing contained herein shall be construed or interpreted as restricting in any way or manner the right of **GOAP** or any municipal, panchayat or other local authorities to levy any taxes which they or any of them are lawfully entitled to levy, impose or collect (the "Expected Taxes"). The Concessionaire shall not be entitled to and **GOAP** shall be under no obligation to reimburse Expected Taxes to the Concessionaire or any person claiming through or under the Concessionaire;
- 8.4. In the event that either party hereto receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under Clause 8 or in respect of which it is entitled to reimbursement (the "Indemnified Party") within 14 (fourteen) days of receipt of the claim or payment, as the case may be, shall not settle or pay the claim without the prior approval of the Indemnifying Party. In the event that the Indemnifying Party wishes to contest or dispute the claim, it may conduct the proceedings in the name of the Indemnified Party and shall bear all costs involved in contesting the same. The Indemnified Party shall provide all cooperation and assistance in contesting any claim and shall sign all such writings, and documents as the Indemnified Party may reasonably require.

9. GOVERNING LAW AND DISPUTE SETTLEMENT

- 9.1. This Agreement shall be governed by and construed and interpreted in accordance with the laws of India. The provisions contained in Clause 8 shall survive the termination of this Agreement.



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- 9.2. Any dispute, difference or claim arising out of or in connection with or in relation to this Agreement which is not resolved amicably shall be decided finally by reference to arbitration to a Board or Arbitrators comprising of one nominee of each party to the dispute. Such arbitration shall be held in accordance with the Rules of Arbitration of the Indian Counsel of Arbitration and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996. The Arbitrators shall issue a reasoned award. The venue of such arbitration shall be New Delhi, India. The Award shall be final and binding on the Parties.

10. MISCELLANEOUS

10.1. Alteration of Terms

All additions, amendments, modifications and variations to this agreement shall be effectual and binding only if in writing and signed by the duly authorized representatives of **GOAP** and the Concessionaire.

10.2. Time or Indulgence Allowed

An indulgence by one Party to the other in respect of any obligation or matter hereunder including time for performance to the other party hereunder or to remedy any breach hereof shall not be construed as a waiver of any of its rights hereunder Party may be on such terms and subject to such conditions as the Party giving it may specify and shall be without prejudice to that Party's then accrued rights under this Agreement except to the extent expressly varied in writing when giving such time or other indulgence.

10.3. Severance of Terms

If any provisions of this Agreement are declared to be invalid, unenforceable or illegal by any competent arbitration tribunal or court, such invalidity, unenforceability or illegality shall not prejudice or affect the remaining provisions of this Agreement, which shall continue in full force and effect.

10.4. Language

All notices, certificates, correspondence or other communications under or in connection with the Agreement shall be in English

10.5. Notices

Any notice or communication hereunder shall be in writing and shall either be delivered personally or sent by registered post, with copy by facsimile transmission or other means of telecommunication in permanent written form. A copy of all the notices and communications will also be forwarded to the Lenders Representative. The service of notice shall unless otherwise notified by a notice hereunder to the parties at their following address:

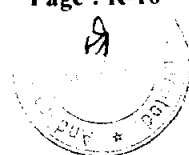
IF to **GOAP** :

Attn :

Fax no :

Tel no.

IF to the NHAI



Attn:
Fax no.
Tel no.

IF to the Concessionaire :

Attn :
Fax no.
Tel no.

The notice pursuant hereto will be deemed to have been received on the date when such notice is in fact received by the addressee.

10.6. Authorised Representatives

Each of the Parties shall by notice in writing designate their respective authorised representatives through whom only all communications shall be made. A Party hereto shall be entitled to remove and/or substitute or make fresh appointment of its such authorized representative by similar notice.

10.7. Original Document

This Agreement is made in two counterparts, each of which shall be deemed to be an original.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE PUT THEIR HANDS
HEREUNTO ON THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

**FOR ANDHRA PRADESH
EXPRESSWAYS PRIVATE LIMITED**

FOR GOVT. OF ANDHRA PRADESH

BY : _____ BY : _____

Name : _____ Name: _____

Title: _____ Title: _____

FOR NHAI

BY : _____

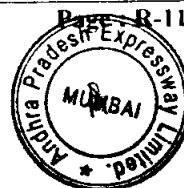
Name : _____

Title: _____

In the presence of :

1.

2.



SCHEDULE-S**SAFETY REQUIREMENTS****1. OBJECTIVE**

- 1.1 Safety of road users and Project workers is a vital requirement which the Concessionaire has to attend during the Concession Period under the Concession Agreement.

2. SAFETY STANDARDS**2.1 Objective**

- 2.1.1 The objective of Safety Standards is to provide safe travel to the drivers of vehicles plying on the Project Highway at all times of the day, throughout the year and provide protection to the Project workers when they are on the work. This Schedule delineates the Safety Standards in terms of construction zones, signs and safety measures in work zones and during normal operations.

- 2.1.2 The guiding principles for safety measures shall include

- (i) warning to the drivers unambiguously and sufficiently in advance of the situation on the highway;
- (ii) providing clear demarcation for movement of vehicles;
- (iii) providing devices to guide the drivers and their movements through construction zones/lane closures/traffic diversions etc.
- (iv) protection to Project workers on work site.

2.2 Construction zone

In order to plan and provide appropriate traffic management and safety measures, it is necessary to appreciate the concept of a construction zone. A construction zone can be defined as an area of the Project Highway which involves the conflict of the right of use between the road users and authority responsible for the maintenance /improvement of the Project Highway. From traffic safety point of view, a construction zone comprises four sub-zones as described hereinunder:

2.2.1 Advance Warning Sub-Zone

The advance warning sub-zone is meant to prepare the driver for an alert behaviour and is an essential part of any traffic control system. The warning system shall prepare the driver well in advance by providing information regarding distance, extent and type of hazard ahead so that the can gradually reduce the speed of his vehicle. For the operating speeds on the Project Highway, length of this sub-zone shall be 100m and 500m, in plain and hilly terrain respectively. Information in this sub-zone will be conveyed through a series of traffic signs, which will include "Men at Work" and the speed reduction signs at the start and middle of this sub-zone.

2.2.2 Transition Sub-Zone

The transition sub-zone is the area in which the traffic is steered and guided into and out of the diverted path around the work sub-zone. This is the most crucial sub-zone from safety point of view since most of the movements are turning movements. The traffic in this sub-zone is mostly taken across with the help of barricades and channelizers.

The elements for designing this sub-zone are speed of the vehicles, extent of lateral shift and elevation difference between the normal and the diverted paths. The essential safety measures shall include delineation of the travel path and prevention of wayward movements of vehicles by means of barricades, channelizers, red cones, and red lamps during hours of darkness etc., as appropriate.

In the design of this sub-zone adequate attention shall be paid for providing necessary turning radius of the curves, grade to permit for safe passage of animal driven vehicles, drainage and dust-proofing. Where necessary traffic control shall be affected through manual flagging and by (electrically / Battery operated) traffic lights during hours of darkness. Where vehicles have to wait, the waiting area shall be demarcated by stop lines. Length of the sub-zone will generally be between 50 and 100m.

2.2.3 Work Sub-Zone

This is the actual area where construction or maintenance activity is taking place and the main concern, therefore, is the safety of the workers at the site from the plying traffic. The path of the traffic must, therefore, be very clearly delineated to avoid intrusion of vehicles moving into the work area. The work sub-zones shall not be close to each other and the distance between the two work sub-zones shall be such that the flow of traffic can return to normal stream by permitting fast moving traffic to overtake slow moving vehicles. These distances shall preferably be 2 km on urban sections and 5 to 10 km on rural sections of the highway. The length of work sub-zones will vary. The length of warning and transition sub-zones shall be basically governed by the speed of approaching vehicles and shall be regulated as shown in table S-1 below:

Table S-1: Recommended Length of Construction Zones

Average Speed (Kmph)	Length of Advance Warning Sub-Zone (m)	Length of Transition Sub-Zone (m)	Length of Work Sub-zone (m)
50	100	50	Varies
51-80	100-300	50-100	
81-100	300-500	100-200	
Over 100	1000	200-300	

The traffic across these sub-zones is guided and taken with the help of various traffic control devices erected at the site.

2.2.4 Termination Sub-Zone

The sub-zone is intended to inform the road users of the end of the construction zone. An information signboard shall be erected to inform road users of the end of construction Zone.

2.3 Traffic Control Devices

Traffic control devices in the construction zones perform the crucial task of warning, informing and alerting the driver apart from guiding the vehicle movements so that the driver of the vehicle as well as the workers on site are protected and safe passage to the traffic is possible.

The primary traffic control devices used in work sub-zones are signs, delineators, barricades, cones, pylons, pavement markings, flashing lights etc. They shall be such that they are easily understood without any confusion, are clearly visible during day and night, conform to the

prevailing speeds in immediate vicinity, stable against sudden adverse weather conditions and are easy in installation, removal and maintenance.

2.3.1 Signs

The construction and maintenance signs fall into the same three major categories viz. regulatory signs, warning signs and guide signs as other traffic signs do. The IRC: 67-2001 (Code of Practice for Road Signs) gives a comprehensive list of traffic signs to which the size, colour and placement of signs shall conform. IRC: SP: 55-2001 gives details of special signs and other safety devices to be used in construction. These signs shall be placed on the left hand side of the road. Some of the common types of signs, which shall be provided in construction zones, are discussed in the following paragraph.

2.3.1.1 Regulatory signs

Regulatory signs mean legal restrictions on the traffic. They shall be used only in consultation with the local police and /or authorities. The most common types for use in construction zones are "Do not Enter", "Road Closed", "Give Way to Pedestrians", "Speed limit" etc.

2.3.1.2 Warning Signs

The most common type of warning signs to alert the drivers of the possible dangers ahead in construction zones are "Lane Closed", "Diversion to other Carriageway", "Divided Carriageway Starts", "Divided Carriageway Ends" and "Two Way Traffic" etc. Sometimes it might be advisable to explain these signs with the help of a rectangular definition plate of size appropriate to the size of warning triangle and placed 0.15 m below, from the bottom of the triangle.

2.3.1.3 Guide Signs

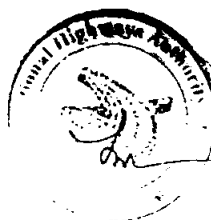
Guide signs in construction zones shall have different background colour than the normal informative signs of IRC: 67-2001. These signs shall have black messages and arrows on yellow (Traffic Yellow of IS: 5-1978) background. The commonly used guide signs are: "Diversion", "Road Ahead Closed" and "Sharp Deviation of route" etc. (As per IRC: SP: 55-2001).

2.3.2 Delineators

These channelising devices such as cones, traffic cylinders, tapes are placed in or adjacent to the roadway to guide the drivers along a safe path and to control the flow of traffic. These shall normally be retro-reflectorised for night visibility. IRC: 79-1981 (Recommended Practice for Road Delineators) gives details of some of the delineators. The other delineators are discussed below.

2.3.2.1 Traffic Cones and Cylinders

Traffic cones shall normally be 0.5m to 0.75m high and 0.3m to 0.4m in diameter or in square shape at the base. These are mostly made of plastic or rubber with retro reflectorised red and white band and have suitable anchoring so that they are not easily blown over or displaced, it might be preferable to use double cones, one over the other. The cones shall be placed close enough together to give an impression of the continuity. The spacing shall be 3m (close) to 9m (normal). Larger size cones can be used for high speeds or where more conspicuous guidance is required.



New Jersey type plastic barrier of height 0.6m to 0.75m and 0.3m x 0.9m rectangular base could also be used with retro-reflectorised red and white band. Water or sand can be filled to stay in position without displacement. The spacing shall be 3m to 4m.

2.3.2.1 Barricades

Whenever the traffic has to be restricted from entering the work areas, such as excavations or material storage sites so that protection to workers is provided or there is a need for separating the two way traffic, barricades can be used. The barricades can be portable or permanent type and can be made of iron Jolly, metal or other suitable material. Size of the frame shall be 1.2m x 1m. Suitable support or ballasting shall be provided so that they do not over turn or are not blown away in strong winds. In case of a permanent type barricade, a gate or movable section shall be separately provided to allow the movement of construction/supervision vehicles. Red retro reflective stickers shall be affixed to barricade boards.

2.3.4 Flagmen

In large construction sites, flagmen with flags and sign paddles shall be effectively used to guide the safe movements. The flags for signalling shall be 0.60 m x 0.60 m size, made of a good red cloth and securely fastened to a staff of approximately 1m in length. The sign paddles shall conform to IRC: SP: 55-2001 and provided with a rigid handle.

For one-way traffic operation at a time during hours of darkness, battery operated red/green lights shall be used at either end of the affected section.

2.3.5 Road studs and Blinkers (L.E.D.)

Road studs with red flashers shall be provided across the road on either side of the construction zone and Blinkers (L.E.D) shall also be provided at appropriate locations as per the direction of IC and/or NHAI.

2.4 Safety & Management Practices

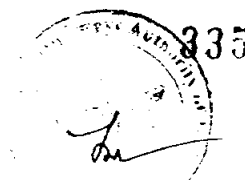
Measures for providing safe movement of traffic in some of the most commonly occurring work zones on highways shall be as follows:

2.4.1 Detour on Temporary Diversion

In the cases of major repairs or reconstruction of cross drainage structures on a highway section, damaged due to flood etc., the traffic may have to pass on a diversion, moving parallel to the highway:

2.4.1.1 A temporary diversion road shall basically satisfy the following requirements:

- i) It shall have smooth horizontal and vertical profile with smooth vertical and horizontal curves;
- ii) It shall not get overtopped by flood or drainage discharge under any conditions;
- iii) It shall have adequate capacity to cater for the diverted traffic;
- iv) It shall be dust free and shall ensure clear visibility at all times of day and night;
- v) It shall be provided with the required safety standards; and
- vi) It shall be provided with suitable barricades to prevent intrusion affecting the movement of the traffic.



- 2.4.1.2 The warning for the construction ahead shall be provided by the sign "Men at Work" about 1 km earlier to the work zone. In addition, a supplementary plate indicating "Diversion 1 km ahead" and a sign "Road Closed Ahead" shall be placed. "Compulsory Turn Right/Left Sign" shall follow it. The "Detour" and "Sharp Deviation" sign shall be used to guide the traffic onto the diversion. Hazard markers shall be placed just where the railings for the cross drainage structures on the diversion starts.

2.4.2 Partial Closure of existing two lane Carriageway

- 2.4.2.1 Such an eventuality will arise only in a special situation where the existing two lanes in use for the main traffic need emergency repairs and the new lanes under construction are not available for diversion of the traffic. It will become necessary to carryout special repairs through partial closure of the existing two lane facility.
- 2.4.2.2 In the said situation care shall be taken that the traffic is guided from the closed lane onto the operating lane without conflicting with the traffic from opposite direction.
- 2.4.2.3 The warning sign for "Men at Work" shall be the first sign to be seen by the drivers of the approaching vehicles. This sign shall have supplementary plate also showing the distance of work zone. The next warning sign shall be for the "Road Narrowing" (depending upon the lane closure). Compulsory "Keep Right" or "Keep Left" sign depending upon the situation, shall be provided at the beginning of the transition zone and taper. The point from where the traffic is to deviate from its normal path, the channel for traffic shall be clearly marked with the aid of painted drums or traffic cones. The spacing of these cones and/or drums shall be about 9 m or closer as per site requirement.

"The traffic lane or carriageway closed" sign shall also be provided at barricades along with "Keep Right/Left" sign.

2.4.3 Closure for Work on one side Carriageway of a 4/6 lane divided carriageway

The first sign shall be for the "Men at Work" alongwith distance plate for construction zone. Thereafter the sign for "Road Narrowing" shall be provided, followed by the signs for lane closure one after another. This shall be followed by sign for compulsory "Keep right/Left (depending upon site situation). The sign for the "Closure of carriageway" along with that for "keep Left/Right" shall be provided at the point from where the vehicle is expected to change the lane for the diversion. The sign for the "Diversion to the other carriageway" shall be provided between the "Carriageway Closure" sign and the median gap. The sign for "Sharp. Diversion of Route" along with compulsory "Turn right/Left" shall be provided at the location where the gap in median opening starts and traffic is expected to get diverted to the other carriageway. The warning signs for "Two way traffic" alongwith the plate indicating the distance, up to which the two way traffic is allowed, shall be placed at the median, which shall be to the left of the moving traffic. Cones or painted drums shall be placed for delineation, starting from the sign location for "Carriageway Closed".

2.4.4 Carriageway Repairs

When the work is of small magnitude, to be done in the middle of the carriageway, such as minor repairs of potholes, cracks and patches, then the traffic control measures shall mainly consist of providing cautionary signs of "Men at Work", about 500m before the work zone for the approaching vehicle and other cautionary sign of "Road Narrows", shall be placed at 100m ahead of work area. Regulatory sign of "Keep Left/Right" shall be placed at the commencement point of the work zone and next to the barriers for the approaching vehicles. Movable type of barriers shall also be placed on both sides of the work area. Cones or drums



shall be placed at suitable interval to demarcate the work area. The "Work Zone Ends" sign shall be installed 120m beyond the work area. If the operation is to continue during nighttime, necessary lighting arrangements with flashing lights shall be provided.

2.4.5 Construction of New Carriageway

2.4.5.1 Urban Section of the Project Highway

- (a) The service roads on either side together with side drains shall be constructed initially. During this period the main traffic shall use the existing two lane carriageway. The construction traffic in the work zone shall be safely brought out from the mainstream traffic by erecting appropriate signs at the beginning of the work site. Also on return it will be amalgamated with the mainstream traffic by erecting appropriate signs at the end of the work site. It shall be ensured that there shall be identified entry and exist points duly designed so that haphazard entry or exit of construction traffic is avoided. Conflicting turning movements shall be avoided.
- (b) On completion of the Stage-I, the main traffic shall be diverted on their respective directions on to the newly constructed service roads and the additional 4/6 lanes shall be constructed (2/3 lanes on each side) of the existing carriageway duly including the 1.5m wide central median.
- (c)
- (d) On completion of the divided 4/6 lane carriageway of the Project Highway, the main traffic from the service roads shall be restored on them and informatory signs shall be installed.

2.4.5.2 Rural Section of the Project Highway

In rural section the new 2/3 lane carriageway and the central median shall be constructed eccentric to the Centre line of the existing carriageway. During this construction phase, the existing two lane carriageway shall be used for the main traffic. The construction traffic using the existing highway shall be guided on to the work zone and allowed to return to the main traffic stream safely. For this purpose identified exist and entry points duly designed shall be provided. It shall ensure against haphazard entry or exist of the Construction Traffic to/from the existing highway. Conflicting turning movements of the Construction traffic shall be avoided. During this phase, sign/barricading shall be on the construction side of the road.

On completion of the new 2/3 lane carriageway and the median throughout, the traffic on the existing highway shall be diverted on it and the strengthening and widening of the existing carriageway shall be taken up.

At the construction stages described above, situations may arise requiring diversion of traffic for cross over from the new carriageway to the existing carriageway when construction of new lanes is done in stretches, during which suitable traffic safety measures shall adopted.

2.5 Safety Measures During Normal Operation

2.5.1 Introduction

It is observed that the drivers park their vehicles on the carriageways leading to accidents. Many a times, the accidental vehicles and/or debris on the carriageway are the cause of further accidents besides obstructing the smooth flow of the traffic. For smooth and normal flow of the traffic on the Project Highway, the actions stated hereinunder in 2.5.2 would be taken for the normal operation of the Project Highway.

2.5.2 Highway Patrol

Highway Patrolling shall be done to ensure safe, uninterrupted and smooth traffic flow so that:

- (i) No parking of a vehicle on any of the divided carriageway takes place at anytime;
- (ii) Immediate assistance is provided to accident victims and their rescue as per clause 18.8.2 of the Concession Agreement.
- (iii) Minor debris and stalled vehicles are removed from carriageway within an hour's time;
- (iv) In the event of traffic congestion, adequate measures shall be taken to mitigate the same in maximum one-hour's time and the approaching traffic is duly cautioned about it.

2.5.3 Safety, Vehicle Breakdown and Accident

2.5.3.1 In case of unsafe condition, vehicle breakdowns and accidents, the Concessionaire shall follow the relevant operating procedures, which shall include the setting up of temporary traffic cones and lights as well as the removal of obstruction and debris expeditiously as per clause 18.8.1 of the Concession Agreement.

2.5.3.2 The Concessionaire shall ensure that any diversion or interruption of traffic is remedied without delay as per clause 18.8.1 of the Concession Agreement.

2.5.6 Safety Measures During Concession Period

2.6.1 During the Concession Period or extension thereof as per the Concession Agreement many activities are involved at different stages and at various periods in respect of construction, operation and maintenance of the Project Highway. Safety of the road users and the Project workmen at site is of paramount importance and obligatory for the Concessionaire throughout the said period.

2.6.2 In Emergency arising on account of Force Majeure due to nature or administrative reasons special safety measures may be called for the traffic and/or the workmen at site to be taken by the Concessionaire.

2.6.3 The following principles shall be kept in view in Emergency situations from safety considerations:

2.6.3.1 Where part width of the existing 2/3 lane carriageway is envisaged to be used for passage of two way traffic, paved shoulders shall be used on the side on which work is not proposed. A maximum of one lane (3.5 m wide) closure shall be allowed for a short duration depending on the extent on Emergency.

2.6.3.2 At the points where traffic is to deviate from its normal path, the channel for traffic shall be clearly marked with the aid of pavement markings or other similar device as directed by the Independent Consultant. At night the passage shall be delineated with lamps or lanterns or any suitable light source.

2.6.3.3 On the approach of any type of closure suitable regulatory/warning signs as approved by the Independent Consultant shall be installed for guidance of road users. At least two signs shall be put up one close to the carriageway where transition of carriageway begins and the other 120 m ahead. The signs shall be of approved design and of reflectory type as directed by Independent Consultant.



2.6.4 The Concessionaire shall ensure that safety standards specified in this Schedule are strictly complied with in the event of any lane closure or diversion of traffic.

2.7 Safety of Project workmen at Site

2.7.1 Safety of the Project Workers at site during duty hours is the responsibility of the Concessionaire. It shall be ensured by him that safety measures appropriate for the job a workman performs shall be provided.

2.7.2 Also, safety measures against accidents of the Workers by the traffic using the highway and/or diversions shall be taken. The Concessionaire shall provide helmets and protective chest vests to its workmen at site and make it compulsory for them to wear the same.

2.7.3 The Concessionaire shall insure all the Project Workers against accident.

2.7.4 Labour Laws in force shall be followed.

2.8 Safety Requirements

2.8.1 Safety of Road users and workers on the Project Highway during its Construction, Operation and Maintenance is obligatory and the Concessionaire shall be fully responsible to discharge it in terms of the Concession Agreement including its Schedules.

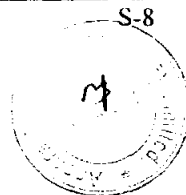
2.8.2 In case of emergency situations the Concessionaire shall take action(s) for the safety of the road users and the workers as required by the site conditions immediately without waiting for consultation with the Independent Consultant and/or NHAI because any delay in it will not absolve the Concessionaire of its responsibilities under the Concession Agreement including its Schedules.

2.8.3 A breach by the Concessionaire of its obligations in respect of the safety standards shall be dealt with in terms of clause 18.8.3 of the Concession Agreement

2.9 Safety of workers

In respect of all labour directly or indirectly employed in the work for the performance of the Concessionaire's part of this agreement, the Concessionaire shall at his expense arrange for the safety provisions as per Indian Standard Safety codes shown below and shall at his own expense provide for all facilities in connection there with. In case the Concessionaire fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay penalty prescribed under relevant clauses of this concession agreement for each default and in addition the IC shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost incurred on that behalf from the Concessionaire, and no claims whatsoever shall be entertained.

1. IS: 3696 (part I) - 1966 Safety code for scaffolds and ladders.
2. IS: 3696(part II) - 1966 Safety code for scaffolds and ladders
3. IS: 3764-1966 Safety code for excavation work.
4. IS: 4081-1967 Safety code for blasting and drilling operations.
5. IS: 4138 -1977 Safety code. for working in compressed air
6. IS: 5121 Safety code for piling and other deep foundations.
7. IS: 5916 - 1970 Safety codes for construction involving use of hot bituminous materials.
8. IS: 7293-1974 Safety code for working with construction machinery.
9. IS: 7969 -1975 Safety code for storage and handling of building materials.
10. Any other code and/or as per directions of IC.



10.0 Safety Precautions

Since heavy loads have to be handled over moving traffic during erection of superstructure, safety is of utmost importance. The Concessionaire shall enforce a strict Safety System with all necessary precautions and instructions (safety tools, nets, railings, personal protection equipment, proper training of workers, first aid, etc.). No unskilled / untrained personnel shall be engaged at site to perform the critical activities above the flowing traffic at GL. The Concessionaire shall be solely responsible for ensuring safety at site during entire construction period.



SCHEDULE T**CRITERIA FOR LIST OF CHARTERED ACCOUNTANTS**

Selection of the Chartered Accountants for a mutually agreed list shall consist of the following steps:

1. Shortlisting of Chartered Accountants by the NHAI
2. Issue of Letter of Invitation (LoI) along with Terms of Reference to shortlisted Chartered Accountants.
3. Evaluation of Technical Proposal and selection of maximum of 15 (fifteen) Chartered Accountants.
4. Forwarding list of maximum 15 (fifteen) Chartered Accountants to Concessionaire to select a maximum of 10 (ten).

SELECTION COMMITTEE FOR SHORTLISTING

A Selection Committee shall do the selection; the members of this committee shall be nominated by the NHAI.

1. Shortlisting by NHAI

For shortlisting, NHAI shall advertise for Expression of Interest (Eoi) to serve as Statutory Auditors/ Chartered Accountants for the ongoing National Highway (NH-7) improvement project. The Eoi will ask for summary information on

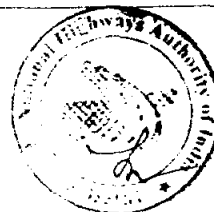
- Number of Partners and Professional Staff
- Experience of the firm on roads project
- Presence in India and in the region
- Experience of the firm on other similar work in other sectors.

2. Request for Technical Proposal

The request for technical proposals shall be sent to the shortlisted firms. This shall include a ToR besides information (Data Sheet) to the firms. It shall contain the guidelines for the preparation of technical proposals by the firms and submission.

The ToR shall include the following details :

1. Project background
2. Objectives
3. Scope of services
4. Interaction with NHAI
5. Reporting requirement
6. Performance clause



7. Consultant's Proposal
8. Period of Services

3. **Evaluation of Technical Proposal**

The technical proposals received from shortlisted firms shall be evaluated based on the following:

- Specific experience of the firm related to the assignment
- Adequacy of the proposed work plan and methodology in response to the ToR
- Qualifications and competence of the key staff for the assignment.



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SCHEDULE U

SUBSTITUTION AGREEMENT

THIS SUBSTITUTION AGREEMENT is made at New Delhi on this the _____ day of _____ 200_.

BETWEEN

1. **THE National Highways Authority of India** (hereinafter referred to as "NHAI" which expression shall unless repugnant to the context or meaning thereof include its successors and assigns),
2. **Andhra Pradesh Expressway Limited**, a company incorporated under the provisions of the Companies Act, 1956 and having its Registered Office at IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400051 (hereinafter referred to as the "Concessionaire" which expression shall unless repugnant to the context or meaning thereof include its successors and assigns),

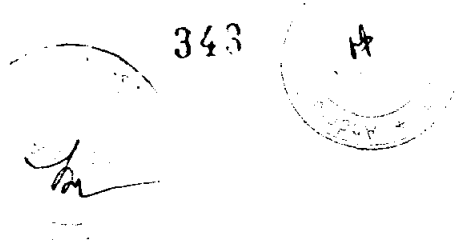
AND

3. _____, _____ and having its registered office at _____ acting for itself and for and on behalf of the Senior Lenders listed in Schedule 1 hereto (hereinafter referred to as the "Senior Lenders").

(NHAI, the Concessionaire and the Senior Lenders are hereinafter collectively referred to as the "Parties" and individually are hereinafter referred to as "Party").

WHEREAS

- A. By the Concession Agreement dated entered into between the NHAI and the Concessionaire, NHAI has granted to the Concessionaire the Concession for **NS2/BOT (Annuity)/AP-5 in the State of Andhra Pradesh, India** on Build, Operate and Transfer (BOT) Annuity basis subject to and on the terms, conditions and covenants set forth in the said Concession Agreement or forming part thereof.



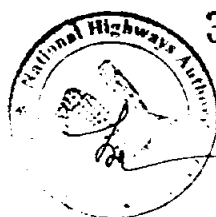
- B. With a view to help facilitate obtaining of financing for the said Project by the Concessionaire so as to enable the Concessionaire to build, operate and maintain the same pursuant to and in accordance with the Concession Agreement, the Parties have agreed subject to the terms and conditions of the Concession Agreement and the Financing Documents, that the Senior Lenders shall have the right to substitute the Concessionaire by a Selectee for the residual period of the Concession on the terms, conditions and covenants mentioned hereinbelow.
- C. As a condition to making any disbursement pursuant to the Financing Documents, the Senior Lenders have required and it is deemed necessary and expedient to record the terms, conditions and covenants of the above agreement between the Parties.

***NOW THEREFORE THE PARTIES HITHERTO HEREBY AGREE AND THIS
AGREEMENT WITNESSES AS FOLLOWS:***

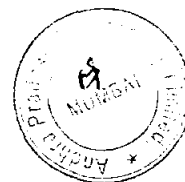
ARTICLE 1

DEFINITIONS

- 1.1 For the purpose of this Agreement, the following terms shall have the meaning hereinafter respectively assigned to them :
- 1.1.1 "Concession" means the bundle of rights, obligations and covenants of the Concessionaire under and as set forth in the Concession Agreement.
- 1.1.2 "Concession Agreement" means the Concession Agreement dated entered into between NHAI and the Concessionaire granting the Concession to the Concessionaire in respect of the Project Highway and includes without limitation any amendments thereto made in accordance with the provisions contained in this behalf therein.
- 1.1.3 "Event of Default" means occurrence of any of the following events :
- (i) A Material Breach by the Concessionaire of the Concession Agreement, or the occurrence of a Concessionaire Event of Default as defined in the Concession Agreement.
 - (ii) A material default in payment by the Concessionaire to all or any of the Senior Lenders under the Financing Documents of any two instalments.



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either of principal or interest or both, due and payable by it on account of Lenders Dues.

- (iii) Any event of default under or breach of any of the terms of any of the Financing Documents or Project Agreements concerning the Project which in the sole opinion of the Lenders Agent is material or major and which may seriously affect the ability of the Concessionaire to meet its payment obligations to the Senior Lenders under the Financing Documents or to design engineer, construct, complete, operate and maintain the Project Highway pursuant to and in accordance with the Concession Agreement.

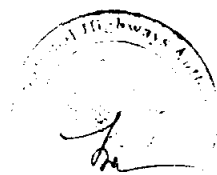
1.1.4 "Financial Assistance" means the loans, advances and other funding assistance including any syndicated/ participation facility provided by the Senior Lenders as setforth in Schedule II hereto for financing the whole or any part of the Project Cost,

1.1.5 "Financing Documents" means the documents executed/ to be executed by the Concessionaire or entered/to be entered into by the Concessionaire with the Senior Lenders and/or the Lenders Agent in respect of the Financial Assistance and include loan agreements, guarantees, notes, debenture, bonds and other security agreements and other documents relating to the Financial Assistance and brief particulars whereof are setforth in Schedule II hereto in relation to each Senior Lender.

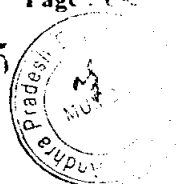
1.1.6 "Lenders Agent" means a company established under the provisions of the and having its principal office and any replacement thereof appointed by all the Senior Lenders, inter alia, on the condition that as security for the Financial Assistance they shall have the right to seek transfer and assignment of the Concession Agreement including the Concession in accordance with the provisions of this Agreement.

1.1.7 "Lenders Certificate" shall have the meaning ascribed thereto in Clause 2.2(b).

1.1.8 "Lenders Dues" means the aggregate of all monies owned by the Concessionaire to the Senior Lenders under the Financing Documents on account of principal thereunder for funding the Project Cost, and all accrued interest, additional interest.



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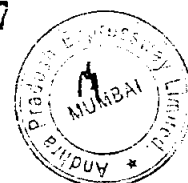


liquidated damages, commitment fees, commission, prepayment premium, costs, charges and other monies including financing charges and fees owed by the Concessionaire to the Senior Lenders under the Financing Documents for the Project upto the Transfer Date payable under the Financing Documents.

- 1.1.9 "Notice of Default" shall have the meaning ascribed thereto in Clause 2.2(a).
- 1.1.10 "Proposal" shall have the meaning ascribed thereto in Clause 3.1(iii).
- 1.1.11 "Project Agreements" means this Agreement, the Concession Agreement and certain other agreements and contracts entered into by the Concessionaire with NHAI and others relating to the Project and brief particulars whereof are setforth in Schedule III hereto.
- 1.1.12 "Project Cost" means the total capital cost of the Project upto the COD as approved by the Senior Lenders.
- 1.1.13 "Senior Lenders" means the financial institutions, trusts, funds, banks and such other persons who have provided or agreed to provide the finance to the Concessionaire under any of the Financing Documents for meeting all or any part of the Total Project Cost and who hold pari passu charge on the Project Assets.
- 1.1.14 "Selectee" means a new Concessionaire proposed by the Senior Lenders pursuant to this Agreement and approved by NHAI for substituting the Concessionaire for the residual period of the original Concession by amendment of the Concession Agreement or by execution of a fresh Concession Agreement.
- 1.1.15 "Substitution Notice" means the notice given by the Lenders Agent pursuant to Clause 2.2 (c) of this Agreement.
- 1.2 The words and expressions beginning with or in capital letters used in this Agreement not defined herein, shall have, unless repugnant to the context, the meaning respectively assigned to them in the Concession Agreement.
- 1.3 In this agreement unless the context otherwise requires :
- a) any reference to a statutory provision shall include such provision as is from time to time modified or re-enacted or consolidated so far as such modification or re-enactment or consolidation applies or is capable of applying to any transactions entered into hereunder:



- b) the words importing singular shall include plural and vice versa, and words denoting natural persons shall include partnerships, firms, companies, corporations, joint ventures, trusts, associations, organisations or other entities (whether or not having a separate legal entity);
- c) the headings are for convenience of reference only and shall not be used in and shall not affect the construction or interpretation of this Agreement;
- d) terms beginning with capital letters and defined in this Agreement shall have the meaning ascribed thereto herein;
- e) the words "include" and "including" are to be construed without limitation;
- f) any reference to a "day" shall mean reference to a calendar day;
- g) any reference to "month" shall mean reference to a calendar month;
- h) the Schedules to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- i) any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference provided that this clause shall not operate so as to increase liabilities or obligations of NHAI hereunder or pursuant hereto in any manner whatsoever;
- j) references to Recitals, clauses, sub-clauses, paragraphs, or schedules in this Agreement shall, except where the context otherwise requires, be deemed to be references to Recitals, Articles, clauses, sub-clauses, paragraphs, Annexures, appendices of this Agreement.
- k) any agreement, consent, approval, authorization, proposal, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or Senior Lender(s) shall be valid and effectual only if it is in writing under the hands of duly authorized



representative of such Party or the Senior Lender(s), as the case may be, in this behalf and not otherwise; and

- l) any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both days or dates.

ARTICLE 2

SUBSTITUTION OF THE CONCESSIONAIRE BY A SELECTEE

- 2.1 NHAI hereby irrevocably agrees to substitute the Concessionaire by a Selectee (selected by the Senior Lenders in accordance with the provisions of this Agreement and approved by NHAI) by amendment of the Concession Agreement or by execution of a fresh Concession Agreement in favor of the Selectee for the purpose of securing the payments of the Lenders Dues, provided that nothing contained herein shall entitle the Senior Lenders to operate the Concession themselves as a Concessionaire under and in accordance with Concessionaire Agreement either individually or collectively. However, Senior Lenders may exercise the right of step-in to cure any breach or default subsisting on the day of such step-in or substitution. Provided further that if the Senior Lenders step in to operate and manage the Concession for a period not exceeding 90 (ninety) days, their liabilities shall be restricted to the obligations relating to and arising during such 90 (ninety) days period.
- 2.2 (a) The Lenders Agent shall notify by a notice in writing to the Concessionaire, with a copy thereof simultaneously to NHAI, about the occurrence of an Event of Default and requiring the Concessionaire to remedy and cure such default within 30 (thirty) days from the date of delivery of such notice of the Concessionaire (the "Notice of Default"). The Notice of Default shall be accompanied by the Lenders Certificate.
- (b) A certificate under the hands of an authorized officer of the Lenders Agent annexed to the Notice of Default certifying –
- (i) the occurrence of an Event of Default, and



(ii) the Lenders Dues.

(the "Lenders Certificate") shall be conclusive evidence of occurrence of such Event of Default and of such Lenders Dues. Such Lenders Certificate shall be final, conclusive and binding upon the Concessionaire for the purposes of this Agreement and the Financing Documents.

(c) NHAI and the Concessionaire hereby irrevocably agree that the Lenders Agent may within 30 (thirty) days of the date of delivery of the Notice of Default of the Concessionaire and without prejudice to any other right or remedy available to the Senior Lenders under the Financing Document, notify NHAI and the Concessionaire on behalf of all the Senior Lenders about the Senior Lenders decision to invite, negotiate and procure offers, either through private negotiations or public auction or process of tendering for the residual period of the Concession and the rights and obligations of the Concessionaire under the Concession Agreement, by a Selectee, subject to the approval of such Selectee by NHAI (the "Substitution Notice").

(d) Upon assumption by the Selectee of the liability and obligations of the Concessionaire under the Financing Documents and the Concession Agreement including obligation to pay any sums then due and payable to NHAI under the Concession Agreement, NHAI shall grant the Concession to the Selectee on the same terms and conditions for the residual period of the original Concession, by amendment of Concession Agreement or, if required by the Lenders Agent by a separate agreement with the Selectee.

2.3 The Lenders Agent shall apply in the selection of the following criteria :

- (i) the Selectee shall be capable of properly discharging the duties, obligations and liabilities of the Concessionaire under the Concession Agreement;
- (ii) the Selectee shall provide security to the satisfaction of Senior Lenders for repayment of the Lenders Dues;
- (iii) the Selectee shall have the capability and shall unconditionally consent to assume the liability for the payment and discharge of dues of the Concessionaire to NHAI under and in accordance with the Concession



Agreement and of Lender's Dues upon terms and conditions as agreed to with the Senior Lenders ;

- (iv) the Selectee shall have the networth, experience and technical equity parameters as setforth in the Concession Agreement or prescribed by NHAI thereunder in respect of the Concessionaire or as relaxed subsequently by NHAI;
- (v) the Selectee shall have not been in breach of any agreement between the Selectee and NHAI ; and
- (vi) any other appropriate circumstance, whereby continuity in the performance of the Concessionaire's obligations under the Concession Agreement is maintained and the security in favour of Senior Lenders under the Financing Documents is preserved.

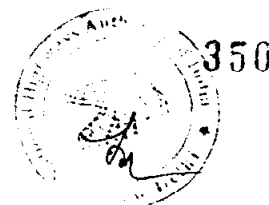
2.4 At any time prior to the acceptance of the Selectee by NHAI pursuant to this Agreement, the NHAI may require the Lenders Agent to satisfy NHAI as to the eligibility of the Selectee and the decision of the NHAI in this behalf (which shall be reasonable), shall be final, conclusive and binding on the Senior Lenders and the Selectee.

ARTICLE 3

MODALITY FOR SUBSTITUTION

3.1 The following modalities shall be applicable to any substitution of the Concessionaire by the Selectee pursuant to this Agreement :

- (i) The Lenders Agent may invite, negotiate or procure offers either through private negotiations or public auction or process of tender or otherwise for the substitution of the Concessionaire by the Selectee;
- (ii) The Lenders Agent shall on behalf of the Senior Lenders propose to NHAI pursuant to sub-clause (iii) below, the name of the Selectee for acceptance and shall apply as necessary to NHAI for :
 - a) grant to the Selectee (as substitute for the Concessionaire) the right to build, construct, complete, maintain, and operate the Project



Highway under and in accordance with and subject to and on the terms and conditions set forth in the Concession Agreement,

- b) amendment of the Concession Agreement so as to grant to the Selectee on the same terms and conditions, the residual period of the Concession under original Concession Agreement,
 - c) the execution of a new Substitution Agreement with the proposed Selectee for the residual period of Concession on the same terms and conditions, and
- (iii) The Lenders Agent on behalf of the Senior Lenders shall be entitled, within a period of 120 (one hundred twenty) days from the date of delivery to NHAI of the Substitution Notice pursuant to Clause 2(c) above, to select and propose to NHAI for its approval a Selectee (the "Proposal"). The Proposal of the Lenders Agent pursuant to this sub-clause (iii) shall contain the particulars and information in respect of the Selectee, the Lenders Dues and other data and information, all as prescribed in Schedule IV hereto. Without prejudice to the foregoing the Lenders Agent agrees and undertakes to provide to NHAI such further and other information and such clarifications in respect of any data, particulars or information furnished pursuant hereto by the Lenders Agent as NHAI may reasonably require. NHAI shall convey its approval or otherwise of such Proposal, including of Selectee, in its sole discretion within 60 (sixty) days of (a) the date of receipt of the Proposal by NHAI, or (b) the date when last of further and other information and such clarifications in respect of any data, particulars or information comprised in the Proposal, as have been provided in the Lenders Agent to NHAI, whichever is later. It is expressly agreed that the Proposal shall be accompanied by an unconditional undertaking of the Selectee that it shall upon approval by NHAI of the Proposal including the Selectee, observe, comply, perform and fulfill the terms, conditions and covenants of the Concession Agreement which according to its terms are required to be observed, complied with, performed and fulfilled by Concessionaire thereunder on the footing as if such Selectee were the concessionaire under the Concession Agreement and shall be liable for and

shall assume, discharge and pay the Lenders Dues to the Senior Lenders under and in accordance with the Financing Documents. Upon approval of the Proposal including of the Selectee by NHAI, such Selectee shall become the Selectee hereunder.

- (iv) NHAI shall, upon its satisfaction of the eligibility of the Selectee and in accordance with the provisions of this Agreement and subject to the provisions of Sub-clause (v) below proceed to substitute the Concessionaire or the Selectee by amendment of the Concession Agreement or by execution of fresh agreement or such other writing as NHAI may reasonably require on the same terms and conditions for the residual period of the Concession in favour of the Selectee.
- (v) The substitution as aforesaid shall be subject to the Selectee, obtaining requisite Indian Government approvals, clearances and permission necessary for operating the Concession under and in accordance with the Concession Agreement.
- (vi) The objection if any of NHAI to the substitution as aforesaid shall be reasoned and be made after hearing the Lenders Agent, provided however, that in the event of a refusal as stated above, the Lenders Agent may propose another Selectee. In the event that no objection is raised with respect to the Selectee by NHAI within the period set forth in sub-clause (iii) above, the Selectee shall be deemed to have been accepted by NHAI. NHAI shall, subject to the provisions of Sub-clause (v) above, grant the Concession for the residual period within 15 days of its acceptance/deemed acceptance of the Selectee.
- (vii) The substitution as aforesaid, pursuant to the security interest hereby created in favour of the Senior Lenders, shall be deemed to be complete only upon the Selectee as Concessionaire accepting and complying with the terms and conditions stipulated in the Concession Agreement.
- (viii) The decision of the Senior Lenders and NHAI in the selection of the Selectee shall be final and binding on the Concessionaire and shall be deemed to have been made with the concurrence of the Concessionaire and the Concessionaire hereby expressly waives all rights to objects to or



challenge such selection of the Selectee on any ground whatsoever. No third party shall have the right to question the decision of the Senior Lenders/Lenders Agent and NHAI.

- (ix) All actions of the Lenders Agent hereunder shall be deemed to be on behalf of the Senior Lenders, and be binding upon them. The Lenders Agent is authorized to receive payment of compensation, payment to cure default and any other payments, consideration for transfer in accordance with the Substitution Notice and the Financing Documents and give valid discharge on behalf of all Senior Lenders.

- 3.2 The terms and conditions for substitution of the Concessionaire by the Selectee shall be proposed by the Senior Lenders through the Lenders Agent to the NHAI, on the occurrence of an Event of Default and continuance thereof for six months but at least 2 months prior to the anticipated date of substitution as aforesaid for the residual period of the Concession.
- 3.3 The Concessionaire hereby irrevocably agrees and waives any right to challenge the Senior Lender's decision to apply to NHAI for substitution as aforesaid and neither the Concessionaire nor NHAI shall be entitled to prevent the Lenders Agent from proceeding to seek such a substitution of the Concessionaire by Selectee as hereinbefore provided. Notwithstanding NHAI's permission for substitution pursuant to Lenders Agent's request, the Concessionaire agrees and confirms that the Concessionaire shall not have any right to seek re-valuation of the Concessionaire's assets including the Concession under the Concession Agreement, otherwise than as contracted in the Financing Documents. The Parties acknowledge that the rights of the Senior Lenders hereunder are irrevocable and shall not be contested in any proceedings before any court of authority and the Concessionaire shall have no right or remedy to prevent, obstruct, injunct or restrain NHAI and/or the Senior Lenders from effecting or causing the substitution as aforesaid.
- 3.4 Where no suitable Selectee can be found by the Lenders Agent, or NHAI shall decide to take over the concession then NHAI shall advise the Lenders Agent of all steps it proposes to take under the Concession Agreement for determination of Termination Payments thereof.



3.5 (i) If NHAI decides to substitute the Concessionaire by any other person (NHA Nominee), it

shall take into account the Senior Lender's Dues while considering offers from such persons and shall include a suitable condition as agreed to by the Lenders Agent on behalf of the Senior Lenders for payment or take over of such dues by such NHA nominee to the extent agreed by the Lenders Agent while substituting the Concessionaire by the NHA nominee. The NHA nominee shall similarly be bound to execute a supplementary/fresh substitution agreement on the same terms and conditions as provided herein.

(ii) Notwithstanding anything contained in Clause 3.4 and this Clause 3.5, NHAI shall not be required to take over, upon Termination of the Concession Agreement including the Concession, the liabilities representing the Lender's Dues save and except to the extent of Termination Payments due and payable upon such Termination under the Concession Agreement. In such an event NHAI's obligation shall be limited to assumption of such liabilities and payments of dues as NHAI has agreed to bear under the Concession Agreement.

3.5.1 Nothing contained in these presents shall mean or be interpreted as provision of any guarantee

or surety by NHAI and it is expressly agreed that NHAI has not provided any surety, guarantee or counter guarantee whether directly or indirectly for the recovery of amount of Financial Assistance advanced by the Senior Lenders to the Concessionaire.

ARTICLE 4

INTERIM PROTECTION OF SERVICE AND PRESERVATION OF SECURITY

4.1 In the event of the Senior Lenders notify NHAI and the Concessionaire of the Event of Default (and the Concessionaire has not cured the default for a period of 30 days) or in special circumstances affecting the security of the Senior Lenders, the Senior Lenders shall be entitled to institute protective legal proceedings for a receivership (the "Receiver") to maintain, preserve and protect the assets (other than the Concession Agreement including the Concession) held as security by the



Senior Lenders provided always that such receiver shall be NHAI if such assets are in the opinion of NHAI necessary and required for the operation and maintenance of the Project Highway and the Parties hereby consent and agree to the same. The Lenders Agent shall in such an event notify NHAI to assume receivership of the assets held as security and NHAI shall operate and maintain the same pending the substitution of the Concessionaire by the Selectee. In the event NHAI does not assume receivership and declines the request of the Lenders Agent, the Lenders Agent shall for itself and each of the Senior Lenders, be entitled to seek the appointment of a Court Receiver for the Concessionaire's assets held as security and NHAI shall operate and maintain the same pending substitution as aforesaid and/or the takeover of the Concession Agreement including the Concession and the Project Highway in accordance with the Concession Agreement or this Agreement by the NHAI. All the receivables shall be deposited by the Receiver in the Escrow Account and shall be dealt with in accordance with the Concession Agreement. The Receiver shall be responsible for protecting the assets in receivership and shall render a true and proper account of the receivership to the Senior Lenders in accordance with the terms of its appointment. The Receiver shall make best efforts to operate and maintain the Project Highway, in accordance with the obligations of the Concessionaire under the Concession Agreement. Any person other than NHAI may be appointed as Receiver only with the prior consent of NHAI. In a declaratory suit for appointment of a Receiver, notwithstanding that no recovery or mortgage suit or any suit or proceeding for enforcement of the Senior Lenders' security under the Financing Documents is instituted by the Lenders Agent for itself or the Senior Lenders, any action for appointment of NHAI as Receiver or appointment of an Independent Court Receiver shall be without prejudice for the other rights and remedies of NHAI, and of the Senior Lenders under the Financing Documents.

ARTICLE 5

TERMINATION OF THE CONCESSION BY THE NHAI

- 5.1 If under the Concession Agreement an event occurs which shall entitle NHAI to Terminate the Concession Agreement, NHAI shall intimate the Senior Lenders prior to exercising of its decision to Terminate the Concession and advise the



Senior Lenders to ensure the cure of the event which otherwise can result in termination of the Concession and the Concession Agreement. Such a notice shall entitle the Senior Lenders to cure any financial or other default of the Concessionaire within a period of two months from the date of the notice received from the NHAI failing which NHAI without any further notice to either the Concessionaire or the Lenders Agent/Senior Lenders, shall be entitled to Terminate the Concession Agreement.

- 5.2 Upon receipt of the Notice as referred to in Clause 5.1, intimating occurrence of an event which can entail Termination of the Concession Agreement including the Concession, the Senior Lenders shall be entitled to consider such notice as an Event of Default and may initiate steps to invite, negotiate and procure offers for the substitution of the Concessionaire by a Selectee in accordance with the procedure set forth in this Agreement.

ARTICLE 6

SENIOR LENDERS RIGHT TO RECEIVE TERMINATION PAYMENTS

- 6.1 NHAI and Concessionaire hereby agree, and confirm that without prejudice to any other right or remedy, NHAI shall be entitled to deposit the Termination Payments into the Escrow Account and the Senior Lenders shall be entitled to receive the same without any further reference to or consent of the Concessionaire under and in accordance with the Concession Agreement towards the satisfaction of the Senior Lenders Dues out of and limited to the sum of Termination Payments worked out under and in accordance with the Concession Agreement. The Senior Lenders shall be entitled to appropriate any consideration received for the substitution as hereinabove provided from the Selectee towards the payment of their and NHAI's respective dues to the exclusion of the Concessionaire.
- 6.2 The Concessionaire hereby nominates, constitutes and appoints the Lenders Agent as its constituted attorney for doing all acts, deeds and things as may be required to be done for the substitution of the Concessionaire by the Selectee pursuant hereto and for receiving consideration for discharge of the Lenders' Dues pursuant to Clause 6.1.



- 6.3 The Concessionaire hereby expressly authorizes payment of sums by NHAI on account of Termination Payments into Escrow Account and the Lenders Agent to draw the same therefrom for and on behalf of the account of the Senior Lenders notwithstanding the pendency of any dispute or objection or claim that the Concessionaire may have against the Senior Lenders and/or NHAI. The deposit by NHAI into the Escrow Account and payment to the Senior Lenders directly or through the Lenders Agent in accordance with this Agreement, made or caused to be made by NHAI shall constitute a valid discharge of its obligation of the payment thereof to the Concessionaire. All such payments shall stand charged to the Senior Lenders under the Financing Documents and shall be receivable by the Lenders Agent from the Escrow Account on behalf of the Senior Lenders to the exclusion of any receiver or liquidator appointed.

ARTICLE 7

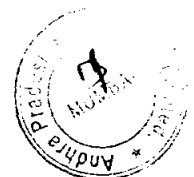
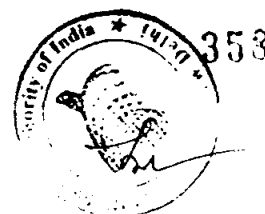
GENERAL

- 7.1 The Parties hereto expressly represent and warrant that they are duly empowered to sign and execute this Agreement and the Lenders Agent is duly and fully authorised by each of the Senior Lenders to enter into this Agreement on their behalf.
- 7.2 Notices under this Agreement shall be sent to the Addresses first hereinabove mentioned. Any change in the address of any Party shall be duly notified by a Registered post acknowledgement due and delivered to the other Parties.
- 7.3 The expressions "NHA", the "Concessionaire", the "Senior Lenders" and the "Lenders Agent" herein used shall unless there be anything repugnant to the subject or context include their respective successors, legal representatives, administrators and permitted assigns.
- 7.4 This Agreement shall not be affected by reorganization of any Senior Lender, Lenders Agent or NHA and the successor – in interest of such Senior Lender, Lenders Agent or NHA shall have the benefit of this Agreement.
- 7.5 No amendment, variation or modification to this Agreement shall be valid and effectual unless made in writing and executed by the duly authorized representatives of all the Parties hereto.



- 7.6 All stamp duties or other imposts and charges as are applicable on this Agreement or on amendment of the Concession Agreement or execution of fresh Concession Agreement for the purpose of substitution as aforesaid shall be borne by and be to the account of the Concessionaire. In the event of the Senior Lenders making such payment for the time being, it shall be deemed to be a part of the Lenders Dues.
- 7.7 The Parties hereby expressly agree that for the purpose of giving full and proper effect to this Agreement, the Concession Agreement and this Agreement shall be read together and construed harmoniously. The terms of this Agreement shall prevail in the event of any inconsistency with the Concession Agreement.
- 7.8 The consultation, recommendation or approval of the Lenders Agent under this Agreement shall always be taken as consultation, recommendation or approval of every concerned Senior Lender and each such Senior Lender shall be bound by the same and hereby waives its right to question or dispute the same.
- 7.9 This Agreement shall be in addition to and shall not be in derogation of the terms of the Financing Documents.
- 7.10 It shall not be necessary for the Senior Lenders or the Lenders Agent to enforce or exhaust any other remedy available to them before invoking the provisions of this Agreement.
- 7.11 Any dispute, difference or claim arising out of or in connection with or in relation to this Agreement which is not resolved amicably shall be decided finally by reference to arbitration to a Board of Arbitrators comprising of one nominee of each party to the dispute. Such arbitration shall be held in accordance with the Rules of Arbitration of the Indian Council of Arbitration and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996. The arbitrators shall issue a reasoned award. The venue of such arbitration shall be New Delhi, India. The Award shall be final and binding on the Parties. The Parties agree and undertake to carry out the award of the arbitrators (the "Award") without delay.

This Agreement and rights and obligations of the Parties shall remain in full force and effect pending the Award in any arbitration proceeding hereunder. The Courts in New Delhi alone shall have jurisdiction over all matters arising out of or relating



to the arbitration agreement contained herein or proceedings arising out of or relating to the arbitration proceedings thereunder.

IN WITNESS WHEREOF THE PARTIES HITHERTO HAVE SET THEIR HANDS HEREUNTO ON THE DAY, MONTH AND YEAR HEREIN ABOVE MENTIONED.

**SIGNED AND DELIVERED ON BEHALF OF
ANDHRA PRADESH EXPRESSWAY LIMITED**

BY : _____

Name :

Title :

**SIGNED AND DELIVERED ON BEHALF
OF THE NATIONAL HIGHWAYS AUTHORITY OF INDIA**

BY : _____

Name :

Title :

**SIGNED AND DELIVERED ON BEHALF OF
SENIOR LENDERS**

BY: _____

Name :

Title :



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SCHEDULE V**VESTING CERTIFICATE**

National Highway Authority of India ("NHAI") hereby acknowledges:

1. Compliance and fulfillment by the Concessionaire of the Divestment Requirements setforth in Clause 33.4 of the Concession Agreement in respect of the Project Highway;
2. Receipt of actual possession of the Project Highway from the Concessionaire; and
3. Receipt from the Concessionaire of a certificate confirming that there are no liens or encumbrances whatsoever on the Project Highway including Project Assets;

on the basis that upon the issue of this Vesting Certificate, NHAI shall be deemed to have acquired, and all title and interest of the Concessionaire in or about the Project Highway shall be deemed to have vested, unto NHAI free from all encumbrances, charges and liens whatsoever.

Notwithstanding anything to the contrary contained hereinabove it shall be a condition of this Vesting Certificate that in the event of any defect or efficiency in any of the Divestment Requirements setforth in Clause 33.4 of the Concession Agreement being found or discovered at any time hereafter, nothing contained in this Vesting Certificate shall be construed or interpreted as waiving the obligation of the Concessionaire to rectify and remedy the same and/or relieving the Concessionaire in any manner of the same.

Agreed and accepted**For Andhra Pradesh Expressway Limited****For National Highway Authority of India**

By:.....

By:.....

Name:

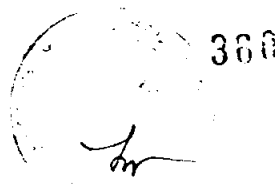
Name:

Title:

Title:

Dated:

Dated:



SCHEDULE W**PASSENGER CAR UNIT FACTORS**

The equivalency factor for the conversion of different types of vehicles into equivalent Passenger Car Units (PCUs) based on their relative interference value shall be as per the following table:

Sl. No.	Vehicle Type	Equivalency factor**
Fast Vehicles		
1.	Motor Cycle or Scooter	0.50
2.	Passenger Car, Pick-up Van or Auto-rickshaw	1.00
3.	Agricultural Tractor, Light Motor Vehicle	1.50
4.	Truck or Bus	3.00
5.	Truck-trailer, Agricultural Tractor-trailer	4.50
Slow Vehicles ***		
6.	Cycle	0.50
7.	Cycle-rickshaw	2.00
8.	Hand Cart	3.00
9.	Horse-drawn vehicle	4.00
10.	Bullock Cart*	8.00

* For smaller bullock-carts, a value of 6 shall be appropriate.

** Recommended PCU factors for various types of vehicles in accordance with IRC:64-1990 on "Guidelines for Capacity of Road in Rural Areas"

*** While computing the Design service volumes and the capacity of highway, slow vehicles (of the table) shall not be considered for the sections where Service Roads are provided.



SCHEDULE X**REPORTING AND RECORD REQUIREMENTS****1.0 INTRODUCTION**

The reporting and records requirements spelt out hereinunder have been provided in terms of the indicative type of information required. The Independent Consultant shall determine the following:

- Format of such reports and record requirements
- Software standards
- Number of Copies required
- The Language of the reports and records shall be English

**2.0 Part I
Reporting Requirements**

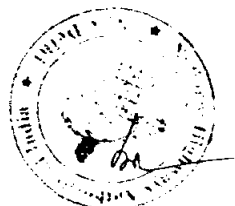
From the date of the Concession Agreement until the end of the Concession Period, the Concessionaire shall prepare and submit to the NHAI and Independent Consultant 1 copy each of the following reports/ Documents/ Drawings else otherwise stated in the Concession Agreement.

A. Design & Construction Stage

- 1 A detailed work plan supported with CPM/PERT charts for completion of all project activities related to the Project Highway, at the beginning of the Design Works.
- 2 **Monthly Progress Report:** Within 5 Days of end of each month or a part thereof, which falls within the Construction Period, the Concessionaire shall provide to the NHAI and the Independent Consultant the monthly report, which shall at least identify the following:
 - Working drawings submitted/ resubmitted to NHAI/ Independent Consultant during the month ended
 - NHAI/ Independent Consultant's comments there on, if any.
 - Concessionaire's compliance with NHAI/ Independent Consultant's comments on the drawings submitted to NHAI/ Independent Consultant, during the month ended.



- "As built" drawings submitted to NHAI/ Independent Consultant during the month ended.
- Progress of pre-construction activities such as utility relocation and other obstructions.
- Concessionaire's compliance with the Inspection Report during the month ended, if any.
- Construction Constraints.
- Progress data with 'S' curves, if applicable; Project Data with contract detail and sectional completion details.
- Tests carried out during the month ended, if any; results of these Tests furnished to the NHAI/ Independent Consultant during the month ended, if any.
- Remedial measures taken by the Concessionaire on the basis of these Tests, if any.
- Traffic management steps undertaken by the Concessionaire during the month (particularly on the existing two lanes of the Project highway).
- Achievement of a Project milestone (Schedule H) during the month, if any. The Concessionaire shall also provide information on delay in achievement of such milestone, if any.
- Any suspension of the Construction Works by NHAI as per provisions of the Concession Agreement, if any. The Concessionaire shall also provide information on reason of such suspension, duration of such suspension and the steps undertaken by it to revoke such suspension.
- Any Change of Scope Notice issued by NHAI and status thereof.
- All actual or potential departures from the Project Completion Schedule (Schedule H).
- All grounds for a substantial Dispute which have occurred or which may reasonably be foreseen as likely to occur.
- All substantial disagreements among the Concessionaire, and the NHAI and/or Independent Consultant to the design/ construction of the Project Highway.
- The proposed measures to be taken by the Concessionaire to overcome such departures or to resolve such grounds for a Dispute.
- The date on which the Concessionaire expects the Project Highway to be completed.
- The Concessionaire is required to maintain the existing two lanes during the Construction Period. This monthly construction report shall also contain information in respect of maintenance activity, if any, carried out by the



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Concessionaire during the month ended in respect of these existing two lanes. The Concessionaire and the Independent Consultants shall agree on the information requirements in respect of these two existing lanes during the Construction Period.

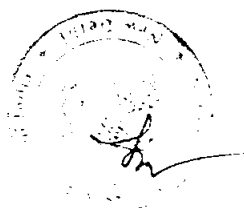
- Monthly Weather Report giving daily temperature maximum and minimum value; rain fall and any other significant event.
- 3 Detailed Engineering Design Report including working drawings, and Environmental Management Plan.
- 4 Video Recording as per clause 44.1 of the Concession Agreement.
- 5 Monthly Escrow Account Report: With in 5 Days of end of each month which falls within the Operations Period, the Concessionaire shall provide to the NHAI and the Independent Consultant a copy of the report containing the summary of the receipts in and payments from the Escrow Account for the month ended.
- 6 The Concessionaire shall supply to the NHAI free of charge the following documents prior to requesting the issue of the Completion Certificate:
 - 6.1 Detailed, accurately scaled, and sequentially numbered plans of the Project Highway "As Built" covering all relevant engineering features, which in relation to structures shall also include cross sections in each plane; and
 - 6.2 Copies of all geo-technical and borehole reports obtained by the Concessionaire in preparation for and during the construction of the Project Highway.
- 7 All other reports in accordance with the provisions of the Concession Agreement.
- 8 Such other reports as may be reasonably required by NHAI/ Independent Consultant.
- 9 Additional Reports: The Concessionaire shall supply to the NHAI free of charge copies of all information, records and test results (including any interpretation of such test results) resulting from any ground, physical or geophysical investigation or archaeological or ecological survey of the Site or Adjacent Areas.

B. Operation Phase

- 1 Monthly Traffic Report: With in 5 Days of end of each month which falls within the Operations Period, the Concessionaire shall provide to the NHAI and the Independent Consultant a copy of the report containing the following information:



- 2 Monthly Escrow Account Report: With in 5 Days of end of each month which falls within the Operations Period, the Concessionaire shall provide to the NHAI and the Independent Consultant a copy of the report containing the summary of the receipts in and payments from the Escrow Account for the month ended.
- 3 Monthly Operations Report: With in 5 Days of end of each month or a part thereof, which falls within the Operations Period, the Concessionaire shall provide to the NHAI and the Independent Consultant a copy of the report, which shall identify the following, at the minimum:
- Inspections undertaken by the Concessionaire during the month ended, if any.
 - Maintenance Reports submitted to the Independent Consultant during the month ended, if any.
 - O&M Inspection Compliance Report submitted to NHAI/ Independent Consultant during the month ended, if any.
 - Preventive/ Periodic maintenance undertaken during the month ended, if any.
 - Any material modifications made to the Project Highway during the month ended, if any.
 - All the accidents or incidents on the Project Road during the month under report (including all accidents on which a report has previously been made to the Concession Agreement).
 - Tests performed during operation and maintenance stage along with the defects identified on the Project Highway, if any.
 - Number and type of the complaints received from Users and others in respect of the Project Highway and the conduct of Operations.
 - Incidents of emergency de-commissioning of the Project Highway during the month ended, if any.
 - Incidents of lane-closure on the Project Highway during the month ended, if any. The Concessionaire shall provide information on reason, time of such lane-closures.
 - all actual or potential departures from the O&M Requirements as specified in 'Schedule L'.
 - all grounds for substantial Dispute which have occurred or may reasonably be foreseen as likely to occur.
 - the proposed measures to be taken by the Concessionaire to overcome such departures or to resolve such grounds for a Dispute.



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4. Accident Reports: As soon as practicable and in any event no later than 7 days following the occurrence of any accident on the Project Highway involving a fatality or serious personal injury or substantial property damage, the Concessionaire shall investigate the circumstances of such accident and submit to the NHAI and Independent Consultant a report setting out details of such accident and, to the extent they are known, the causes of such an accident, and the Concessionaire shall thereafter promptly report to the NHAI and/or Independent Consultant any additional details of such accident or its causes which become known to it.
5. Concessionaire shall submit a copy of the audited accounts within 120 days of the close of each Accounting Year after the Appointed Date.
7. All other reports in accordance with the provisions of the Concession Agreement.
8. Such other reports as may be reasonably required by NHAI/ Independent Consultant.
9. Additional Reports: The Concessionaire shall supply to the NHAI/Independent Consultant free of charge copies of all information, records and test results (including any interpretation of such test results) resulting from any ground, physical or geophysical investigation or archaeological or ecological survey of the Site or Adjacent Areas.



3.0 Part II**Record Requirements**

The Concessionaire shall take the following action(s) in respect of preparation of the record, its submission to NHAI and retention by the Concessionaire itself.

1. Design	Retention Period of the Concessionaire
1.1 Design standards containing all relevant design assumptions, codes of practice, design loadings, design parameters and product data sheets for all components of Project Highway.	Till handover to NHAI at Termination of the Concession
1.2 Full set of final design calculations for all parts of the Project Highway including details of the influence on design of actual construction methods, and any changes or any remedial works during construction.	Till handover to NHAI at Termination of the Concession
1.3 Full set of working drawings	Until 2 years after issue of the Completion Certificate
1.4 Full specification for construction and all revisions made thereto.	Until 2 years after issue of the Completion Certificate
1.5 Change of Scope Order(s)	Till handover to NHAI at Termination of the Concession
2. Construction	
2.1 Video recording submitted to NHAI	Until 2 years after the issue of Completion Certificate
2.2 Full set of construction site records relating to progress, testing of materials, monitoring of standards of workmanship, meteorological conditions, instructions issued and other site correspondence.	Till handover to NHAI at Termination of the Concession
2.3 Full set of "As-Built" drawings and schedules incorporating all changes to the design and all remedial measures applied to the Project Highway during construction, and all final As-built details and dimensions of the Project Highway. These drawings shall include permanent modifications made to suit the construction method.	Till handover to NHAI at Termination of the Concession
2.4 Full set of Tests results	Till handover to NHAI at Termination of the Concession
2.5 The appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used or incorporated into the Project Highway.	Till handover to NHAI at Termination of the Concession



2.6	Monthly Progress Reports	Till handover to NHAI at Termination of the Concession.
3.	Operations and Maintenance	
3.1	Full records of all incidents which affect the operation and/or maintenance of the Project Highway including traffic accidents.	Till handover to NHAI at Termination of the Concession
3.2	Full records of inspections and surveys and results of such inspections and surveys (including photographs where applicable).	Till handover to NHAI at Termination of the Concession
3.3	Details of all repairs to the Project Highway and/or replacement, including photographs. As-built drawings and other documentary records.	Till handover to NHAI at Termination of the Concession
3.4	Full sets of all Monthly Reports	Till handover to NHAI at Termination of the Concession
3.5	Adequate records of adverse meteorological conditions.	Till handover to NHAI at Termination of the Concession
3.6	Records of landscape planting.	Till handover to NHAI at Termination of the Concession
3.7	Schedule and strip plan of grassed areas with details of the Routine Maintenance required in the normal course.	Till handover to NHAI at Termination of the Concession
3.8	Record of all permanent traffic signs on the Project Highway.	Till handover to NHAI at Termination of the Concession
3.9	All financial and accounting records to be maintained as per Applicable Laws	Till handover to NHAI at Termination of the Concession
3.10	Encroachment particulars and details	Till handover to NHAI at Termination of the Concession

4. All other records in accordance with the provisions of the Concession Agreement.

5. Additional Requirements

5.1 When there is a conflict between the Reporting and Record Requirement of Schedule 'X' and a requirement in respect of these stated elsewhere in this Agreement, the latter shall take precedence.

5.2 The requirements set out in Reporting and Record Requirements of this Schedule 'X' indicate the minimum requirements to be complied with but are not limited to else only.

5.3 Availability of Records shall be as follows:

5.3.1 All records of operational aspects of the record keeping system shall be retained.

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- 5.3.2 Operations' Records shall be systematically and periodically up-dated and filed so as to be readily retrievable.
- 5.3.3 All records which have been superseded but are still of historical, contractual or legal importance shall be retained and filed systematically so as to be available anytime.
- 5.3.4 Texts of all documents shall be prepared and recorded using agreed software systems and retained in hard form and on diskette, with full back-up diskettes available in case of diskette corruption.





भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(पोत परिवहन, सड़क परिवहन और राजमार्ग मंत्रालय)

National Highways Authority of India

(Ministry of Shipping, Road Transport & Highways)

G-5 & 6, Sector-10, Dwarka, New Delhi-110075

Phone : 91-11-25074100/25074200

Fax : 91-11-25093507/25093514

Extn. : 2223/2318/2468/2553

Ref: No.NHAI/Tech/NS-2/BOT/AP-5/2005/172

BY COURIER/FAX

24th February, 2006

M/s. IL&FS-CTNL Consortium,

Plot C-22, G Block,

Bandra Kurla Complex,

Bandra East,

Mumbai - 400 051.

Tel: 022-26593020, Fax: 022-26527056

K/Attn. Shri K. Ramchand

Sub: Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469(End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh under North-South Corridor (NHDP Phase II) on BOT (Annuity) basis NS2/BOT/AP-5 - Letter of Acceptance.

Sir,

.....
This is to notify that your revised price proposal submitted on 05.1.2006 and 20.01.2006 in modification of your original price proposal submitted on 17.08.2005, regarding *Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh on BOT (Annuity) basis* for a Semi-annuity amount of Rs.56.52 Crores (Rupees Fifty Six Crores Fifty Two Lakhs only) is hereby accepted by NHAI, declaring you as the "Successful Bidder".

2. In accordance with the Contract Clause 1.36.1 (Refer Part-1 B), you are hereby requested to confirm us of your acceptance of this LOA within 15 days of its issue. Thereafter, you are required to execute the Concession Agreement within 30 days of your acceptance of LOA.

3. You are also required to furnish the Performance Security within the period expiring on the 30th day from the date of issue of this LOA but prior to the execution of the Concession Agreement (Refer Clause 1.37.1 of Part-1B and Data Sheet).

4. In case of default on your part, action as stated in Clause 1.14.5 and 1.37 (refer RFP Part-1B) shall be taken.

Please acknowledge receipt of this letter.

Yours faithfully,

(K.C. Varkeyachan)
General Manager (S-2)

370

9c

February 24, 2006

(index.)
132/GM(S-2)
27-02-06

To
Mr. K.C. Varkeyachan
General Manager (S-2)
National Highway Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi - 110 075

Dear Sir,

Reg. : Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh under North-South Corridor (NHDP Phase II) on BOT (Annuity) basis NS2/BOT/AP5 - Acceptance to Letter of Acceptance

Ref. : NHAI Letter No. NHAI/Tech/NS -2/BOT/AP-5/2005/172 Dated February 24, 2006

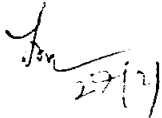
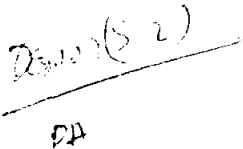
This is with reference to the above-mentioned letter pertaining to the captioned project. With reference to Clause No. 1.36.1, we confirm acceptance to the Letter of Acceptance in line with the contents of letter of acceptance from NHAI referred above

Thanking you and assuring you of our best services at all times

Sincerely,
For
Infrastructure Leasing & Financial Services Limited



K. Ramchand
Chief Executive - Infrastructure


27/2
27/2
DA

March 17, 2006



INFRASTRUCTURE LEASING & FINANCIAL SERVICES LIMITED

To
Mr. Varkeyachan
General Manager (S-2)
National Highways Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi – 110 075

Dear Sir,

Reg. : Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh under North-South Corridor (NHDP Phase II) on BOT (Annuity) basis

Ref. : (i) NHAI Letter No. NHAI/Tech/NS-2/BOT/AP-5/2005/172 dated February 24, 2006
(ii) Our letter dated February 24, 2006

This is with reference to the above-mentioned letters on the captioned project. This is to bring to your kind attention that as per the bid documents the Concession Agreement for the captioned project has to be executed within 30 days of submitting the Letter of Acceptance.

The Letter of Acceptance has already been submitted to you on February 24, 2006 and also the performance security in the form of Bank Guarantee vide no. 495BOIGL0021906 dated March 06, 2006 for an amount of Rs. 30,57,20,000/- has been submitted as per the bid documents. Also the necessary legal documents related to the SPV have been submitted to you on March 07, 2006.

In this regard we would request you to execute the Concession Agreement on March 20, 2006 with Andhra Pradesh Expressway Limited (APEL), the special purpose company which has been formed by the consortium of Infrastructure Leasing & financial Services Limited and IL&FS Transportation Networks Limited to execute the project.

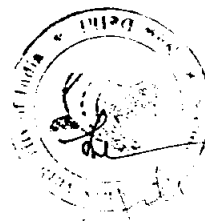
Thanking you and assuring you of our best services at all times

Sincerely,

For

Infrastructure Leasing & Financial Services Limited

K Ramchand
Chief Executive – Infrastructure



Ln
DG 100 (S-2)

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Extract of the resolution passed by circulation, by the Committee of Directors of Infrastructure Leasing & Financial Services Limited on January 28, 2006

(IV) **"RESOLVED THAT** in terms of Article 162 (27) of the Articles of Association of the Company, in addition to the Whole-time Directors of the Company, Mr Manu Kochhar, Group Chief Financial Officer, Mr Avinash Bagul, Vice President, Ms Vinaya Datar, Manager and Ms Hina Chhatbar, Senior Officer of the Company, be and are hereby authorised, to certify and issue for and on behalf of the Company :

- (a) true copies of the Memorandum of Association and Articles of Association of the Company
- (b) true copies the resolutions duly passed by the by the Board of Directors of the Company and/or Committee thereof including Committee of Directors and other Committees viz Group Commitment Committee, Administrative Committee or Shareholders of the Company, and/or the extracts of the Minutes of the Meetings of the Board of Directors and/or Committees thereof and/ or Shareholders of the Company from time to time
- (c) copies of any other deed(s) or document(s) duly executed or entered into by and on behalf of the Company"


DSM(S-2)

A circular stamp containing a handwritten signature, likely of a director or officer.A circular stamp containing the handwritten number '29'.

Certified copy of the resolution passed by circulation by the Committee of Directors of
Infrastructure Leasing & Financial Services Limited on August 11, 2005

“RESOLVED THAT The Company do participate upto 51% in the paid-up equity capital of the Project Company to be incorporated for construction and development of Kotakatta - Kurnool Project on NH-7 in the State of Andhra Pradesh”

“RESOLVED FURTHER THAT Mr Hari Sankaran, Joint Managing Director, Mr Arun K Saha, Executive Director and Mr K Ramchand, Chief Executive-Infrastructure of the Company, be and are hereby authorised, jointly or severally to take all necessary steps in this regard”

Certified to be true

Vinaya

Vinaya Datar
Manager – Corporate

Date : March 20, 2006
Place : Mumbai

du
DGM(S-2)

du



INFRASTRUCTURE LEASING & FINANCIAL SERVICES LIMITED

March 18, 2006

To
Mr. Varkeyachan
General Manager (S-2)
National Highways Authority of India
G-5 & 6, Sector – 10,
Dwarka,
New Delhi – 110 075

Ref. : NHA/Tech/NS-2/BOT/AP-5/2005/202 dated March 18, 2006

Reg. : Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of Proposed Kotakatta Bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh under North – South Corridor (NHDP Phase II) on BOT Annuity Basis NS 2 / BOT/AP-5

This is with reference to the above mentioned letter pertaining to the captioned project. Point wise clarifications to each point listed in your letter is given below:

1. On being declared as L1 in the bidding process for the captioned project, as per the requirements of the RFP document and with a view of early commencement of work on the project, the Special Purpose Vehicle/Project Company viz. Andhra Pradesh Expressway Limited (APEL) was incorporated on November 11, 2005 and accordingly in the first board meeting of APEL held on November 24, 2005 resolution authorizing personnel for signing of Concession Agreement was passed and the same has been submitted to NHAI.
2. As requested following documents are enclosed herewith:
 - a. The Directors of APEL are as follows:
 - i. Mr. Mukund Sapre
 - ii. Mr. Ramesh Chander Bawa
 - iii. Mr. Arun K. Saha
 - iv. Mr. Avinash Bagul

Certified copy of the list of Board of Directors of APEL is enclosed

- b. Board Resolution of the Consortium Members viz. IL&FS and ITNL authorizing investment in the SPV
- c. The amendment to Performance Security submitted in the form of Bank Guarantee from Union Bank of India

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Core 4B, 4th Floor, India Habitat Centre, Lodhi Road, New Delhi 110 003 Phone : 24682060-64 Fax: 011-24682070

Registered Office : The IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai - 400 051

Tel : Board 2653 3333, 2653 3232 Fax : 2652 4536

Promoted by Central Bank of India, Unit Trust of India and Housing Development Finance Corporation Limited



We hope that submissions of the above mentioned documents are in line with the requirements of NHA1 and request you for signing of Concession Agreement on March 20, 2006

Thanking you and assuring of our best services at all times

Sincerely,

A handwritten signature in black ink, appearing to read 'K Ramchand' with a stylized flourish at the end.

K. Ramchand
Chief Executive – Infrastructure

Encl. : a/a



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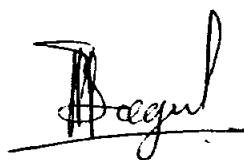
ANDHRA PRADESH EXPRESSWAY LIMITED

Certified list of Directors of Andhra Pradesh Expressway Limited as on March 18, 2006

<u>Sr. No.</u>	<u>Name of Directors</u>

1.	Mr RC Bawa
2.	Mr Mukund Sapre
3.	Mr Avinash Bagul
4.	Mr Arun K Saha

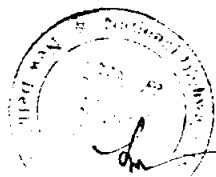
Certified to be true



Director

Date : March 18, 2006

Place : Delhi





INFRASTRUCTURE LEASING & FINANCIAL SERVICES LIMITED

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the Committee of Directors of Infrastructure Leasing & Financial Services Limited have approved investment upto 51% in the equity capital of the Project Company to be incorporated for construction and development of Kotakatta - Kurnool Project on NH-7 in the State of Andhra Pradesh

For Infrastructure Leasing & Financial Services Limited

Avinash Bagul
Vice President (Corporate Secretarial)

Date : March 18, 2006



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Core 4B, 4th Floor, India Habitat Centre, Lodhi Road, New Delhi 110 003 Phone : 24682060-64 Fax: 011-24682070

Registered Office : The IL&FS Financial Centre, Plot C 22, G Block, Bandra Kurla Complex, Bandra East, Mumbai - 400 051

Tel : Board 2653 3333, 2653 3232 Fax : 2652 4536

Promoted by Central Bank of India, Unit Trust of India and Housing Development Finance Corporation Limited

**Certified copy of the resolution passed at the Meeting of the Board of Directors of
IL&FS Transportation Networks Limited held on September 29, 2005**

“RESOLVED THAT the Company do subscribe to the Memorandum & Articles of Association of the proposed Company and work closely with Infrastructure Leasing & Financial Services Limited for construction and development of Kotakatta - Kurnool Project on NH-7 in the State of Andhra Pradesh and make initial investment in the Special Purpose Vehicle / Project Company upto Rs 100,00,00,000/- (Rupees One Hundred Crores only)”

“RESOLVED FURTHER THAT Mr K Ramchand, Chief Executive Officer, Mr Mukund Sapre, Chief Operating Officer, Mr Avinash Bagul, Company Secretary or Mr Ajay Menon, Manager or Mr Ateesh Samant, Official of the Company be and are hereby authorized, jointly and/or severally, to sign the Memorandum & Articles of Association and any other form, document required for the incorporation of the new project Company”

Certified to be true



Ajay Menon
Manager

Date : March 18, 2006

March 7, 2006

To
Mr. K.C. Varkeyachan
General Manager (S-2)
National Highway Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi – 110 075

Dear Sir,

Reg. : Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 in the State of Andhra Pradesh under North-South Corridor (NHDP Phase II) on BOT (Annuity) basis NS2/BOT/AP5 – Signing of Concession Agreement

This is with reference to the captioned project. As required under the bid conditions, we have incorporated Special Purpose Vehicle (SPV) named "Andhra Pradesh Expressway Limited (APEL)" for the project and have submitted performance security vide our letter dated March 6, 2006. With a purpose to execute the Concession Agreement between APEL and NHA I we are enclosing herewith the following documents for your perusal & records:

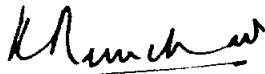
- a) Memorandum /Articles of Association of APEL
- b) Memorandum of Understand between IL&FS and ITNL (submitted during the bid stage of the project)
- c) Copy of register of member in the SPV
- d) Board Resolution authorization to Mr. Arun K Saha and/or Mr. Ramesh C Bawa and/or Mr. Mukund Sapre jointly & severally for signing of Concession Agreement on behalf of APEL

You are requested to review the documents provided as enclosures to the letter and inform us the date for signing of the concession agreement at the earliest

Thanking you and assuring you of our best services at all times

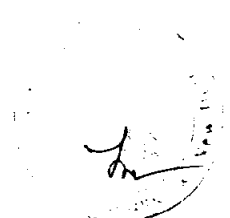
Sincerely,

For and on behalf of
Consortium of Infrastructure Leasing & Financial Services Limited and IL&FS
Transportation Networks Limited



K. Ramchand
Chief Executive – Infrastructure

Encl. : a/a



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MEMORANDUM OF ASSOCIATION

AND

ARTICLES OF ASSOCIATION

OF

ANDHRA PRADESH EXPRESSWAY LIMITED

CERTIFIED TRUE COPY

Andhra Pradesh Expressway Limited

Director/Authorised Signatory



प्रास्ता. आई. आर.
Form I. R.

निगमन का प्रमाण - पत्र
CERTIFICATE OF INCORPORATION

ता. _____ की. सं. _____

CIN U 63 031 MH 2005 PLC 157256

मैं एतद्वारा प्रमाणित करता हूँ कि आज

कम्पनी अधिनियम (1956 का. सं. 1) के अधीन निगमित की गई है और कम्पनी परिसीमित है।

I hereby certify that Andhra Pradesh Expressway Limited. is this day incorporated under The Companies Act, 1956 (No. 1 of 1956) and that the Company is Limited.

मेरे हस्ताक्षर से आज ता. _____ को दिया गया।

Given under my hand at MUMBAI this ELEVENTH day of NOVEMBER

TWO THOUSAND FIVE.



(A. S. SINGH)

ASSTT. REGISTRAR OF COMPANIES
MAHARASHTRA, MUMBAI.

CERTIFIED TRUE COPY



CO. NO. 11/157256



सत्यमेव जयते

कारबार प्रारम्भ करने के लिए प्रमाण-पत्र
Certificate for Commencement of Business
कम्पनी अधिनियम, 1956 की धारा 149 (3) के अनुसरण में
Pursuant of Section 149 (3) of the Companies Act, 1956

मैं एतद्वारा प्रमाणित करता हूँ कि.....

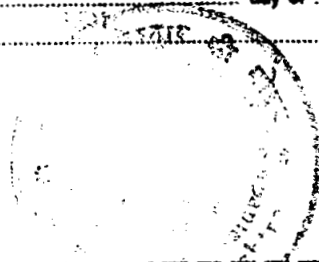
जो कम्पनी अधिनियम, क अधीन तारीख को निगमित की गई थी
और जिसने आज विहित प्रत्येक में सम्यक रूप से सत्यापित घोषणा फाईल कर दी है कि उक्त अधिनियम
की धारा 149 (1) (क) से लेकर (घ) तक/149 (2) (क) से लेकर (ग) तक की शर्तों का अनुपालन
किया गया है, कारबार प्रारम्भ करने की हकदार है।

I hereby certify that the Andhra Pradesh Expressway
Limited

which was incorporated under the Companies Act, 1956, on the ELEVENTH day of
NOVEMBER 2005, and which has this day filed a duly verified declaration in
the prescribed form that the conditions of Section 149 (1)(a) to (d)/149(2)(a) to (c) of the said
Act, have been complied with is entitled to commence business.

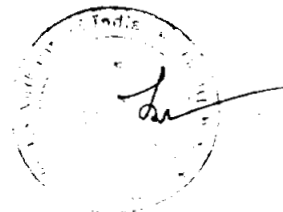
मेरे हस्ताक्षर से यह तारीख को
मैं दिया गया।

Given under my hand at Mumbai
this 11 day of JANUARY Two thousand
and 05



(.....) JANAKUMAR
कम्पनियों का रजिस्ट्रार
ASST. Registrar of Companies
Maharashtra, Mumbai

G-31/ESTT-98-99-S000



THE COMPANIES ACT 1956

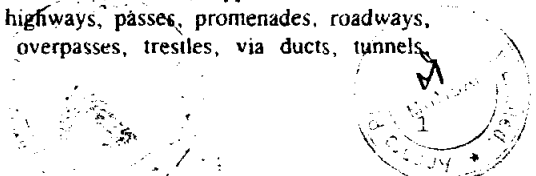
COMPANY LIMITED BY SHARES

MEMORANDUM OF ASSOCIATION

OF

Andhra Pradesh Expressway Limited

- I. The name of the Company is Andhra Pradesh Expressway Limited
- II. The Registered Office of the Company will be situated in the State of Maharashtra ie within the jurisdiction of Registrar of Companies, Maharashtra at Mumbai.
- III. The Objects for which the Company is established are :
 - A. **MAIN OBJECTS OF THE COMPANY TO BE PURSUED BY THE COMPANY ON ITS INCORPORATION :-**
 1. To contract with the State Government(s) and/or its Departments and/or its companies and/or their respective agencies to promote, develop, establish, build, construct, equip, operate, maintain, control, upgrade, regulate, modify and/or takeover the end of proposed Kotakatta bypass to Kurnool Road Project on NH-7 in the State of Andhra Pradesh and it's ancillary facilities including the approach roads, minor and major bridges, flyovers, inter-changes, culverts, tunnels, links, buildings, toll booths, electric fittings, drains, waterways as well as to develop the land around such road, other bridges and other ancillary facilities for commercial or other use and to compensate, rehabilitate, resettle, and to charge, demand, collect, retain, contract, auction and to levy/increase tolls, fees, cess, rents from the users of the road, other bridges and other ancillary facilities from time to time and to appropriate receivables towards dues, investments, returns, servicing/repayments of debt or capital on a "Build Own Transfer" (BOT), "Build Own Operate" (BOO), "Build, Own Operate and Transfer" (BOOT), "Build Own Operate Maintain" (BOOM), Annuity formats
 - B. **INCIDENTAL OR ANCILLARY TO THE ATTAINMENT OF THE MAIN OBJECTS:**
 2. To promote, develop, establish, construct, build, install, equip, operate and maintain, administer, control, regulate, modify rehabilitate, improve, augment and/or take over, upgrade all types of systems, methods or facilities for facilitating the travel and transportation or commuting of passengers, cargo or freight and to further these objectives amongst others, to construct, build, equip, operate and maintain roads, paths, routes circuits, courses, streets, approaches, avenues, arteries, boulevards, channels, drags, highways, passes, promenades, roadways, straits thoroughfares, trails, bridges, overpasses, trestles, via ducts, tunnels



passageways, conduits, pathways, culverts, shafts, subways, tubes, bye-passes, freeways, highways, expressways and all types of surface transport infrastructure and all other works, constructions and erections or buildings and things of any description whatsoever either upon lands acquired by the Company or upon other lands and generally, to alter and improve the lands and other properties of the Company or otherwise and to finance and arrange for the financing of any such activities

3. To acquire by purchase, lease, exchange, hire or otherwise, immovable properties including lands, buildings, tenements and premises of any tenure or value, whether subject or not to any charges or encumbrances, and to hold and develop or to sell, let, alienate, mortgage, charge, license or otherwise deal with all or any of such lands, buildings, tenements or premises or other immovable property
4. To participate in any capacity in any scheme or program sponsored or promoted by any Government or other authority or person, Indian or Foreign, for the purpose of, and /or for undertaking the construction, operation, regulation, improvement, rehabilitation, development of transport facilities of any kind, and to provide the requisite infrastructure therefore and to collect fees, tolls, charges and dues from the public or any Government or other authority for the use of any construction or erection or building established, constructed or built in pursuance of sub-clause (1) for managing or for providing the management of or for the maintenance of facilities or infrastructure put up or acquired by the Company as principal or as agent of, or on behalf of any Government or any other authority or any person whatsoever
5. To participate in various Schemes promoted by the Central/ State Government(s) for and to undertake regulation and improvement of transport facilities and provide the requisite infrastructure therefore on privatisation principles and to charge, demand, collect fees, tolls, rentals, taxes and duties from the public for providing, management or maintaining facilities or infrastructure put up or acquired by the Company as Principals or as agents of all and concessionaire on behalf of Government or any other authority or any person whatsoever
6. To establish and maintain any agencies in India or any part of the world for the conduct of the business of the Company
7. To establish Branches, Agencies or appoint Representatives in India and elsewhere for anyone or more of the objects of the Company and to regulate and/or discontinue the same
8. To enter into all types of internal or external foreign collaborations, licence arrangements, technical assistance, financial or commercial arrangements including the survey of markets for export and to study market conditions in India and outside, for the fulfillment of any objects herein contained
9. To give advise and or to offer, give, take circulate and/ or otherwise organise, accept or implement and takeover bids, mergers, amalgamations, acquisitions, diversification, rehabilitation, or restructuring of any business, concern undertaking, company body corporate, partnership firm or any other association of persons whether incorporated or not, by acquisition of shares or assets and liabilities, and whether as a going concern or as part of the concern or otherwise as may be required having regard to infrastructure business exigencies, and further to promote or procure incorporation formation or setting up of concerns and undertakings

whether as company, body corporate, partnership or any other association of persons for engaging in any industrial, commercial or business activities

10. To set up, incorporate and manage, provide and/or participate in providing venture capital, technology funds, underwriting fund or any other funds for seed capital, risk capital foundation, including giving guarantees or such other financial assistance as may be conducive for development of new enterprises, innovative methods of production and development of existing and new technology, to identify projects including infrastructure projects ideas, to prepare project profiles, profit reports, market research, feasibility studies and reports, pre-investment studies and investigation of industries on micro and macro level, to undertake appropriate service to identify scope of potential for economic and industrial development in any particular geographical area or location whether in India or abroad, to act as lead managers in respect of project assignments by undertaking follow up, supervision and co-ordination work at the instance behest or on behalf of banks, financial institutions, companies, bodies corporate and to monitor the same to the participants, to act as an adviser in the management of the undertakings, business enterprises, offices, trade occupations and professions systems and by introducing modern techniques and systems and render all assistance as may be necessary including acting as agents for recruitment of personnel, technical, skilled, unskilled, supervisory, managerial or otherwise, and to act as an advisor in the selection of technical process, economic size, sources of plant and machinery and other utilities for business entrepreneurs for the attainment of foregoing business activity
11. To acquire, purchase, takeover and/or amalgamate business of companies which under existing circumstances, from time to time, may conveniently or advantageously be combined with the business of the Company and to amalgamate or merge with companies whose business are so acquired, purchased or taken over and/or to enter into agreement with the object of acquisition of such undertaking and/or business
12. To enter into partnership or into any arrangements for sharing profits, union of interest, co-operation, joint venture, reciprocal concessions or otherwise, with any person, firm, association company or corporation carrying on or engaged in or about to carry on or engage in any business or transaction which this Company is authorised to carry on or engage in or any business or undertaking or transaction which may seem capable of being carried on or conducted so as directly or indirectly benefit the company and to lend money, to guarantee or contract or otherwise acquire and hold shares or securities of any such person, firm or company and to take or otherwise acquire and hold shares or securities of any such person, firm or companies and to sell re-issue with or without guarantee or otherwise deal with the same
13. To apply for, promote and obtain any Act, charter, privileges, concession, licence, authorisation, if any, Government, State or Municipality provisional order or licence of any authority for enabling the Company to carry any of its objects in effect, or for extending any of the powers of the Company, or for effecting any modification of the Company's constitution, or for any other purpose which may seem expedient and to oppose any proceedings or applications which may seem calculated, directly or indirectly to prejudice the Company's interest
14. To pay all the costs, charges and expenses of and incidental to the promotion and formation, registration and establishment of the Company and issue of its capital including costs, charges, expenses of negotiations and contracts and arrangement made prior to and in anticipation of the formation and incorporation of the Company

15. To pay professional fees/ charges and remunerate (by cash or otherwise or in kind or by allotment of fully or partly paid shares or shares credited as fully or partly paid up or in any other manner) any persons, firms, associations, or companies for services, rendered or to be rendered or in rendering technical aid and advice, granting licences or permission for the use of patents, trade secrets, trade marks, processes and acting as trustee for debentureholders or debenture stock-holders of the company or for subscribing or agreeing to subscribe whether absolutely or conditionally or for procuring or agreeing to procure subscriptions whether absolute or conditional for any shares, debentures, or debenture stock, or other securities of the Company or of any company promoted by this company for services rendered in or about the formation or promotion for the company or any company promoted by this Company or in introducing any property or business to the Company or about the conduct of the business of the Company or for guaranteeing payments of such debenture-stock or other securities and any interest thereon
16. To draw, make, execute, issue, accept, endorse, discount and negotiate promissory notes, mortgage backed securities, Hundies, bills of exchange, bills of lading, delivery orders, warrants, certificates, debentures and other negotiable transferable or mercantile instrument or securities
17. To arrange for finance, receive loans, advances, grants or other money on interest or otherwise from any person, or persons, institution, society, company, local authority, Government, international agency, and use it for furthering the objects of this Company
18. To take over, manage and administer any of the assets of any borrowing agency that defaults or operates the fund given in contravention of any of the conditions agreed to by it, at the time of sanction of the loan, advance, agreement
19. To create any Depreciation Fund, Sinking Fund, Reserve Fund, Insurance Fund, Development Fund or any other special funds whether for depreciation or for repairing, improving, extending or maintaining any of the property of the Company, or for any other purpose conducive to the interests of the Company
20. To carry out the Objects of the Company either as principal, agent, factor, contractor or trustees or in such other capacity and either alone or in conjunction with any other person, firm, body corporate, municipality, state body or government or person
21. To incur debts and obligations for the conduct of any business of the Company and to purchase or hire goods, materials or machinery on credit or otherwise for any business or purpose of this Company
22. To pay out of the funds of the Company all expenses which the Company may lawfully pay with respect to the formation and registration of the Company or for the issue of its Capital including brokerage and commission for obtaining applications, for or taking, placing or underwriting or procuring the underwriting of shares, debentures or other securities of the Company and all expenses of negotiations, contracts arrangement made prior to and in anticipation of the formation and incorporation of the Company
23. To amalgamate, enter into partnership or into any arrangement for sharing profits, interest or interest, co-operation, joint venture or reciprocal concession, or for limiting competition with any individual, person or Company having similar objects

24. To receive money on loan and borrow or raise in such manner as the Company shall think fit, subject to relevant provisions of the Companies Act, 1956, and other laws in force, and in particular by the issue of debentures or debenture-stock, (perpetual or otherwise) bonds, promissory notes, with right to convert into shares and to secure the repayment of any money borrowed, raised or owing by mortgage, charge or lien upon all or any of the property or assets of the Company (both present and future) including its uncalled capital, and also by a similar mortgage, charge or lien to secure and guarantee the performance by the Company or any other person or company of any obligation undertaken by the Company or any other person or company as the case may be but shall not carry on the business of banking as defined in the Banking Regulation Act, 1949, subject to Section 58-A of the Companies Act, 1956 and Reserve Bank of India Directives
25. To purchase, acquire or take over as a going concern by purchase of, or lease or for management of the whole or any part of the business undertaking together with the goodwill, property, contracts, agreements, rights, privileges, effects and liabilities of any person, firm or company including its trade name, trade marks or patents and upon such terms and subject to such stipulations and conditions and at or for such price or consideration (if any) in money, shares, debentures, money's worth or otherwise as may be deemed fit, and to conduct and carry on or liquidate and wind up any such business
26. To enter into, make and perform contracts and arrangements of every kind and description with Corporate Body, State or Central Government or any companies, firms or persons that may seem conducive to the Company's objectives or any of them and to obtain from any such authority any rights, privileges, charters, contracts, concessions, licences or purchase and sale of any kind of goods, machinery, spare parts, securities, shares, stocks, debentures, etc which the Company for the time being may consider necessary or desirable to obtain and to carry out, exercise and comply with such arrangements, rights, privileges and concessions
27. To employ experts to investigate and examine into the condition, prospects, value, character and circumstances of any business concerns and undertaking and generally of any assets, property or rights
28. To sell, mortgage, assign or lease and in any other manner deal with or dispose of the undertaking or property of the Company or any part thereof, whether movable or immovable for such consideration as the Company may think fit and in particular for shares, debentures and other securities of any other Company having objects altogether or in part similar to those of this Company
29. To promote, form, establish or aid in the promotion, formation or establishment of any company or companies, association or associations subsidiary to this Company otherwise, for the purpose of acquiring or purchasing or taking over the entire undertaking of this Company or any of its subsidiary undertakings or any property or rights of this Company, or any of its contracts, options or liabilities or for any other purpose which the Company or its Directors may deem directly or indirectly calculated to benefit this Company, or land or estate which it is interested or to assist in attainment or promotion of its objects, and to subscribe for, place, commissions to secure the subscription of the capital or securities of or loans to any such Company



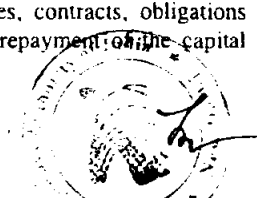
30. To procure the incorporation, registration or other recognition of the Company in any country, state or place and to establish and regulate agencies for the purpose of the Company's business and to apply or join in applying to any Parliament, Local Government, Municipal or other authority or body, Indian or foreign, for any acts of Parliament laws, decrees, concessions, orders, rights or privileges that may seem conducive to the Company's objects or any of them and to oppose any proceedings or applications which may seem calculated directly to prejudice the Company's interests
31. To apply for, secure, acquire by grant, legislative enactment, assignment, transfer, purchase or otherwise, and to exercise, carry out and enjoy any charter, licence, power, authority, franchise, concession, right or privileges, which any Government or authority or any Corporation or other public body may be empowered to grant, and to pay for, aid in, and contribute towards carrying on the same effect
32. To promote, form and to be interested in, and take, hold and dispose of shares in any other company having similar objects, and to subsidise or assist any such companies financially or otherwise by issuing or subscribing for or guaranteeing the subscription and issue of other securities of such company and to transfer to any such company any property of this Company and to take or otherwise acquire, hold and dispose of shares, debentures and other securities in or of any such Company/Companies.
33. To apply for, purchase, or otherwise acquire and protect and renew or sell any patents, patent rights, brevets d'invention, trade marks, designs, copyrights, know-how, licences, concessions, industrial or commercial property and the like conferring any exclusive or non-exclusive or limited rights to their use, application or exploitation or any secret or other information as to any invention or otherwise which may seem capable of being used for any of the purposes of the Company or directly or indirectly, to benefit the Company and to use, exercise, develop or grant licences the property, rights, or information so acquired and to expend money in experimenting upon, testing or improving any such patents, inventions or rights
34. To establish and maintain or procure the establishment and maintenance of any contributory or non-contributory welfare, gratuity, pension or superannuation funds for the welfare and benefit of, and give or procure the giving of donations, gratuities, pensions, allowances or emoluments or benefits of medical, health or charitable purposes to any persons, who are or were at any time in the employment or service of the Company, and the wives, widows, families and dependents of any such persons including the directors, ex-directors
35. To open bank account or accounts with any bank or banks and to pay into and to withdraw moneys for such account or accounts including overdraft accounts and to operate the same for fulfillment of objects and/or purposes of the Company
36. To lend or deposit moneys belonging to or entrusted to or at the disposal of the Company to such persons or company and in particular to customers and others having dealings with the Company with or without security, upon such terms as may be thought proper and to guarantee the performance of contracts by such person or company, but not to do the business of banking as defined in the Banking Regulations Act, 1949
37. To distribute amongst the members of the Company in specie or kind any property of the Company or any proceeds of sale or disposal of any property of the Company



Signature

whether in the event of the winding up of the Company, subject to the provisions of the Companies Act, 1956

38. To invest the surplus funds of the Company from time to time in Government securities or in other securities including bills of exchange and acceptance, as may from time to time be determined by the Directors and from time to time sell or vary all such investments and to execute all assignments, transfers, receipts and documents that may be necessary in that behalf
39. To adopt such means of making known the business of the Company as may seem expedient, and in particular by advertising in the press, by circulars, by purchase and exhibition of works, of art, of interest, by publication of books and periodicals, and by granting prizes, rewards and donations
40. To make donations to such persons or institutions and in such cases and either in cash or any other assets as may be thought directly or indirectly conducive to any of the Company's objects or otherwise expedient and in particular to remunerate any person or corporation introducing business to this Company, and also to subscribe, contribute or otherwise assist or guarantee money for charitable, scientific, religious or benevolent, public or cultural, educational or other institutions, objects or for any exhibition or for any public general or other objects and to establish and support or association, institutions, funds, trusts and convenience for the benefit of the employees or ex-employees (including Directors) of the Company or of dependents, relatives or connection of such persons and in particular friendly or otherwise benefit societies and to grant pension, allowances, gratuities and bonuses either by way of annual payments or a lumpsum and to make payments towards insurance and to form and contribute to provident benefit funds and other welfare funds of or for such persons
41. To carry out in any part of India all or any part of the Company's objects as principal agents, factor, trustee, contractor or otherwise, either alone or in conjunction with any other person, firm, association, corporate body, municipality province, state body or government or colony or dependency thereof
42. To promote, form and register and aid in promotion, formation and registration of any company or companies, for the purpose of acquiring all or any of the property, undertaking, rights and liabilities of such company and to be interested in, or take or otherwise acquire, purchase, hold, sell or otherwise dispose of shares, debentures, and other securities in or of any such company or any other Company, for all or any of the objects mentioned in this Memorandum and to subsidise or otherwise assist any such company and to undertake the management or other work, duties and business of any such company on such terms and conditions as may be determined
43. To sink wells and shafts, and to make, build and construct, lay down and maintain, reservoirs, water works, cisterns, culverts, filter-beds, main and other pipes and appliances, and to execute and do all other works and things necessary or convenient for obtaining, storing, selling, delivering, measuring and distributing water, or otherwise for the purposes of the Company
44. To give guarantees and carry on and transact every kind of guarantee and counter-guarantee business and in particular to guarantee the payment of any principal moneys, interest or other moneys secured by or payable under any debentures, bonds, debenture-stocks, mortgages, charges, contracts, obligations and securities and the payment of dividends on and the repayment of the capital of stocks and shares



45. To carry on in all their respective branches all or any of the businesses of builders masonry and general construction contractors and hauliers and among other things to construct, execute, carry out, equip, improve, work and advertise railways, roadways, tramways, docks, harbours, wharves, canals, water-courses, reservoirs, embankments, irrigations, reclamations, sewage, drainage, and other sanitary works, water, gas, electric and other supply works, houses, buildings, and erections of every kind, and businesses that are customarily or usually carried on in connection therewith or naturally incidental thereto
46. To act as principals, agents, contractors, trustees, agents or otherwise, and by or through trustees, agents or otherwise and either alone or in conjunction with others

C. OTHER OBJECTS

47. To construct, maintain, improve, develop, work, control, and manage any waterworks, gasworks, reservoirs, roads, tramways, electric power, heat and light supply works, telephone works, hotels, clubs, restaurants, baths, places of worship, places of amusement, pleasure grounds, parks, gardens, reading rooms, stores, shops, dairies, and other works and conveniences which the Company may think directly or indirectly conducive to these objects, and to contribute or otherwise assist or take part in the construction, maintenance, development, working, control, and management thereof
48. To develop and turn to account any land acquired by the Company or in which the Company is interested, and in particular by levying out and preparing the same for building purposes, constructing, altering, pulling down, decorating, maintaining, furnishing, fitting up, and improving buildings, and by planting, paving, draining, farming, cultivating, letting on building, lease or building agreement, and by advancing money to and entering into contracts and arrangements of all kinds with builders, tenants, and others
49. To set up, create, issue, float and manage trusts or funds including any mutual fund, growth funds, investment funds, income or capital funds, taxable or tax exempt funds, provident, pension, gratuity and superannuation funds, charitable funds, trusts, or consortium funds to act as administrators or managers of such funds and trusts and to act as trustees for bondholders, debentureholders and for other purposes herein
50. To carry on the business of promotion, organising, procuring incorporation of and giving financial or other assistance in India or abroad independently or in association with any person, Government or any other agencies whether incorporated or not, for any business of the Company
51. To set up, operate, install, commission, maintain, and to lease, license, let, hire, for charge, cess, toll, rent or other user charges for telecommunication net works in the nature of cellular, mobile, paging systems, fax systems, E-Mail systems, mobile telephones, phones, commercial band communication systems, ship-to-shore telecommunication systems, walkie-talkie systems, data transmission systems, TV signal transmission system or any other mode of telecommunication, microwave telecommunication systems, etc

52. To adopt new technologies that have been developed in the field of telecommunications from time to time and utilisation the same to its business

53. To carry on the business as merchants, traders, commission agents, buying agents, selling agents, brokers, adamas, buyers, sellers, importers, exporters, dealers in, collectors, or in any other capacity and to import, export, buy, sell, barter, exchange, pledge, mortgage, advance upon or otherwise trade and deal in machinery, equipment, components, spare parts, produce, articles and merchandise of any kind whatsoever and without prejudice to the generality of the foregoing agricultural commodities, food grains, cash crops, cotton, tea, jute, coffee, fruits, vegetables, flowers, milk, milk products, meat, seeds, raw materials required by industries, semi-finished products of industries and finished products of industries including machinery, equipment, chemicals, intermediates, electrical goods, textile yarns, garments, furniture, minerals, ores and oils as wholesalers or retailers on the basis of ready delivery or forward contracts or on commission basis

54. To purchase, take on lease, under concession or otherwise, lands, buildings, works, mines, mineral, deposits, mining rights, plantations, forests and other rights or privileges or interest therein and to exploit, develop, build or upon any land or properties which may be purchased, leased or acquired, and to work alternative account for the same any properties in possession of the Company which are in the nature of, buildings, houses, erections, factories, commercial complexes, works or business which may be directly or indirectly conducive to any of the objectives of the Company and which would contribute to the business of the Company, and would aid or subsidise the business of the Company and to undertake the business of land and property development, of franchise of land in connection with the said buildings and erections as may be considered necessary for commercial developments by the Company and to sell, lend, charter or otherwise dispose, develop, cultivate, maintain, improve, manage, control and exploit the said property or otherwise dispose off the said property, land, building, construction, erections, belonging to the Company, as aforesaid

55. To purchase, hold, take on lease or exchange, take on mortgage and give on mortgage, hire or otherwise acquire and hold or deal in any moveable or immovable property including shops, flats, offices, godowns, patents, licences, and any rights interests and privileges therein and to develop and turn to account or let them out on rent

56. To carry on the business of an investment company and to buy, invest in, subscribe to, acquire and hold, sell and exchange and deal in shares, preference shares, stocks, debentures (Convertible and Non-convertible), debenture-stock, bonds, Company deposits, obligations and securities of any kind issued or guaranteed by any company constituted or carrying on business in India or elsewhere and any Government, State, dominions, sovereign, rulers, commissioners, public body or authority, supreme, municipal, local or otherwise, firm or person, whether in India or elsewhere for the provision and development of physical, social and all other infrastructural facilities

- IV The liability of the Members is limited.
- V The Authorised Share Capital of the Company is Rs 5,00,000/- (Rupees Five Lakhs only) divided into 50,000 (Fifty Thousand) Equity Shares of Rs 10/- each
- (a) The Paid up Capital of the Company shall be minimum of Rs. 5,00,000/- (Rupees Five Lakhs only)

We, the several persons, whose names, addresses and description are hereunder subscribed, are desirous of being formed into a Company in pursuance of this Memorandum of Association and we respectively agree to take the number of shares in the Capital of the Company set opposite to our respective names :

	Name, address, description and Occupation of each Subscriber	Number of Equity Shares taken by each Subscriber	Signature of Subscriber	Signature of witness with Description and Occupation
1)	Infrastructure Leasing & Financial Services Limited (Mr M M Wagle - Authorised by Infrastructure Leasing and Financial Services Limited vide resolution dated October 21, 2005) The IL&FS Financial Centre Plot No. C-22, G Block, Bandra-Kurla Complex Bandra (E), Mumbai 400 051 (Company)	25,500 (Twenty Five Thousand Five Hundred)	Sd/-	WITNESS FOR ALL 1 - 4 Sd/- MR SWAPNIL SHEKHAR BORKAR S/O MR SHEKHAR MADHUSUDAN BORKAR A/1, VINAY CHS, TARUN BHARAT AREA, CITAKALA, PLOT NO-95/5, ANDHERI(EAST), MUMBAI - 400 099 (SERVICE)
2)	Consolidated Transportation Networks Limited (Mr Ajay Menon - Authorised by Consolidated Transportation Networks Limited vide resolution dated September 29, 2005) The IL & FS Financial Centre Plot No C-22, G Block Bandra-Kurla Complex Bandra (E), Mumbai 400 051 (Company)	24,440 (Twenty Four Thousand Four Hundred and Forty)	Sd/-	
3)	Mr K Ramchand S/o Mr KV Karunakaran 701-702, Lloyds Gardens Prabhadevi, Worli Mumbai 400 025 (Service)	10 (Ten)	Sd/-	
4)	Mr Avinash Bagul S/o Mr Anaram Bagul D/101 Shivchhaya Eksar Road, Borivali (West) Mumbai 400 091 (Service)	10 (Ten)	Sd/-	

5)	Mr Naresh Sasanwar S/o Mr Prabat Sasanwar Burhani Manzil, 9, Gr floor 3 rd Pasta Lane Colaba, Mumbai- 400 005 (Service)	10 (Ten)	Sd/-
6)	Mr Mukund Sapre S/o Mr Laxman Gajanan Sapre B/3, Mangal Deep Society Near Tagore Nagar Vadodara, Gujarat (Service)	10 (Ten)	Sd/-
7)	Ms Hina Chhatbar D/o Jagdish Chhatbar B/11, 4th floor Sairaj Nagar Co-Operative Housing Society Ltd Hemu Kalani Cross Road No3 Irani Wadi, Kandivali (West) Mumbai 400 067 (Service)	10 (Ten)	Sd/-
8)	Mr Ravi Sreehari S/o Mr M Sreehari Flat No. 305, Sunset IB Raheja Vihar Powai, Mumbai 400 072 (Service)	10 (Ten)	Sd/-
	Total	50,000 (Fifty Thousand)	

WITNESS FOR ALL 5 - 8
Sd/-

MR SWAPNIL SHEKHAR BORKAR
S/O MR SHEKHAR MADHUSUDAN BORKAR
A.T. VINAY CHIS, TARUN BHARAT AREA, CHAKALA, PLOT NO-95/5, ANDHER(EAST), MUMBAI - 400 099
(SERVICE)

Mumbai, Dated this 31st day of October, 2005

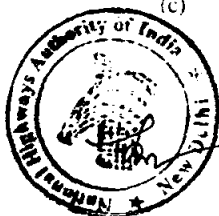
THE COMPANIES ACT, 1956
COMPANY LIMITED BY SHARES
ARTICLES OF ASSOCIATION
OF
Andhra Pradesh Expressway Limited

I PRELIMINARY

- (1) (i) "The Act" or "the said Act" means the Companies Act, 1956 and includes any statutory modification or re-enactment thereof for the time being in force in India containing the provisions of the Legislature in relation to companies.
- (ii) "Beneficial Owner" shall mean beneficial owner as defined in clause (a) of sub-section (1) of Section 2 of the Depositories Act, 1996.
- (iii) "Board of Directors" or "Board" means the Board of Directors, duly called and constituted or the collective Body of directors for the time being of the Company, or as the case may be, the Directors assembled at a Board Meeting or acting by circular under the Articles.
- (iv) "Capital" means the share capital for the time being raised or authorised to be raised for the purpose of the Company.
- (v) "The Company" or "this Company" means Andhra Pradesh Expressway Limited.
- (vi) "Debenture" includes debenture-stock.
- (vii) "Depository" means a Company formed and registered under the Companies Act, 1956, and which has been granted a certificate of registration to act as a depository under the Securities & Exchange Board of India Act, 1992.
- (viii) "Depository Act, 1996" shall include any statutory modification or re-enactment thereof for the time being in force.
- (ix) "Member" means the registered holder from time to time of the shares in the capital of the Company and includes every person who is holding equity shares of the Company and whose name is entered as a beneficial owner in the records of the depository.



- (x) "APEL/ the Company" shall mean Andhra Pradesh Expressway Limited, a Company incorporated under the Companies Act, 1956 and having its Registered Office at The IL&FS Financial Centre, Plot C-22, G Block, Bandra Kurla Complex, Bandra (East), Mumbai 400 051.
- (xi) 'Office' means the Registered Office for the time being of the Company.
- (xii) 'Persons' includes corporations and firms as well as individuals.
- (xiii) 'Proxy' means an instrument whereby any person is authorised to vote for a member at a General Meeting on a poll, and includes Attorney duly constituted under a Power of Attorney
- (xiv) "Month" means a calendar month according to the English calendar, unless otherwise specified.
- (xv) "Year" means the calendar year and "Financial Year" shall have the meaning assigned thereto by Section 2(17) of the Act.
- (xvi) "The Register " or "The Registers" means the Register of Members to be kept pursuant to Section 150 of the Act.
- (xvii) "Seal" means the Common Seal for the time being of the Company.
- (xviii) "Auditors" means and includes those persons appointed as such for the time being by the Company.
- (xix) "SEBI" means the Securities and Exchange Board of India.
- (xx) "Secretary" means and includes any person appointed in accordance with the provisions of the Companies (Appointment and Qualification of Secretary) Rules, 1988, or any other rules for the time being in force.
- (xxi) "Shareholders" means IL&FS, and CTNL and each of the other Investors and "Shareholder" means any one of them singly
- (xxii) "Officer" includes any Director, Manager or Secretary, (or any person in accordance with whose directions or instruments the board of Directors or any or more of the directors is or are accustomed to act), but save in Sections 477, 478, 539, 543, 545, 621, 625 and 633 does not include an auditor, "Officer who is in default" shall mean any officer of the Company who is knowingly guilty of the default, non-compliance, failure, refusal or contravention mentioned in that provision, or who knowingly or wilfully authorises or permits such default, non-compliance, failure, refusal or contravention.
- (xxiii) "Ordinary Resolution" and "Special Resolution" shall have the meanings assigned thereto respectively by section 189 of the Act.
- (xiv) "In writing" or "written" mean and include words printed, lithographed, represented or reproduced in any mode in a visible form.
 - (a). Words importing the singular number also include the plural number.
 - (b). Words importing the plural number also include the singular number
 - (c). Words importing the masculine gender also include the feminine gender.



- (xv) "IL&FS" shall mean Infrastructure Leasing & Financial Services Limited, a Company incorporated under the Companies Act, 1956 and having its registered office at C-22, G Block, Bandra Kurla Complex, Bandra (East), Mumbai 400 051, and includes its successors and assigns.
- (xvi) "CTNL" shall mean Consolidated Transportation Networks Limited, a Company incorporated under the Companies Act, 1956 and having its registered office at C-22, G Block, Bandra Kurla Complex, Bandra (East), Mumbai 400 051, and includes its successors and assigns.
- (2) The Regulations contained in Table "A" of the First Schedule to the Companies Act, 1956, (1) of 1956 shall not apply to this Company save and except so far as such regulations are embodied in these Articles.
- (3) The regulations for the management of the Company and for the observance of the members thereof and their representatives subject to any exercise of the statutory powers of the Company in reference to the repeal or alteration of, addition to, its regulations in the manner prescribed by Section 31 of the Act, shall be such as are contained in these Articles.

II SHARE CAPITAL

(4) Increase in Capital

The Authorised Share Capital of the Company is Rs 5,00,000/- (Rupees Five Lakhs Only) divided into 50,000 (Fifty Thousand) Equity Shares of Rs 10 each. The paid up capital of the Company shall be minimum of Rs 5,00,000/- (Rupees Five Lakhs Only).

The Company in general meeting may from time to time, increase the capital by creation of new shares of such amount as may be deemed expedient. Subject to the provisions of the Act, any shares of the original or increased capital shall be issued upon such terms and conditions as the General Meeting resolving upon the creation thereto shall direct, and if no direction be given, as the Directors shall determine; and in particular, such shares may be issued with preferential or qualified rights to dividends, and in the distribution of the assets of the Company, and with a right of voting at the General Meeting of the Company in conformity with Sections 87 and 88 of the Act. Whenever the capital of the Company has been increased under the provision of this Article, the Directors shall comply with the provisions of Section 97 of the Act

(5) Power to issue Equity Capital

The Company shall have power to issue equity capital :

- (a) with voting rights
- (b) with differential rights as to dividend, voting or otherwise in accordance with such rules and subject to such conditions as may be prescribed under the Act

(6) On what conditions new shares may be issued

The new shares shall be issued on such terms and conditions and with such rights and privileges annexed thereto, as the General Meeting, resolving upon the creation

thereof, shall direct and if no direction be given, as the Directors shall determine; and in particular such shares may be issued with a preferential or qualified right to dividends and in the distribution of assets of the Company and subject to the rules made in this behalf by the Central Government, with a special or without any right of voting

(7) New capital same as existing capital

Except so far as otherwise provided by the conditions of issue or by these presents, any capital raised by the creation of new shares shall be considered as a part of the existing capital and shall be subject to the provisions herein contained, with reference to the payment of calls and instalments, forfeiture, lien, surrender, transfer and transmission, voting and otherwise

(8) Power to issue Preference Shares

The Company shall have power to issue Cumulative/ Non-Cumulative, Convertible/ Non-Convertible, Redeemable Preference Shares carrying a right of redemption out of the profits of the Company or out of Share Premium account of the Company in accordance with and subject to the provisions of Section 80 of the Act

(9) Terms and Conditions of issue of Preference Shares

The Preference Shares to be issued by the Company shall carry such rights, powers and authority and be subject to the provisions of the Act, the terms of issue and the guidelines, if any, issued by the Central Government at the time of the issue.

(10) Buy-back of shares

Notwithstanding anything contained in these Articles, in accordance with the provisions of Section 77A of the Act, the Company may purchase its own shares or specified securities as it may think necessary, subject to such limits, upon such terms & conditions, and subject to such approvals as may be prescribed/required in terms of the provisions of the Act.

(11) Shares under the control of Directors

Subject to the provisions of these Articles and of the Act, the shares shall be under the control of the Directors; who may issue, allot or otherwise dispose off the same to such persons on such terms and conditions and at such times as the Directors think fit and with such full power to give any person the option to call for or be allotted shares of any class of the Company either (subject to the provisions of Section 78 and 79 of the Act) at a premium or at a discount, and such option being exercisable for such time and for such consideration as the Directors think fit. The Board shall cause to be filed the returns as to allotment provided for in Section 75 of the Act.

(12) Instalment on shares to be duly paid

If by the conditions of allotment of any share, the whole or part of the amount or issue price thereof, shall be payable by instalment, every such instalment shall when due, be paid to the Company by the person who for the time being and from time to time shall be the registered holder of the share, or his legal representative.



(13) Commission for placing shares

In accordance with the provisions of Section 76 of the Act, the Company may, at any time, pay a commission to any person, for subscribing or agreeing to subscribe (whether absolutely or conditionally) for any shares, debentures, debenture stock of the Company or procuring or agreeing to procure subscriptions (whether absolute or conditional) for any shares, debentures or debenture-stock of the Company. Such Commission may be paid or satisfied in cash or in shares, debentures or debenture-stock of the Company.

(14) Liability of Members

Every member or his heirs, executors or administrators shall pay to the Company, the portion of the capital represented by his share or shares which may, for the time being remain unpaid thereon, in such amounts, at such time or times and in such manner as the Board of Directors shall, from time to time, require or fix for the payment thereof.

The joint holder of a share shall be severally as well as jointly liable for the payment of all instalments and calls due in respect of such shares.

(15) Shares to be numbered progressively and no shares to be sub-divided

The shares in the capital shall be numbered progressively according to their several denominations, and except in the manner herein mentioned, no share shall be sub-divided provided however that the provisions relating to progressive numbering shall not apply to the shares of the Company which are in dematerialised form.

(16) Trust not recognised

Except as ordered by a Court of competent jurisdiction or as provided by the Act, no notice of any trust, express, implied or constructive shall be entered on the register of members or of debenture holders of the Company.

(17) Notice of change of name or address of member

No member who shall change his name or address or who being a female, shall marry, respectively shall be entitled to recover any dividend or to vote, until notice of the change of name or address or of marriage be given to the Company in order that the same be registered.

(18) Acceptance of shares

Any application signed by or on behalf of any applicant for shares in the Company followed by an allotment of any of the shares therein, shall be an acceptance of shares within the meaning of these Articles, and every person who thus or otherwise accepts any shares and whose name is on the Register shall, for the purposes of these Articles, be a Member.

(19) Reduction of capital

The Company may (subject to the provisions of Section 78, 80, 100 to 105 inclusive, of the Act) from time to time by special resolution reduce its capital and any capital redemption reserve account, premium account in any manner for the time being authorised by law, and in particular, capital may be paid off on the footing that it may be called up again or otherwise. This Article is not to derogate from any power of the Company would have if it were omitted.

(20) Sub-division, consolidation and cancellation of shares

Subject to the provisions of Section 94 of the Act, the Company, in a General Meeting may, from time to time, sub-divide or consolidate its shares or any of them and the resolution whereby any shares are sub-divided, may determine that as between the holders of the shares resulting from such sub-division, one or more of such shares shall have some preference or special advantage as regards dividend, capital or otherwise over or as compared with other.

(21) Issue of further pari passu shares not to affect the right of shares already issued

The rights conferred upon the holders of the shares of any class issued with preferred or other rights shall not, unless otherwise expressly provided by the terms of the issue of shares of that class, be deemed to be varied by the creation or issue of further shares ranking pari passu therewith.

III SHARES & CERTIFICATES

(22) Certificates how to be issued

The certificate(s) of shares or debentures shall be issued under the Seal of the Company and shall bear the signature of any person or persons authorized by the Board in that behalf. Every person whose name is entered as a member in the Register shall be entitled to receive the share certificates within three months after allotment or within two months after the application for the registration of transfer (or within such period as the conditions of issue shall provide). The Director may sign a share certificate by affixing his signature thereon by means of any machine equipment or other mechanical means such as engraving in metal or lithography. PROVIDED ALWAYS that notwithstanding anything contained in this Article, the certificates of title to shares may be executed and issued in accordance with such relevant provisions of the Act or the Rules made thereunder, as may be in force from time to time

(23) Member's right to certificate

Every member shall be entitled, free of charges, to one or more certificate for all or any of the share/shares registered in his name. Every certificate of shares shall specify the number and the denoting number/numbers of the shares in respect of which it was issued and the amount paid up thereon. The share certificates shall be issued in market lots and where share certificates are issued more or less than the market lots, consolidation and sub-division of share certificates into market lots, shall be done free of charge.

(24) Fractional Certificates

The Company may issue such fractional certificates as the Directors may approve in respect of any of the shares of the Company on such terms as the Directors think fit as to the period within which the fractional certificates are to be converted into share certificates

(25) Issue of new certificate in place of one defaced, lost or destroyed

If any certificate be worn out or defaced or torn or be otherwise mutilated or there is no further space on the back thereof for endorsement of transfer, then, upon production thereof to the Directors, they may order the same to be cancelled and may issue a new certificate in lieu thereof; and if any certificate be lost or destroyed, then, upon proof thereof to the satisfaction of the Directors and on such indemnity and payment of out-of-pocket expenses incurred by the Company as the Directors deem adequate being given and upon such advertisement being published as the Board may require, a new certificate in lieu thereof shall be given to the party entitled to such lost or destroyed certificate.

Such sum not exceeding Rupees Two as the Directors may from time to time prescribe shall be paid to the Company for every certificate issued under this clause. Provided that no fee shall be charged for issue of new certificates in replacement of those which are old, decrepit or worn out or where the cages on the reverse for recording transfers have been fully utilised.

(26) Issue of Certificates to joint holders

The certificate of shares registered in names of two or more persons shall be delivered to the person first named in the Register.

(27) The first named of joint holders deemed sole holder

If any share stands in the names of two or more persons, the person first named in the Register shall as regards receipt of dividends or cash bonus, or service of notices or any other matter connected with the Company except voting at meetings and the transfer of the shares, be deemed the sole holder thereof but the joint holders of a share shall be severally as well as jointly liable for, the payment of all instalments and calls due in respect of such shares and for all incidents thereof according to the provisions of the Act.

(28) Dematerialisation of securities

Notwithstanding anything contained in these Articles, the Company shall be entitled to dematerialise its securities and to offer them in a dematerialised form pursuant to the Depositories Act, 1996.

(a) Option for Investors

Every person subscribing to securities offered by the Company shall have the option to receive security certificates or to hold the securities with a Depository. Such a person who is the beneficial owner of the securities can at any time opt out of a depository, if permitted by the law, in respect of any security in the manner provided by the Depositories Act, and the Company shall in the manner and within the time prescribed, issue to the beneficial owner the required Certificate of Securities.

If a person opts to hold his security with a Depository, the Company shall intimate to such Depository the details of allotment of the security and on receipt of the information, the Depository shall enter in its record the name of the allottee as the beneficial owner of the security.

If a beneficial owner seeks to opt out of a depository in respect of any security, the beneficial owner shall inform the depository accordingly.

The depository shall on receipt of intimation as above make appropriate entries in the records and shall inform the Company.

The Company shall after receipt of intimation from the depository and on fulfilment of such conditions and on payment of such fees as may be specified by the regulations, issue the certificate of securities to the beneficial owner or the transferee as the case may be.

(b) Securities in Depositories to be in fungible form

All securities held by a Depository shall be dematerialised and in fungible form. Nothing contained in Sections 153 and 187C of the Act shall apply to a Depository in respect of the securities held by it on behalf of the beneficial owners.

(c) Rights of Depositories and Beneficial Owners

Notwithstanding anything to the contrary contained in the Act or these Articles, a Depository shall be deemed to be the registered owner for the purposes of effecting transfer of ownership of security on behalf of the beneficial owner. Save as otherwise provided in (a) above, the Depository as the registered owner of the securities shall not have any voting rights or any other rights in respect of the securities held by it.

Every person holding securities of the Company and whose name is entered as the beneficial owner in the records of the Depository shall be deemed to be a member of the Company. The beneficial owner of securities shall be entitled to all the rights and benefits and be subject to all the liabilities in respect of his securities, which are held by a Depository.

(d) Allotment of securities dealt with on a Depository

Notwithstanding anything in the Act or these Articles where securities are dealt with by a Depository, the Company shall intimate the details thereof to the Depository immediately on allotment of such securities.

(e) Distinctive numbers of securities held in a depository

Nothing contained in the Act or these Articles regarding the necessity of having distinctive numbers for securities issued by the Company shall apply to securities held with a Depository.

(f) Register and Index of Beneficial Owner

The Register and Index of beneficial owners maintained by a Depository under the Depositories Act, 1996 shall be deemed to be the Register and Index of Members and Security holders for the purpose of these Articles.

(g) Company not to recognise any interest in shares other than member

Except as ordered by a court of competent jurisdiction or as required by law, the Company shall be entitled to treat the person whose name appears on the Register of Members as the holder of any share or where the name appears as the beneficial owner of shares in the records of the Depository as the absolute owner thereof and accordingly shall not be bound to recognise benami trust or



equitable, contingent future or partial interest in any share, or (except only as is by these Articles otherwise expressly provided) any right in respect of share other than an absolute right thereto in accordance with these Articles, on the part of any other person whether or not it has express or implied notice thereof, but the Board shall be at liberty at their sole discretion to register any share in the joint names of any two or more persons or survivor or survivors of them.

(h) Disclosure of Beneficial Interest

- (i) Notwithstanding anything herein contained a person whose name is at any time entered in the Register of Members of the Company as the holder of a share in the Company, but who does not hold the beneficial interest in such share, shall, within such time and in such form as may be prescribed, make a declaration to the Company specifying the name and other particulars of the person or persons who hold the beneficial interest in such share in the manner provided in the Act;
- (ii) A person who holds a beneficial interest in a share or a class of shares of the Company shall, within the time prescribed, after his becoming such beneficial owner, make a declaration to the Company specifying the nature of his interest, particulars of the person in whose name the share stands in the Register of members of the Company and such other particulars as may be prescribed in the Act;
- (iii) Whenever there is a change in the beneficial interest in a share referred to above, the beneficial owner shall, within the time prescribed from the date of such change make a declaration to the Company in such form and containing such particulars as may be prescribed as provided in the Act;
- (iv) Notwithstanding anything contained in the Act and Article 32 where any declaration referred to above is made to the Company, the Company shall make note of such declaration in the Register of Members and file within the time prescribed from the date of receipt of the declaration a return in the prescribed form with the Registrar with regard to such declaration.

(29) Articles to apply to debentures

The provisions of Articles 22 to 28 shall mutatis mutandis apply to debentures of the Company

IV CALLS

(30) Calls

The Directors may, from time to time by resolution passed at a meeting of the Directors and not by a circular resolution, make such calls as they think fit upon the members in respect of all moneys unpaid on the shares held by them (whether on account of the nominal value of the shares or by way of premium) and not by the conditions of allotment thereof made payable at fixed times. Each member shall pay the amount of every call so made on him to the persons and at the time and place appointed by the Directors. A call may be made payable by instalments and shall be deemed to have been made when the resolution of the Directors authorising such calls was passed.



(31) Notice of call

At least 14 days' notice of any call shall be given by the Company specifying the time and place of payment and to whom such call shall be paid, provided that before the time for payment of such call, the Directors may, by notice in writing to the members, revoke the same or extend the time for payment thereof.

(32) Amount payable at fixed times or by instalments payable as calls

If by the terms of issue of any share or otherwise any amount is or becomes payable on allotment or at any fixed date or by instalments at fixed times whether on account of the nominal amount of the share or by way of premium, every such amount or instalment shall be payable as if it were a call duly made by the Directors and payable on the date on which by the terms of issue or otherwise such sum becomes payable and of which due notice has been given. In case of non-payment of such sum, all the relevant provisions herein contained as to payment of interest and expenses, forfeiture or otherwise shall apply as if such amount had become payable by virtue of a call duly made and notified.

(33) When interest on call or instalment payable

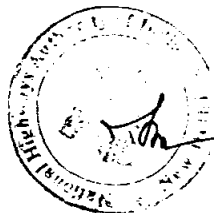
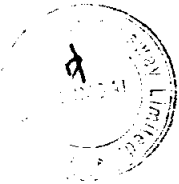
If sum payable in respect of any call or instalment be not paid on or before the day appointed for payment thereof, the holder for the time being of the share in respect of which the call shall have been made or the instalment shall be due, shall pay interest at such rate as the Directors may determine. The Directors may, however, in their absolute discretion waive payment of any interest.

(34) Evidence in action for call

On the trial or hearing of any action for the recovery of any money due for any call, it shall be sufficient to prove that the name of the member sued is entered in the Register as the holder or one of the holders, of the shares, in respect of which such debt accrued, that the resolution making the call is duly recorded in the minute book and that notice of such call was duly given to the member sued, in pursuance of these presents and it shall not be necessary to prove the appointment of the Directors who made such call, nor that a quorum of Directors was present at the Board at which any call was made nor any other matters whatsoever and the proof of the matters aforesaid shall be conclusive evidence of the debt.

(35) Partial payment not to preclude forfeiture

Neither a judgement nor a decree in favour of the Company for calls or other moneys due in respect of any shares nor the receipt by the Company of a portion of any money which shall from time to time be due from any member in respect of any shares either by way of principal or interest nor any indulgence granted by the Company in respect of payment of any such money shall preclude the Company from thereafter proceeding to enforce a forfeiture of such shares as herein provided.



(36) Payments of call in advance

The Directors may, if they think fit, receive from any member willing to advance the same, all or any part of the sum due upon the shares held by him beyond the sums actually called for; and upon the moneys so paid in advance or so much thereof as from time to time exceeds the amount of calls then made upon the shares in respect of which such advance has been made, the Company may (until the same would but for such advance become presently payable) pay interest at such as the member paying such sum in advance and the Directors may agree upon and the Directors may at any time repay the amount so advanced upon giving to such member, notice in writing as agreed upon at the time of receiving the advance. The member making such advance payment shall not, however, be entitled to dividend or to participate in profits of the Company or exercise any voting rights in respect of the moneys so paid by him until the same would, but for such payment, become presently payable.

(37) Members not entitled to privileges of membership until all calls paid

No member shall be entitled to receive any dividend or to exercise any privilege as a member until he shall have paid all Calls for the time being due and payable on every share held by him, whether alone or jointly with any other person together with interest and expenses, if any.

V FORFEITURE AND LIEN

(38) If call or instalment not paid, notice may be given

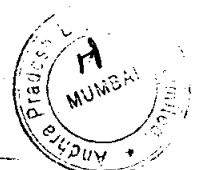
If any member fails to pay any call or instalment on or before the day appointed for the payment of the same, the Directors may at any time thereafter, during such time as the call or instalment remains unpaid serve a notice on such member requiring him to pay the same together with any interest that may have accrued and all expenses that may have been incurred by the Company by reason of such non- payment.

(39) Form of notice

The notice shall name a day (not being earlier than the expiry of fourteen days from the date of service of the notice) and a place or places, on and at which such call or instalment and such interest and expenses as aforesaid are to be paid. The notice shall also state that in the event of non-payment on or before the time and at the place appointed, the shares in respect of which the call was made or instalment is payable will be liable to be forfeited.

(40) If notice not complied with, shares may be forfeited

If the requisitions of any such notice as aforesaid are not complied with, any shares, in respect of which such notice has been given may, at any time thereafter, before payment on all calls or instalments, interest and expenses, due in respect thereof, be forfeited by a resolution of the Board of Directors to that effect. Such forfeiture shall include all dividends and other benefits declared in respect of the forfeited shares and not actually paid or effected, as the case maybe, before the forfeiture.



(41) Notice of forfeiture

When any share shall have been so forfeited, notice of the resolution of the Board of Directors shall be given to the member in whose name it stood immediately prior to the forfeiture and an entry of the forfeiture with the date thereof shall forthwith be made in the register of members, provided however, that the failure to give such notice will not in any way invalidate the forfeiture.

(42) Forfeited shares to become property of the Company

Any shares so forfeited shall be deemed to be the property of the Company and the Directors may sell, re-allot and otherwise dispose of the same in such manner, as they think fit.

(43) Power to annul forfeiture

The Directors may, at any time, before any shares so forfeited shall have been sold, re-allotted or otherwise disposed of, annul the forfeiture thereof as a matter of grace and favour but not as a matter of right, upon such terms and conditions as they may think fit.

(44) Arrears to be paid notwithstanding forfeiture

Any member whose shares shall have been forfeited shall, notwithstanding the forfeiture, be liable to pay and shall forthwith pay to the Company all calls, instalments, interest and expenses, owing upon or in respect of such shares at the time of the forfeiture together with interest thereon, from the time of forfeiture until payment, at the rate of 12 percent per annum and the Directors may enforce the payment of such moneys or any part thereof if they think fit, but shall not be under any obligation so to do.

(45) Effect of forfeiture

The forfeiture of a share shall involve the extinction of all interest in and also of all claims and demand against the Company in respect of the share and all other rights incidental to the same except only such of those rights as by these presents are expressly saved.

(46) Certificate of forfeiture

A certificate in writing under the hands of any Director and countersigned by the Secretary of the Company, that the call in respect of a share was made and notice thereof was given and that default in payment of the call was made and that the forfeiture of the shares was made by a resolution of the Board of Directors to that effect, shall be conclusive evidence of that fact stated therein as against all persons entitled to such share.



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(47) Title of purchaser and allottee of forfeited shares

The Company may receive the consideration, if any, given for any share forfeited, on any sale, re-allotment or other disposal thereof and may execute transfer of the share in favour of the person to whom the share is sold or disposed of and the person to whom such share is sold, re-allotted or disposed of may be registered as the holder of the share. Any such purchaser or allottee shall not (unless by express agreement) be liable to pay any calls, amounts, instalments, interest and expenses owing to the Company prior to such purchase or allotment nor shall he be entitled (unless by express agreement) to any of the dividends, interest or bonus accrued or which might have accrued upon the share before the time of completing such purchase or before such allotment. Such purchaser or allottee shall not be bound to see the application of the purchase money, if any, nor shall his title to the share be affected by any irregularity or invalidity in the proceedings in reference to the forfeiture, sale, re-allotment or disposal of the share.

(48) Company's lien on shares

The Company shall have no lien on its fully paid up shares. In the case of partly paid up shares, the Company shall have a lien only to the extent of all moneys called or payable at a fixed time in respect of such shares, otherwise such partly paid up shares shall be free from any lien of the Company. Any lien on shares shall extend to all dividends from time to time declared in respect of such shares. Unless otherwise agreed, the registration of a transfer of shares shall operate as a waiver of the Company's lien, if any, on such shares. The Board of Directors may at any time declare any shares to be wholly or in part exempt from the provisions of this Article.

(49) Enforcement of lien by sale

For the purpose of enforcing such lien, the Board of Directors may sell the shares subject thereto in such manner as they think fit; but no sale shall be made until such period as aforesaid shall have arrived and until notice in writing of the intention to sell have been served as provided in Article 43 hereof on such member, his heirs, executors or administrators and default shall have been made by him or them in the payment, fulfilment, or discharge of such debts, liabilities, or engagements for seven days after such notice. To give effect to any such sale, the Board may authorise some person to execute an instrument of transfer in respect of the shares sold and to transfer the shares sold to the purchaser thereof and the purchaser shall be registered as the holder of the shares comprised in any such transfer. Upon any such sale as aforesaid the certificates in respect of the shares sold shall stand cancelled and become null and void and of no effect, and the Directors shall be entitled to issue a new certificate in lieu thereof to the purchaser or purchasers concerned.

(50) Application of proceeds of sale

The net proceeds of such sale shall be received by the Company and after payment of the cost of such sale shall be applied in or towards satisfaction of the debts, liabilities or engagements of such member and the residue if any, paid to him, his heirs, executors and administrators or assigns or other legal representative as the case may be.

(51) **Validity of sale in exercise of lien and after forfeiture**

Upon any sale after forfeiture or for enforcing a lien in purported exercise of the powers herein before given, the Board of Directors may appoint some person to execute an instrument of transfer of the shares sold and cause the purchaser's name to be entered in the Register in respect of the shares sold and the purchaser shall not be bound to see to the regularity of the proceedings nor to the application of the purchase money and after his name has been entered in the Register in respect of such shares, the validity of the sale and the entry in the Register in respect of the shares sold shall not be impeached by any person and the remedy of any person aggrieved by the sale shall be in damages only and against the Company exclusively.

(52) **Board of Directors may issue new certificates**

Where any shares under the powers in that behalf herein contained are sold by the Board of Directors after forfeiture or for enforcing a lien and the certificate in respect thereof has not been delivered up to the Company by the former holder of such shares, the Board of Directors may issue a new certificate of such shares distinguishing it in such manner as they may think fit from the certificate not so delivered.

(53) **Application of forfeiture provisions**

The provisions of the Articles as to forfeiture shall apply in the case of non-payment of any sum which by the terms of the issue of a share becomes payable at a fixed time, whether on account of the amount of the share, or by way of premium, as if the same had been payable by virtue of a call duly made and notified.

(54) **Articles to apply to debentures**

The provisions contained in Articles 39 to 53 shall mutatis mutandis apply to debentures of the Company.

VI TRANSFER AND TRANSMISSION OF SHARES

(55) **Members have right of pre-emption.**

Except as hereinafter provided no shares in the Company shall be transferable unless and until the rights of pre-emption hereinafter conferred shall have been exhausted.

(56) **Form of notice**

Every Member who intends to transfer shares (hereinafter called the "Transferor") shall give a notice in writing (hereinafter called "Transfer Notice") to the Board or the Agent for the sale of the said shares in one or more lots at the discretion of the Board of Directors of the Company and at a price to be approved by the Board in its absolute discretion.



(57) Board to give Notice to Members

Upon the price being fixed as aforesaid, the Board shall forthwith give notice to all Members of the Company of the number and price of the shares to be sold and invite each of them to state in writing within 21 days from the date of the said notice whether he is willing to purchase any of the said shares, and if so, what maximum number of shares.

(58) Board to allocate shares to Member(s) willing to buy

At the expiration of the said period of 21 days, the Board shall allocate the said shares to or amongst the Member(s) who shall have expressed his/their willingness to purchase as aforesaid, such allocation to be made in proportion to existing shareholding of these Members, provided that no Member shall be obliged to take more than maximum number of shares so notified by him as aforesaid. If all or some of the said shares available for sale are not agreed to be purchased, the Board shall offer such shares to the Members (other than the transferor and any Member who has declared to take any shares) and such further allocation of shares shall be made within a further period of sixty days from the date of the original notice and shall be in the like manner as hereinbefore provided. Upon such allocation being made, the Transferor shall be bound on payment of the said price to transfer the shares to the purchaser(s), and if the Transferor makes default in so doing, the Board may receive and give a good discharge for the purchase money on behalf of the Transferor and enter the name of the purchaser in the Register of Members as holder by transfer of the said shares purchased by him.

(59) Shares not taken may be transferred to other persons

In the event of the whole of the said shares not being sold under the Articles 56 and 57 hereof, the Transferor may, at any time within three calendar months after the expiration of the said period sixty days, transfer the shares remaining unsold to any price to any person.

(60) Exception

The provision of Articles 56, 57 and 58 hereof shall not apply to transfer to person who is already a Member of the Company nor to a transfer by a Member who is a Body Corporate to its parent Company, or to any of its Subsidiary Companies or to a Corporation which controls or is controlled by or is under the common control of such transferor Corporation or to any of its associates or affiliates, nor to a transfer by a Member to his wife, husband, son, daughter, grandson, granddaughter, father, mother, brother and sister.

(61) Form of transfer

Shares in the Company may be transferred by an instrument in writing in the usual common form or in such other form as shall from time to time be approved by Directors provided that if so required by the provision of the Act, such instrument of transfer shall be in the form prescribed and shall be duly stamped and delivered to the Company within the prescribed period.

(62) No transfer to infant etc

No transfer shall be made to a minor, an infant or person of unsound mind.

(63) Transfer to be left at office and evidence of title given when transfer to be retained

Every instrument of transfer duly executed and stamped shall be left at the office of the Company for registration accompanied by the certificate of the shares to be transferred and such other evidence as the Company may require to prove the title of the transferor or his right to transfer the shares. All instruments of transfer which shall be registered shall be retained by the Company, but any instrument of transfer which the Directors may decline to register shall on demand, be returned to the person depositing the same.

(64) Fee on transfer or transmission

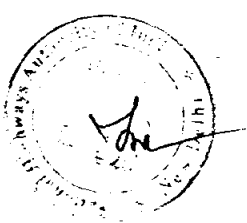
There shall be paid to the Company, in respect of the transfer or transmission of any number of shares to the same party, such fee, if any, not exceeding Re 1/- for each transfer as the Board may require.

(65) Closure of transfer books

The Directors may, after giving not less than seven days previous notice by advertisement as required by Section 154 of the Act, close the Register of Members or the Register of the Debenture-holders for any period or periods not exceeding in the aggregate forty-five days in each year, but not exceeding thirty days at any one time.

(66) Title to share of deceased holder

The executors or administrators of a deceased member shall be the only persons recognised by the Company as having any title to his share except in case of joint holders, in which case the surviving holder or holders or the executors or administrators of the last surviving holder shall be the only persons entitled to be so recognised; but nothing herein contained shall release the estate of a deceased joint holder from any liability in respect of any share jointly held by him. The Company shall not be bound to recognise such executor or administrator unless he shall have obtained probate or letters of administration or other legal representation, as the case may be, from a duly constituted Court in India to grant such probate or letters of administration, provided nevertheless that in cases, which the Board in its discretion consider to be special cases and in such cases only, it shall be lawful for the Board of Directors to dispense with the production of probate or letters of administration or such other legal representation upon such terms as to indemnity or otherwise as the Board of Directors may deem fit. The holder of succession certificate relating to the share of a deceased member and operative in the State of Maharashtra shall be deemed to be an administrator for the purposes of this Article.



(67) Directors' power to reject application for transfer

The Board of Directors shall have absolute and uncontrolled discretion and power to decline to register any proposed transfer or transmission of any shares without assigning any reasons whatsoever, subject however, to the provisions of Section 111 of the Act, and the rules made thereunder. This Article shall apply notwithstanding that the proposed transferee or the proposed holder under transmission may already be a member of the Company. Registration of a transfer shall not be refused on the ground of the transferor being either alone or jointly with any other person or persons indebted to the Company on any account whatsoever except a lien on the shares.

(68) Registration of persons entitled to shares otherwise than by transfer (transmission clause)

Subject to the provisions of the Act and these presents, any person becoming entitled to a share in consequence of death, bankruptcy or insolvency of any member or by any lawful means other than by a transfer in accordance with these presents, may with the consent of the Directors (which they shall not be under any obligation to give) and upon producing such evidence as the Board thinks sufficient either be registered himself as the holder of the share or elect to have some person nominated by him and approved by the Board, registered as such holder; provided nevertheless, that if such person shall elect to have his nominee registered he shall testify the election by executing to his nominee an instrument of transfer of the share in accordance with the provisions herein contained and until he does so, he shall not be freed from any liability in respect of the share.

Transfer by legal representative : A transfer of the share in the Company of a deceased member made by his legal representative shall, although the legal representative is not himself a member, be as valid as if he had been a member at the time of the execution of the instrument of transfer.

(69) Persons entitled may receive dividends without being registered as members

A person entitled to a share by transmission shall, subject to the right of the Directors to retain such dividends or moneys as hereinafter provided, be entitled to receive, and may give a discharge for, any dividends or other moneys payable in respect of the share.

(70) Board may require evidence of transmission

Every transmission of share shall be verified in such manner as the Directors may require and the Company may refuse to register any such transmission until the same be so verified or until and unless an indemnity be given to the Company with regard to such registration which the Directors in their discretion shall consider sufficient, provided nevertheless that there shall not be any obligation on the Company or the Directors to accept any indemnity.

(71) Certificate of transfer

The certification by the Company of any instrument of transfer of shares in or debentures of the Company, shall be taken as a representation by the Company to any person acting on the faith of the certification that there have been produced to the Company such documents as on the face of them show a prima facie title to the shares or debentures in the transferor named in the instrument of transfer but not as a representation that the transferor has any title to the shares or debentures.

(72) Transfer of debentures

The provisions contained in Articles 54 to Article 70 shall mutatis mutandis apply to the transfer of or the transmission by operation of law of the right to Debentures of the Company.

VII JOINT HOLDERS

(73) Joint holders

Where two or more persons are registered as the holders of any share, the person first named in the Register as one of the joint holders of the share shall be deemed the sole holder for matters connected with the Company subject to the following and other provisions contained in these presents :

- (a) The joint holders of any share shall be liable severally as well as jointly for and in respect of all calls and other payments which ought to be made in respect of such share.
- (b) On the death of any such joint holders the survivor or survivors shall be the only person or persons, recognised by the Company as having any title to the share but the Directors may require such evidence of death, as they may deem fit and nothing herein contained shall be taken to release the estate of a deceased joint holder from any liability on shares held by him jointly with any other persons.
- (c) Any one of several persons who are registered as joint holders of any share may give effectual receipts for all dividends and payment on account of dividends in respect of such share.
- (d) Only the person whose name stands first in the Register of Members as one of the joint holders of any shares shall be entitled to the delivery of the certificates relating to such share or to receive documents (which expression shall be deemed to include all documents referred to in these Presents, from the Company and any documents served on or sent to such person shall be deemed to be served on all the joint holders.
- (e) Any one of two or more joint holders may vote at any meeting either personally or by attorney duly authorised under power of attorney or by proxy in respect of such shares as if he were solely entitled thereto and if more than one of such joint holders be present at any meeting personally or by proxy or by attorney then one of such persons so present whose name stands first or higher (as the case may be) on the Register in respect of such share shall alone

be entitled to vote in respect thereof but the other or others of the joint holders shall be entitled to be present at the meeting provided always that a joint holder present at any meeting personally shall be entitled to vote in preference to a joint holder present by attorney or proxy although the name of such joint holder present by an attorney or proxy stands first or higher (as the case may be) in the Register in respect of such shares. Several executors or administrators of a deceased member in whose (deceased member's) sole name any share stands, shall, for the purpose of this sub-clause, be deemed joint holders.

VIII MODIFICATION OF RIGHTS

(74) Power to vary shareholders' rights

Whenever the capital, by reason of the issue of preference shares or otherwise, is divided into different classes of shares, all or any of the rights and privileges attached to each class, may subject to the provisions of Section 106 and 107 of the Act, be modified, commuted, affected, abrogated or dealt with by agreement between the Company and any person purporting to contract on behalf of that class, provided such agreement is ratified in writing by the holders of at least three-fourths in nominal value of the issued shares of the class or is confirmed by special resolution passed at a separate General Meeting of the holders of shares of that class.

IX BORROWING POWERS

(75) Power to borrow

Subject to the provisions of Section 292 of the Act, the Board of Directors may from time to time by a resolution passed at a Meeting of the Board, accept deposits from members, either in advance of calls or otherwise and may generally raise or borrow or secure the payment of any sum or sums of money for the Company.

(76) Conditions for repayment of moneys borrowed

The payment or repayment of moneys borrowed pursuant to Article 75 of these presents may be secured in such manner and upon such terms and conditions in all respects as the Board of Directors may think fit including by the issue of debentures or debenture stock of the Company charged upon all or any part of the undertakings or property of the Company (both present and future) and its uncalled share capital for the time being pursuant to a resolution passed at the meeting of Board of Directors but not by its circular resolution.

(77) Debentures and securities to be subject to control of Directors

Any debentures, debenture stock, bonds or other securities issued or to be issued by the Company shall be under the control of the Directors who may issue them upon such terms and conditions and in such manner and for such consideration as they shall consider to be for the benefit of the Company.

(78) Terms of issue of Debentures

Any debentures, debenture stock or other securities may be issued at a discount, premium or otherwise and may be issued on condition that they shall be convertible into shares of any denomination, and with any privileges and conditions as to redemption, surrender, drawing, allotment of shares and attending general meetings of the Company and the right to appoint Directors and otherwise. Debentures carrying the right of conversion into or allotment of shares shall be issued only with the consent of the Company in general meeting and subject to and in accordance with the provisions of Section 81 of the Act.

(79) Mortgage uncalled capital

If any uncalled capital of the Company is included in or charged by any mortgage or other security, the Board of Directors shall subject to the provisions of the Act and these presents make calls on the members in respect of such uncalled capital in trust for the person in whose favour such mortgage or security is executed or, if permitted by the Act, may, by instrument under the Company's Seal, authorise the person in whose favour such mortgage or security is executed or any other person in trust for him, to make calls on the members in respect of such uncalled capital, and the provisions herein before contained in regard to calls shall, mutatis mutandis, apply to calls made under such authority, and such authority may be made exercisable either conditionally or unconditionally and either presently or contingently and either to the exclusion of the Board's power or otherwise, and shall be assignable if expressed so to be.

(80) Priority over charge on uncalled capital

Where any uncalled capital of the Company is charged, all persons taking any subsequent charge thereon shall take the same charge subject to such prior charge and shall not be entitled by notice to the shareholders or otherwise, to obtain priority over such prior charge.

(81) Indemnity may be given

If the Directors or any of them or any other persons shall become personally liable for the payment of any sum primarily due from the Company under the due process of law or under the authority of any law enforcement agencies, the Directors may execute or cause to be executed any mortgage, charge or security over or affecting the whole or any part of the assets of the Company by way of indemnity to secure the Directors or persons so becoming liable as aforesaid from any loss in respect of such liability.

X GENERAL MEETINGS

(82) Annual or ordinary General Meeting

The Annual General Meeting shall be held in accordance with Section 166 of the Act and shall be called for a time during business hours on a day that is not a public holiday and shall be held either at the Registered Office of the Company or at such place in the city, town or village in which the Registered Office of the Company is situated, as the Board of Directors may determine and the notices calling the meeting shall specify it as the Annual General Meeting.



(83) Right to attend General Meetings

Every member of the Company shall be entitled to attend every general meeting either in person or by proxy, and the Auditor of the Company shall have the right to attend and to be heard at any general meeting on any part of the business which concerns him as Auditor.

(84) Reports, Statements and Registers to be laid on the table

At every Annual General Meeting of the Company there shall be laid on the table the Directors' Report and audited Statement of Accounts, Auditors' Report (if not already incorporated in the audited Statement of Accounts), the proxies lodged and the Register of Directors' holdings maintained under Section 307 of the Act. The Auditors' Report shall be read before the Company in General Meeting and shall be open to inspection by any member of the Company.

(85) Distinction between Ordinary and Extra-Ordinary General Meeting

All general meetings other than Annual General Meetings shall be called Extraordinary General Meetings.

(86) Who may call Extra-Ordinary General Meeting

The Board may, whenever it thinks fit, call an Extraordinary General Meeting. If at any time there are not within India Directors capable of acting who are sufficient in number to form a quorum, any Director or any two members of the Company may call an Extraordinary General Meeting in the same manner, as nearly as possible as that in which such a meeting may be called by the Board at such time and place as it or they may determine.

(87) Calling of Extra-ordinary General Meeting on requisition

The Board of Directors of the Company shall on the requisition of such number of members of the Company as is specified in sub-section (4) of Section 169 of the Act, forthwith proceed duly to call an Extraordinary General Meeting of the Company, and in respect of any such requisition and of any meeting to be called pursuant thereto, all the other provisions of Section 169 of the Act and of any statutory modification thereof for the time being shall apply.

(88) Notice of meeting

A general meeting of the Company may be called by giving not less than 21 days notice in writing. However, a general meeting may be called after giving a shorter notice than that of 21 days, if consent is accorded thereto:

- (i) in the case of an Annual General Meeting, by all the members entitled to vote thereat; and
- (ii) in the case of any other meeting, by members of the Company holding not less than 95 per cent of such part of the paid up share capital of the Company as gives them a right to vote at that meeting;



Provided that where any members of the Company are entitled to vote only on some resolutions or resolution to be passed at the meeting and not on the others, those members shall be taken into account for the purpose of this Article in respect of the former resolution or resolutions but not in respect of the latter.

(89) Contents of notice

Every notice of a meeting of the Company shall specify the place, the date and hour of the meeting, and shall contain a statement of the business to be transacted thereat. No general meeting, annual or extraordinary shall be competent to enter upon, discuss or transact any business which has not been specifically mentioned in the notice or notices upon which it was convened.

(90) Special business

In the case of an Annual General Meeting all business to be transacted at the meeting shall be deemed Special, with the exception of business relating to: -

- (a) the consideration of the accounts, Balance Sheet and Profit and Loss Account and the Report of the Board of Directors and of the Auditors,
- (b) the declaration of dividend,
- (c) the appointment of Directors in the place of those retiring,
- (d) the appointment and the fixing of the remuneration of the Auditors

In the case of any other meeting all business shall be deemed Special

(91) Service of notice

Notice of every meeting shall be given to every member of the Company as provided in Section 53 of the Act.

(92) Notice to be given to Auditors

Notice of every meeting of the Company shall be given to the Auditor or Auditors for the time being of the Company, in the manner provided in Section 53 of the Act.

(93) Omission to give notice not to invalidate meeting

The accidental omission to give notice of any meeting to or the non-receipt of any notice by any member or other person to whom it should be given shall not invalidate the proceedings at the meeting.

(94) Resolution requiring Special Notice

Where by any provision contained in the Act or in these presents, Special Notice is required of any resolution, notice in respect of the same shall be given to the Company and to the Company as provided in Section 190 of the Act



XI PROCEEDINGS AT GENERAL MEETINGS

(95) Business of Ordinary Meeting

The business of an Annual General Meeting shall be to receive and consider the Profit and Loss Account, the Balance Sheet and the Report of the Directors and of the Auditors, to elect Directors in place of those retiring, to appoint Auditors and to fix their remuneration, to declare dividends and to transact any other business which, under these presents, ought to be transacted at an Annual General Meeting.

(96) Business of Ordinary Meeting - Special Business

All other business transacted at an Annual General Meeting and all business transacted at an Extraordinary General Meeting shall be deemed Special.

(97) Quorum to be present when business commenced

Five members present in person shall be quorum for a general meeting and no business shall be transacted at any general meeting unless the quorum requisite be present at the commencement of the business

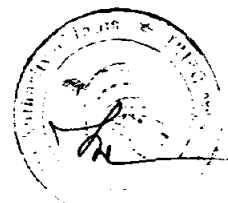
(98) Chairman of General Meetings

The Chairman of the Board of Directors, if willing, presides as chairman at every General Meeting, Annual or Extraordinary. If there be no such Chairman or if at any meeting he shall not be present within fifteen minutes after the time appointed for holding such meeting or being present declines to take the chair, the Directors present may choose one of their number to be Chairman and in default of their doing so, the members present shall choose one of their Directors to be Chairman and if no Director present be willing to take the Chair, shall on a show of hands, elect one of their number to be Chairman of the meeting.

If a poll is demanded on the election of the chairman, it shall be taken forthwith in accordance with the provisions of the Act and these presents and the Chairman elected on show of hands shall exercise all the powers of the Chairman under the said provisions. If some other person is elected Chairman as a result of the poll, he shall be the Chairman for the rest of the meeting.

(99) When, if quorum not present, meeting to be dissolved and to be adjourned

If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if convened upon such requisition as aforesaid, shall be dissolved; but in any other case it shall stand adjourned to the same day in the next week, at the same time and place or to such other day, time and place, as the Directors may by notice to the shareholders appoint. If at such adjourned meeting a quorum is not present those members who are present shall be a quorum and may transact the business for which the meeting was called.



(100) Business confined to election of Chairman while Chair vacant

No business shall be discussed at any General Meeting except election of a Chairman while the Chair is vacant.

(101) How questions to be decided at meetings - casting vote

Every question submitted to a meeting shall be decided, in the first instance, by a show of hands and in the case of an equality of votes, the Chairman shall, both on a show of hands and on a poll have a casting vote in addition to the vote to which he may be entitled as a member.

(102) Voting by show of hands

At any General Meeting, a resolution put to the vote of the meeting shall, unless a poll is demanded be decided on a show of hands.

(103) Result of voting

A declaration by the Chairman that on a show of hands, a resolution has or has not been carried either unanimously or by a particular majority and an entry to that effect in the books containing the minutes of the proceedings of the Company, shall be conclusive evidence of the fact, without proof of the number or proportion of the votes cast in favour of or against such resolution.

(104) Demand for poll

Before or on the declaration of the result of the voting on any resolution on a show of hands, a poll may be ordered to be taken by the Chairman of the meeting of his own motion, and shall be ordered to be taken by him on a demand made in that behalf by one member having the right to vote on that resolution and present in person or by proxy if not more than seven members are personally present, and by two such members present in person or by proxy, if more than seven members are personally present.

(105) Poll may be withdrawn

The demand for a poll may be withdrawn at any time by the person or persons who made the demand.

(106) Time of taking poll

Any poll duly demanded on the question of adjournment shall be taken forthwith. A poll demanded on any other question (not being a question relating to the election of a Chairman) shall be taken at such time not exceeding 48 hours from the time when the demand was made, as the Chairman may direct.

(107) Power to adjourn General Meeting

The Chairman of a General Meeting, may with the consent of the meeting, adjourn the same from time to time and from place to place, but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.

(108) Business may proceed notwithstanding demand for poll

The Demand of a poll shall not prevent the continuance of a meeting for the transaction of any business other than the question of which a poll has been demanded.

(109) Scrutineers at poll

Where a poll is to be taken, the Chairman of the meeting shall appoint two scrutineers to scrutinise the votes given on the poll and to report thereon to him.

(110) Power to remove Scrutineer

The Chairman shall have power, at any time before the result of the poll is declared to remove a scrutineer from office and to fill vacancies in the office of scrutineer arising from such removal or from any other cause.

(111) Member to be Scrutineer

Of the two scrutineers, one shall always be a member (not being an officer or employee of the Company) present at the meeting, provided such a member is available and willing to be appointed.

(112) Manner of taking poll

The Chairman of the meeting shall have power to regulate the manner in which a poll shall be taken.

(113) Result of poll

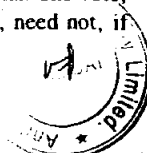
The result of the poll shall be deemed to be decision of the meeting on the resolution on which the poll was taken.

(114) Chairman to be the sole judge of the validity of the vote tendered at meeting and at poll

The Chairman of any meeting shall be the sole judge of the validity of every vote tendered at such meeting. The Chairman present at the taking of all polls shall be the sole judge of the validity of every vote tendered at such poll.

(115) Right of member to use his vote

On a poll taken at meeting of the Company, a member entitled to more than one vote, or his proxy or other person entitled to vote for him, as the case may be, need not, if he votes, use all his votes or cast in the same way all the votes he uses.



(116) Resolution passed at adjourned meeting

Where a resolution is passed at an adjourned meeting of the Company, the resolution shall, for all purposes, be treated as having been passed on the date on which it was in fact passed and shall not be deemed to have been passed on any earlier date.

(117) Minutes of General Meeting

The Company shall cause minutes of the proceedings of every general meeting to be entered in the book kept for that purpose and the minutes shall contain and include the matters specified in Section 193 of the Act.

(118) Inspection of Minutes Books of General Meetings

The books containing the aforesaid minutes shall be kept at the Registered Office of the Company and be open to the inspection of any member without charge as provided in Section 196 of the Act. Any member shall be furnished with a copy of any minutes in accordance with the terms of that section.

(119) Votes may be given by proxy or attorney

Subject to provisions of the Act and these presents, votes may be given personally or by attorney duly authorised under power of attorney or by proxy or in case of a body corporate also by a representative duly authorised under Section 187 of the Act or by proxy of such representative of the body corporate.

XII VOTING RIGHTS

(120) Votes of members

Every member, who being an individual, is present in person or being a corporation, is present by a representative, shall have one vote on a show of hands.

(121) Voting right in proportion to share of paid up capital of the Company

Every member who being an individual present in person or by a proxy or by attorney duly authorised under power of attorney, or being a Corporation is present by a representative or his proxy shall, on a poll, have a voting right in proportion to his share of the paid up equity capital of the Company.

(122) No voting by Proxy on show of hands

No member not personally present shall be entitled to vote on a show of hands unless such member is present by attorney duly authorised under power of attorney or unless such member is a body corporate present by a representative duly authorised under Section 187 of the Act in which case such attorney or representative may vote on a show of hands as if he were a member of the Company.

(123) Person entitled under the Transmission Clause may vote at General Meeting

Any person entitled under the Transmission Clause to any shares may vote at any General Meeting in respect thereof in the same manner as if he were the registered holder of such share, provided that forty-eight hours at least before the time of holding the meeting or adjourned meeting as the case may be, at which he proposes to vote he shall satisfy the Board of Directors of his right to Transmission of such shares, unless the Directors shall have previously admitted his right to Transmission of such shares or his right to vote at such meeting in respect thereof.

(124) Instrument appointing Proxy

The instrument appointing a proxy shall be in writing under the hand of the appointer or his attorney duly authorised in writing or, if such appointer is a corporation, under his common seal or the hand of an officer or an attorney duly authorised by it. A person may be appointed a proxy though he is not a member of the Company, but such proxy shall not have any right to speak at any meeting.

(125) Member's rights to appoint Proxy to be stated in notice

Every notice convening a meeting of the Company shall state that a member entitled to attend and vote at the meeting is entitled to appoint a proxy to attend and vote on poll instead of him and that a proxy need not be a member of the Company.

(126) Instrument appointing Proxy to be deposited at Office

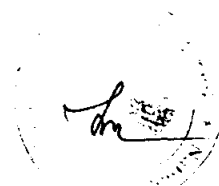
The instrument appointing a proxy and the power of attorney or other authority, if any, under which it is signed or a notarially certified copy of that power or authority shall be deposited at the Registered Office of the Company not less than forty-eight hours before the time for holding the meeting at which the person named in the instrument proposes to vote in case of a poll and in default the instrument of proxy shall not be treated as valid.

(127) When vote by proxy valid, though authority revoked

A vote in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death of the Principal or revocation of the proxy or transfer of the share in respect of which the vote is given, provided no intimation in writing of the death, revocation or transfer shall have been received at the office of the Company or by the Chairman of the meeting before the vote is given.

(128) Form of Proxy

Every instrument of proxy, whether for a specified meeting or otherwise shall as nearly as circumstances will admit, be in the form specified in Schedule IX of the Act.



(129) Time and place to inspect the Proxies lodged

Every member entitled to vote at a meeting of the Company according to the provisions of these presents on any resolution to be moved thereat, shall be entitled during the period beginning twenty-four hours before the time fixed for the commencement of the meeting and ending with the conclusion of the meeting, to inspect the proxies lodged, at any time during the business hours of the Company, provided not less than three days' notice in writing of the intention to inspect is given to the Company

(130) No member entitled to vote etc while call due to Company

No member shall be entitled to vote either personally or by proxy at any General Meeting of a class of shareholders either upon a show of hands or on poll in respect of any shares registered in his name on which any calls or other sums presently payable by him have not been paid or in regard to which the Company has exercised any right of lien.

XIII DIRECTORS

(131) First Directors

The First Directors of the Company are :

- (i) Mr Mukund Sapre
- (ii) Mr Ramesh Chander Bawa
- (ii) Mr Avinash Bagul

(132) Board of Directors

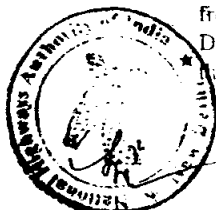
The Company shall be managed and controlled by its Board of Directors and shall have the responsibility, power and authority to manage and supervise the financial, commercial and personnel activities of the Company and for determining the overall policies and objectives of the Company

(133) Number of Directors

Until otherwise determined by the Company in General Meeting and subject to the provisions of Section 252 of the Act, the total number of Directors (excluding the Nominee Director/s of Financial Institutions and/or Special Director/s) shall not be less than three and not more than twelve.

(134) Appointment of Alternate Directors

The Board may appoint an Alternate Director to act for a Director (hereinafter called "the Original director") during his absence for a period of not less than three months from the State in which the meetings of the Board are ordinarily held. An Alternate Director appointed under these Article shall not hold office for a period longer than that permissible to the original director in whose place he has been appointed and shall



vacate office if and when the original director returns to that State. If the term of office of the Original director is determined before he so returns to that State, any provisions in the Act or these Articles for the automatic re appointment of retiring director in default of another appointment, shall apply to the original director and not to the alternate director.

(135) Appointment of Additional Directors

Subject as aforesaid, the Board shall have power at any time and from time to time, to appoint or as an additional Director pursuant to and in accordance with the provisions of Section 260 of the Act, but so that the total number of Directors shall not at any time exceed the maximum number fixed by Article 134. But any additional Director or Directors so appointed shall hold office only until the next following Annual General Meeting of the Company and shall then be eligible for re- election.

(136) Appointment of Director in casual vacancy

Subject to the provisions of Sections 261, 262, 264(6) the Board shall have power at any time and from time to time to appoint any other qualified person to be a director to fill up a casual vacancy. Any person so appointed shall hold office only upto the date upto which the director in whose place he is appointed would have held office if it had not been vacated by him.

(137) Nominee Directors

The Company shall, subject to the provisions of the Act, be entitled to agree with any person, firm or body corporate, being a Member of the Company, that he or it shall have the right to appoint his or its nominee on the Board of Directors of the Company upon such terms and conditions as the Company may deem fit. Such nominee and their successors in office appointed under this Article shall be called "Nominee Directors" of the Company

(138) Terms of office of Nominee Directors

The Nominee Directors appointed under the last preceding Article shall be entitled to hold office until retired by the person, firm or body corporate who may have appointed them, and will not be bound to retire by rotation or be subject to Articles hereof. A Nominee Director shall not require any qualification Shareholding. As and whenever a Nominee Director vacates office whether upon request as aforesaid or by death, resignation or otherwise, the person, firm or body corporate who appointed such Nominee Director may appoint another Director in his place. Every nomination, appointment or removal of a Nominee Director or other notification under this Article shall be in writing and shall in the case of a Company under the hand of a Director of such Company duly authorised in that behalf by a resolution of the Board of Directors. Subject as aforesaid, a Nominee Director shall be entitled to the same rights and privileges and be subject to the same obligations as any other Director of the Company

(139) Qualification Shares

A director of the Company shall not be bound to hold any qualification shares.



(140) Remuneration of Directors

- (a) Subject to the provisions of the Act, a Managing Director or a Director who is the wholtime employment of the Company, may be paid remuneration either by way of a monthly payment or at a specified percentage of the net profits of the Company or partly by one way and partly by another.
- (b) Subject to the provisions of the Act, a Director, who is neither in the wholtime employment nor a Managing Director may be paid remuneration either -
 - (i) by way of a monthly, quarterly or annual payments, or
 - (ii) by way of commission if the Company by a Special Resolution authorises such payment.

(141) Compensation in addition to remuneration

The Directors may offer and pay to any Director who is not a bonafide resident of the place where a meeting is held and who shall come to such place for the purpose of attending a meeting, such sum as the Directors may consider fair compensation for travelling, hotel and other expenses in addition to his remuneration as above specified and the Directors may from time to time fix the remuneration to be paid to any member or members of their body constituting a committee appointed by the Directors in terms of these presents and may pay the same.

(142) Remuneration for extra services

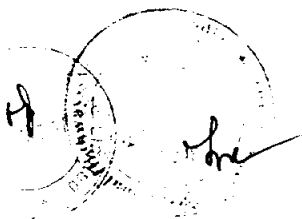
If any Director, being willing, shall be called upon to perform extra services or to make any special exertions in going or residing abroad or otherwise for any of the purposes of the Company, the Company shall remunerate such Director, in such manner as may be determined by the Board of Directors and such remuneration may be in addition to the fee payable to him under the preceding Article. Attendance at a Board Meeting or Committee Meeting at the Registered Office of the Company shall not be deemed to be extra service or special exertion within the meaning of this Article.

(143) Directors may act notwithstanding vacancy

The continuing Directors or Director may act notwithstanding any vacancy in the Board but, so that, if their number falls below the minimum above fixed, the Directors or Director shall not except for the purpose of filling vacancies or summoning a General Meeting, act so long as the number is below the minimum.

(144) When office of Director to be vacated

- (a) Subject to the provisions of Section 283(2) of the Act the office of Director shall become vacant if
 - (i) he is found to be of unsound mind by a Court of competent jurisdiction; or
 - (ii) he applies to be adjudicated as an insolvent, or
 - (iii) he is adjudged as an insolvent; or



- (iv) he fails to pay any call made on him in respect of shares of the Company held by him, whether alone or jointly with others, within six months from the last date fixed for the payment of the call unless the Central Government has, by notification in the Official Gazette, removed the disqualification incurred by such failure; or
 - (v) any office or place of profit under the Company or any subsidiary thereof is held by him in contravention of Section 314(1) of the Act; or
 - (vi) he absents himself from three consecutive meetings of the Board of Directors or from all meetings of the Board of Directors for a continuous period of three months, whichever is longer, without obtaining leave of absence from the Board of Directors; or
 - (vii) he becomes disqualified by an Order of the Court under Section 203 of the Act; or
 - (viii) he is removed in pursuance of Article 158 and Section 284 of the Act; or
 - (ix) he (whether by himself or by any person for his benefit or on his account) or any firm in which he is a partner or any private Company of which he is a director, accepts a loan, or any guarantee or security for a loan, from the Company in contravention of Section 295 of the Act; or
 - (x) he acts in contravention of Section 299 of the Act; or
 - (xi) he is convicted by a Court for any offence involving moral turpitude and sentenced in respect thereof to imprisonment for not less than six months; or
 - (xii) he having been appointed a Director by virtue of his holding any office or other employment in the Company, ceases to hold such office or other employment in the Company.
- (b) Subject to the provisions of the Act a Director may resign his office at any time by notice in writing addressed to the Company or to the Board of Directors.

(145) Directors may contract with the Company

- (a) A Director or his relative, a firm in which such Director or relative is a partner, any other person in such firm or a private Company of which the Director is a member or Director, may enter into any contract with the Company for the sale, purchase or supply of any goods, materials or services or for underwriting the subscription of any shares in or debentures of the Company only after obtaining the sanction of the Board of Directors. Provided that in the case of the Company having a paid up Capital of not less than Rupees One Crore no such contract shall be entered into except with the previous approval of the Central Government.
- (b) No sanction, however, shall be necessary for :
 - (i) any purchase of goods and materials from the Company or the sale of goods or materials to the Company, by any such Director, relative, firm, partner or private Company as aforesaid for cash at prevailing market price; or



- (ii) any contract or contracts between the Company on one side and any such Director, relative, firm, partner or private Company on the other for sale, purchase or supply of any goods, materials and services in which either the Company or the Director, relative, firm, partner or private Company, as the case may be, regularly trades or does business where the value of the goods and materials or the cost of such services do not exceed Rs 5,000/- in the aggregate in any year comprised in the period of the contract or contracts

Provided that in circumstances of urgent necessity, the Company may without obtaining the consent of the Board enter into any such contract or contracts with the Director, relative, firm, partner or private Company even if the value of such goods or materials or the cost of such services exceeds Rs 5,000/- in the aggregate in any year comprised in the period of the agreement, if the consent of the Board shall be obtained to such contract or contracts at a meeting within three months of the date on which the contract was entered into.

- (c) A Director of the Company who is in any way, whether directly or indirectly concerned or interested in a contract or arrangement entered into or a proposed contract or arrangement to be entered into by or on behalf of the Company, shall disclose the nature of his concern or interest at a meeting of the Board in the manner provided in Section 299(2) of the Act. A general notice given to the Board by the Director to the effect that he is a Director or Member of a specified body corporate or is a member of a specified firm and is to be regarded as concerned or interested in any contract or arrangement which may, after the date of the notice, be entered into with that body corporate or firm shall be deemed to be a sufficient disclosure of concern or interest in relation to any contract or arrangement so made. Any such general notice shall expire at the end of the financial year in which it is given but may be renewed for a further period of one financial year at a time by a fresh notice given in the last month of the financial year in which it would have otherwise expired. No such general notice and no renewal thereof shall be of effect unless, either it is given at a meeting of the Board or the Director concerned takes reasonable steps to secure that it is brought up and read at the first meeting of the Board after it is given.

(146) Register of contracts in which Directors are interested

The Company shall keep a Register of all contracts or arrangements in which any Director is interested or concerned as required by Section 301 of the Act.

(147) Director may be a director of companies promoted by the Company

A Director of this Company may be or become a director of any Company promoted by this Company or in which it may be interested as a vendor, purchaser, shareholder or otherwise and no such Director shall be accountable for any benefits received as director or member of such Company.

XIV ROTATION OF DIRECTORS

(148) Retirement by rotation

The Director shall be liable to retire by rotation with the exception of the Managing Director appointed under Article 168.

(149) Retirement of one-third of Directors

At the First Annual General Meeting of the Company held next after the date of the general meeting at which the first directors are appointed and at every subsequent annual general meeting, one third of such of the directors for the time being are liable to retire by rotation or if their number is not three or a multiple of three, then the number nearest to one third, but not exceeding one third shall retire from office.

(150) Ascertainment of Directors retiring by rotation and eligibility for re-appointment

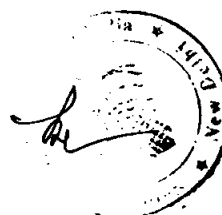
Subject to Section 284(5) of the Act, the Directors to retire by rotation under the foregoing Article at every Annual General Meeting shall be those who have been longest in office since their last appointment, but as between persons who became Directors on the same day, those who are to retire shall, in default of and subject to any agreement among themselves, be determined by lot. A retiring Director shall retain office until the conclusion of the meeting at which his re-appointment is decided or his successor is appointed. The retiring Director shall be eligible for re-appointment.

(151) Company to appoint successors

Subject to the provisions of the Act at the Annual General Meeting at which a Director retires in the manner aforesaid, the members present at the meeting may fill up the vacated office by electing the retiring Director or some other person thereto.

(152) Provisions in default of appointment

- (a) If the place of the retiring Director is not so filled up and the meeting has not expressly resolved not to fill the vacancy the meeting shall stand adjourned till the same day in the next week at the same time and place, or if that day is public holiday, till the next succeeding day which is not a public holiday, at the same time and place
- (b) If at the adjourned meeting also, the place of the retiring Director is not filled up and that meeting also has not expressly resolved not to fill the vacancy, the retiring Director shall be deemed to have been re-appointed at the adjourned meeting, unless
 - (i) at the meeting or at the previous meeting a resolution for the re-appointment of such Director has been put to the meeting and lost;
 - (ii) the retiring Director has, by a notice in writing addressed to the Company or its Board of Directors, expressed his unwillingness to be so re-appointed;
 - (iii) he is not qualified or is disqualified for appointment
 - (iv) a resolution whether special or ordinary, is required for the appointment or re-appointment by virtue of any provisions of the Act, or
 - (v) the proviso to sub-section (2) of Section 263 of the Act is applicable to the case.



(153) Company may increase or reduce the number of Directors

Subject to Sections 255 of the Act, the Company may, by ordinary resolution, from time to time, increase or reduce the number of Directors, within the limits fixed in that behalf by these presents.

(154) Removal of Directors

Subject to the provisions of Section 284 of the Act the Company may remove any Director before the expiration of his period of office and appoint another person in his stead. The person so appointed shall hold office during such time as the Director in whose place he is appointed would have held the same if he had not been removed.

(155) Notice of candidature for Office of Director

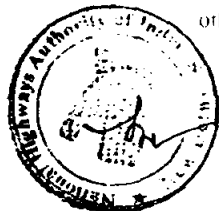
- (a) Subject to the provisions of the Act and these presents any person who is not a retiring Director shall be eligible for appointment to the office of Director at any general meeting, if he or some member intending to propose him has, not less than fourteen days before the meeting left at the office of the Company a notice in writing under his hand signifying his candidature for the office of Director or the intention of such member to propose him as a candidate for that office as the case may be
- (b) Every person (other than a Director retiring by rotation or otherwise or a person who has left at the office of the Company a notice under Section 257 signifying his candidature for the office of a Director) proposed as a candidate for the office of a Director shall sign, and file with the Company, his consent in writing to act as a Director, if appointed
- (c) A person other than -
 - (i) Director re-appointed after retirement by rotation or immediately on the expiry of his term of office; or
 - (ii) an additional or alternate Director or a person filling a casual vacancy in the office of a Director under Section 262 of the Act, appointed as a Director or re-appointed as an additional or alternate Director, immediately on the expiry of his term of office; or
 - (iii) a person named as a director of the Company under its Articles as first registered -

shall not act as a Director of the Company unless has within thirty days of his appointment signed and filed with the Registrar his consent in writing to act as such Director

XV PROCEEDINGS OF DIRECTORS

(156) Proceedings of Directors

- (a) The Directors may meet together for the despatch of business, adjourn and otherwise regulate their meetings and proceedings as they may think fit



- (b) A meeting of the Board of Directors shall be held at least once in every calendar quarter and at least 4 such meetings shall be held in every year
- (c) A Director may and the Secretary on the requisition of a Director shall at any time summon a meeting of the Board
- (d) Notice of each meeting of the Board Directors of the Company shall be sent to all Directors and all alternate directors for the time together with the agenda for the meeting at least 7 business days before the meeting is proposed to be held every quarter
- (e) The meetings of the Board of Directors will be held at a place mutually decided upon by the Directors provided that if and when permitted by the Companies Act, 1956 meetings of the Board of Directors may be generally held at Mumbai or at a place mutually decided upon by the Directors having given due regard to ease of access of the Directors to such meetings of the Board of Directors. All meetings of the Board of Directors shall be attended in person, provided that if and when permitted by the Companies Act, 1956 meetings may be attended in person or by telephone, conference call or video conferencing where each Director participating in the meeting can hear all other Directors participating in the meeting

(157) Quorum for a Board Meeting

Subject to the provisions of Section 287 of the Act, the quorum for a meeting of the Board of Directors shall be two or one third of its total strength excluding Directors, if any whose places may be vacant at the time, (any fraction contained in that one third being rounded off as one) whichever is higher.

(158) Chairman of the Board

The Board of Directors would mutually elect a Chairman from amongst its Directors who may or may not be Whole time Directors of the Company. The Chairman shall hold office for such time as the Board stipulates at the time of appointment and shall not have a casting vote

(159) Decision of Questions

Questions arising at any meeting shall be decided by a majority of votes. Each Director would be entitled to one vote and the Chairman will not have a second or casting vote

(160) Powers of quorum

A Meeting of the Directors at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions which by or under the Act or these presents are for the time being vested in or exercisable by the Directors generally.

(161) Directors may appoint Committee and delegate powers

Subject to the restrictions contained in Section 292 of the Act, the Board may delegate any of its powers to Committees of the Board consisting of such Members of its body, as it thinks fit. Every Committee of the Board so formed shall in exercise of the powers so delegated conform to any regulations that may from time to time be imposed on it by the Board. All acts done by such Committee of the Board in conformity with such regulations and in fulfilment of the purposes of their formation but not otherwise, shall have like force and effect as if done by the Board.

(162) Passing of resolution by the Board

A resolution shall be deemed to have been duly passed by the Board only if it has been approved by a majority of the Directors as are entitled to vote on the resolution.

(163) Resolution by circulation

A resolution shall be deemed to have been duly passed by the Board by circulation if the resolution has been circulated in draft together with the necessary papers, if any, to all the Directors at their respective addresses registered with the Company and has been approved by a majority of the Directors as are entitled to vote on the resolution.

(164) Acts of Board or Committee valid notwithstanding defective appointment etc.

All acts done by any meeting of the Board or by a committee of the Board or by any person acting as a Director, shall notwithstanding that it shall afterwards be discovered that there was some defect in the appointment of such Directors or Committee or person acting as aforesaid, or that they or any of them were or was disqualified or had vacated office or that the appointment of any of them had been terminated by virtue of any provisions contained in the Act or in these presents, be as valid as if every such person had been duly appointed and was qualified to be a Director and had not vacated office or his appointment had not been terminated; provided that nothing in this Article shall be deemed to give validity to acts done by a Director after his appointment has been shown to the Company to be invalid or to have terminated.

XVI POWERS OF THE BOARD OF DIRECTORS

(165) General power of the Board

Subject to the provisions of the Act, the Board of Directors shall be entitled to exercise all such powers, and to do all such acts and things, as the Company is authorised to exercise and do; provided that the Directors shall not exercise any power or do any act or thing which is directed or required, whether by the Act or any other Act or by the Memorandum of Association of the Company or these presents or otherwise, to be exercised or done by the Company in General Meeting; provided further that in exercising any such power or doing any such act or thing, the Board of Directors shall be subject to the provisions contained in that behalf in the Act or in any other Act or in the Memorandum of Association of the Company or these presents or in any regulations not inconsistent therewith and duly made thereunder including regulations made by the Company in General Meeting.

(166) Certain powers to be exercised by Directors only at a meeting

The Board of Directors of the Company shall exercise the following powers on behalf of the Company, and it shall do so, only by means of resolutions passed at meeting of the Board of Directors -

- (a) the power to make calls on shareholders in respect of moneys unpaid on their shares;
- (aa) the power to authorise the buy-back referred to in the first proviso to clause (b) of sub-section 77A of the Companies Act, 1956
- (b) the power to issue debentures;
- (c) the power to borrow moneys otherwise than on debentures including the power to enter into arrangements with bankers for the borrowing of moneys by way of overdraft or cash credit or otherwise but not the actual day to day availing of such arrangements ;
- (d) the power to invest the funds of the Company; and
- (e) the power to make loans;

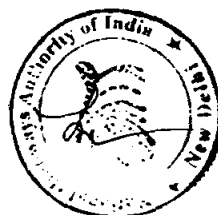
Provided that the Board of Directors may, by a resolution passed at a meeting, delegate to any Committee of Directors, the Managing Director, the Manager or any other principal officer of the Company or in the case of a branch office of the Company, a principal officer of the branch office the powers specified in clauses (c), (d) and (e) to the extent specified below :

- (1) Every resolution delegating the power to borrow moneys otherwise than on debentures shall specify the total amount at any one time upto which the moneys may be borrowed by the delegate;
- (2) Every resolution delegating the power referred to in clause (d) above shall specify the total amount upto which the funds may be invested and the nature of the investment of the investments which may be made by the delegate;
- (3) Every resolution delegating the power referred to in clause (e) above shall specify the total amount upto which loans may be made by the delegatee(s), the purpose for which the loan may be made for each such purpose in individual cases;
- (4) Nothing in this Article contained shall be deemed to affect the right of the Company in General Meeting to impose restrictions and conditions on the exercise by the Directors of any powers herein specified

(167) Specific powers given to Directors

Without prejudice to the general powers conferred by the last preceding Article and the other powers conferred by these presents it is hereby expressly declared that the Board shall have the following powers, that is to say, power;

- (a) To pay the costs, charges and expenses preliminary and incidental to the promotion, formation, establishment and registration of the Company



- (b) To purchase or otherwise acquire for the Company, any property, rights or privileges which the Company is authorised to acquire at such price and generally on such terms and conditions, as they think fit and in any such purchase or other acquisition to accept such title as the Directors may believe or may be advised to be necessarily satisfactory
- (c) To insure and keep insured against loss or damage by fire or otherwise for such period and to such extent as they may think proper all or any part of the buildings, machinery, goods, stores, produce and other movable property of the Company either separately or jointly; also to insure all or any portion of the goods, produce, machinery and other articles imported or exported by the Company and to sell, assign, surrender or discontinue any policies of assurance effected in pursuance of this power
- (d) To open accounts with any bank or bankers or with any Company, firm or individual and to pay moneys into and draw moneys from any such account from time to time as the Directors may think fit
- (e) At their discretion, to pay for any property, rights or privileges acquired by or services rendered to the Company, either wholly or partially in cash or in shares, bonds, debentures, mortgages or other securities of the Company and any such shares may be issued either as fully paid up or with such amounts credited as fully paid up thereon as may be agreed upon, and any such bonds, debentures, mortgages or other securities may be either specifically charged upon all or any part of the property of the Company and its uncalled capital or not so charged
- (f) To secure the fulfilment of any contracts or agreements entered into by the Company by mortgage or charge of all or any of the properties of the Company and its uncalled capital for the time being or in such other manner as they may think fit
- (g) To appoint and at their discretion, remove or suspend, such committee or committees of experts, technicians or advisers, such managers, secretaries, officers, clerks, agents and servants for permanent, temporary or special services, as they may from time to time think fit and to determine their powers and duties and fix their salaries or emoluments and to require security in such instances and to such amount as they think fit
- (h) To contribute to any charitable object of public utility within the limits prescribed by Section 293 of the Act
- (i) To support and subscribe to any institution, society or club which may be for the benefit of the Company or its employees or may be connected with any town or place where the Company carries on business to give pensions, gratuities, bonuses or charitable aid to any person or persons who have served the Company or to the wives, children, or dependants of such person or persons that may appear to the Directors just or proper whether any such person, his widow, children or dependants have or have not a legal claim upon the Company
- (j) Subject to the provisions of the Act to accept from any member, on such terms and conditions as shall be agreed, a surrender of his shares or any part thereof
- (k) To appoint any person or persons (whether incorporated or not) to accept and hold in trust for the Company any property belonging to the Company or in which it is interested or for any other purposes and to execute and do all such deed, and things as may be requisite in relation to any such trust and to provide for the remuneration of such trustee or trustees

- (l) To institute, conduct, defend, compound or abandon any legal proceedings by or against the Company or its officers or otherwise concerning the affairs of the Company and also to compound and allow time for payment or satisfaction of any debts due and of any claims or demands by or against the Company
- (m) To refer any claims or demands by or against the Company to arbitration
- (n) To make and give receipts, releases and other discharges for moneys payable to the Company and for the claims and demands of the Company
- (o) To determine who shall be entitled to sign on the Company's behalf bills, notes, receipts, acceptances, endorsements, cheques, releases, contracts and documents
- (p) To provide from time to time, for the management of the affairs of the Company in such manner as they think fit and in particular to appoint any person to be the attorneys or agents of the Company with such powers (including power to sub-delegate) and upon such terms as may be thought fit

The Board may submit and delegate any matter, function or responsibility to a Management Committee, Investment Committee or any other special committee established by the Board as it may deem appropriate, under guidelines which it may determine.

- (q) To invest and deal with any of the moneys of the Company not immediately required for the purposes thereof upon such securities (not being shares in this Company) and in such manner as they may think fit and from time to time to vary or realise such investments, provided however, that the profits, if any, arising on the sale or change of investments of the Company, unless prohibited by any other statute for the time being in force, shall be treated as capital moneys and carried to the Capital Reserve Account
- (r) To execute in the name and on behalf of the Company, in favour of any Director or other person who may incur or be about to incur any personal liability for the benefit of the Company, such mortgages of the Company's property (present and future) as they think fit and any such mortgage may contain a power of sale and such other powers, covenants and provisions as shall be agreed upon
- (s) To give to any person employed by the Company a commission on the profits of any particular business or transaction or a share in the general profits of the Company and such commission or share of profits shall be treated as part of the working expenses of the Company
- (t) From time to time, to make, vary and repeal rules and regulations for the conduct of the business and affairs of the Company, its officers and servants
- (u) Subject to the provisions of the Act and these presents for or in relation to any of the matters aforesaid or otherwise for the purposes of the Company to enter into all such negotiations and contracts and rescind and vary all such contracts and execute and do all such acts, deeds and things in the name of and on behalf of the Company as they may consider expedient for or in relation to any of the matters aforesaid or otherwise for the purposes of the Company
- (v) Before recommending any dividend and subject to the requirements of Section 205 of the Act, to set aside out of the profits of the Company such sums as they think proper for depreciation or to a Depreciation Fund or to an



Insurance Fund or as a Reserve Fund or Sinking Fund or any Special Fund to meet contingencies or to repay debentures or debenture-stock or for special dividends or for equalising dividends or for repairing, improving, extending and maintaining any of the properties of the Company and for such other purposes, as the Board of Directors may, in their absolute discretion, think conducive to the interest of the Company and subject to Section 292 of the Act to invest the several sums so set aside or so much thereof as required to be invested, upon such investments (other than shares of the Company) as they may think fit and from time to time deal with and vary such investments and dispose of and apply and expend all or any part thereof for the benefit of the Company, in such manner and for such purposes as the Board of Directors, in their absolute discretion think conducive to the interest of the Company, notwithstanding that the matters, to which the Board of Directors apply or upon which they expend the same or any part thereof may be matters, to or upon which the capital moneys of the Company might rightly be applied or expended; and to divide the Reserve Fund into such special funds as the Board of Directors may think fit, and to employ the assets constituting all or any of the above funds, including the Depreciation Fund, in the business of the Company or in the purchase or repayment of debentures or debenture-stock and that without being bound to keep the same separate from the other assets and without being bound to pay interest on the same, with power however to the Board of Directors at their discretion to pay or allow to the credit of such funds interest at such rate as the Board of Directors may think proper

- (w) To pay and charge to the capital account of the Company any commission or interest lawfully payable therefrom under the provisions of Sections 76 and 208 of the Act
- (x) To comply with the requirements of any local law which in their opinion it shall in the interests of the Company be necessary or expedient to comply with
- (y) From time to time and at any time to establish any Local Board for managing any of the affairs of the Company in any specified locality in India or elsewhere and to appoint any person to be members of such Local Board or any managers or agents and to fix their remuneration
- (z) Subject to the provisions of Section 292 of the Act from time to time, and at any time to delegate to any such Local Board, or any member or members thereof of any managers so appointed any of the powers, authorities and discretions for the time being vested in the Board of Directors, and to authorise the members for the time being of any such Local Board, or any of them to fill up any vacancies therein and to act notwithstanding vacancies; and any such appointment or delegation may be made on such terms and subject to such conditions as the Board of Directors may think fit, and the Board of Directors may at any time remove any person so appointed, and may annul or vary any such delegation
- (aa) Generally subject to the provisions of the Act and these presents to delegate the powers, authorities and discretions vested in the Directors to any person, committee, firm, Company, or fluctuating body of persons.

Except as above all decisions of the Board or any Committees of the Board of Directors or shareholders would be determined in accordance with the provisions of the Act

(168) Appointment of Managing Director

- (a) The Board of Directors may appoint a Director from amongst themselves as the Managing Director of the Company on such conditions and for such term not exceeding five years at a time as they may think fit and may from time to time (subject to the provisions of any contract between him or them and the Company) remove or dismiss him or them from office and appoint another or others in his or their place or places. The Managing Director shall have experience in field of the Company's business. He shall be appointed for exercising powers of management subject to the superintendence, control and direction of the Board and shall be responsible for the day-to-day management of the Company and its business. The Board has the power to prescribe and stipulate any limitations on the powers of the Managing Director.

Pursuant to the terms of the shareholder's agreement, CTNL shall be entitled to nominate a Chief Executive Officer/Director in charge/Managing Director of the Company

- (b) Subject to the provisions of the Act and of these presents, the Chief Executive Officer/Director in charge/ Managing Director or a Whole-time Director shall not, while he continues to hold that office, be subject to retirement by rotation under Article 152 but he shall, subject to the provisions of any contract between him and the Company, be subject to the same provisions as to resignation and removal as the other Directors of the Company and he shall ipso facto and immediately cease to be a Chief Executive Officer/Director in charge/Managing Director or Whole- time Director if he ceases to hold the office of Director for any cause, provided that if at any time the number of Directors (including the Chief Executive Officer/Director in charge/Managing Director or Whole-time Director) as are not subject to retirement by rotation shall exceed one-third of the total number of the Directors for the time being, then such Chief Executive/Director in charge/Managing Director or Managing Directors or Whole-time Director or Whole-time Directors, as the Directors, may from time to time select, shall be liable to retirement by rotation to the intent that the Directors so liable to retirement by rotation shall not exceed one-third of the total number of Directors for the time being
- (c) Subject to the provisions of the Act and to the approval of the Company in General Meeting the remuneration of a Chief Executive/Director in charge/Managing Director or Whole-time Director shall from time to time be fixed by the Directors, and may be by way of fixed salary, or commission on profits of the Company, or by participation in any such profits or by any or all of those modes.

XVII MINUTES

(169) Minutes

The Company shall cause minutes of all proceedings of every General Meeting and of all proceedings of every meeting of its Board of Directors or of every Committee of the Board to be kept as and in the manner prescribed under Section 193 of the Act.

(170) Minutes to be evidence

Any such minutes, if purporting to be signed by the Chairman of the Meeting at which the proceedings take place or by the Chairman of the next succeeding meeting shall be evidence of the proceedings.

(171) Presumptions to be drawn where minutes duly drawn are signed

Where minutes of the proceedings of any General Meeting of the Company or of any meeting of the Board or of a Committee of the Directors have been made and signed in accordance with the provisions of these presents and the Act, then until the contrary is proved, the Meeting shall be deemed to have been duly called and held and all proceedings there at to have been duly taken place and in particular all appointments of Directors or Liquidators made at the meeting shall be deemed to be valid.

(172) Time and place for inspection of Minute Books

The books containing the minutes of the proceedings of any General Meeting of the Company shall be kept at the Registered Office of the Company and shall be open for inspection of members without charge between the hours of 2 p.m. to 5 p.m. during business hours on each working day except Saturday.

(173) Inspection of Minute Books of General Meetings by members

Any member of the Company shall be entitled to be furnished within seven days after he has made a request in that behalf to the Company with a copy of any minute referred to in sub-clause (a) hereof on payment of cost incurred by the Company in respect of the minutes to be copied.

XVIII THE SECRETARY

(174) Secretary may be appointed

The Directors may from time to time appoint a person (hereinafter called "the Secretary") to keep the Statutory Registers, to perform any other functions which by the Act and the Articles for the time being of the Company are to be performed by the Secretary and to execute any other duties which may from time to time be assigned to the Secretary by the Directors and at their discretion the Directors may remove the person so appointed. The Directors may also from time to time appoint one or more Joint Secretaries or Additional Secretaries and Branch Office Secretary to perform any or all of the functions of the Secretary and at their discretion the Directors may remove one or more Joint Secretaries or Additional Secretaries or Branch Office Secretary so appointed.

(175) Temporary Substitute

The Directors may at any time appoint a temporary substitute for the Secretary, who shall for the purposes of these presents be deemed to be the Secretary.



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XIX THE SEAL

(176) The Seal, its custody and use

The Board shall provide a Common Seal for the purposes of the Company and shall have power from time to time to destroy the same and substitute a new Seal in lieu thereof and shall provide for the safe custody of the Seal for the time being and the Seal shall never be used or moved to any other place except by the authority of the Board of Directors or a Committee of the Directors previously given. Every deed or other instrument to which the Seal of the Company shall be affixed shall be signed by at least one Director and countersigned by the Secretary or such other person as may be authorised in that behalf by the Directors, provided nevertheless that certificates of shares may be under the signatures of such persons as provided by the Companies (Issue of Share Certificates) Rules, 1960, in force from time to time. Save as otherwise expressly provided by the Act, a document or processing requiring authentication by the Company may be signed by a Director, or the Secretary or any other officer authorised in that behalf by the Board and need not be under its seal.

XX REGISTERS

(177) Registers

The Company shall keep and maintain Registers as required by the Act including the following Registers :

- (a) Register of investments made by the Company but not held in its own name, as required by Section 49(7) of the Act and shall keep it open for inspection of any member or debenture holder of the Company without charge
- (b) Register of charges as required by Section 143 of the Act and shall keep it open for inspection of any creditor or member of the Company without fee and any other person on payment of a fee of Re 1/- for each inspection
- (c) Register of Members under Section 150 of the Act and shall keep the same open for inspection of any member or debenture holder without fee and of any other person on payment of a fee of Re 1/- for each inspection
- (d) Register of Debenture holders under Section 152 of the Act and shall keep it open for inspection of any member or debenture holder without fee and for any other person on payment of a fee of Re 1/- for each inspection
- (e) Register of Contracts in which Directors are interested, as required by Section 301 and shall keep it open for inspection of any member without fee
- (f) Register of Directors and Secretary, as required by Section 303 of the Act and shall keep it open for inspection of any member of the Company without charge and of any other person on payment of a fee of Re 1/- for each inspection
- (g) Registers as to the holdings by Directors of shares and debentures in the Company as required by Section 307 of the Act and shall keep it open for inspection of any member or debenture holder of the Company on any working day during the period beginning 14 days before the date of the Company's Annual General Meeting and ending 3 days after the date of its conclusion

- (h) Books of Accounts in accordance with the provisions of Section 209 of the Act
- (i) Copy of instruments creating any charge requiring registration according to Section 136 of the Act
- (j) Copies of Annual Returns prepared under Section 159 of the Act together with the copies of certificates and documents required to be annexed thereto under Section 161 of the Act
- (k) Register of Renewed and Duplicate Certificates according to Rule 7(2) of the Companies (Issue of Share Certificates) Rules, 1960

Copies of entries in the above Registers shall be furnished to the persons entitled to the same on payment of thirty- seven paise for every hundred words or fractional part thereof required to be copied. The Company shall give inspection of the above Registers to the persons entitled to the same on any working day between the hours of 2 pm and 5 pm except Saturday.

XXI ANNUAL RETURNS

(178) Annual Returns

The Company shall make the requisite Annual Returns in accordance with Sections 159 and 161 of the Act and shall file the same with the Registrar with three copies of the Balance Sheet and Profit and Loss Account in accordance with Section 220 of the Act.

XXII DIVIDENDS

(179) Dividends

The profits of the Company, subject to any special rights relating thereto created or authorised to be created by these presents and subject to the provisions of these presents and the Act as to the Reserve Fund, the Depreciation Fund or other special fund or funds, shall be divisible among the members in proportion to the amount of capital paid up on the shares held by them respectively.

Provided always that (subject as aforesaid) any capital paid upon a share during the period in respect of which a dividend is declared shall unless the Directors otherwise determine, entitle and shall be deemed always to have entitled the holders of such share only to an apportioned amount of such dividend as from the date of payment.

Provided that where capital is paid up on any shares in advance of calls upon the footing that the same shall carry interest, such capital shall not whilst carrying interest, confer a right to participate in profit.

(180) Declaration of dividends, restrictions on amount of Dividend

The Company in General Meeting may declare a dividend to be paid to the members according to their rights and interests in the profits and may fix the time for payment. No larger dividend shall be declared than is recommended by the Directors, but the Company in General Meeting may declare a smaller dividend.

(181) Dividend out of profits only and shall not carry interest

No dividend shall be paid otherwise than out of the profits of the year or any other undistributed profits of the Company and no dividend shall carry interest as against the Company.

(182) What to be deemed net profits

The declaration of the Directors as to the amount of net profits of the Company shall be conclusive.

(183) Dividends in proportion to amount paid up

The Company shall pay dividends in proportion to the amount paid up or credited as paid up on each share, where a larger amount is paid up or credited as paid up on some shares than on others.

(184) Interim dividends

The Directors may from time to time pay to the members such interim dividends as in their judgement the position of the Company justifies.

(185) Debts may be deducted

The Directors may retain any dividends payable on shares on which the Company has a lien and may apply the same in or towards satisfaction of the debts, liabilities or engagements in respect of which the lien exists.

(186) Dividend and call together set off allowed

Any General Meeting declaring a dividend may make a call on the members of such amount as the meeting fixes, but so that the call on each member shall not exceed the dividend payable to him and so that the call be made payable at the same time as the dividend and the dividend may, if so arranged between the Company and the member, be set off against the call. The making of a call under this Article shall be deemed ordinary business of an Annual General Meeting which declares a dividend.

(187) Effect of transfer

A transfer of shares shall not pass the right to any dividend declared thereon after such transfer and before the registration of the transfer.

(188) Retention in certain cases

The Directors may retain the dividends payable upon shares in respect of which any person is under the Transmission Clause entitled to become a member or which any person under that Article is entitled to transfer, until such person shall become a member, in respect of such shares or shall duly transfer the same.



- (189) No member to receive dividend whilst indebted to the Company and the Company's right to reimbursement thereof

No member shall be entitled to receive payment of any interest or dividend in respect of his share or shares, whilst any money may be due or owing from him to the Company in respect of such share or shares or otherwise howsoever, either alone or jointly with any other person or persons; and the Directors may deduct from the interest or dividend payable to any member all sums of money so due from him to the Company.

- (190) Dividend to joint holders

Any one of several persons who are registered as the joint holders of any share may give effectual receipts for all dividends and payments on account of dividends in respect of such shares.

- (191) Payment by post

Unless otherwise directed any dividend may be paid by cheque or warrant sent through the post to the registered address of the member or person entitled or in the case of joint holders, to the registered address of that one whose name stands first on the Register in respect of the joint holding; and every cheque or warrant so sent shall be made payable to the order of the person to whom it is sent. Several executors or administrators of a deceased member in whose sole name any share shall stand, shall for the purposes of this Article be deemed to be joint holders thereof

- (192) Company not liable for loss in transit etc

The Company shall not be responsible or liable for any cheque or warrant lost in transit or for any dividend lost to the member or person entitled thereto by the forged endorsement of any cheque or warrant or the fraudulent recovery thereof by any other means.

- (193) Dividend to be paid within thirty days

The Company shall pay the dividend or send warrant in respect thereof to the shareholder entitled to the payment of the dividend, within thirty days from the date of the declaration of the dividend unless :

- (a) Where the dividend could not be paid by reason of the operation of any law
- (b) Where a shareholder has given directions regarding the payment of dividend and those directions cannot be complied with
- (c) Where there is a dispute regarding the right to receive the dividend
- (d) Where the dividend has been lawfully adjusted by the Company against any sum due to it from the shareholders

OR

Where for any other reason, the failure to pay the dividend or to post the warrant within the period aforesaid was not due to any default on the part of the Company



Signature

(194) Unclaimed dividend

If the Company has declared a dividend but which has not been paid within 30 days from the date of declaration to any shareholder entitled to the payment of the dividend, the Company shall within 7 days from the date of expiry of the said period of 30 days, open a special account in that behalf in any Scheduled Bank called "the Unpaid Dividend Account of Andhra Pradesh Expressway Limited", and deposit the amount of such unclaimed dividend in the said account

(195) Dividend to be transferred to Investor Education and Protection Fund

Any money transferred to the unpaid dividend account of the Company which remains unpaid or unclaimed for a period of seven years from the date of such transfer shall be transferred by the Company to the Investor Education and Protection Fund established under Section 205C of the Act and no claims shall lie against the fund or the Company in respect of individual amounts which were unclaimed and unpaid for a period of seven years from the dates that they first became due for payment and no payment shall be made in respect of any such claims.

XXIII RESERVE AND DEPRECIATION FUNDS

(196) Reserve Fund

After the transfer to the reserves of the Company, of such percentage of the profits of the Company as is mandatorily required to be transferred under Section 205 of the Act, the Board may from time to time before recommending any dividend set apart any and such portion of the profits of the Company as they think fit as a Reserve Fund to meet contingencies or for the liquidation of any debentures, debts or other liabilities of the Company, for equalisation of dividends or for repairing, improving and maintaining any of the property of the Company and for such other purpose of the Company as the directors in their absolute discretion think conducive to the interest of the Company and may invest the several sums so set aside upon such investment (other than shares of the Company) as they may think fit and from time to time to deal with and vary such investments and dispose of all or any part thereof for the benefit of the Company and may divide the Reserve Fund to another Special Fund as they think fit with full power to transfer the whole or any portion of a Reserve Fund or a division of a Reserve Fund and also with full power to employ the Reserve Funds or any part thereof in the business of the Company separate from the other assets and without being bound to pay interest on the same with power, however to the Board in their discretion to pay or allow to the credit of such funds interest at such rate as the Board may think proper.

(197) Depreciation Fund

Over and above the mandatory requirement of providing for depreciation on accordance and subject to Section 205 of the Act, the Board may, from time to time before recommending any dividend, set apart any such portion of the profits of the Company, as they think fit, as a depreciation fund applicable at the discretion of the Directors, for providing against any depreciation in the investments of the Company or for rebuilding, restoring, replacing or for altering any part of the buildings, work, plant, machinery or other property of the Company, destroyed or damaged by fire, flood, storm, tempest, earthquake, accident, riot, wear and tear or any other means



whatsoever and for repairing, altering and keeping in good condition the property of the Company or for extending and enlarging the building, machinery and property of the Company with full power to employ the assets constituting such depreciation fund in the business of the Company and that without being bound to keep the same separate from the other assets.

(198) Investment of moneys

All moneys carried to any reserve fund and depreciation fund respectively, over and above the amounts mandatorily required under Section 205 of the Act to be carried to the said funds, shall nevertheless remain and be profits of the Company applicable subject to due provisions being made for actual loss or depreciation, for the payment of dividend and such moneys and all the other moneys of the Company may be invested by the Directors in or upon such investments or securities as they may select or may be used as working capital or may be kept at any bank on deposit or otherwise as the Directors may from time to time think proper.

XXIV CAPITALISATION

(199) Capitalisation of Reserves

- (a) Any General Meeting may upon the recommendations of the Directors, resolve that any moneys, investments or other assets forming part of the undivided profits of the Company, standing to the credit of any of the Company's Reserve Funds or to the credit of the Profit and Loss Account or any Capital Redemption Reserve Fund or in the hands of the Company and available for dividend or representing premium received on the issue of shares and standing to the credit of the Share Premium Account be, subject to the provisions of Section 78 of the Act, capitalised and distributed amongst such of the shareholders as would be entitled to receive the same if distributed by way of dividend and in the same proportions on the footing that they become entitled thereto as capital and that all or any part of such capitalised fund shall not be paid in cash but shall be applied subject to the provisions contained in clause (b) hereof on behalf of such shareholders in full or towards
- (i) paying either at par or at such premium as the Resolution may provide, any unissued shares or debentures or debenture-stock of the Company which shall be allotted, distributed and credited as fully paid up to and amongst such members in the proportions as aforesaid; or
- (ii) paying up any amounts for the time being remaining unpaid on any shares or debentures or debenture-stock held by such members respectively; or
- (iii) paying up partly in the way specified in sub-clause (i) and partly in that specified in sub-clause (ii) and that such distribution or payment shall accepted by such shareholders in full satisfaction of their interest in the said capitalised sum
- (b) (i) Any moneys, investments or other assets representing premiums received on the issue of shares and standing to the credit of Share Premium Account; and



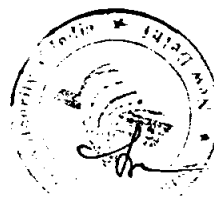
- (ii) if the Company shall have redeemed any Redeemable Preference Shares, all or any part of any Capital Redemption Fund arising from the redemption of such shares, may by resolution of the Company be applied only in paying up in full or in part any new shares or any shares then remaining unissued to be issued to such members of the Company as the General Meeting may resolve upto an amount equal to the nominal amount of the shares so issued;
- (c) Any General Meeting may resolve that any surplus moneys arising from the realisation of any capital assets of the Company or any investments representing the same or any other undistributed profits of the Company not subject to charge for income-tax be distributed among the members of the footing that they receive the same as capital
- (d) For the purposes of giving effect to any such resolution under this Article, the Director may settle any difficulty which may arise in regard to the distribution of payment as aforesaid as they think expedient and in particular, may issue fractional certificates and may fix the value for distribution of any specific assets and may determine that cash payment shall be made upon the footing of the value so fixed or that fractions of less value than Rs 1/- may be disregarded in order to adjust the rights of all parties and may vest any such cash or specific assets in trustees upon such trust for the persons entitled to the dividend capitalised fund as may seem expedient to the Directors and generally may make such arrangements for the acceptance allotment and sale of such shares or other specific assets and fractional certificates or otherwise as they may think fit
- (e) If and whenever any shares become held by any member in fraction, the Directors may subject to the provisions of the Act and these presents and to the directions of the Company in General Meeting if any sell these shares which members hold in fractions for the best price reasonably obtainable and shall pay and distribute to any amongst the members entitled to such shares in due proportion the net proceeds of the sale thereof. For the purpose of giving effect to any such sale, the Directors may authorise any person to transfer the shares sold to the purchaser thereof comprised in any such transfer and he shall not be bound to see the application of the purchase money nor shall his title to the shares be affected by any irregularity or invalidity in the proceedings in reference to the sale
- (f) Where requisite, a proper contract shall be delivered to the Registrar for registration in accordance with Section 75 of the Act and Directors may appoint any person to sign such contract on behalf of the persons entitled to the dividend or capitalised fund and such appointment shall be effected.

XXV ACCOUNTS

(200) Books of accounts to be kept

The Company shall cause to be kept proper books of account in accordance with Section 209 of the Act with respect to:-

- (a) all sums of moneys received and expended by the Company and the matters in respect of which receipts and expenditure take place;



- (b) all sales and purchases of goods by the Company;
- (c) the assets and liabilities of the Company;
- (d) such particulars relating to utilisation of labour or material or to other items of cost as may be required and prescribed by the Central Government in this regard.

(201) Books where to be kept

The books of account and other books and papers shall be kept at the Registered Office of the Company or at such other place or places as the Board of Directors think fit and shall be open to inspection by any Director or any other person authorised under the Act during business hours.

(202) Books of accounts to be preserved

The books of account of the Company relating to a period of not less than eight years immediately preceding the current year together with the vouchers relevant to any entry in such books of accounts shall be preserved in good order.

(203) Inspection by Members

The Board of Directors shall from time to time determine whether and to what extent and at what times and places and under what conditions or regulations the accounts and books and documents of the Company or any of them shall be open to the inspection of the members, and no member (not being a Director) shall have any right of inspecting any account or book or document of the Company except as conferred by statute or authorised by the Board of Directors or by a resolution of the Company in General Meeting.

(204) Statement of Accounts to be furnished at General Meeting

The Board of Directors shall lay before each Annual General Meeting a Profit and Loss Account for the financial year of the Company and a Balance Sheet made up as at the end of the financial year which shall be a date which shall not precede the day of the meeting by more than six months or where an extension of time has been granted by the Registrar of Companies under the provisions of the Act by more than six months and the extension so granted.

(205) Balance Sheet and Profit and Loss Account

- (a) Subject to the provisions of Section 211 of the Act, every Balance Sheet and Profit and Loss Account of the Company shall be in the forms set out in Part I and II respectively of Schedule VI of the Act, or as near thereto as circumstances admit
- (b) So long as the Company is a holding Company having a subsidiary, the Company shall conform to Section 212 and other applicable provisions of the Act



- (c) If in the opinion of the Board, any of the current assets of the Company have not a value on realisation in the ordinary course of business at least equal to the amount at which they are stated, the fact that the Board is of that opinion shall be stated.

(206) Authentication of Balance Sheet and Profit and Loss Account

- (a) Every Balance Sheet and every Profit and Loss Account of the Company shall be signed on behalf of the Board of Directors by the Secretary, and by not less than two Directors of the Company, one of whom shall be a Managing Director where there is one
- (b) Provided that when only one Director is for the time being in India, the Balance Sheet and Profit and Loss Account shall be signed by such Director and in such a case there shall be attached to the Balance Sheet and the Profit and Loss Account a statement signed by him explaining the reason of non-compliance with the provisions of Clause-(a) above

(207) Profit and Loss Account to be annexed and Auditors' Report to be attached to the Balance Sheet

- (a) The Balance Sheet and the Profit and Loss Account shall be approved by the Board of Directors before they are signed on behalf of the Board in accordance with the provisions of this Article and before they are submitted to the Auditors for their report thereon.
- (b) The Profit and Loss Account shall be annexed to the Balance Sheet and the Auditor's Report (including the Auditor's separate, special or supplementary report, if any) shall be attached thereto.

(208) Board's report to be attached to Balance Sheet

- (a) Every Balance Sheet laid before the Company in General Meeting shall have attached to it a Report by the Board of Directors with respect to the state of the Company's affairs, the amounts, if any, which it proposes to carry to any Reserve in such Balance Sheet and the amount, if any, which it recommends to be paid by way of dividend and material changes and commitments, if any, affecting the financial position of the Company which have occurred between the end of the financial year of the Company to which the Balance Sheet relates and the date of the Report
- (b) The Report shall, so far as it is material for the appreciation of the state of the Company's affairs by its members, and will not in the Board's opinion be harmful to the business of the Company or of any of its subsidiaries, deal with any changes which have occurred during the financial year in the nature of the Company's business, in the Company's subsidiaries or in the nature of the business carried on by them and generally in the classes of business in which the Company has an interest
- (c) The Board shall also give the fullest information and explanations in its report or in cases falling under the proviso to Section 222 of the Act in an addendum to that report, on every reservation, qualification or adverse remark contained in the Auditor's Report

(209) Authentication of Board's Report

The Board's Report and addendum (if any) thereto shall be signed by its Chairman if he is authorised in that behalf by the Board; and where he is not so authorised, shall be signed by such number of Directors as are required to sign the Balance Sheet and the Profit and Loss Account of the Company by virtue of Clauses (a) and (b) of Article 211

(210) Board's power to ensure compliance of Article 213

The Board shall have the right to charge any person not being a Director with the duty of seeing that the provisions of Article 208 are complied with.

(211) Company to comply with Section 219

The Company shall comply with the requirements of Section 219 of the Act.

XXVI AUDIT

(212) Accounts to be audited

Every Balance Sheet and Profit and Loss Account shall be audited by one or more Auditors to be appointed as hereinafter mentioned.

(213) Audit provisions

The Company at the Annual General Meeting in each year shall appoint an Auditor or Auditors to hold office from the conclusion of that meeting until the conclusion of the next Annual General Meeting and shall comply with the provisions of Sections 224, 224A to 226 and other applicable provisions in regard thereto of the Act.

The Company shall also appoint an Independent Auditor in accordance with the provisions of the Act and the Concession Agreement

(214) Remuneration of Auditors

The remuneration of the Auditors of the Company shall be fixed by the Company in general meeting or by the Board of Directors if so authorised in this behalf by the Members in general meeting; the remuneration of the Auditors appointed to fill any casual vacancy may be fixed by the Directors.

(215) Powers and duties of Auditors

The powers and duties of the Auditors of the Company shall as be laid down in Section 227 of the Act



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(216) Audit of Branch Offices

The Company shall comply with the provisions of Section 228 of the Act in relation to the audit of the accounts of branch offices of the Company except to the extent to which any exemption may be granted by the Central Government in that behalf.

(217) Reading and inspection of Auditors' Report

The Auditor's Report shall be read before the Company in general meeting and shall be open to inspection by any member of the Company.

(218) When accounts to be deemed conclusive

Every account when audited and approved by a general meeting shall be conclusive except as regards any error discovered therein within three months next after the approval thereof. Whenever any such error is discovered within that period the account shall forthwith be corrected and henceforth shall be conclusive.

XXVII SERVICE OF NOTICE, ETC.

(219) Service of documents on members by Company

A document (which shall for this purpose be deemed to include and shall include any summons, requisition, process, order, judgement, or any other document in relation to the winding up of the Company) or notice may be served by the Company on any member thereof either personally or by sending it by post to him at his registered address or if he has no registered address in India, to the address, if any, within India supplied by him to the Company for giving of notices to him

(220) Service of documents on Company

(a) Where a document or notice is sent by post :

service thereof shall be deemed to be effected by properly addressing, prepaying and posting a letter containing the document or the notice, provided that where a member has intimated to the Company in advance that documents should be sent to him under a certificate of posting or by registered post with or without acknowledgment due and has deposited with the Company a sum sufficient to defray the expenses of doing so, service of the document or notice shall not be deemed to be effected unless it is sent in the manner intimated by the member; and

such service shall be deemed to have been effected:

in the case of a notice of a meeting at the expiration of forty-eight hours after the letter containing the same is posted ;

and in any other case, at the time at which the letter would be delivered in the ordinary course of post



(b) Advertisements

A document or notice advertised in a newspaper circulating in the neighbourhood of the Registered Office of the Company shall be deemed to be duly served on the day on which the advertisement appears, on every member of the Company who has no registered address in India and has not supplied to the Company an address within India for giving of notices to him

(221) Service of documents by the Company on joint holders

A document or notice may be served by the Company on the joint holders of a share by serving it on the joint holder named first in the Register in respect of the share

(222) Service of document in consequence of death or insolvency of member

A document or notice may be served by the Company on the persons entitled to a share in consequence of the death or insolvency of a member by sending it through the post in prepaid letter addressed to them by name, or by the title of representatives of the deceased or assignees of the insolvent or by any like description, at the address, if any, in India supplied for the purpose by the persons claiming to be so entitled or until such an address has been so supplied, by serving the document or notice in any manner in which it might have been served if the death or insolvency had not occurred

(223) Signature on document

The signature on any document or notice to be given by the Company, may be written or printed or lithographed.

(224) Manner of service of document to Company

A document may be served on the Company or an officer thereof by sending it to the Company or officer at the Registered Office of the Company by post under a certificate of posting or by registered post or by leaving it at its Registered Office

(225) When document deemed to be duly served

Subject to the provisions of the Act any document required to be served or sent by the Company on or to the members, or any of them, and not expressly provided for by these presents, shall be deemed to be duly served or sent if advertised once in one daily English and one daily vernacular newspaper circulating in the local area in which the registered office of the Company is situated.

(226) Transferees etc. to be bound by prior notices

Every person, who by operation of law, transfer or other means whatsoever shall become entitled to any share, shall be bound by every notice in respect of such share which, previously to his name and address and title to the share being notified to the Company, shall be duly given to the person from whom he derives his title to such share.



(227) Members not entitled to information

Subject to the provisions of the Companies Act, no member shall be entitled except to the extent expressly permitted by the Act or these presents to enter upon the property of the Company or to require discovery of or any information respecting any detail of the Company's trading or any matter which is or may be in the nature of a trade secret, mystery of trade or secret process which may relate to the conduct of the business of the Company and which in the opinion of the Directors, it will be inexpedient in the interest of the members of the Company to communicate to the public.

(228) Indemnity

Subject to the provisions of Section 201 of the Act, every Director, Managing Director, Officer or servant of the Company shall be indemnified by the Company against, and it shall be the duty of the Directors, to pay out of the funds of the Company all costs, charges, losses and expenses which any such Officer or servant may incur or become liable to by reason of any contract entered into or act or thing done by him as such Officer or servant or in any way in the discharge of his duties including expenses and in particular and so as not to limit the generality of the foregoing provisions, against all liabilities incurred by him as such Director, Managing Director, Officer or servant in defending any proceedings, whether civil or criminal, in which judgement is given in his favour or he is acquitted or in connection with any application under Section 633 of the Act in which relief is granted by the Court and the amount for which such indemnity is provided shall immediately attach as a lien on the property of the Company.

(229) Individual responsibility of Directors

Subject to the provisions of Section 201 of the Act, no Director, Managing Director, Officer of the Company shall be liable for the acts, receipts, neglects of any other Director or Officer or for joining in any receipt or other act for conformity or for any loss or expenses happening to the Company through the insufficiency or deficiency of title to any property acquired by order of the Directors for or on behalf of the Company or for the insufficiency or deficiency of any security in or upon which any of the moneys of the Company shall be invested or for any loss or damage arising from the bankruptcy, insolvency or tortuous act of any person with whom any moneys, securities or effects shall be deposited or for any loss occasioned by an error of judgement, omission, default or oversight on his part or for any other loss, damage or misfortune whatever which shall happen in the execution of the duties of his office or in relation thereto unless the same happens through his own dishonesty.

XXIX WINDING UP

(230) Distribution of assets

If the Company shall be wound up, and the assets available for distribution among the members as such shall be insufficient to repay the whole of the paid up capital, such assets shall be distributed so that as nearly as may be, the losses shall be borne by the

members in proportion to the capital paid up, or which ought to have been paid up, at the commencement of the winding up, on the shares held by them respectively. And if in a winding up the assets available for distribution among the members shall be more than sufficient to repay the whole of the capital paid up at the commencement of the winding up, the excess shall be distributed amongst the members in proportion to the capital, at the commencement of the winding up, paid up or which ought to have been paid up on the shares issued upon special terms and conditions.

(231) Distribution in specie or kind

If the Company shall be wound up, whether voluntarily or otherwise, the liquidators may with the sanction of a special resolution, divide amongst the contributories, in specie or kind, any part of the assets of the Company and may, with the like sanction, vest any part of the assets of the Company in Trustees upon such trusts for the benefit of the contributories, or any of them, as the liquidators, with the like sanction shall think fit

(232) Rights of shareholders in case of sale

- (a) If thought expedient any such division may subject to the provisions of the Act be otherwise than in accordance with the legal rights of the contributories (except where unalterably fixed by the Memorandum of Association) and in particular any class may be given preferential or special rights or may be excluded altogether or in part but in case any division otherwise than in accordance with the legal rights of the contributories shall be determined on; any contributory who would be prejudiced thereby shall have a right to dissent and ancillary rights as if such determination were a special resolution passed pursuant to Section 494 of the Act
- (b) In case any shares to be divided as aforesaid involve a liability to calls or otherwise any person entitled under such division to any of the said shares may within ten days after the passing of the special resolution by notice in writing direct the liquidators to sell his proportion and pay him the net proceeds and the liquidators shall if practicable act accordingly.
- (c) A special resolution sanctioning a sale to any other Company duly passed pursuant to Section 494 of the Act may subject to the provisions of the Act in like manner as aforesaid determine that any shares or other consideration receivable by the liquidators be distributed amongst the members otherwise than in accordance with their existing rights and any such determination shall be binding upon all the members subject to the rights of dissent and consequential rights conferred by the said section.



We, the several persons, whose names and addresses are subscribed, are desirous of being formed into a Company in pursuance of these Articles of Association :

	Name, address, description and Occupation of each Subscriber	Signature of Subscriber	Signature of Witness with Description and Occupation
1)	Infrastructure Leasing & Financial Services Limited (Mr M M Wagle - Authorised by Infrastructure Leasing and Financial Services Limited vide resolution dated October 21, 2005) The IL&FS Financial Centre Plot No. C-22, G Block, Bandra-Kurla Complex Bandra (E), Mumbai 400 051 (Company)	Sd/-	WITNESS FOR ALL 1 - 4 Sd/- MR SWAPNIL SHEKHAR BORKAR S/O MR SHEKHAR MADHUSUDAN BORKAR A/I, VINAY CHS, TARUN BHARAT AREA, CHAKALA, PLOT NO-95/5, ANDHERI(EAST), MUMBAI - 400 099 (SERVICE)
2)	Consolidated Transportation Networks Limited (Mr Ajay Menon - Authorised by Consolidated Transportation Networks Limited vide resolution dated September 29, 2005) The IL & FS Financial Centre Plot No C-22, G Block Bandra-Kurla Complex Bandra (E), Mumbai 400 051 (Company)	Sd/-	
3)	Mr K Ramchand S/o Mr KV Karunakaran 701-702, Lloyds Gardens Prabhadevi, Worli Mumbai 400 025 (Service)	Sd/-	
4)	Mr Avinash Bagul S/o Mr Atmaram Bagul D/101 Shivchhaya Eksar Road, Borivali (West) Mumbai 400 091 (Service)	Sd/-	



5)	Mr Naresh Sasanwar S/o Mr Prabat Sasanwar Burhani Manzil, 9, Gr floor 3 rd Pasta Lane Colaba, Mumbai- 400 005 (Service)	Sd/-	WITNESS FOR ALL 5 - 8 Sd/- MR SWAPNIL SHEKHAR BORKAR S/O MR SHEKHAR MADHUSUDAN BORKAR A/1. VINAY CHS, TARUN BHARAT AREA, CHAKALA, PLOT NO-95/5, ANDHERI(EAST), MUMBAI - 400 099 (SERVICE)
6)	Mr Mukund Sapre S/o Mr Laxman Gajanan Sapre B/3, Mangal Deep Society Near Tagore Nagar Vadodara, Gujarat (Service)	Sd/-	
7)	Ms Hina Chhatbar D/o Mr Jagdish Chhatbar B/11, 4th floor Sairaj Nagar Co-Operative Housing Society Ltd Hemu Kalani Cross Road No3 Irani Wadi, Kandivali (West) Mumbai 400 067 (Service)	Sd/-	
8)	Mr Ravi Sreehari S/o Mr M Sreehari Flat No. 305, Sunset IB Raheja Vihar Powai, Mumbai 400 072 (Service)	Sd/-	

Mumbai, Dated this 31st day of October, 2005



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REGISTER OF MEMBERS

Name: INFRASTRUCTURE LEASING & FINANCIAL SERVICES LIMITED
 Address: The IL&FS Financial Centre, Plot No C-22, G-Block, Bandra-Kurla Complex, Bandra (East) Mumbai - 400 051
 Occupation: N.A.
 Father's / Husband's Name: N.A.

SHARES ACQUIRED									
No. of Shares allotted or Transfer	Date of Allotment or Transfer	No. of Shares transferred	From / To	Distinction of issue of Shares (inclusive)	No. & date of certificate	Trans-fer	Value of Shares acquired	Normal	Dr
1		25,500	1	25,500			10/-		

CASH PAYABLE									
Total	Amount per Share	Description of Call	Date when payment called or No. of Shares	Value of Shares acquired	Normal	Trans-fer	No. & date of certificate	Distinction of issue of Shares (inclusive)	No. of Shares transferred

Name: ~~Consolidated~~ TRANSPORTATION NETWORKS LIMITED
 Address: The IL&FS Financial Centre, Plot No C-22, G-Block, Bandra-Kurla Complex, Bandra (East) Mumbai - 400 051
 Occupation: N.A.
 Father's / Husband's Name: N.A.

24440 255014940 10/-



AND SHARE LEDGER

Name of Joint Holders: _____
 Date at which entered as a Member: _____
 Status: _____
 Company: _____
 Date at which ceased to be a Member: _____

CASH PAID ON SHARE									
Total	Balance	Shares held	REMARK	Date	Date of when payment	Book Folio	Amount	No. of Shares	Date of Transfer or Forfeiture
25,500									

SHARES TRANSFERRED (FORFEITED)									
Total	Balance	Shares held	REMARK	Date	Date of when payment	Book Folio	Amount	No. of Shares	Date of Transfer or Forfeiture

Name of Joint Holders: _____
 Date at which entered as a Member: _____
 Status: _____
 Company: _____
 Date at which ceased to be a Member: _____

24440 255014940 10/-

CERTIFIED TRUE COPY

Andhra Pradesh Expressway Limited

Director / Authorized Signatory

Folio No. 3

Date at which ceased to be a Member

~~Director/Authorised Signatory~~

Folio No. 5

Date at which ceased to be a Member

[illegible]

Date at which ceased to be a Member

[illegible]

CERTIFIED TRUE COPY

~~Anhra Pradesh Expressway Limited~~

Director/Authorised Signatory

REGISTER OF MEMBERS

Name Ms HINA CHHATBAR
 Address B-11, 4th Floor, Saijy Nagar CHS, Hemu Kabanji Cross Rd No 3, Irandi Wadi, Kandivli (W), Mumbai - 400 067
 Occupation Service Father's / Husband's Name MR JAGDISH CHHATBAR

Dr.		SHARES ACQUIRED		No. & date of issue of certificate		Trans-feror's Folio		Nominal Value of Shares acquired		Dr. CASH PAYABLE		Total Amount	
No. of Allotment or Transfer	Date of Allotment or Transfer	No. of Shares allotted / Transferred	Distinctive Numbers (inclusive) From To	No. & date of issue of certificate	Trans-feror's Folio	Nominal Value of Shares acquired	Date when called	Description of payment or No. of Call	Amount per Share	No. of Transfer	Date when due	Date of payment	Cash Book Folio
7		10	49,981	49,990		10							

Name MR RAVI SREEHARI
 Address Flat No. 305, Sunset IB, Raheja Vihar, Powai, Mumbai - 400 072
 Occupation Service Father's / Husband's Name MR M SREEHARI

No. of Allotment or Transfer	Date of Allotment or Transfer	No. of Shares allotted / Transferred	Distinctive Numbers (inclusive) From To	No. & date of issue of certificate	Trans-feror's Folio	Nominal Value of Shares acquired	Date when called	Description of payment or No. of Call	Amount per Share	No. of Transfer	Date when due	Date of payment	Cash Book Folio
3		10	49,991	50,000		10							

AND SHARE LEDGER

COMPANY FORMS - BOMBAY
 Folio No. 7

Name of Joint Holders :

Date at which entered as a Member Subscriber MOA

Status Individual

Date at which ceased to be a Member

CASH PAID ON SHARE		Cr.		SHARES TRANSFERRED or FORFEITED		Cr.		Balance		REMARK
Date when due	Date of payment	Cash Book Folio	Amount	No. of Transfer	Date of Transfer or Forfeiture	No. of Shares Transferred or forfeited	Distinctive Numbers (inclusive) From To	Trans-feror's Folio	Total Nominal value of shares Transferred or forfeited	
									10	

Folio No. 8

Name of Joint Holders :

Date at which entered as a Member Subscriber MOA

Status Individual

Date at which ceased to be a Member

No. of Transfer	Date of Transfer or Forfeiture	No. of Shares Transferred or forfeited	Distinctive Numbers (inclusive) From To	Trans-feror's Folio	Total Nominal value of shares Transferred or forfeited	Balance	REMARK
						10	

CERTIFIED TRUE COPY

Andhra Pradesh Expressway Limited

[Signature]

Director/Authorised Signatory

Andhra Pradesh Expressway Limited

Certified true copy of resolution passed at the meeting of the Board of Directors of the Company held on 24th November, 2005

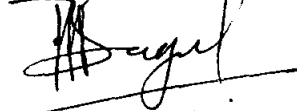
“RESOLVED THAT the Company do execute Concession Agreement with National Highways Authority of India to implement, operate and maintain Kotakatta bypass to Kurnool road project.”

“RESOLVED FURTHER THAT Mr Arun K Saha, Mr RC Bawa and Mr Mukund Sapre, Directors of the Company be and are hereby authorized, jointly or severally, to take all necessary steps to give effect to the foregoing resolutions, including but not limited to:

- (a) execute any deed, documents, agreements or papers as may be necessary
- (b) appear, liaise, present before statutory, local, regulatory, Government authority(ies) for statutory and regulatory matters involved in this regard
- (c) appoint Solicitor(s), Advocate, Consultant(s), Professional(s) as may be necessary in this regard
- (d) authorise any officials of the Company to do acts, deeds and things as they may deem fit and proper.
- (e) Settle any queries, dispute as may arise in this regard”

“RESOLVED FURTHER THAT the Common Seal of the Company be affixed, if required, on any paper, document(s), deed(s) or agreement executed in this regard in presence of any one of the Directors of the Company and counter signed by Mr Naresh Sasanwar or Mr Ajay Menon or Mr Ravi Sreehari or Ms Kumud Jain, Authorised Signatories of the Company.”

Certified to be true



Avinash Bagul
Director

Date: 7th March, 2006
Place: Mumbai



Regd. Off: IL&FS Financial Centre, Plot C-22, G Block, Bandra Kurla Complex, Bandra East, Mumbai - 400051



Mr K C Verkeyachan
General Manager (S-2)
National Highways Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi 110 075

137/60(S2)
20/3/06

20th March 2006

Sub: 4 laning of NS2/BOT/AP -5 under North – South corridor (NHDP Phase II) in the State of Andhra Pradesh on BOT (Annuity) basis – Legal Opinion for signing of the Concession Agreement.

Dear Sir,

Based on the documents submitted by the Successful bidder, please find attached the Legal Opinion regarding the compliance of the documents for signing the Concession Agreement for the above mentioned project.

With regards,

Sincerely



Vishwas Udgirkar
Associate Director

Vg

Add to file

Issued para 8 for
signing of agreement

20/3/06

DM(S-2)

SINGHANIA & PARTNERS

SOLICITORS AND ADVOCATES

B-92, 9th Floor, Himalaya House,

23 Kasturba Gandhi Marg

New Delhi 110 001

Tel. +91-11-5153-1000

Fax +91-11-5151-0200/2371-6699

E-mail: office@singhanianet

www.singhanianet

VIA FAX/COURIERRef: RS/DR/GV/PWC-AP-5/03-06/10-7414
March 20, 2006Mr. Kushal Kumar Singh
PricewaterhouseCoopers Pvt. Ltd
PWC Centre, Saidulajab
Opposite D-Block, Saket
Mehrauli Badarpur Road
New Delhi-110030

Dear Kushal,

Re: Project Reference No. NS 2/BOT/AP-5**Sub: Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH 7 in the State of Andhra Pradesh under North- South Corridor (NHDP Phase II) on BOT Annuity basis NS2/BOT/AP-5 (The Project).**

Our opinion is based on the following documents provided to us: -

1. Letter Ref: NHAI /Tech/NS-2/BOT/AP-5/2005/200 dated March 9, 2006
2. Letter Ref: NHAI /Tech/NS-2/BOT/AP-5/2005/172: Letter of Acceptance.
3. Letter Ref: NHAI /Tech/NS-2/BOT/AP-5/2005/205 dated March 18, 2006
4. Letter by IL&FS to NHAI dated March 7, 2006
5. Certificate of Incorporation of Andhra Pradesh Expressway Limited (SPV)
6. Memorandum and Articles of Association of Andhra Pradesh Limited (SPV)
7. The MOU dated 16th Aug. 2005 between the Consortium Members i.e. Infrastructure Leasing & Financial Services Limited (IL&FS) and Consolidated Transportation

BANGALORE#401, Prestige Meridian-II,
30, Mahatma Gandhi Road, Bangalore 560 001
Tel. +91-80-5113-1900
Fax +91-80-5113-1901
E-mail: Blr@Singhanianet**MUMBAI**123-A, 12th Floor, Mittal Court
Nariman Point, Mumbai - 400021
Tel. +91-22-2288-5550
Fax +91-22-2288-5560
E-mail: Mum@Singhanianet

Networks Limited (CTNL) (name changed to ITNL i.e. IL&FS Transportation Networks Limited dated 18th October 2005). The name of the Consortium is IL&FS and CTNL (hereinafter referred to as "the Consortium").

8. Certificate from Consortium members authorizing the investments in SPV.
9. Register of Members of SPV.
10. Certified True Copy of the Board Resolution of the SPV authorizing an officer to sign and execute the Concession Agreement on its behalf.
11. Certified List of Directors of APEL as on 18th March 2006.
12. Request For Proposal (RFP).

We have examined the above-mentioned documents and opine as follows: -

1. Letter Ref: NHAI /Tech/NS-2/BOT/AP-5/2005:

As per the letter, a Letter of Acceptance has been issued to the Consortium by NHAI for the Project.

2. Letter Ref: NHAI /Tech/NS-2/BOT/AP-5/2005/172 (Letter of Acceptance dated 24th Feb. 2006):

Vide this Letter of Acceptance issued by NHAI, the Consortium has been declared as a successful bidder for the Project for a semi annuity amount of Rs. 56.52 Crores.

3. Letter by IL&FS to NHAI dated 7th March, 2006:

The letter inter alia, refers to the fact that the Consortium has incorporated the SPV named Andhra Pradesh Expressway Private Limited (APEL) in respect of the Project.

4. Memorandum of Understanding (MOU):

The Consortium Members have entered into a MOU dated 16th August 2005 in which the IL&FS has committed to hold 51 % shares and CTNL (now ITNL) has committed to hold 10% shares in the SPV.

Also, as per Clause 1.5.3 of the RFP, in case of a Consortium:

- (i) The Lead Member would commit to hold a minimum equity stake equal to 51% of the aggregate shareholding of the Consortium in the SPV at all times during the Concession Period.
- (ii) In case of a member of the Consortium who is not a Lead Member or in other words is a member, he/she would commit to hold a minimum equity stake equal to 10% of the aggregate shareholding of the Consortium in the SPV at all times during the Concession Period."

The copy of the MOU provided to us does not contain clause 1 to 8. However, as confirmed by you, the "Lead Member" of the Consortium is IL&FS. Since IL&FS holds 51% equity in the SPV, hence the compliance of Clause 1.5.3 of the RFP has been met by the Lead Member.

5. Certificate of Incorporation and Certificate to Commence Business of Andhra Pradesh Expressway Limited (SPV):

As per the Certificate of Incorporation, CIN U63031MH2005PLC157256 has been issued by the Registrar of Companies, Maharashtra, Mumbai, and the SPV was incorporated on November 11, 2005. Also, the SPV being a Public Limited Company under the Companies Act, 1956, it has obtained the Certificate to Commence Business dated January 10, 2006.

Here, we observe that the SPV is already in existence with the object to carry on the Project even before the Letter of Acceptance (LOA) dated 24th Feb. 2006, was issued in the name of the Consortium by the NHAI.

6. Articles and Memorandum of Association of Andhra Pradesh Expressway Limited (SPV).

We have examined the copy of the Articles and Memorandum of Association of Andhra Pradesh Expressway Limited (SPV) and note that the main object of the Company, as per the

Memorandum of Association, furnished to us, has been framed to specifically undertake the Project.

Also, as per Clause 1.5.1 of the RFP the Consortium has incorporated the Special Purpose Vehicle (SPV), which shall not undertake any other business during the Concession Period, to domicile the Project prior to the start of the implementation of the Project.

As per the Subscribers table of the Articles & Memorandum of Association of the SPV. The shareholders of the SPV are as follows: -

- 1) IL&FS holding 25,500 (Twenty Five Thousand Five Hundred) equity shares of Rs. 10 each.
- 2) CTNL holding 24,440 (Twenty Four Thousand Four Hundred Forty) equity shares of Rs. 10 each.
- 3) Mr. K. Ramachand holding 10 (Ten) equity shares of Rs. 10 each.
- 4) Mr. Avinash Bagul holding 10 (Ten) equity shares Rs. 10 each.
- 5) Mr. Naresh Sasanwar holding 10 (Ten) equity shares Rs. 10 each.
- 6) Mr. Mukund Sapre holding 10 (Ten) equity shares Rs. 10 each.
- 7) Ms. Hina Chhatbar holding 10 (Ten) equity shares Rs. 10 each.
- 8) Mr. Ravi Sreehari holding 10 (Ten) equity shares Rs. 10 each.

Also, as per the Subscribers Table of the Memorandum and Articles of Association of the SPV, it is observed that the IL&FS being the Consortium members hold 51 % shareholding of the paid up capital in the SPV and CTNL (now ITNL) being the Consortium members hold 48.88 % shareholding of the paid up capital in the SPV.

Hence, the shareholdings of the Consortium members in the SPV is in accordance with the MOU entered into by the Consortium members dated 16th August 2005.

7. Shareholding in the SPV:

As per Clause 1.5.2 of the RFP the aggregate equity shareholding of the Consortium members and their Associates, in the issued and paid up capital of the Concessionaire shall not be less than 51% (fifty one percent) during the Construction Period and for 3 years following Commercial Operations Date ('COD') and 26% (twenty six percent) during the balance remaining Operation Period.



We observe that as per the Subscriber table to the Memorandum of Association of the SPV, the Consortium members i.e. IL&FS hold 25,500 (Twenty Five Thousand Five Hundred) equity shares of Rs. 10 each and CTNL hold 24,440 (Twenty Four Thousand Four Hundred Forty) equity shares of Rs. 10 each. In aggregate both the Consortium members are holding the minimum equity stake in the SPV as per the requirement of Clause 1.5.2 i.e. 99.88 % shareholding in the SPV. We observe that ITNL has furnished the Certified True Copy of the Board Resolution dated 29th September 2005 authorizing the equity investment upto Rupees Hundred Crores (Rs. 100 crores) in the SPV. Also, IL&FS has furnished the Certified True Copy of the Board Resolution dated 11th August 2005 authorizing upto 51% in the paid up equity investment in the SPV for the Project.

7. Register of Members of SPV:

The shareholding of the Consortium members as agreed in MOU dated 16th Aug. 2005 is consistent with the Register of Members of the SPV furnished to us for our review. Also, Register of Member of the SPV mentions the changed name of CTNL as ITNL.

8. Certified True Copy of the Board resolution of Andhra Pradesh Expressway Ltd. (SPV) authorizing personnel for signing of concession agreement:

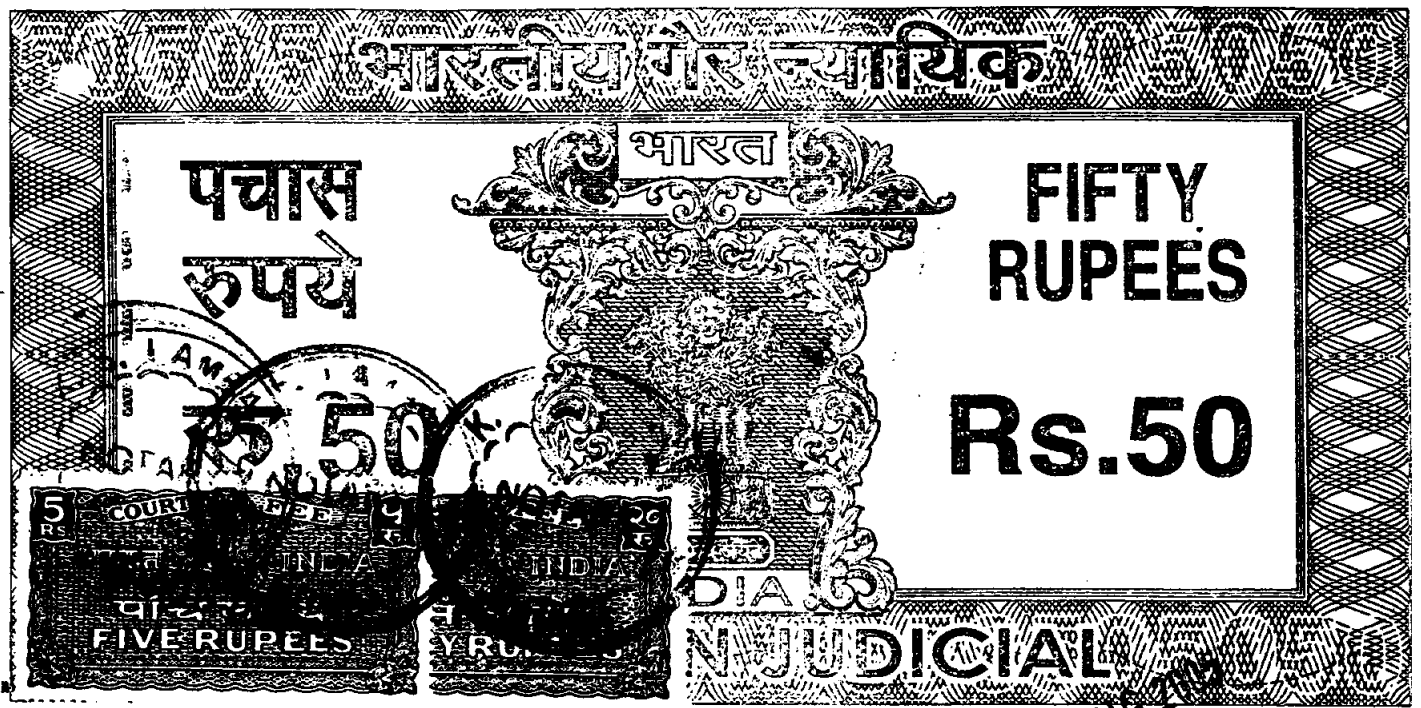
SPV has authorised, through a Board Resolution dated 24th Nov. 2005, jointly and severally Mr. Arun K Saha, Mr. R.C. Bawa and Mr. Mukund Sapre to sign and execute the Concession Agreement. Vide its certificate dated 18th March 2006, the SPV has certified that the Directors mentioned in the resolution dated 24th November 2005 continue as the Directors on date. Accordingly, in our opinion, any one of the Directors so authorised can sign the Concession Agreement.

We have no issues left in the signing of the Concession Agreement by NHAI with the SPV.

Opined Accordingly.


Dipak Rao.

Partner.

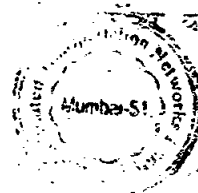
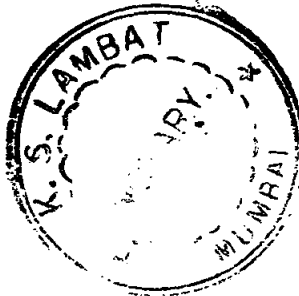
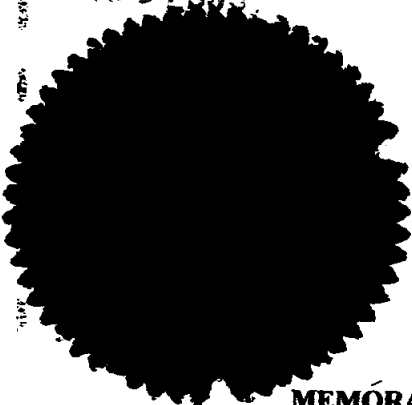


Date:
MAHARASHTRA

B 027065

16 AUG 2005
महाराष्ट्र हाई कोर्ट बॉम्बे

at Officer



13304

Signature

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MoU) entered into this 16th day of August 2005 at Mumbai

Among

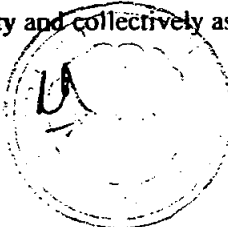
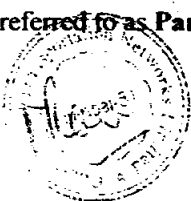
Infrastructure Leasing & Financial Services Limited (hereinafter referred as "IL&FS") and having office at The IL&FS Financial Centre, Plot C-22, G Block, Bandra Kurla Complex, Bandra East, Mumbai - 400 051, India **Party of the First Part**

And

Consolidated Transportation Networks Limited (hereinafter referred as "CTNL") and having office at The IL&FS Financial Centre, Plot C-22, G Block, Bandra Kurla Complex, Bandra East, Mumbai - 400 051, India **Party of the Second Part**

The parties are individually referred to as **Party** and collectively as **Parties**.

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Signature





Stamp Office, Mumbai

MAHARASHTRA

L.S.V. No.

AUG 2005

Office

222

16 AUG 2005 B 027066

श्री. लंकन लक्ष्मण वेंगाळे

श्री. लंकन लक्ष्मण वेंगाळे
 3302
 Number-5
 श्री. लंकन लक्ष्मण वेंगाळे

WHEREAS National Highways Authority of India (NHAI) has invited Qualification and Financial Proposal from entities interested in (i) Design, Construction, Development, Finance, Operation and Maintenance of Km 135.469 (End of proposed Kotakatta bypass) to Km 211 (Kurnool) on NH-7 called the "Project" in the State of Andhra Pradesh, for a specified Concession Period (the "Concession Period")

AND WHEREAS the Parties have had discussions for formation of a Consortium for bidding for the said Project and have reached an understanding on the following points with respect to the Parties' rights and obligations towards each other and their working relationship.



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**IT IS HEREBY AS MUTUAL UNDERSTANDING OF THE PARTIES AGREED AND
DECLARED AS FOLLOWS:**

That the Parties will form a Special Purpose vehicle (SPV) with the shareholding commitments expressly stated. To domicile the Project, Prior to the Start of implementation of the Project, The said SPV shall not undertake any other business during the Concession Period.

2. That the aggregate equity share holding of the Parties and their / his Associates, in the issued and paid up capital of the SPV shall not be less than 51% (fifty one percent) during the Construction Period and for 3 years following Commercial Operations Date ('COD') and 26% (twenty six percent) during the balance remaining Operation Period.
3. That M/s Infrastructure Leasing & Financial Services Limited who is the Lead Members of the Consortium commits to hold a minimum equity stake equal to 51% of the aggregate shareholding of the Consortium in the SPV at all times during the Concession Period.
4. That M/s Consolidated Transportation Networks Limited who are not Lead Members of the Consortium commit to hold a minimum equity stake equal to 10% of the aggregate shareholding of the Consortium in the SPV at all times during the Concession Period.
5. That any dilution in the equity holding by the Parties in the SPV shall be as per the provisions of the Concession Agreement.
6. That the shareholding commitments shall be recorded in the Concession agreement and no changes shall be allowed thereof, except in accordance with the provisions of the Concession agreement and the Request for Proposal.
7. That the Parties shall carry out all responsibilities as Concessionaire in terms of the Concession agreement.
8. That the roles and the responsibilities of each Party at each stage of the Bidding shall be as follows:

IL&FS: All Financial and Commercial Aspects of the Project



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Signature



CTNL: All Technical Aspects of the Project including Design, Procurement, Construction and Periodic Maintenance of the Project. Project Supervision, Toll Operations, Routine Maintenance of the Project and Management of SPV

9. That the minimum equity holding of each Party (in percentage term) in the SPV shall be as follows:

Name of the Party	% of equity capital
IL&FS	51%
CTNL	10%

10. That the Parties shall be jointly and severally liable for the execution of the Project in accordance with the terms of the Concession agreement.
11. That the Parties affirm that they shall implement the Project in good faith and shall take all necessary steps to see the Project through expeditiously. They shall not negotiate with any other party for this Project.
12. That this MoU shall be governed in accordance with the laws of India and courts in Mumbai shall have exclusive jurisdiction to adjudicate disputes arising from the terms herein.

In witness whereof the Parties affirm that the information provided is accurate and true and have caused this MoU to be duly executed on the date and year above mentioned.

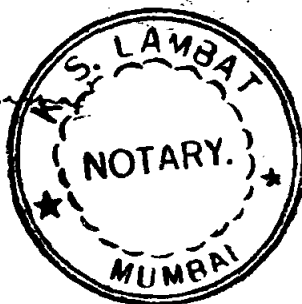
IL&FS

(Party of the first part)

Authorised Signatory

Witness:

1. *Aditya*
2. *Aamir*



CTNL

(Party of the second part)

Authorised Signatory

Witness:

1. *Sanjay*
2. *Akshay*

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ATTESTED BY ME

K. S. Lambat

K. S. LAMBAT
M Com LL B.
ADVOCATE & NOTARY

16 AUG 2005

Mr K C Verkeyachan
General Manager (S-2)
National Highways Authority of India
G-5 & G-6, Sector 10, Dwarka
New Delhi 110 075

20th March 2006

Sub: Final Concession Agreement for NS2/BOT/AP-5

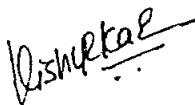
Sir,

Kindly find enclosed the legally vetted final Concession Agreement and the Schedules for the above mentioned Project.

Kindly do get in touch with me in case you require any information / clarification

With regards,

Sincerely



Vishawas Udgirkar
Associate Director

Add to file

20/3

DGM(S-2)



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प्रारूप. आई. आर.
Form I. R.
निगमन का प्रमाण - पत्र
CERTIFICATE OF INCORPORATION

ता. _____ की. सं. _____

CIN U 63 031 MH 2005 PLC 157256

एतद्वारा प्रमाणित करता हूँ कि आज
कम्पनी अधिनियम (1956 का. सं. 1) के अधीन निगमित की गई है और कम्पनी पटिसेमित

I hereby certify that Andhra Pradesh Expressway Limited is this day incorporated
under The Companies Act, 1956 (No. 1 of 1956) and that the Company is Limited.

मेरे हस्ताक्षर से आज ता. _____ को दिया गया।

Given under my hand at MUMBAI this ELEVENTH day of NOVEMBER
TWO THOUSAND FIVE.



(A. S. SINGH)
ASSTT. REGISTRAR OF COMPANIES
MAHARASHTRA, MUMBAI.

No. 11. 129798

**FRESH CERTIFICATE OF INCORPORATION
CONSEQUENT ON CHANGE OF NAME**

IN THE OFFICE OF THE REGISTRAR OF COMPANIES, MAHARASHTRA,
MUMBAI.

In the matter of Consolidated Transportation
Networks Limited

I hereby approve and signify in writing under Section 21
of the Companies Act, 1956 (Act of 1956) read with the
Government of India, Department of Company Affairs,
Notification No. G.S.R. 607E dated the 24th June 1985 the
change of name of the Company.

from **Consolidated Transportation Networks
Limited**

to
IL&FS Transportation Networks Limited

and I hereby certify that **Consolidated Transportation
Networks Limited**

which was originally incorporated on **29th
November 2000**
day of **November 2000** under the Companies Act, 1956 and under the name

CONSOLIDATED TOLL NETWORK INDIA PRIVATE LIMITED

has duly passed the necessary resolution in terms of section 21/22(1)
(a)/22(1) (b) of the Companies Act, 1956 the name of the said
Company in this day changed to

IL&FS Transportation Networks Limited and this
certificate is issued pursuant to Section 23(1) of the said Act/

Given under my hand at **MUMBAI** this **18th**
day of **OCTOBER 2005**

Dy. Registrar of Companies
Maharashtra, Mumbai.

