

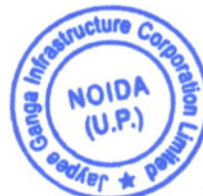


**GOVERNMENT OF UTTAR PRADESH
DEVELOPMENT OF 8-LANE ACCESS CONTROLLED EXPRESSWAY
FROM GREATER NOIDA TO GHAZIPUR-BALLIA ON PUBLIC PRIVATE
PARTNERSHIP**



**CONCESSION AGREEMENT,
TECHNICAL & NON TECHNICAL SCHEDULES**

VOLUME 1 OF 2



VOLUME -1 OF 2

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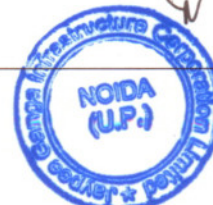


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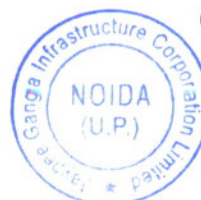
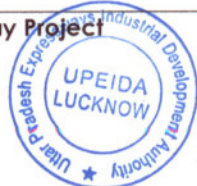


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Part I
Preliminary



भारतीय गैर न्यायिक

एक सौ रुपये

Rs. 100

₹. 100

ONE
HUNDRED RUPEES



सत्यमेव जयते

भारत INDIA
INDIA NON JUDICIAL

उत्तर प्रदेश UTTAR PRADESH

H 842302

CONCESSION AGREEMENT

THIS AGREEMENT is entered into on this the 23rd day of March, 2008

S.K. Sharma

BETWEEN

1 The Uttar Pradesh Expressways Industrial Development Authority, an Authority set up by Government of Uttar Pradesh under UP Industrial Development Act 1976, having its principal office at 3rd Floor, A Block, UPEIDA Camp office, PICUP Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow - 226010, Uttar Pradesh (hereinafter referred to as the "UPEIDA" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of One Part;

AND

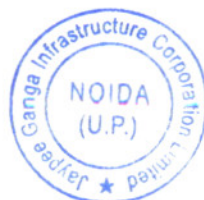
2 Jaypee Ganga Infrastructure Corporation Limited, a company incorporated under the provisions of the Companies Act, 1956 and having its registered office at Sector 128, Noida - 201304, Uttar Pradesh (hereinafter referred to as the "Concessionaire" which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns and substitutes) of the Other Part.

WHEREAS

(A) The Government of Uttar Pradesh has set up UPEIDA for ownership & execution of eight lane Expressway from Greater Noida to Balia & Link Expressway Project (The Industrial Development Area) (hereinafter referred as "Expressway/Expressway

Ganga Expressway Project

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Ravindra Singh
(Ravindra Singh)
Chief Executive Officer
Uttar Pradesh Expressways
Industrial Development
Authority (UPEIDA)

Project") from Greater Noida to Balia along the left bank of river Ganga.

- (B) The UPEIDA had resolved to develop Expressway Project (*hereinafter referred to as "Expressway Package"*) on Design, Build, Finance and Operate ("DBFO") basis in accordance with the terms and conditions set forth in this Concession Agreement.
- (C) The Infrastructure Development Department, on behalf of Government of Uttar Pradesh, had invited Request for Qualifications by its letter dated 01.11.2007 (the "RFQ Notice") for short listing of bidders for construction, operation and maintenance of the Project Expressway on DBFO basis and had shortlisted certain bidders including, inter alia, M/s Jaiprakash Associates Limited (*hereinafter referred to as JAL*).
- (D) The Infrastructure Development Department had prescribed the technical and commercial terms and conditions, and invited Proposals from the shortlisted bidders for selection of Successful Bidder under its Request for Proposal, inter alia, for Design, Engineering, Finance, Construction, Operation and Maintenance of the Project Expressway in the State of Uttar Pradesh pursuant to the Tender Notice for undertaking the Project and requested the short listed bidders to submit their Request for Proposal. The bids so received were evaluated and **JAL** was selected as successful bidder.
- (E) The selected successful Bidder [Single Entity] was required to incorporate a Special Purpose Vehicle (SPV) to domicile the Project and enter into a Concession Agreement with "**UPEIDA**", within 60 (sixty) days of the date of issue of Letter of Award (LOA).
- (F) The selected successful Bidder [Single Entity] has since promoted and incorporated the Concessionaire as a limited liability company under the Companies Act 1956, and has requested the "UPEIDA" to accept the Concessionaire as the entity which shall undertake and perform the obligations and exercise the rights of [Single Entity] **JAL** under the LOA, including the obligation to enter into this Concession Agreement pursuant to the LOA for executing the Project.

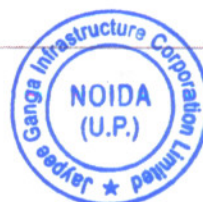
By its letter JGICL/GEP/87 dated 20th March 08, the Concessionaire has also joined in the said request of the [Single Entity] **JAL** to the "UPEIDA" to accept it as the entity which shall undertake and perform the obligations and exercise the rights of the [Single Entity] **JAL** including the obligation to enter into this Concession Agreement pursuant to the said LOA.

- (G) The "UPEIDA" vide its letter no 134/UPEIDA/LOA/08 dated 20-03-08 and 135/UPEIDA/LOA/08 dated 20-03-08, has agreed to the said request of **JAL** the selected successful Bidder [Single Entity] and the Concessionaire, and has accordingly agreed to enter into this Concession Agreement with the Concessionaire for execution of the Project on DBFO basis, subject to and on the terms and conditions set forth hereinafter.

NOW THEREFORE in consideration of the foregoing and the respective covenants and agreements set forth in this Concession Agreement, the sufficiency and adequacy of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:



Expressway Project

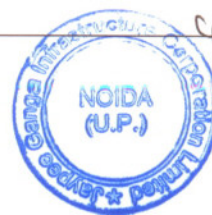


ARTICLE 1

DEFINITIONS AND INTERPRETATIONS

- 1.1 The words and expressions beginning with capital letters and defined in this Agreement (including those in Article 41) shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules;
- 1.2 Interpretation
- 1.2.1 In this Agreement, unless the context otherwise requires,
- (a) references to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
 - (b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;
 - (c) references to a "person" and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) or two or more of the above and shall include successors and assigns;
 - (d) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
 - (e) the words "include" and "including" are to be construed without limitation and shall be deemed to be followed by "without limitation" or "but not limited to" whether or not they are followed by such phrases;
 - (f) references to "construction" include, unless the context otherwise requires, investigation, design, developing, engineering, procurement, delivery, transportation, installation, processing, fabrication, testing, commissioning and other activities incidental to the construction, and "construct" shall be construed accordingly;
 - (g) any reference to any period of time shall mean a reference to that according to Indian Standard Time;
 - (h) any reference to day shall mean a reference to a calendar day;

- (i) references to a "business day" shall be construed as a reference to a day (other than a Sunday) on which banks in Lucknow are generally open for business;
- (j) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- (k) references to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;
- (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 such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- (m) the words importing singular shall include plural and vice versa;
- (n) references to any gender shall include the other and the neutral gender;
- (o) "lakh" means a hundred thousand (100,000) and "crore" means ten million (10,000,000);
- (p) "indebtedness" shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;
- (q) references to the "winding-up", "dissolution", "insolvency", or "reorganisation" of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganisation, dissolution, arrangement, protection or relief of debtors;
- (r) 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 Sub-clause shall not operate so as to increase liabilities or obligations of the "UPEIDA" hereunder or pursuant hereto in any manner whatsoever;
- (s) 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 Engineer shall be valid and effective only if it is in writing under the hand of a duly authorised representative of such Party or the Independent Engineer, as the case may be, in this behalf and not otherwise;



- (t) the Schedules and Recitals 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;
- (u) references to Recitals, Articles, Clauses, Sub-clauses or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses and Schedules of or to this Agreement, and references to a Paragraph shall, subject to any contrary indication, be construed as a reference to a Paragraph of this Agreement or of the Schedule in which such reference appears; and
- (v) 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 (the Damages").

1.2.2 Unless expressly provided otherwise in this Agreement, any Documentation required to be provided or furnished by the Concessionaire to the "UPEIDA" and to the PMC and as necessary also to the Independent Engineer shall be provided free of cost and in three copies, and if the "UPEIDA" and the PMC and as necessary also the Independent Engineer is required to return any such Documentation with their comments and/or approval, they shall be entitled to retain two copies thereof.

1.2.3 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act 1897 shall not apply.

1.3 Measurements and Arithmetic Conventions

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

1.4 Priority of Agreements and Errors/Discrepancies

1.4.1 This Agreement, and all other agreements and documents forming part of this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof shall, in the event of any conflict between them, be in the following order:

- (a) this Agreement; and
- (b) all other agreements and documents forming part hereof;

i.e. the Agreement at (a) above shall prevail over the agreements and documents at (b) above.

- 1.4.2 In case of ambiguities or discrepancies within this Agreement, the following shall apply:
- (a) between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;
 - (b) between the Clauses of this Agreement and the Schedules, the Clauses of this Agreement shall prevail and between the Schedules and Annexures, the Schedules shall prevail;
 - (c) between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
 - (d) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and
 - (e) between any value written in numerals and that in words, the latter shall prevail.



Part II
The Concession



ARTICLE 2

SCOPE OF THE PROJECT

2.0 SCOPE OF THE PROJECT

The scope of the Project (the "Scope of the Project") shall mean and include, during the Concession Period:

- (a) Construction of the Expressway Package on the Site set forth in **Schedule-A** and as specified in **Schedule-B** together with provision of Project Facilities as specified in **Schedule-C**, and in conformity with the Specifications and Standards set forth in **Schedule-D**. For the purpose of this Clause it is clarified that the Specifications & Standards and Project Facilities as described in Schedule-C & D are a minimum and indicative only. The Concessionaire shall be at liberty to design his own richer specifications being a DBFO Model.
- (b) Operation and maintenance of the Expressway Package, including collection and retention of Fees during the terms of the Concession Period, in accordance with the provisions of this Agreement; and
- (c) Performance and fulfillment of all other obligations of the Concessionaire in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Concessionaire under this Agreement.

ARTICLE 3

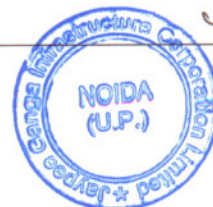
GRANT OF CONCESSION

3.0 THE CONCESSION

- 3.1 Subject to and in accordance with the provisions of this Agreement, the Applicable Laws and the Applicable Permits, the "UPEIDA" hereby undertakes to arrange for grant of tolling rights to the Concessionaire and the Concessionaire hereby accepts the concession for tolling rights for the Expressway project for a period of 35 years (including Construction Period) commencing from the Appointed Date including the license and authority during the subsistence of this Agreement to implement the Project.
- 3.2 Subject to and on the terms and conditions set forth in this Agreement the Concession hereby granted shall 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 and construct the Expressway Package within the Construction Period;



- (ii) upon completion of the Expressway Package and during the Concession Period to manage, operate & maintain the Expressway Package and regulate the use thereof by third parties;
 - (iii) demand, manage and collect appropriate Fees from vehicles and persons liable to payment of Fees for using the Expressway Package or any part thereof and refuse entry of any vehicle to the Expressway Package if the due Fees is not paid;
 - (iv) perform and fulfill all of the Concessionaire's obligations under this Agreement;
 - (v) save and except as permitted under this Agreement, bear and pay all applicable taxes, expenses, costs and charges incurred in the fulfillment of all the Concessionaire's obligations under this Agreement;
 - (vi) save and except as permitted under this Agreement, bear and pay all costs, taxes, expenses and charges in connection with or incidental to the performance of the obligations of the Concessionaire under this Agreement;
 - (vii) To provide such Project Facilities and amenities as required and to appropriate such revenues, if any, flowing out of the operation of such facilities on the Expressway; and
 - (viii) not assign, transfer or sublet or create any lien or Encumbrance on the Agreement, or the Concession hereby granted or on the whole or any part of the Expressway Package nor transfer, lease or part possession thereof save and except as expressly permitted by this Agreement or the Substitution Agreement.
- 3.3 Any extension of Concession Period shall be in accordance with the provisions of this Agreement.
- 3.4 The Concessionaire shall be entitled to collect and retain the Fee from the users of the Expressway Package during the terms of the Concession Agreement.
- 3.5 The Expressway has been designed to be a different category of high speed corridor. To achieve this it is provided that the number of locations of access points will be decided by the Concessionaire in consultation with "UPEIDA"
- 3.6 The Concession Period for the Expressway Package shall commence on the Appointed Date and end on the date of expiry of 35 (thirty five) years and any extension thereto provided in accordance with the provisions of this Agreement.
- 3.7 In case Commercial Operation Date (COD) is not achieved within 4 (four) years or such extended period as may be approved by "UPEIDA", after the Appointed Date solely on account of Concessionaire's default, the Concession Period shall be reduced by the period of delay in achieving COD.
- 3.8 The Concessionaire shall also be granted, by "UPEIDA", the rights to sub-lease land for development of Land Parcels [details enclosed as **Annex-10 to Schedule-**



A and given in Clause 10.7.7 of this Concession Agreement] along the proposed Expressway Package for commercial, industrial, institutional, and residential development and other legally permitted land use in conformity with the Master Plan and subject to applicable laws, on lease for a period of 90 (ninety) years. The aforesaid Land for Development shall be in addition to the land required by the Concessionaire for construction of Expressway Package. In case the UPEIDA, in spite of its best efforts is not able to procure the land in the specified Land Parcels, the Concessionaire will be provided, on the same terms and conditions, land of equal value contiguous to, or, as close to the specified Land Parcel as possible with mutual consent of the UPEIDA and the Concessionaire (as per Clause 10.7.5) .

- 3.9 The rights to sub-lease the Land for Development as above shall be 90 years from the date of lease and shall not be extendable under any circumstances.
- 3.10 Appointed Date shall be the date as defined in Clause 41.1 and shall not be extended except as provided in this Concession Agreement.
- 3.11 At the end of Concession Period, all land, structures, Project Facilities etc. in respect of land given for the Expressway project shall stand automatically reverted back and vested in "UPEIDA".
- 3.12 At the end of the lease period, all lands given on lease for development rights and all such structures, development works etc. on them shall also stand automatically reverted back and vested in "UPEIDA".
- 3.13 The Concessionaire shall ensure that all his agreements including rent/sub-lease etc. relating to lands received on lease from "UPEIDA" shall be drawn up in accordance with the above 3.11 and 3.12 in such a way as to ensure the above conditions.

ARTICLE 4

CONDITIONS PRECEDENT

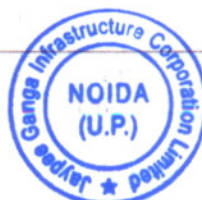
4.1 CONDITIONS PRECEDENT

- 4.1.1 Save and except as expressly provided in this **Article** and **Articles 9, 10, 24, 29, 37 and 40**, the respective rights and obligations of the Parties under this Agreement shall be subject to the satisfaction in full of the conditions precedent specified in this Clause 4.1 (the "Conditions Precedent").
- 4.1.2 The Concessionaire may, upon providing the Performance Security to the "UPEIDA" in accordance with Article 9, at any time after 90 (ninety) days from the date of this Agreement or on an earlier day acceptable to the "UPEIDA", by notice require the "UPEIDA" to satisfy any or all of the Conditions Precedent set forth in this Clause 4.1.2 within a period of 30 (thirty) days of the notice, or such longer period not exceeding 60 (sixty) days as may be specified therein, and the conditions precedent required to be satisfied by the "UPEIDA" prior to the Appointed Date shall be deemed to have been fulfilled when the "UPEIDA" shall

have:



Ganga Expressway Project



- (a) acquired and handed over at least 25% land required for the purposes of the Agreement by the Concessionaire for the construction of the Expressway Package;
- (b) acquired and handed over at least 20% of each designated Land Parcels required for development; and
- (c) procured for the Concessionaire the permission to use public roads to the Site for construction purpose.

4.1.3 The Conditions Precedent required to be satisfied by the Concessionaire prior to the Appointed Date shall be deemed to have been fulfilled when the Concessionaire shall have:

- a) provided Performance Security to the "UPEIDA";
- b) procured all the Applicable Permits unconditionally or if subject to conditions then all such conditions shall have been satisfied in full and such Applicable Permits are in full force and effect during the implementation of the Project.;
- c) executed the Financing Agreements and delivered to the "UPEIDA" 3 (three) true copies thereof, duly attested by a Director of the Concessionaire;
- d) delivered to the "UPEIDA" 3 (three) true copies of the Financial Package and the Financial Model, duly attested by a Director of the Concessionaire, along with 3 (three) soft copies of the Financial Model in MS Excel version or any substitute thereof, which is acceptable to the Senior Lenders, if any;
- e) delivered to the "UPEIDA" the confirmation, in original, of the correctness of their representations and warranties set forth in Sub-clauses (k) and (l) of Clause 7.1 of this Agreement; and
- f) delivered to the "UPEIDA" a legal opinion from the legal counsel of the Concessionaire with respect to the authority of the Concessionaire to enter into this Agreement and the enforceability of the provisions thereof:

Provided that upon request in writing by the Concessionaire, the "UPEIDA" may, in its discretion, waive any of the Conditions Precedent set forth in this Clause 4.1.3.

4.1.4 Each Party shall make all reasonable endeavors to satisfy the Conditions Precedent within the time stipulated and shall provide the other Party with such reasonable cooperation as may be required to assist that Party in satisfying the conditions Precedent for which that Party is responsible

4.1.5 The Parties shall notify each other in writing at least once a month on the progress made in satisfying the conditions Precedent. Each Party shall promptly inform the other Party when any Condition Precedent for which it is responsible has been satisfied.



4.1.6 The Appointed Date can be revised by mutual consultations.

4.2 COMPENSATION FOR DELAY BY THE "UPEIDA"

In the event (i) the "UPEIDA" does not procure fulfillment of any or all the Conditions Precedent set forth in Clause 4.1.2 within the period specified in respect thereof, and (ii) the delay has not occurred as a result of breach of this Agreement by the Concessionaire or due to Force Majeure, "UPEIDA", shall compensate the Concessionaire by suitably extending the Appointed Date, the COD and / or the Concession Period for the Expressway without any penalty, as applicable.

4.3 DAMAGES FOR DELAY BY THE CONCESSIONAIRE

In the event (i) the "Concessionaire" does not procure fulfillment of any or all the Conditions Precedent set forth in Clause 4.1.3 within the period specified in respect thereof, and (ii) the delay has not occurred as a result of breach of this Agreement by the "UPEIDA" or due to Force Majeure, the "UPEIDA" shall be entitled to encash the Performance Security and appropriate the proceeds thereof as Damages.

ARTICLE 5

OBLIGATIONS OF THE CONCESSIONAIRE

5.1 OBLIGATIONS OF THE CONCESSIONAIRE

5.1.1 Subject to and on the terms and conditions of this Agreement, the Concessionaire shall at its cost and expense procure finance for the acquisition of land and undertake the design, engineering, procurement, construction, operation and maintenance of the Expressway Package and observe, fulfill, comply with and perform all its obligations set out in this Agreement or arising hereunder.

5.1.2 The Concessionaire shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement.

5.1.3 Subject to Clauses 5.1.1 and 5.1.2, the Concessionaire shall discharge its obligations in accordance with Good Industry Practice and as a reasonable and prudent person.

5.1.4 The Concessionaire shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:

- a) Make necessary arrangements of finance, design, engineering, construction, operation and maintenance of the Project in accordance with the provisions of this Agreement;
- b) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details, as may be required for obtaining all Applicable Permits (other than those set forth in

Clause 4.1.2) and obtain and keep in force and effect such Applicable Permits in conformity with the Applicable Laws;

- c) procure, as required, the appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used or incorporated into the Expressway Package;
- d) make necessary and appropriate financing arrangements for implementation of the Expressway Package to the satisfaction of the "UPEIDA" and perform and fulfill its obligations under the Financing Agreements;
- e) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Contractors in connection with the performance of its obligations under this Agreement;
- f) ensure and procure that its Contractors comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Concessionaires obligations under this Agreement;
- g) make its own arrangements for quarrying, observe and fulfill the environmental and other requirements under the Applicable Laws and Applicable Permits at Concessionaire's own cost and expenses;
- h) provide active assistance to "UPEIDA" in the land acquisition process including negotiations etc.
- i) comply with the Relief and Rehabilitation Policy of the State Government in respect of the Project Affected Peoples (PAPs) and obtain necessary clearances from the concerned statutory authorities. It is further clarified that the Concessionaire shall have to bear all the costs towards Relief & Rehabilitation of PAPs as per approved Relief and Rehabilitation Action Plan;
- j) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;
- k) be responsible for soundness and durability of the Expressway including other structures forming part thereof and compliance with the relevant specifications and standards;
- l) provide Service Roads throughout the length of the Expressway;
- m) support, cooperate with and facilitate the "UPEIDA" in the implementation and operation of the Project in accordance with the provisions of this Agreement; and
- n) indemnify the "UPEIDA" 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 the Agreement.



5.2 OBLIGATIONS RELATING TO PROJECT AGREEMENTS

- 5.2.1 It is expressly agreed that the Concessionaire shall, at all times, be responsible and liable for all its obligations under this Agreement notwithstanding anything contained in the Project Agreements or any other agreement, and no default under any Project Agreement or agreement shall excuse the Concessionaire from its obligations or liability hereunder.
- 5.2.2 The "UPEIDA" may engage the Project Development Special Purpose Vehicle (PDSPV) or any other agency for Project Management Consultancy (PMC) and Independent Engineer to perform their assigned tasks for a fee as per prevailing industrial practice which the Concessionaire will have to account and pay to "UPEIDA".
- 5.2.3 Notwithstanding anything to the contrary contained in this Agreement, the "UPEIDA" shall be at liberty to object to and require the Concessionaire to remove forthwith from the works any person/firm employed by the Concessionaire in or about the execution of warranty of the works who, in the opinion of the "UPEIDA", is found indulging in antinational activities.

5.3 OBLIGATIONS RELATING TO CHANGE IN OWNERSHIP

- 5.3.1 The Concessionaire shall not undertake or permit any Change in Ownership, except in accordance with the provisions of this Concession Agreement. In such a situation, it shall intimate the UPEIDA 7 days prior to the Change in Ownership.
- 5.3.2 Notwithstanding anything to the contrary contained in this Agreement, the Concessionaire agrees and acknowledges that
- (i) all acquisitions of acting in concert, equity by an acquirer, either by himself or with any person directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity in aggregate of not less than 15% (fifteen per cent) of the total equity of the Concessionaire
 - (ii) acquisition of any control directly or indirectly of the Board of Directors of the Concessionaire by any Person either by himself or together with any person or persons acting in concert with him

shall be subject to prior approval of the "UPEIDA" from national security and public interest perspective, the decision of the "UPEIDA" in this behalf being final, conclusive and binding on the Concessionaire, and undertakes that it shall not give effect to any such acquisition of equity or control of the Board of Directors of the Concessionaire without such prior approval of the "UPEIDA". For the avoidance of doubt, it is expressly agreed that approval of the "UPEIDA" hereunder shall be limited to national security and public interest perspective, and the "UPEIDA" shall endeavour to convey its decision thereon expeditiously. It is also agreed that the "UPEIDA" shall not be liable in any manner or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve the Concessionaire from any liability or obligation under this Agreement.

For the purposes of this Clause 5.3.2:

- i. the expression "acquirer", "control" and "person acting in concert" shall have the meaning ascribed thereto in the Securities and Exchange Board of India (Substantial Acquisition Of Shares and Takeover) Regulations, 1997 or any statutory re-enactment thereof as in force as on the date of acquisition of equity, or the control of the Board of Directors, as the case may be, of the Concessionaire;
- ii. the indirect transfer or control of legal or beneficial ownership of equity shall mean transfer of the direct or indirect beneficial ownership or control of any company' or companies whether in India or abroad which results in the acquirer acquiring control over the shares or voting rights of shares of the Concessionaire; and
- iii. power to appoint, whether by contract or by virtue of control or acquisition of shares of any company holding directly or through one or more companies (whether situate in India or abroad) the equity of the Concessionaire, not less than half of the directors on the Board of Directors of the Concessionaire or of any company, directly or induce whether situate in India or abroad having ultimate control of not less than 15% (fifteen per cent) of the equity of the Concessionaire shall constitute acquisition of control, directly or indirectly of the Board of Directors of the Concessionaire.

5.4 OTHER OBLIGATIONS

5.4.1 The Concessionaire shall obtain all required statutory and other approvals/no-objections/sanctions including environmental clearances from Competent Authority before starting Construction Work on Expressway and Land Parcels.

5.4.2 The Concessionaire shall maintain zero net drawal from ground water.

5.4.3 The Concessionaire shall ensure good links from development rights parcels to the Expressway Alignment.

5.5 The Concessionaire shall provide road links from these Land Parcels to the Expressway at his own cost and maintain the same during the Concession Period.

5.5.1 The Concessionaire shall be liable to provide reservation in employment etc. as per the GOUP Policies, if applicable.

5.5.2 The Concessionaire shall ensure that any sewage, treated or untreated, shall be disposed off in accordance with the provisions of Applicable Law.

5.6 EMPLOYMENT OF FOREIGN NATIONALS

The Concessionaire acknowledges, agrees and undertakes that employment of foreign personnel by the Concessionaire and/or its Contractors and their subcontractors shall be subject to grant of requisite regulatory permits and approvals including employment / residential visas and work permits, if any required, and the obligation to apply for and obtain the same shall and will

always be of the Concessionaire and, notwithstanding anything to the contrary contained in this Agreement, refusal of or inability to obtain any such permits and approvals by the Concessionaire or any of its Contractors or subcontractors shall not constitute Force Majeure Event, and shall not in any manner excuse the Concessionaire from the performance and discharge of its obligations and liabilities under this Agreement

5.7 EMPLOYMENT OF TRAINED PERSONNEL

The Concessionaire shall ensure that the personnel engaged by it in the performance of its obligations under this Agreement are at all times properly trained for their respective functions.

5.8 SOLE PURPOSE OF THE CONCESSIONAIRE

The Concessionaire having been set up for the sole purpose of exercising the rights and observing and performing its obligations and liabilities under this Agreement, the Concessionaire or any of its subsidiaries shall not, except with the previous written consent of the "UPEIDA", be or become directly or indirectly engaged, concerned or interested in any business other than as envisaged herein.

ARTICLE 6

OBLIGATIONS OF THE "UPEIDA"

6.1 OBLIGATIONS RELATING TO CHANGE IN OWNERSHIP

6.1.1 The "UPEIDA" shall, at its own cost and expense undertakes, comply with and perform all its obligations set out in this Agreement or arising hereunder.

6.1.2 The "UPEIDA" agrees to provide support to the Concessionaire and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and the Applicable Laws, the following

- a. Provide to the Concessionaire the Site and Right of Way and access to the Site in accordance with this Agreement, for execution of the Expressway Package;
- b. Facilitate the Concessionaire in procuring necessary authorization from GOUP to demand, manage, collect and retain toll from vehicles using the Expressway during the entire Concession Period;
- c. upon written request from the Concessionaire, and subject to the Concessionaire complying with Applicable Laws, provide all reasonable support and assistance to the Concessionaire in procuring Applicable Permits required from any Government Instrumentality for implementation and operation of the Project;
- d. upon written request from the Concessionaire, assist the Concessionaire in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favorable to



- the Concessionaire than those generally available to commercial customers receiving substantially equivalent services;
- e. procure that no barriers are erected or placed on the Expressway Package by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security, law and order or collection of interstate taxes;
 - f. make best endeavors to ensure that no local Tax, toll or charge is levied or imposed on the use of whole or any part of the Expressway Package;
 - g. subject to and in accordance with the Applicable Laws, grant to the Concessionaire the right to regulate traffic on the Expressway Package;
 - h. assist the Concessionaire in procuring Police assistance for regulation of traffic, removal of trespassers and security on the Expressway Package;
 - i. not, do or omit violative of any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;
 - j. support, cooperate with and facilitate the Concessionaire in the implementation and operation of the Project in accordance with the provisions of this Agreement and
 - k. upon written request from the Concessionaire and subject to the provisions of Clause 5.6, provide reasonable assistance to the Concessionaire and any expatriate personnel of the Concessionaire or its Contractors to obtain applicable visas and work permits for the purposes of discharge by the Concessionaire or its Contractors their obligations under this Agreement and the Project Agreements.

6.2 OBLIGATIONS RELATING TO COMPETING LAND DEVELOPMENT

The "UPEIDA" shall ensure that during the subsistence of this Agreement, neither the "UPEIDA" nor any Government Instrumentality shall sponsor any land development projects within 3.0 (three) km on either side of the exit roads upto three Kms. from the Expressway and three Kms. around the Land Parcels defined under this Agreement for a period of 9.0 (nine) years of this Agreement. However, the existing Urban Development Authorities and Urban Local Bodies whose jurisdiction lies in the above three km, shall not be restricted by the above provisions; Further, the schemes/projects currently being implemented under such Development Authorities and Urban Local Bodies shall also not be restricted by any such Competing Land Development Rights provisions. Also, a Development Authority, whose jurisdiction lies in the above three km, may undertake execution of any important Development project in such areas.

6.3 OTHER OBLIGATIONS

- 6.3.1 The tax concessions and or other benefits as per applicable government policies for such projects shall be available for this project also.

- 6.3.2 Provide assistance in securing single window fast track requisite approvals from GOUP.
- 6.3.3 "UPEIDA" shall consult the Concessionaire in formulation of Master Plan for the development of Land Parcels.
- 6.3.4 "UPEIDA" shall permit legally permissible activities in the designated Land Parcels while formulating the master plan in such a way so as to enable the Concessionaire to utilize an overall FAR of 2.50 of Land Parcels.
- 6.3.5 UPEIDA" shall frame rules and regulations for providing interconnectivity to the four Expressway packages.

ARTICLE 7

REPRESENTATIONS AND WARRANTIES

7.1 REPRESENTATIONS AND WARRANTIES OF THE CONCESSIONAIRE

The Concessionaire represents and warrants to the "UPEIDA" that:

- a. it is duly organized and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- b. it has taken all necessary corporate and other actions under Applicable Laws to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- c. it has the financial standing and capacity to undertake the Project in accordance with the terms of this Agreement;
- d. this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- e. it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;
- f. the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- g. 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 its Memorandum and Articles of Association or any Applicable Laws or any covenant, contract, agreement, arrangement, 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;

- h. there are no actions, suits proceedings, or Investigations pending or to its 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 this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- i. it 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 Government Instrumentality which may result in any Material Adverse Effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;
- j. it has complied with Applicable Laws in all material respects 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 a Material Adverse Effect on its ability to perform its obligations under this Agreement;
- k. it shall at no time undertake or permit any Change in Ownership except in accordance with the provisions of Clause 5.3 and that the existing promoters i.e. **JAL** together with their Associates shall hold equity in the Concessionaire not less than (a) 51% (fifty one percent) during the Construction Period, (b) 33% (thirty three percent) thereof during a period of 3 (three) years following the COD and (c) 26% (twenty six percent) during the balance Concession Period.
- l. The existing promoters i.e. **JAL** and their Associates have the financial standing and resources to hold the required Equity and to raise the debt necessary for undertaking and implementing the Project in accordance with this Agreement;
- m. all its rights and interests in the Expressway Package shall pass to and vest in the "UPEIDA" on the Transfer Date free and clear of all liens, claims and Encumbrances, without any further act or deed on its part or that of the "UPEIDA", and that none of the Project Assets shall be acquired by it, 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;
- n. all its rights on the land given for development to the Concessionaire shall stand transferred to the "UPEIDA", including the right to lease or renew the lease of this or part of this land after completion of 90 years from the Appointed Date;
- o. no representation or warranty by it contained herein or in any other document furnished by it to the "UPEIDA" or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty misleading; and

- p. no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, 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 the "UPEIDA" in connection therewith.

7.2 REPRESENTATIONS AND WARRANTIES OF THE "UPEIDA"

The "UPEIDA" represents and warrants to the Concessionaire that:

- a. it has the financial standing and capacity to perform its obligations under the Agreement;
- b. this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- c. all information provided by it in the Tender Notice and Request for Proposal in connection with the Project is, to the best of its knowledge and belief, true and accurate in all material respects;
- d. upon the Concessionaire paying the Concession Fee as regards to the Expressway Package and lease rent in respect of transferred Land for Development and performing the covenants herein, it shall not at any time during the term hereof, interfere with peaceful exercise of the rights and discharge of the obligations by the Concessionaire except in accordance with this Agreement; and
- e. All benefits including tax, as per GOUP's policies shall be available for this project subject to eligibility.

7.3 DISCLOSURE

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.

ARTICLE – 8

DISCLAIMER

8.1 DISCLAIMER

- 8.1.1 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 Tender Notice, Scope of the Project, Specifications and Standards, Site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes and all information provided by the "UPEIDA" or

obtained procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in Clause 7.2, the "UPEIDA" makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy and/or completeness of the information provided by it and the Concessionaire confirms that it shall have no claim whatsoever against the "UPEIDA" in this regard.

- 8.1.2 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 8.1.1 above and hereby acknowledges and agrees that the "UPEIDA" shall not be liable for the same in any manner whatsoever to the Concessionaire, Associates or any person claiming through or under any of them.



Part III

Development and Operations



ARTICLE 9

PERFORMANCE SECURITY

9.1 PERFORMANCE SECURITY

9.1.1 The Concessionaire, for due and faithful performance of its obligations during the Construction Period has provided to the "UPEIDA" an irrevocable and unconditional Bank Guarantee No.0007BG00065108 dated 20.3.08 for Rs 59650.00 lacs, No.0007BG00064808 dated 20.3.08 for Rs 29825.00 lacs, No. 0007BG00064608 dated 20.3.08 for Rs 14912.50 lacs, No. 0007BG00065008 dated 20.3.08 for Rs 14912.50 lacs, No. 0007BG00064908 dated 20.3.08 for Rs 14912.50 lacs and No. 0007BG00064708 dated 20.3.08 for Rs 14912.50 lacs, being 5% of the Total Project Cost (as defined) from ICICI Bank, Connaught Place, New Delhi, towards the Performance Security. The Concessionaire shall have the option to reduce the amount of the Performance Security by replacing the earlier Bank Guarantee by another Bank Guarantee for Rs. 89475.00 lacs being 3% of the Total Project Cost after achieving the Financial Close.

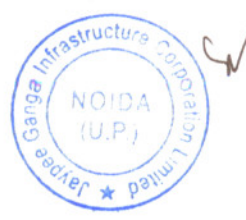
9.2 RELEASE OF PERFORMANCE SECURITY

9.2.1 The Performance Security, provided as above in the form of Bank Guarantee, will require to be available and valid for the entire Concession Period of the Expressway Project. To ensure this, the Concessionaire shall adequately instruct concerned Bank to automatically renew the above Bank Guarantee one week before the date of expiry each time, failing which the same will be encashed by the "UPEIDA" and that the bank shall accept such invocation and encashment without demur. The Performance Security may be released to the Concessionaire proportionate to the progress on implementation of the Project after achieving different milestones set forth in this Agreement (Schedule G of Technical Schedules); provided always that there shall remain a Performance Guarantee in the form of an irrevocable and unconditional Bank Guarantee of a value not less than 1.0% (one percent) of the Total Project Cost for his satisfactory performance of its obligations including O&M; and provided further the Concessionaire is not in breach of this Agreement. Upon request made by the Concessionaire along with the particulars which establish satisfaction of the requirements specified under this Clause 9.2.1, the Concessionaire may be allowed to reduce the amount of the Performance Security by replacing the earlier Bank Guarantee by another Bank Guarantee.

9.2.2 The retained Performance Security shall be released to the Concessionaire only after the expiry of Concession Period.

9.3 ENCASHMENT AND APPROPRIATION OF PERFORMANCE SECURITY

Upon occurrence of a Concessionaire Default, the "UPEIDA" shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Security as Damages for such Concessionaire Default. Upon such encashment and appropriation from the Performance Security, the Concessionaire shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire Performance



Security provide a fresh Performance Security, as the case may be, and the Concessionaire shall, within the time so granted; replenish or furnish fresh Performance Security as aforesaid failing which the "UPEIDA" shall be entitled to terminate this Agreement in accordance with Article 30. Upon replenishment or furnishing of a fresh Performance Security, as the case may be, as aforesaid, the Concessionaire shall be entitled to an additional Cure Period of 90 (ninety) days for remedying the Concessionaire Default, and in the event of the Concessionaire not curing its default within such Cure Period, the "UPEIDA" shall be entitled to encash and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Article 30.

ARTICLE 10

RIGHT OF WAY/LAND FOR DEVELOPMENT

10.1 THE SITE

The site of the Expressway Package shall comprise of the land described in Schedule-A and Schedule-C and in respect of which the Right of Way shall be provided by the "UPEIDA" to the "Concessionaire" at the cost of the Concessionaire from the land owners under the Applicable Laws and in accordance with this Agreement (the "Site"). For the avoidance of doubt, it is hereby acknowledged and agreed that references to the Site shall be construed as references to the land to be acquired for eight laning of the Expressway Package including Project Facilities as set forth in Schedule-A and Schedule-C.

10.2 LICENSE, ACCESS AND RIGHT OF WAY

10.2.1 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 8.1.1 above and hereby acknowledges and agrees that the "UPEIDA" shall not be liable for the same in any manner whatsoever to the Concessionaire, Associates or any person claiming through or under any of them. The "UPEIDA" hereby grants to the Concessionaire access to the Site for carrying out any surveys, investigations and soil tests that the Concessionaire may deem necessary during the Development Period. It being expressly agreed and understood that the "UPEIDA" shall have no liability whatsoever in respect of survey, investigations and tests carried out or work undertaken by the Concessionaire on or about the Site pursuant hereto in the event of Termination or otherwise.

10.2.2 In consideration of the Concession Fee, this Agreement and the covenants and warranties on the part of the Concessionaire herein contained, the "UPEIDA", in accordance with the terms and conditions set forth herein, hereby grants to the Concessionaire, commencing from the Appointed Date, leave and license rights progressively in respect of the acquired land for the duration of the Concession Period and, for the purposes permitted under this Agreement, and for no other purpose whatsoever. For avoidance of doubt it is made clear that land over which Expressway shall be made will be on license granted by the UPEIDA in favour of the Concessionaire. This license shall stand revoked at the expiry of Concession Period or its earlier Termination.

- 10.2.3 It is expressly agreed that the license granted hereunder shall terminate automatically and forthwith, without the need for any action to be taken by the "UPEIDA" to terminate the license, upon the Termination of this Agreement for any reason whatsoever.
- 10.2.4 The Concessionaire hereby irrevocably appoints the "UPEIDA" (or its nominee) to be its true and lawful attorney, to execute and sign in the name of the Concessionaire a transfer or surrender of the license granted hereunder at any time after the Concession Period has expired or has been terminated earlier in terms hereof, a sufficient proof of which will be the declaration of any duly authorized officer of the "UPEIDA".
- 10.2.5 It is expressly agreed that:
- (i) any archaeological discoveries shall belong to and vest in the "UPEIDA" and the Concessionaire shall promptly report the discovery thereof to the "UPEIDA" and follow its instructions for safe removal thereof; and
 - (ii) mining rights do not form part of the license granted to the Concessionaire under this Agreement and the Concessionaire hereby acknowledges that it shall not have any mining rights or any interest in the underlying minerals or fossils on or under the licensed premises. For the avoidance of doubt, mining rights mean the right to mine any and all minerals or interest therein

10.3 PROCUREMENT OF THE SITE

- 10.3.1 The "UPEIDA" shall acquire the land for the Expressway in accordance with the provisions of Land Acquisition Act as applicable in Uttar Pradesh and shall comply with the relief & rehabilitation policy of GOUP in this regard. All efforts shall be made to firstly procure land through neutral negotiations under the Karrar Niyamawali of GOUP for land acquisitions. The Concessionaire shall play an active role in finalization of negotiated price of land procurement in above proceedings. Provided also that the minimum area of land to be acquired for the Expressway Package, Toll Plazas and approach roads thereof shall conform to the provisions of Schedule-A, Schedule-B and Schedule-C. The acquisition cost shall be the actual cost of compensation paid to the land owners and other related charges levied under the Applicable Laws shall be payable by the Concessionaire.
- 10.3.2 Without prejudice to the provisions of Clause 10.3.1, the Parties hereto agree that on or prior to the Appointed Date, the "UPEIDA" shall acquire land for the Concessionaire under the Applicable Laws for the purpose of vacant access and Right of Way of 25% (twenty five percent) of the total area of the Site required and necessary for the Expressway Package, and in the event Financial Close is delayed solely on account of delay in grant and/or acquisition of such vacant access and Right of Way, the "UPEIDA" shall be liable to compensate the Concessionaire under and in accordance with the provisions of Clause 4.2.
- 10.3.2.1 The Parties hereto agree that the "UPEIDA" shall acquire land for the Concessionaire under the Applicable Laws for the purpose of vacant access and Right of Way as per Article 10, of the total area of the Site required and necessary



for the Expressway Package, and in the event COD is delayed solely on account of delay in grant and/or acquisition of such vacant access and Right of Way, beyond the initial land needed as mentioned in Clause 4.1.2, the "UPEIDA" shall be liable to compensate the Concessionaire by suitably extending the Appointed Date, the COD and the Concession Period in a manner similar to the provisions of Clause 4.2.

10.3.3 After identification of the land and until the Transfer Date, the Concessionaire shall maintain a round-the-clock vigil over the Site and shall ensure and procure that no encroachment thereon takes place, and in the event of any encroachment or occupation on any part thereof, the Concessionaire shall report such encroachment or occupation forthwith to the "UPEIDA" and undertake its removal at its cost and expenses.

10.3.4 Construction Works on all lands for which Right of Way is granted/procured within 90 (ninety) days of the Appointed Date shall be completed before the Project Completion Date.

10.4 PROTECTION OF SITE FROM ENCROACHMENTS

During the Concession Period, the Concessionaire shall protect the Site from any and all occupations, encroachments or Encumbrances, and shall not place or create nor permit any Contractor or other person claiming through or under the Concessionaire to place or create any Encumbrance or security interest over all or any part of the Site or the Project Assets, or on any rights of the Concessionaire therein or under this Agreement, save and except as otherwise expressly set forth in this Agreement.

10.5 SPECIAL/TEMPORARY RIGHT OF WAY.

The Concessionaire shall bear all costs and charges for any special or temporary right of way required by it in connection with access to the Site. The Concessionaire shall obtain at its cost such facilities outside the Site as may be required by it for the purposes other than that of the Expressway Package and for the performance of its obligations under this Agreement.

10.6 ACCESS TO THE "UPEIDA" AND PMC/INDEPENDENT ENGINEER

The Concessionaire shall always permit right of access to the "UPEIDA" and the PMC/Independent Engineer and their employees and agents for inspection, viewing and exercise of their rights and performance of their obligations under this Agreement.

10.7 LAND PARCELS FOR DEVELOPMENT RIGHTS

10.7.1 The process of acquisition of Land Parcels for Development Rights shall be similar to Clause 10.3.1 and 10.3.2.

10.7.2 The acquisition cost for the land for development proposed by the Concessionaire in its Price Proposal and as detailed in Schedule-A, shall be the actual compensation paid to the land owners and other related expenses and shall be payable by the Concessionaire as per applicable rules.

- 10.7.3 In addition, the Concessionaire shall pay a lease rent, on the acquired Land for Development, at the rate of Rs. 100.00 (Rupees one hundred only) per hectare per year. The lease rent shall be payable annually.
- 10.7.4 The "UPEIDA" shall provide possession of the land as stipulated in Clause 10.8. However, in case of difficulties in achieving this schedule, the Parties to the Concession Agreement shall mutually resolve the difficulties.
- 10.7.5 The Concessionaire shall be free to decide the purpose for which transferred land will be used i.e. for commercial, industrial, institutional, residential etc. and also for the area of land to be allocated for different uses. The Concessionaire shall also be free to decide whether the sub-leased land shall be in the form of plots or constructed properties. However, the Concessionaire shall prepare a master plan of the Proposed Development in accordance with the relevant building bye laws in such a manner that the Concessionaire is entitled to achieve an overall FAR of 2.5 (on Land Parcels). The Concessionaire shall get master plan approved by the "UPEIDA". The development of land shall be complete with provision of infrastructure and all external services i.e. water supply, sewerage, electricity, communication etc.
- 10.7.6 Land for development rights by "UPEIDA" to the Concessionaire shall be on following terms & conditions:
- a. It shall be on lease for a period of 90 (ninety) years from the date of transfer of land; the terms and conditions of lease deeds shall be such as may be mutually agreed between the Parties.
 - b. Subject to the provisions of Clause 10.8, the Concessionaire shall be entitled to further sub-lease developed/undeveloped land to sub-lessees/end-users in its sole discretion without any further consent or approval or payment of any charges/fee etc. to "UPEIDA" or any other relevant authority.
 - c. After sub-lease of part of the land by the Concessionaire, the same can be transferred/assigned without requiring any consent or approval or payment of any additional charges, transfer fee, premiums etc. to "UPEIDA" and/ or there can be subsequent multiple sub-leases of the land in smaller parts. The Concessionaire/sub-lessees/end-users shall follow the statutory laws/byelaws etc. for the land use.
 - d. Each sub-lease and/or transfer shall after the execution thereof be notified by the transferor or the transferee or the sub-lessor/sub-lessee to "UPEIDA" and regardless of such sub-leases etc., the Concessionaire shall be solely liable for payment of lease rent as mentioned in Clause 10.7.3 to the GOUP.
 - e. All lands given on lease for development rights and all such structures, development works etc. on them shall stand automatically reverted back and vested in "UPEIDA" at the end of lease period.
 - f. In case "UPEIDA" and the Concessionaire consider it appropriate,



tripartite agreement for sub-lease deed may be executed between the "UPEIDA", Concessionaire and the sub-lessee.

- g. The Concessionaire shall bear all costs of development of such lands including cost of external development connectivities, utilities etc.
- h. The Concessionaire shall provide road links from these Land Parcels to the Expressway at his own cost and maintain the same during the Concession Period. It is further clarified that the same shall apply to the existing GOUP roads if the Concessionaire wants to use and develop the same for the purpose of this Concession.

10.7.7 The details of location, area, circle rate and value of different Land Parcels are given below:

Name of the District	Location	Total Land Identified by UPEIDA in Ha	Area of Land to be given to Concessionaire in Ha	Average Circle Rate in Rs Lakhs/ Ha	Value of land (in Rs. Lakhs) (4) X (5)
(1)	(2)	(3)	(4)	(5)	(6)
Bulandshahar	1 Sikandrabad	1938	1050	11.77	12358.50
	Sub Total	1938	1050		12358.50
Etah	1 Patiyali	8041	8041	0.23	1849.43
	Sub Total	8041	8041		1849.43
Unnao	1 Unnao Sadar	2995	1200	2.04	2448.00
	Sub Total	2995	1200		2448.00
Raibareilly	1 Unchahar	5960	800	5.69	4552.00
	Sub Total	5960	800		4552.00
Pratapgarh	2 Kunda	2025	260	5.50	1430.00
	Sub Total	2025	260		1430.00
Allahabad	2 Meja	2835	330	7.87	2597.10
	Sub Total	2835	330		2597.10
Varanasi	1- Sadar Tehsil	2380	200	13.22	2644.00
	Sub Total	2380	200		2644.00
Mirzapur	1 Sadar	2798	400	3.69	1476.00
	Sub Total	2798	400		1476.00
	TOTAL	28972	12281		29355.03

The land indicated in the above Table shall be arranged as per provisions of this Agreement.

10.8 SCHEDULE FOR RELEASE OF LAND AND GRANT OF RELATED RIGHTS BY UPEIDA

Stages	Expressway Package	Development Rights
1	2	3
I	25% of land required for each Individual Package of the Expressway on or before the Appointed Date (i.e. After achieving the Financial Closure or 180 days from signing the Concession Agreement) or within three months of finalization of alignment of the Expressway, whichever is later.	20% of each designated Land Parcel in each Individual Package of the Expressway on lease within 90 days of finalization of alignment, but not earlier than Stage I transfer of land for the respective Expressway Package
II	25% of land required for each Individual Package of the Expressway within 180 days of release of land for respective package of Expressway under Stage I above.	20% of each designated Land Parcel in each Individual Package of the Expressway on lease within 30 days of Stage II transfer of land for the respective Expressway Package
III	25% of land required for each Individual Package of the Expressway within 270 days of release of land for respective package of Expressway under Stage I above.	20% of each designated Land Parcel in each Individual Package of the Expressway on lease within 30 days of Stage III transfer of land for respective Expressway Package
IV	25% of land required for each Individual Package of the Expressway within 365 days of release of land for respective package of Expressway under Stage I above.	remaining 40% of each designated Land Parcel in each Individual Package of the Expressway, on licence under Clause 10.9 within 30 days of stage IV transfer of land of respective Expressway Package . 50% of such licence may be converted into lease upon 50% progress on road and structures of related Expressway Package and remaining 50% on Commercial Operation Date (COD) of the entire Expressway package.



- 10.9** After the transfer of the Stage III of land for Development Rights, the Concessionaire shall have the option to request "UPEIDA" to grant him a licence, not amounting to leasehold rights, to undertake developmental works like roads etc. in the remaining 40% of land for Development Rights. Such licence may be granted to the Concessionaire without conferring any leasehold rights and only if the related acquisition costs including relief and rehabilitation costs are borne by the Concessionaire. The licence granted as such may be replaced by grant of leasehold rights as per the provisions of Clause 10.8 above; provided further that in case of breach of this Agreement by the Concessionaire or due to Force Majeure, provisions of Clauses 30.3 and 29.9 shall govern these licence and lease rights.
- 10.10** The "UPEIDA" shall create a corpus in the form of Cash Collateral Fund to meet its contingent liabilities and such other expenses. The Concessionaire shall be liable to contribute to this corpus @ 1% (one per cent) of the acquisition cost per unit of land in respect of the total land progressively acquired for the Expressway as well as the Land Parcels for the Development Rights.

ARTICLE - 11

UTILITIES, ASSOCIATED ROADS AND TREES

11.1 EXISTING UTILITIES AND ROADS

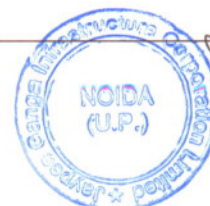
Notwithstanding anything to the contrary contained herein, the Concessionaire shall ensure that all existing roads, right of way or utilities on, under or above the Site are kept in continuous satisfactory use, if necessary, by providing suitable temporary or permanent diversions with the authority of the controlling body of that road, right of way or utility, and the "UPEIDA" shall, upon written request from the Concessionaire, initiate and undertake at the Concessionaire's cost, legal proceedings for acquisition of any right of way necessary for such diversion.

11.2 SHIFTING OF OBSTRUCTING UTILITIES

The Concessionaire shall, subject to Applicable Laws and with assistance of the "UPEIDA", undertake shifting of any utility including electric lines, water pipes and telephone cables, to an appropriate location or alignment within or outside the Site if and only if such utility causes a Material Adverse Effect on the construction, operation or maintenance of the Expressway Package. The cost of such shifting shall be borne by the "Concessionaire". In the event of any delay in shifting thereof, the Concessionaire shall be excused for failure to perform any of its obligations hereunder if such failure is a direct consequence of delay on the part of the entity owning such electric lines, water pipes or telephone cables, as the case may be.

11.3 NEW UTILITIES AND ROADS

- 11.3.1 The Concessionaire shall allow, subject to such conditions as the "UPEIDA" may specify; access to, and, use of the Site for laying telephone lines, water pipes,



electric cables or other public utilities. Where such access or use causes any financial loss to the Concessionaire, it may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause shall not in any manner relieve the Concessionaire of its obligation to maintain the Expressway Package in accordance with this Agreement and any damage caused by such use shall be restored forthwith.

11.3.2 The "UPEIDA" may by notice require the Concessionaire to connect any adjoining road to the Expressway Package, and the connecting portion thereof falling within the Site shall be constructed by the Concessionaire at the "UPEIDA's" cost in accordance with Article 16. The maintenance of such connecting portion shall be undertaken by the Concessionaire in accordance with the provisions of Clause 17.1.

11.3.3 The "UPEIDA" may by notice require the Concessionaire to connect, through a paved road, any adjoining service station, hotel, motel or any other public facility or amenity to the Expressway Package, whereupon the connecting portion thereof that falls within the Site shall be constructed and maintained by the Concessionaire upon advance payment of the cost to be made by the beneficiary entity in accordance with the amount and period as determined by the PMC/Independent Engineer. For the avoidance of doubt, any connecting road constructed prior to the Appointed Date and falling within the Site shall be maintained by the Concessionaire upon advance payment to be made by the beneficiary entity in accordance with the provisions of this Clause.

11.4 FELLING OF TREES

The "UPEIDA" shall assist the Concessionaire in obtaining the Applicable Permits for felling of trees to be identified by the "UPEIDA" for this purpose if and only if such trees cause a Material Adverse Effect on the construction, operation or maintenance of the Expressway Package. The cost of such felling shall be borne by the "Concessionaire". The felled trees shall be disposed off in such manner and subject to such conditions as the above Permits specifies.

ARTICLE 12

CONSTRUCTION OF THE EXPRESSWAY PACKAGE

12.1 OBLIGATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION

Prior to commencement of Construction Works, the Concessionaire shall:

- a. submit to the "UPEIDA" its detailed design, construction methodology, quality assurance procedures, and the procurement, engineering and construction time schedule for completion of the Project in accordance with the Project Completion Schedule as set forth in Schedule-G;
- b. appoint its representative duly authorized to deal with the "UPEIDA" in respect of all matters under or arising out of or relating to this Agreement;

- c. undertake, do and perform all such acts, deeds and things as may be necessary or required before commencement of construction under and in accordance with this Agreement, the Applicable Laws and Applicable Permits; and
- d. make its own arrangements for quarrying of materials needed for the Expressway Package under and in accordance with the Applicable Laws and Applicable Permits.

12.2 DRAWINGS

In respect of the Concessionaires obligations with respect to the Drawings of the Expressway Package as set forth in Schedule-H, the following shall apply:

- a. 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 the Independent Engineer for review;
- b. By submitting the Drawings for review to the Independent Engineer, the Concessionaire shall be deemed to have represented that it has determined and verified that the design and engineering, including field construction criteria related thereto, are in conformity with the Specifications and Standards;
- c. Within 15 (fifteen) days of the receipt of the Drawings, the Independent Engineer shall review the same and convey its observations to the Concessionaire with particular reference to their conformity or otherwise with the Scope of the Project and the Specifications and Standards. The Concessionaire shall not be obliged to await the observations of the Independent Engineer on the Drawings submitted pursuant hereto beyond the said 15 (fifteen) days period and may begin or continue Construction Works at its own discretion and risk;
- d. If the aforesaid observations of the Independent Engineer indicate that the Drawings are not in conformity with the Scope of the Project or the Specifications and Standards, such Drawings shall be revised by the Concessionaire and resubmitted to the Independent Engineer for review. The Independent Engineer shall give its observations, if any, within 7 (seven) days of receipt of the revised Drawings;
- e. No review and/or observation of the Independent Engineer and/or its failure to review and/or convey its observations on any Drawings shall relieve the Concessionaire of its obligations and liabilities under this Agreement in any manner nor shall the Independent Engineer or the "UPEIDA" be liable for the same in any manner;
- f. Without prejudice to the foregoing provisions of this Clause 12.2, the Concessionaire shall submit to the "UPEIDA" for review and comments, its Drawings relating to alignment of the Expressway Package, finished road level, location and layout of the Toll Plazas and general arrangement drawings of major bridges, flyovers and grade separators,



and the "UPEIDA" shall have the right but not obligation to undertake such review and provide its comments, if any, normally within 21 (twenty one) days, but in no case beyond 30 (thirty) days, of the receipt of such Drawings. The Drawings on which no comments are received from the UPEIDA, as above, shall be treated as final Drawings. However, if any comments are received from the UPEIDA, as above, the same shall be duly considered and Drawings/ response the comments shall be submitted by the Concessionaire to the UPEIDA and the same shall be either accepted or discussed with the Concessionaire and finalised by UPEIDA, within 15 days of receipt of the drawings/response from the Concessionaire.

- g. Within 90 (ninety) days of the Project Completion Date, the Concessionaire shall furnish to the "UPEIDA" and the Independent Engineer a complete set of as-built Drawings, in 3 (three) hard copies and in micro film form or in a compact disc form such other medium as may be acceptable to the "UPEIDA", reflecting the Expressway Package as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Expressway Package and setback lines, if any, of the buildings and structures forming part of Project Facilities.

12.3 THE EXPRESSWAY PACKAGE

- 12.3.1 On or after the Appointed Date, the Concessionaire shall undertake construction of the Expressway Package as specified in Schedule-B and Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-D.
- 12.3.2 The Concessionaire shall construct the Expressway Package in accordance with the Project Completion Schedule set forth in Schedule-G. In the event that the Concessionaire fails to achieve any Project Milestone within a period of 90 (ninety) days from the date set forth for such Milestone in Schedule-G, unless such failure has occurred due to Force Majeure or for reasons solely attributable to the "UPEIDA", it shall pay Damages to the "UPEIDA" in a sum calculated at the rate of 0.1% (zero point one per cent) of the amount of Performance Security for delay of each day until such Milestone is achieved, provided that if any or all Project Milestones or the Scheduled Completion Date are extended in accordance with the provisions of this Agreement, the dates set forth in Schedule-G shall be deemed to be modified accordingly and the provisions of this Agreement shall apply as if Schedule-G has been amended as above, provided further that in the event Project Completion Date is achieved on or before the Scheduled Completion Date, the Damages paid under this Clause 12.3.2 shall be refunded by the "UPEIDA" to the Concessionaire, but without any interest thereon. For the avoidance of doubt, it is agreed that recovery of Damages under this Clause 12.3.2 shall be without prejudice to the rights of the "UPEIDA" under this Agreement, including the right of Termination thereof.
- 12.3.3 In the event that the Expressway Package is not completed within 365 (three hundred and sixty five) days from the Scheduled Completion Date, unless the delay is on account of reasons solely attributable to the "UPEIDA" or due to Force Majeure, the "UPEIDA" shall be entitled to terminate this Agreement.

ARTICLE 13
MONITORING OF CONSTRUCTION

13.1 MONTHLY PROGRESS REPORTS

During the Construction Period, the Concessionaire shall, no later than 7 (seven) days after the close of each month, furnish to the "UPEIDA" and the Independent Engineer a monthly report on progress of the Construction Works and shall promptly give such other relevant information as may be required by the Independent Engineer.

13.2 INSPECTION

During the Construction Period, the Independent Engineer shall inspect and supervise the Expressway Package and make a report of such inspection (the "Inspection Report") stating in reasonable detail the defects or deficiencies, if any, with particular reference to the Scope of the Project and Specifications and Standards. It shall send a copy of the Inspection Report to the "UPEIDA" and the Concessionaire within 7 (seven) days of such inspection and upon receipt thereof, the Concessionaire shall rectify and remedy the defects or deficiencies, if any, stated in the Inspection Report. Such inspection or submission of Inspection Report by the Independent Engineer shall not relieve or absolve the Concessionaire of its obligations and liabilities hereunder in any manner whatsoever.

13.3 TESTS

13.3.1 For determining that the Construction Works conform to the Specifications and Standards, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out Tests, at such time and frequency and in such manner as may be specified by the Independent Engineer from time to time, in accordance with Good Industry Practice for quality assurance. The size of sample for such tests shall normally comprise 10% (ten per cent) of the quantity and/or number of tests prescribed by IRC and/or PWD for the construction works undertaken by the "UPEIDA" through their contractors. The Concessionaire shall, with due diligence, carry out or cause to be carried out all the tests in accordance with the instructions of the Independent Engineer and furnish the results thereof to the Independent Engineer. For the avoidance of Doubt, the Costs to be incurred on any Test shall be borne solely by the Concessionaire.

13.3.2 In the event that result of any tests conducted under this Clause 13.3 establish any defects or deficiencies in the Construction Works, the Concessionaire shall carry out remedial measures and furnish a report to the Independent Engineer in this behalf. The Independent Engineer shall require the Concessionaire to carry out or cause to be carried out tests to determine that such remedial measures have brought the Construction Works into compliance with the Specifications and Standards, and the procedure set forth in this Clause 13.3 shall be repeated until such Construction Works conform to the Specifications and Standards. For the avoidance of doubt, it is agreed that tests pursuant to this Clause 13.3 shall be undertaken in addition to and independent of the tests that shall be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice. It is also agreed that a copy of the results of such tests shall be sent by the Concessionaire to the Independent Engineer forthwith.



13.4 DELAYS DURING CONSTRUCTION

If the Concessionaire does not achieve any of the Project Milestones or the Independent Engineer shall have reasonably determined that the rate of progress of Construction Works is such that the Expressway Package is not likely to be achieved by the Scheduled Date, it shall notify the Concessionaire to this effect, and the Concessionaire shall, within 15 (fifteen) days of such notice, by a communication inform the Independent Engineer in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

13.5 SUSPENSION OF UNSAFE CONSTRUCTION WORKS

- 13.5.1 Upon recommendation of the Independent Engineer to this effect, the "UPEIDA" may by notice require the Concessionaire to suspend forthwith the whole or any part of the Construction Works if, in the reasonable opinion of the "UPEIDA", such work threatens the safety of the Users and pedestrians.
- 13.5.2 The Concessionaire shall, pursuant to the notice under Clause 13.5.1, suspend the Construction Works or any part thereof for such time and in such manner as may be specified by the "UPEIDA" and there upon carry out remedial measures to secure the safety of suspended works and the Users. The Concessionaire may by notice require the Independent Engineer to inspect such remedial measures forthwith and make a report to the "UPEIDA" recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Independent Engineer, the "UPEIDA" shall either revoke such suspension or instruct the Concessionaire to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the "UPEIDA", and the procedure set forth in this Clause 13.5 shall be repeated until the suspension hereunder is revoked.
- 13.5.3 All costs incurred for maintaining and protecting the Construction Works or part thereof during the period of suspension (the "Preservation Costs"), shall be borne by the Concessionaire; provided that if the suspension has occurred as a result of any breach of this Agreement by the "UPEIDA", the Preservation Costs shall be borne by the "UPEIDA".
- 13.5.4 If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Independent Engineer shall determine any extension of the dates set forth in the Project Completion Schedule to which the Concessionaire is reasonably entitled, and shall notify the "UPEIDA" accordingly whereupon the "UPEIDA" shall extend such Project Completion Schedule dates in accordance with the recommendations of the Independent Engineer. In the event that the Scheduled Date is extended pursuant hereto, the Concession Period shall be deemed to be extended by a period equal in length to the period of extension of the Scheduled Date.



13.6 VIDEO RECORDING

During the Construction Period, the Concessionaire shall provide to the "UPEIDA" for every calendar quarter, a video recording, which will be compiled into a 3 (three) hour compact disc or digital video disc, as the case may be, covering the status and progress of Construction Works in that quarter. The first such video recording shall be provided to the "UPEIDA" within 7 (seven) days of the Appointed Date and thereafter, no later than 15 (fifteen) days after the close of each quarter.

ARTICLE 14

COMPLETION CERTIFICATE

14.1 TESTS

14.1.1 At least 30 (thirty) days prior to the likely completion of the Expressway Package, the Concessionaire shall notify the Independent Engineer of its intent to subject the Expressway Package to Tests. The date and time of each of the Tests shall be determined by the Independent Engineer in consultation with the Concessionaire, and notified to the "UPEIDA" who may designate its representative to witness the Tests. The Concessionaire shall provide such assistance as the Independent Engineer may reasonably require for conducting the Tests. In the event of the Concessionaire and the Independent Engineer failing to mutually agree on the dates for conducting the Tests, the Concessionaire shall fix the dates by not less than 10 (ten) days notice to the Independent Engineer.

14.1.2 All Tests shall be conducted in accordance with Schedule-I. The Independent Engineer shall observe, monitor and review the results of the Tests to determine compliance of the Expressway Package with Specifications and Standards and if it is reasonably anticipated or determined by the Independent Engineer during the course of any Test that the performance of the Expressway Package or any part thereof does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Concessionaire to remedy and rectify the defects or deficiencies. Upon completion of each Test, the Independent Engineer shall provide to the Concessionaire and the "UPEIDA" copies of all Test data including detailed Test results. For the avoidance of doubt, it is expressly agreed that the Independent Engineer may require the Concessionaire to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Expressway Package with Specifications and Standards.

14.2 COMPLETION CERTIFICATE

Upon completion of Construction Works and the Independent Engineer determining the Tests to be successful, it shall forthwith issue to the Concessionaire and the "UPEIDA" a certificate substantially in the form set forth in Schedule-J (the "Completion Certificate").



14.3 PROVISIONAL CERTIFICATE

The Independent Engineer may, at the request of the Concessionaire, issue a provisional certificate: of completion substantially in the form set forth in Schedule-J1 (the "Provisional Certificate") if the Tests are successful and the Expressway Package can be safely and reliably placed in commercial operation though certain works or things forming part thereof are outstanding and not yet complete. In such an event, the Provisional Certificate shall have appended thereto a list of outstanding items signed jointly by the Independent Engineer and the Concessionaire (the "Punch List"); provided that the Independent Engineer shall not withhold the Provisional Certificate for reason of any work remaining incomplete if the delay in completion thereof is attributable to the "UPEIDA".

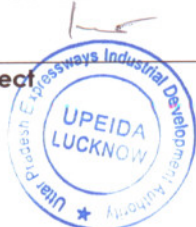
14.4 COMPLETION OF PUNCH LIST ITEMS

14.4.1 All items in the Punch List shall be completed by the Concessionaire within 90 (ninety) days of the date of issue of the Provisional Certificate and for any delay thereafter, other than for reasons solely attributable to the "UPEIDA" or due to Force Majeure. The "UPEIDA" shall be entitled to recover Damages from the Concessionaire to be calculated and paid for each day of delay until all items are completed, at the lower of (a) 0.1% (zero point one per cent) of the Performance Security, and (b) 0.2% (zero point two per cent) of the cost of completing such items as estimated by the Independent Engineer. Subject to payment of such Damages, the Concessionaire shall be entitled to a further period not exceeding 120 (one hundred and twenty) days for completion of the Punch List items. For the avoidance of doubt, it is agreed that if completion of any item is delayed for reasons solely attributable to the "UPEIDA" or due to Force Majeure, the completion date thereof shall be determined by the Independent Engineer in accordance with Good Industry Practice, and such completion date shall be deemed to be the date of issue of the Provisional Certificate for the purposes of Damages, if any, payable for such item under this Clause 14.4.1.

14.4.2 Upon completion of all Punch List items, the Independent Engineer shall issue the Completion Certificate. Failure of the Concessionaire to complete all the Punch List items within the time set forth in Clause 14.4.1 for any reason, other than conditions constituting Force Majeure or for reasons solely attributable to "UPEIDA", shall entitle the "UPEIDA" to terminate this Agreement.

14.5 WITH HOLDING OF PROVISIONAL CERTIFICATE

14.5.1 If the Independent Engineer determines that the Expressway Package or any part thereof does not confirm to the provisions of the Agreement and cannot be safely and reliably placed in commercial operation, it shall forthwith make a report in this behalf and send copies thereof to the "UPEIDA" and the Concessionaire. Upon receipt of such a report from the Independent Engineer and after conducting its own inspection, if the "UPEIDA" is of the opinion that the Expressway Package is not fit and safe for commercial service, it shall, within 7 (seven) days of receiving the aforesaid report, notify the Concessionaire of the defects and deficiencies in the Expressway Package and direct the Independent Engineer to withhold issuance of the Provisional Certificate. Upon receipt of such notice, the Concessionaire shall remedy and rectify such defects or



deficiencies and thereupon Tests shall be undertaken in accordance with this Article 14. Such procedure shall be repeated as necessary until the defects or deficiencies are rectified.

14.5.2 Notwithstanding anything to the contrary contained in Clause 14.5.1, the "UPEIDA" may, at any time after receiving a report from the Independent Engineer under that Clause, direct the Independent Engineer to issue a Provisional Certificate under Clause 14.3, and such direction shall be complied forthwith.

14.6 RESCHEDULING OF TESTS

If the Independent Engineer certifies to the "UPEIDA" and the Concessionaire that it is unable to issue the Completion Certificate or Provisional Certificate, as the case may be, because of events or circumstances on account of which the Tests could not be held or had to be suspended, the Concessionaire shall be entitled to re-schedule the Tests and hold the same as soon as reasonably practicable.

ARTICLE 15

ENTRY INTO COMMERCIAL SERVICE

15.1 COMMERCIAL OPERATION DATE (COD)

The Expressway Package shall be deemed to be complete when the Completion Certificate or the Provisional Certificate, as the case may be, is issued under the provisions of Article 14, and accordingly the Commercial Operation Date of the Project shall be the date on which such Completion Certificate or the Provisional Certificate is issued" (the "COD"). The Expressway Package shall enter into commercial service on COD whereupon the Concessionaire shall be entitled to demand and collect Fee in accordance with the provisions of Article 26.

15.2 DAMAGES FOR DELAY

Subject to the provisions of Clause 12.3, if COD does not occur prior to the 181 (one hundred eighty first) day from the Scheduled Date, unless the delay is on account of reasons solely attributable to the "UPEIDA" or due to Force Majeure, the Concessionaire shall pay Damages to the "UPEIDA" in a sum calculated at the rate of 0.1% (zero point one per cent) of the amount of Performance Security for delay of each day until COD is achieved.

ARTICLE - 16

CHANGE OF SCOPE

16.1 CHANGE OF SCOPE

16.1.1 The "UPEIDA" may, notwithstanding anything to the contrary contained in this Agreement, require the provision of additional works and services which are not included in the Scope of the Project as contemplated by this Agreement ("Change of Scope"). Any such Change of Scope shall be made in accordance

with the provisions of this Article 16 and the costs thereof shall be expended by the Concessionaire and the Concessionaire shall be compensated by the "UPEIDA" in accordance with Clause 16.3.

16.1.2 If the Concessionaire determines at any time that a Change of Scope is necessary for providing safer and improved services to the Users, it shall by notice in writing require the "UPEIDA" to consider such Change of Scope. The "UPEIDA" shall, within 15 (fifteen) days of receipt of such notice, either accept such Change of Scope with modifications, if any, and initiate proceedings therefor in accordance with this Article 16 or inform the Concessionaire in writing of its reasons for not accepting such Change of Scope.

16.2 PROCEDURE FOR CHANGE OF SCOPE

16.2.1 In the event of the "UPEIDA" determining that a Change of Scope is necessary, it shall issue to the Concessionaire a notice specifying in reasonable detail the works and services contemplated there under (the "Change of Scope Notice").

16.2.2 Upon receipt of a Change of Scope Notice, the Concessionaire shall, with due diligence, provide to the "UPEIDA" such information as is necessary, together with preliminary Documentation in support of:

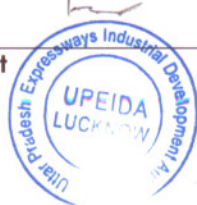
- a. the impact, if any, which the Change of Scope is likely to have on the Project Completion Schedule if the works or services are required to be carried out during the Construction Period, and
- b. the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof, including a detailed breakdown by work classifications specifying the material and labour costs calculated in accordance with the schedule of rates applicable to the works assigned by the "UPEIDA" to its contractors, along with the proposed premium/ discount on such rates.

16.2.3 Upon receipt of information set forth in Clause 16.2.2, if the "UPEIDA" decides to proceed with the Change of Scope, it shall convey its preferred option to the Concessionaire, and the Parties shall, with assistance of the Independent Engineer, thereupon make good faith efforts to agree upon the time and costs for implementation thereof. Upon reaching an agreement, the "UPEIDA" shall issue an order (the "Change of Scope Order") requiring the Concessionaire to proceed with the performance thereof. In the event that the Parties are unable to agree, the "UPEIDA" may, by issuing a Change of Scope Order, require the Concessionaire to proceed with the performance thereof pending resolution of the Dispute, or carry out the works in accordance with Clause 16.5.

16.2.4 The provisions of this Agreement, insofar as they relate to Construction Works and Tests, shall apply *mutatis mutandis* to the works undertaken by the Concessionaire under this Article 16.

16.3 PAYMENT FOR CHANGE OF SCOPE

16.3.1 The "UPEIDA" shall compensate the Concessionaire, the additional cost on account of the said Additional Scope, by suitably extending the Concession



Period as assessed by the Independent Engineer, and in the event of any Dispute, final adjustments thereto shall be made under and in accordance with the Dispute Resolution Procedure.

- 16.3.2 Notwithstanding anything to the contrary contained in Clause 16.3.1, all costs arising out of any Change of Scope Order issued shall be borne by the Concessionaire subject to an aggregate ceiling of 0.25% (zero point two five percent) of the Total Project Cost. Any costs in excess of the ceiling shall be either reimbursed or compensated in the form of extension of Concession Period by the "UPEIDA" in accordance with Clause 16.3.1.

16.4 RESTRICTION ON CERTAIN WORKS

Notwithstanding anything to the contrary contained in this Article 16, the "UPEIDA" shall not require the Concessionaire to undertake any works or services if such works or services are likely to delay completion of the Expressway Package; provided that in the event that the "UPEIDA" considers such works or services to be essential, it may issue a Change of Scope Order, subject to the condition that the works forming part of or affected by such Order shall not be reckoned for purposes of determining completion of the Expressway Package and issuing the Provisional Certificate.

16.5 POWER OF THE "UPEIDA" TO UNDERTAKE WORKS

- 16.5.1 Notwithstanding anything to the contrary contained in Clauses 16.2 and 16.3, the "UPEIDA" may, after giving notice to the Concessionaire and considering its reply thereto, award such works or services to any person on the basis of open competitive bidding; provided that the Concessionaire shall have the option of matching the first ranked bid in terms of the selection criteria, subject to payment of 2% (two per cent) of the bid amount to the "UPEIDA", and thereupon securing the award of such works or services. For the avoidance of doubt, it is agreed that the Concessionaire shall be entitled to exercise such option only if it has participated in the bidding process and its bid does not exceed the first ranked bid by more than 10% (ten percent) thereof.

- 16.5.2 The works undertaken in accordance with this Clause 16.5.1 shall conform to the Specifications and Standards and shall be carried out in a manner that minimizes the disruption in operation of the Expressway Package. The provisions of this Agreement, insofar as they relate to Construction Works and Tests, shall apply *mutatis mutandis* to the works carried out under this Clause 16.5.

ARTICLE 17

OPERATION AND MAINTENANCE

17.1 O&M OBLIGATIONS OF THE CONCESSIONAIRE

During the Operation Period, the Concessionaire shall operate and maintain the Expressway Package in accordance with this Agreement either by itself, or through the O&M Contractor and if required, modify, repair or otherwise make improvements to the Expressway Package to comply with the provisions of this Agreement, Applicable Laws and Applicable Permits, and conform to Good

Industry Practice. The obligations of the Concessionaire hereunder shall include:

- a. ensuring safe, smooth and uninterrupted flow of traffic on the Expressway Package during normal operating conditions;
- b. collecting and appropriating the Fee;
- c. minimizing disruption to traffic in the event of accidents or other incidents affecting the safety and use of the Expressway Package by providing a rapid and effective response and maintaining liaison with emergency services of the State;
- d. carrying out periodic preventive maintenance of the Expressway Package ;
- e. undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices;
- f. undertaking major maintenance such as resurfacing of pavements, repairs to structures, arid repairs and refurbishment of tolling system and other equipment;
- g. preventing, with the assistance of concerned law enforcement agencies, any unauthorized use of the Expressway Package;
- h. preventing, with the assistance of the concerned law enforcement agencies, any encroachments on the Expressway Package; including the Site;
- i. protection of the environment and provision of equipment and materials therefore;
- j. Operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Expressway Package;
- k. Maintaining a public relations unit to interface with and attend to suggestions from the Users, government agencies, media and other agencies ;
- l. complying with Safety Requirements in accordance with Article 18; and
- m. The Concessionaire shall remove promptly from the Expressway Package all surplus construction machinery and materials, waste materials (including hazardous materials and waste water), rubbish and other debris (including, without limitation, accident debris) and keep the Expressway Package in a clean, tidy and orderly condition, and in conformity with the Applicable Laws, Applicable Permits and Good Industry Practice.



The Concessionaire shall maintain, in conformity with Good Industry Practice, all stretches of approach roads, over-passes, under-passes or other structures situated on the Site but not forming part of the carriageway.

17.2 MAINTENANCE REQUIREMENTS

The Concessionaire shall ensure that at all times during the Operation Period the Expressway Package conforms to the maintenance requirements set forth in Schedule-K (the "Maintenance Requirements").

17.3 MAINTENANCE MANUAL

Not later than 180 (one hundred and eighty) days prior to the Scheduled Completion Date, the Concessionaire shall, in consultation with the Independent Engineer (PMC), evolve a repair and maintenance manual (the "Maintenance Manual" for the regular and preventive maintenance of the Expressway Package in conformity with the Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the "UPEIDA" and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years, in consultation with the Independent Engineer, and the provisions of this Clause 17.3 shall apply, *mutatis mutandis*, to such revision

17.4 MAINTENANCE PROGRAMME

17.4.1 Not later than 45 (forty five) days prior to the beginning of each Accounting Year during the Operation Period, the Concessionaire shall provide to the "UPEIDA" and the Independent Engineer, its proposed annual programme of preventive, urgent and other scheduled maintenance (the "Maintenance Programme") to comply with the Maintenance Requirements, Maintenance Manual and Safety Requirements. Such Maintenance Programme Shall Include:

- a) preventive maintenance schedule;
- b) arrangements and procedures for carrying out urgent repairs;
- c) criteria to be adopted for deciding maintenance needs;
- d) intervals and procedures for carrying out inspection of all elements of the Expressway Package ;
- e) intervals at which the Concessionaire shall carry out periodic maintenance;
- f) arrangements and procedures for carrying out safety related measures; and
- g) intervals for major maintenance works and the scope thereof.

- 17.4.2 Within 15 (fifteen) days of receipt of the Maintenance Programme, the Independent Engineer shall review the same and convey its comments to the Concessionaire with particular reference to its conformity with the Maintenance Requirements, Maintenance Manual and Safety Requirements
- 17.4.3 The Concessionaire may modify the Maintenance Programme as may be reasonable in the circumstances, and the procedure specified in Clauses 17.4.1 and 17.4.2 shall apply *mutatis mutandis* to such modifications.

17.5 SAFETY, VEHICLE BREAKDOWNS AND ACCIDENTS

- 17.5.1 The Concessionaire shall ensure safe conditions for the Users, and in the event of unsafe conditions, lane closures, diversions, vehicle breakdowns and accidents, it shall follow the relevant operating procedures including the setting up of temporary traffic cones and lights, and removal of obstruction and debris without delay. Such procedures shall conform to the provisions of this Agreement, Applicable Laws, Applicable Permits and Good Industry Practice.
- 17.5.2 The Concessionaire's responsibility for rescue operations on the Expressway Package shall be limited to an initial response to any particular incident until such time as the competent authority takes charge and shall include prompt removal of vehicles or debris or any other obstruction, which may endanger or interrupt the smooth flow of traffic. For this purpose, it shall maintain and operate a round-the-clock vehicle rescue post with one mobile crane having the capacity to lift a truck with a Gross Vehicle Weight of 20,000 (twenty thousand) kilograms; provided that on and after the Scheduled Completion Date, the Concessionaire shall maintain and operate two such vehicle rescue posts, with one crane each, and such posts shall be located at each of the Toll Plaza(s).

17.6 DE-COMMISSIONING DUE TO EMERGENCY

- 17.6.1 If, in the reasonable opinion of the Concessionaire, there exists an Emergency which warrants de-commissioning and closure to traffic of the whole or any part of the Expressway Package, the Concessionaire shall be entitled to de-commission and close the whole or any part of the Expressway Package to traffic for so long as such Emergency and the consequences thereof warrant; provided that such de-commissioning and particulars thereof shall be notified by the Concessionaire to the "UPEIDA" without any delay, and the Concessionaire shall diligently carry out and abide by any reasonable directions that the "UPEIDA" may give for dealing with such Emergency.
- 17.6.2 The Concessionaire shall re-commission the Expressway Package or the affected part thereof as quickly as practicable after the circumstances leading to its de-commissioning and closure have ceased to exist or have so abated as to enable the Concessionaire to re-commission the Expressway Package.

17.7 LANE CLOSURE

- 17.7.1 The Concessionaire shall not close any lane of the Expressway Package for undertaking maintenance or repair works except with the prior written approval of the Independent Engineer. 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 thereof. Within 3 (three) days of receiving such request, the Independent Engineer shall grant permission with such modifications as it may deem necessary and a copy of such permission shall be sent to the "UPEIDA".

17.7.2 The provisions of Clause 17.7.1 shall not apply to de-commissioning under Clause 17.6.1 or to closure of any lane for a period not exceeding 2 (two) hours in a day at any time of the day and 6 (six) hours in a day at a time specified by the Independent Engineer/"UPEIDA" as off-peak hours when the flow of traffic is comparatively lower.

17.7.3 Upon receiving the permission pursuant to Clause 17.7.1, the Concessionaire shall be entitled to close the designated lane for the period specified therein, and in the event of any delay in re-opening such lane, the Concessionaire shall pay Damages to the "UPEIDA" calculated at the rate of 0.1 % (zero point one per cent) of the Average Daily Fee for every stretch of 250 (two hundred and fifty) meters, or part thereof, for each day of delay until the lane has been re-opened for traffic.

17.8 DAMAGES FOR BREACH OF MAINTENANCE OBLIGATIONS

17.8.1 In the event that the Concessionaire fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of this Agreement and the "UPEIDA" shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of (a) 0.5% (zero point five per cent) of Average Daily Fee, and (b) 0.1% (zero point one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer/"UPEIDA". Recovery of such Damages shall be without prejudice to the rights of the "UPEIDA" under this Agreement, including the right of Termination of this Agreement.

17.8.2 The Damages set forth in Clause 17.8.1 may be assessed and specified forthwith by the Independent Engineer; provided that the "UPEIDA" may, in its discretion, demand a smaller sum as Damages, if in its opinion, the breach has been cured promptly and the Concessionaire is otherwise in compliance with its obligations hereunder. The Concessionaire shall pay such Damages forthwith and in the event that it contests such Damages, the Dispute Resolution Procedure shall apply.

17.9 "UPEIDA's" RIGHT TO TAKE REMEDIAL MEASURES

17.9.1 In the event the Concessionaire does not maintain and/or repair the Expressway Package or any part thereof in conformity with the Maintenance Requirements, the Maintenance Manual or the Maintenance Programme, as the case may be, and fails to commence remedial works within 15 (fifteen) days of receipt of the O&M Inspection Report or a notice in this, behalf from the "UPEIDA" or the Independent Engineer, as the case may be, the "UPEIDA" shall, without prejudice to its rights under this Agreement including Termination thereof, be entitled to undertake such remedial measures at the risk and cost of the Concessionaire, and to recover its cost from the Concessionaire. In addition to

recovery of the aforesaid cost, a sum equal to 20% (twenty per cent) of such cost shall be paid by the Concessionaire to the "UPEIDA" as Damages.

17.9.2 The "UPEIDA" shall have the right and the Concessionaire hereby expressly grants to the "UPEIDA" the right, to recover the costs and Damages specified in Clause 17.9.1 directly from its Performance Security.

17.10 OVERRIDING POWERS OF THE "UPEIDA"

17.10.1 If in the reasonable opinion of the "UPEIDA", the Concessionaire is in material breach of its obligations under this Agreement and, in particular, the Maintenance Requirements, and such breach is causing or likely to cause material hardship or danger to the Users, the "UPEIDA" may, without prejudice to any of its rights under this Agreement including Termination thereof by notice require the Concessionaire to take reasonable measures immediately for rectifying or removing such hardship or danger, as the case may be.

17.10.2 In the event that the Concessionaire, upon notice under Clause 17.10.1, fails to rectify or remove any hardship or danger within a reasonable period, the "UPEIDA" may exercise overriding powers under this Clause 17.10.2 and take over the performance of any or all the obligations of the Concessionaire to the extent deemed necessary by it for rectifying or removing such hardship or danger; provided that the exercise of such overriding powers by the "UPEIDA" shall be of no greater scope and of no longer duration than is reasonably required hereunder; provided further that any costs and expenses incurred by the "UPEIDA" in discharge of its obligations hereunder shall be deemed to be O&M Expenses, and the "UPEIDA" shall be entitled to recover them from the Concessionaire in accordance with the provisions of Clause 17.9 along with the Damages specified therein.

17.10.3 In the event of a national emergency, civil commotion or any other act, the "UPEIDA" may take over the performance of any or all the obligations of the Concessionaire to the extent deemed necessary by it, and exercise such control over the Expressway Package or give such directions to the Concessionaire as may be deemed necessary; provided that the exercise of such overriding powers by the "UPEIDA" shall be of no greater scope and of no longer duration than is reasonably required in the circumstances which caused the exercise of such overriding power by the "UPEIDA".

17.11 RESTORATION OF LOSS OR DAMAGE TO EXPRESSWAY PACKAGE

Save and except as otherwise expressly provided in this Agreement, in the event that the Expressway Package or any part thereof suffers 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 forthwith so that Expressway Package-conforms to the provisions of this Agreement.

17.12 MODIFICATIONS TO THE EXPRESSWAY PACKAGE

The Concessionaire shall not carry out any material modifications to the Expressway Package save and except where such modifications are necessary for the Expressway Package to operate in conformity with the Maintenance

Requirements and Good Industry Practice; provided that the Concessionaire shall notify the Independent Engineer / "UPEIDA" of the proposed modifications along with particulars thereof at least 15 (fifteen) days before commencing work on such modifications and shall reasonably consider any suggestions that the Independent Engineer / "UPEIDA" may make within 15 (fifteen) days of receiving the Concessionaire's proposal.

17.13 BARRIERS AND DIVERSIONS

The "UPEIDA" shall ensure that during the Operation Period, no barriers are erected or placed by any Government Instrumentality on other than entry/exit points of the Expressway except for reasons of Emergency, national security or law and order. The "UPEIDA" shall also make best endeavours to procure that no Government Instrumentality shall undertake or cause to be undertaken, except for reasons of Emergency, national security or law and order, any diversions of traffic from, or closing down of approach roads to the Expressway that may cause a Material Adverse Effect on the flow of traffic to and from the Expressway Package.

17.14 ADVERTISING ON THE SITE

The Concessionaire shall not undertake or permit any form of commercial advertising, display or hoarding at any place on the Site if such advertising, display or hoarding shall be visible to the Users while driving on such Highway; provided that this restriction shall not apply to the Toll Plazas, rest areas, bus shelters and telephone booths located on the Expressway Package if the advertising thereon does not, in the opinion of the "UPEIDA", distract the Users or violates extant guidelines of PWD, GOUP/MoSRTH. For the avoidance of doubt, it is agreed that the rights of the Concessionaire hereunder shall be subject to Applicable Laws, as in force and effect from time to time, and no compensation shall be claimed on account thereof.

ARTICLE 18

SAFETY REQUIREMENTS

18.1 SAFETY REQUIREMENTS

18.1.1 The Concessionaire shall comply with the provisions of this Agreement, Applicable Laws and Applicable Permits and conform to Good Industry Practice for securing the safety of the Users. In particular, the Concessionaire shall develop, implement and administer a surveillance and safety programme for providing a safe environment on or about the Expressway Package, and shall comply with the safety requirements set forth in Schedule-L (the "Safety Requirements").

18.1.2 The "UPEIDA" shall appoint an experienced and qualified firm or organization (the "Safety Consultant") for carrying out safety audit of the Expressway Package in accordance with the Safety Requirements, and shall take all other actions necessary for securing compliance with the Safety Requirements.

18.2 EXPENDITURE ON SAFETY REQUIREMENTS

All costs and expenses arising out of or relating to Safety Requirements shall be borne by the Concessionaire.

ARTICE 19

MONITORING OF OPERATION AND MAINTENANCE

19.1 MONTHLY STATUS REPORTS

During Operation Period, the Concessionaire shall, no later than 7 (seven) days after the close of each month, furnish to the "UPEIDA" and the Independent Engineer a monthly report stating in reasonable detail the condition of the Expressway Package including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Programme and Safety Requirements, and shall promptly give such other relevant information as may be required by the Independent Engineer.

19.2 INSPECTION

The Independent Engineer shall inspect the Expressway Package at least once a month. It shall make a report of such inspection (the "O&M Inspection Report") stating in reasonable detail the defects or deficiencies, if any, with particular reference to the Maintenance Requirements, Maintenance Manual, the Maintenance Programme and Safety Requirements, and send a copy thereof to the "UPEIDA" and the Concessionaire within 7 (seven) days of such inspection.

19.3 TESTS

For determining that the Expressway Package conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. 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 Engineer and furnish the results of such tests forthwith to the Independent Engineer. The costs incurred on such tests shall be borne by the Concessionaire.

19.4 REMEDIAL MEASURES

19.4.1 The Concessionaire shall repair or rectify the defects or deficiencies, if any, set forth in the O&M Inspection Report or in the test results referred to in Clause 19.3 and furnish a report in respect thereof to the Independent Engineer and the "UPEIDA" within 15 (fifteen) days of receiving the O&M inspections Report or the test results, as the case may be; provided that where the remedying of such defects or deficiencies is likely to take more than 15 (fifteen) days, the Concessionaire shall submit progress reports of the repair works once every week until such works are completed in conformity with this Agreement.

19.4.2 The Independent Engineer shall require the Concessionaire to carry out or cause to be carried out tests, at its own cost, to determine that such remedial measures have brought the Expressway Package into compliance with the Maintenance Requirements and the procedure set forth in this Clause 19.4 shall be repeated until the Expressway Package conforms to the Maintenance Requirements. In the event that remedial measures are not completed by the Concessionaire in conformity with the provisions of this Agreement, the "UPEIDA" shall be entitled to recover Damages from the Concessionaire under and in accordance with the provisions of Clause 17.8.

19.5 MONTHLY FEE STATEMENT

During the Operation Period, the Concessionaire shall furnish to the "UPEIDA", within 7 (seven) days of completion of each month, a statement of Fee in the form set forth in Schedule-M (the "Monthly Fee Statement").

ARTICLE 20

TRAFFIC REGULATION

20.1 TRAFFIC REGULATION BY THE CONCESSIONAIRE

The Concessionaire shall regulate traffic on the Expressway Package in accordance with the Applicable Laws, and subject to the supervision and control of the State authorities empowered in this behalf under the Applicable Laws.

20.2 POLICE ASSISTANCE

For regulating the use of Expressway Package in accordance with the Applicable Laws and this Agreement, the "UPEIDA" shall assist the Concessionaire in procuring police assistance from the State Police Department or a substitute thereof. The police assistance shall include setting up of a traffic aid post (the "Traffic Aid Post") at each of the Toll Plaza(s) with a mobile Police squad for round-the-clock patrolling of the Expressway Package.

20.3 BUILDINGS FOR TRAFFIC AID POSTS

The Concessionaire shall, in accordance with the type designs prescribed for such police outpost buildings by the State Government or a substitute thereof, construct buildings not exceeding 25 (twenty five) square meters of plinth area, for each of the Traffic Aid Posts, and hand them over to the "UPEIDA" not later than 30 (thirty) days prior to the Scheduled Completion Date. The Traffic Aid Posts shall be deemed to be part of the Site and shall vest in the "UPEIDA".

20.4 RECURRING EXPENDITURE ON POLICE ASSISTANCE

On or before the Scheduled Completion Date, the Concessionaire shall provide to the State Police Department or a substitute thereof a Jeep or similar vehicle in good working condition along with chauffeurs for round-the-clock patrolling as set forth in Clause 20.2 and shall meet the operating costs of such vehicle including

the salaries and allowances of the chauffeurs during the Operation Period of the Expressway Package. The Concessionaire shall also reimburse to the State Police Department or a substitute thereof the actual expenditure incurred in each Accounting Year on the pay, allowances and equipment of up to 5 (five) police personnel deployed for each traffic aid posts, and shall maintain the Traffic Aid post buildings in accordance with Good Industry Practice. For the avoidance of doubt, it is agreed that the Concessionaire shall not be liable for any other expenditure incurred by the State Police Department or a substitute thereof.

The number of such traffic aid posts with all relevant facilities, as defined above, shall be decided in consultation with the "UPEIDA".

ARTICLE 21

EMERGENCY MEDICAL AID

21.1 Medical Aid Posts

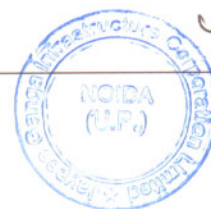
For providing emergency medical aid during the Operation Period, as set forth in this Agreement, the Concessionaire shall assist the State Government (or a substitute thereof to be designated by the "UPEIDA") in setting up and operating a medical aid post (the "Medical Aid Post") at each of the Toll Plaza(s) with round-the-clock ambulance services for victims of accidents on the Expressway Package.

21.2 Buildings for Medical Aid Posts

The Concessionaire shall, at its cost and in accordance with the type designs prescribed for such buildings by the State Medical Department (or a substitute thereof to be designated by the "UPEIDA") construct an aid post building and 2 (two) residential quarters, and hand them over to the "UPEIDA", not later than 30 (thirty) days prior to COD. The Medical Aid Post(s) shall be deemed to be part of the Site and shall vest in the "UPEIDA".

21.3 Recurring Expenditure on Medical Aid Posts

On or before COD, the Concessionaire shall provide to the State Medical Department (or a substitute thereof to be designated by the "UPEIDA") one ambulance in good working condition along with chauffeurs for round-the-clock ambulance services as set forth in Clause 21.1 and shall meet the operating costs of such ambulance including the salaries and allowances of the chauffeurs during the Operation period of Expressway Package. The Concessionaire shall also reimburse to the State Medical Department (or a substitute thereof to be designated by the "UPEIDA") the actual expenditure incurred by it in each Accounting Year on the medical equipment, and the pay and allowances of up to 2 (two) medical personnel deployed exclusively for each of the Medical Aid Posts and ambulance, and shall maintain the Medical Aid Post buildings in accordance with Good Industry Practice. For the avoidance of doubt, it is agreed that the Concessionaire shall not be liable for any other expenditure incurred by the State Medical Department or a substitute thereof to be designated by the "UPEIDA".



The number of such medical aid posts with all relevant facilities, as defined above, shall be decided in consultation with the "UPEIDA".

ARTICLE 22

TRAFFIC CENSUS AND SAMPLING

22.1 Traffic Census

The Concessionaire shall install, maintain and operate electronic/computerized traffic counters at each of the Toll Plazas and collect data relating to the number and types of vehicles using the Expressway Package. The Concessionaire shall also install, maintain and operate weighing platforms (weigh-in-motion type) for recording, on a sample basis, the weight of commercial goods vehicles using the Expressway Package. A weekly statement of such data shall be compiled and furnished forthwith by the Concessionaire to the "UPEIDA" substantially in the form specified in Schedule-N.

22.2 Traffic Survey

The "UPEIDA" may require the Concessionaire to conduct, during each year of the Concession Period, a detailed traffic survey at such frequency and on such days as the "UPEIDA" may specify, provided that the cumulative period of such survey shall not exceed 14 (fourteen) days in a year. The Concessionaire shall, at its own cost, carry out or cause to be carried out, the survey in the form and manner reasonably specified by the "UPEIDA" and furnish a detailed report thereof within 15(fifteen) days of the completion of each survey. For the avoidance of doubt, the "UPEIDA" may also conduct traffic surveys, in such manner as it deems fit and at its own cost, through any agency designated by it for this purpose.

22.3 Traffic Sampling

For determining the actual traffic on the Expressway Package, the "UPEIDA" shall be entitled to inspect the relevant records of the Concessionaire, and may, at its own cost, undertake traffic sampling substantially in the manner set forth in Schedule-O at such frequency as it may deem appropriate, but in no case for less than a continuous period of 7 (seven) days. The Concessionaire shall provide such assistance as the "UPEIDA" may reasonably require for such traffic sampling.

22.4 Computer Systems and Network

The Concessionaire shall install, operate and maintain a computer system with round-the-clock connections to the networks of the "UPEIDA" and other related entities for exchange of data and information useful or necessary for efficient and transparent regulation and management of traffic. For this purpose, it shall follow such protocol for Electronic Data Interchange (the "EDI") as the "UPEIDA" may specify. For the avoidance of doubt, it is agreed that the form specified in Schedule-N may be modified by the "UPEIDA" from time to time for conforming to the requirements and output of EDI.

ARTICLE 23

INDEPENDENT ENGINEER

23.1 Appointment of Independent Engineer

An Independent Engineer for Project Management of the Expressway during Development and Construction Supervision Phase of the Project and during O&M Phase of the Expressway shall be appointed in accordance with the selection criteria set forth in Schedule-P. An Independent Engineer will be appointed no later than 90 (ninety) days from the date of this Agreement and shall be for a period of 3 years initially.

23.2 Duties and Functions

The Independent Engineer shall discharge its duties and functions substantially in accordance with the terms of reference set forth in Schedule-Q.

23.3 Remuneration

The remuneration, cost and expenses of the Independent Engineer shall be paid by the Concessionaire, within 15 (fifteen) days of receiving a statement of expenditure from the "UPEIDA".

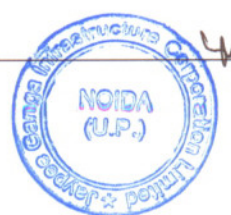
23.4 Termination of Appointment

23.4.1 The "UPEIDA" may, in its discretion, terminate the appointment of the Independent Engineer at any time, and appoint another Independent Engineer in accordance with Clause 23.1, after making interim arrangement for the intervening period, as considered necessary.

23.4.2 If the Concessionaire has reason to believe that the Independent Engineer is not discharging its duties and functions in a fair, efficient and diligent manner, it may make a written representation to the "UPEIDA" and seek termination of the appointment of the PMC/Independent Engineer. Upon receipt of such representation, the "UPEIDA" shall hold a tripartite meeting with the Concessionaire and Independent Engineer for an amicable resolution of the Dispute, and if any difference or disagreement between the "UPEIDA" and the Concessionaire remains unresolved, the Dispute shall be settled in accordance with the Dispute Resolution Procedure. In the event that the appointment of the Independent Engineer is terminated hereunder, the "UPEIDA" shall appoint forthwith another Independent Engineer in accordance with Clause 23.1.

23.5 Authorized Signatories

The "UPEIDA" shall require the Independent Engineer to designate and notify to the "UPEIDA" and the Concessionaire up to 2 (two) persons employed in its firm to sign for and on behalf of the Independent Engineer, and any communication or document required to be signed by the Independent Engineer shall be valid and effective only if signed by any of the designated persons; provided that the Independent Engineer may, by notice in writing, substitute any of the designated persons by any of its employees.



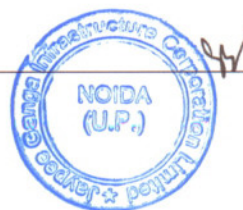
23.6 Dispute Resolution

If either Party disputes any advice, instruction, decision, direction or award of the Independent Engineer, or, as the case may be, the assertion or failure to assert jurisdiction, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure.



PART IV

Financial Covenants



ARTICLE 24

FINANCIAL CLOSE

24.1 Financial Close

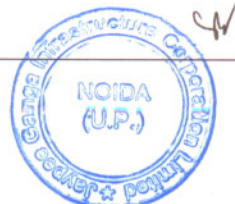
24.1.1 The Concessionaire hereby agrees and undertakes that it shall achieve Financial Close within 270 (two hundred and seventy) days from the date of this Agreement and in the event of delay, it shall be entitled to a further period not exceeding 120 (one hundred and twenty) days, subject to payment of Damages to the "UPEIDA" in a sum calculated at the rate of 0.1% (zero point one per cent) of the Performance Security for each day of delay; provided that the Damages specified herein shall be payable every week in advance and the period beyond the said 270 (two hundred and seventy) days shall be granted only to the extent of Damages so paid; provided further that no Damages shall be payable if such delay in Financial Close has occurred solely as a result of any default or delay by the "UPEIDA" in procuring satisfaction of the Conditions Precedent specified in Clause 4.1.2 or due to Force Majeure. However, it is clarified that if the "UPEIDA" is unable to transfer land as scheduled for Stage I of Expressway Package then the Financial Close date may be extended accordingly without any penalty.

24.1.2 The Concessionaire shall, upon occurrence of Financial Close, notify the "UPEIDA" forthwith, and shall have provided to the "UPEIDA", at least 2 (two) days prior to the Financial Close, 3 (three) true copies of the Financial Package and the Financial Model, duly attested by a Director of the Concessionaire, along with 3 (three) soft copies of the Financial Model in MS Excel version or any substitute thereof, which is acceptable to the Senior Lenders, if any.

24.2 Termination due to Failure to Achieve Financial Close

24.2.1 Notwithstanding anything to the contrary contained in this Agreement in the event that Financial Close does not occur except for reasons solely attributable to "UPEIDA", all rights, privileges, claims and entitlements 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. For the avoidance of doubt, it is agreed that in the event the Parties hereto have, by mutual consent, determined the Appointed Date to precede the Financial Close, the provisions of this Clause 24.2.1 shall not apply.

24.2.2 Upon Termination under Clause 24.2.1, the "UPEIDA" shall be entitled to encash the Performance Security and appropriate the proceeds thereof as Damages; provided, however, if Financial Close has not occurred solely as a result of the "UPEIDA" being in default of any of its obligations under Clause 4.1.2, it shall, upon Termination, return the Performance Security forthwith.



ARTICLE 25

CONCESSION FEE

25.1 Concession Fee

25.1.1 In consideration of the grant of Concession, the Concessionaire shall pay to the "UPEIDA" by way of concession fee (the "Concession Fee") a sum of Re. 1 (Rupee one) per annum.

The Concession Fee as above shall be payable for the Concession for the Expressway Project.

25.1.2 Payment of Concession Fee: 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. The same will be deposited in Treasury of GOUP.

ARTICLE 26

USER FEE

26.1 Collection and Appropriation of Fee

26.1.1 On and from the COD till the Transfer Date, the Concessionaire shall have the sole and exclusive right to demand, collect and appropriate Fee from the Users in accordance with this Agreement and the Fee Notification set forth in Schedule-R; provided that for ease of payment and collection, such Fee shall be rounded off to the nearest 5 (five) rupee in accordance with the Fee Notification; provided further that the Concessionaire may determine and collect Fee at such lower rates as it may, by public notice to the Users, specify in respect of all or any category of Users or vehicles. For avoidance of doubt, it is clarified that the above fee notification shall be procured by the Concessionaire from the GOUP/Authorized Authority under the [The Indian] Tolls Act, 1851 as applicable in Uttar Pradesh. The Concessionaire may propose to the Fee Notifying Authority, a User Fee calculated @ 20% higher than those applicable for 4/6 lane National Highways which may be revised from time to time by GOUP in its discretion.

26.1.2 The Concessionaire acknowledges and agrees that upon payment of Fee, any User shall be entitled to use the Expressway Package and the Concessionaire shall not place, or cause to be placed, any restriction on such use, except to the extent specified in any Applicable Law, Applicable Permit or the provisions of this Agreement.

26.1.3 The Concessionaire acknowledges and agrees that any User who is not liable for payment of the Fee shall be entitled to use the Expressway Package without any restrictions, except to the extent specified in any Applicable Law, Applicable Permit or the provisions of this Agreement. For the avoidance of doubt, the Concessionaire hereby acknowledges that Exempted Vehicles are not liable to payment of Fee.

26.2 Revision of Fee

- 26.2.1 The Parties hereto acknowledge and agree that in accordance with the Fee Notification, the Fee specified therein as applicable on COD (the "Base Fee") shall be revised annually on April 1 in accordance with the provisions of the Fee Notification; provided, however, that such revision shall not be effected until a period of 6 (six) months has elapsed from the date of the immediately preceding determination of Fee hereunder. For the avoidance of doubt, it is agreed that revision on account of variation in WPI shall be restricted to 40% (forty per cent) of the variation in WPI occurring between April 1 immediately following the date of this Agreement and April 1 of the year of revision hereunder.
- 26.2.2 The Concessionaire hereby acknowledges and agrees that it is not entitled to any revision of Fee or other relief from the "UPEIDA" or any Government instrumentality, except in accordance with the express provisions of this Agreement.

26.3 Restriction on Slow Moving and Certain Other Traffic

- 26.3.1 The Expressway being a high speed corridor, the Concessionaire may not allow slow moving traffic like tractors, animal drawn vehicles, all two wheelers, three wheelers and any other type of motorised or non-motorised vehicles which do not have speed capacity of 60 kmph.

26.4 Free use of Service Lanes

- 26.4.1 Notwithstanding anything to the contrary contained in this Agreement, upon construction of service lanes, all traffic shall be entitled to free use thereof, and the Concessionaire shall be entitled to refuse entry of such vehicles on the carriageway of the Expressway Package except upon payment of Fee in accordance with the Fee Notification.

26.5 Discounted Fee for Frequent Users

- 26.5.1 The Concessionaire shall, upon request from any person, issue a return pass on payment of a sum equal to 160% (one hundred and sixty per cent) of the Fee payable for the respective vehicle if it were to undertake a single one-way trip on the Expressway Package. Such return pass shall entitle the specified vehicle to undertake a return journey on the same day as the outward journey.
- 26.5.2 The Concessionaire shall, upon request from any person for issue of 20 (twenty) or more one-way toll tickets, issue such tickets at a discounted rate equivalent to 80% (eighty per cent) of the Fee payable for the respective vehicle. Such discounted tickets shall entitle the specified vehicle to commute on the Expressway Package by using one ticket for a single one-way trip at any time during a period of one month (calendar month) or part thereof.

26.6 Tolling Contractor

- 26.6.1 The Concessionaire may appoint a Tolling Contractor or any other person to collect the Fee for and on behalf of the Concessionaire, provided that notwithstanding such appointment, the Concessionaire shall be and remain solely

liable and responsible for the collection of Fee in accordance with this Agreement.

26.7 Fee Collection Points

26.7.1 Fee shall ordinarily be collected at the Toll Plaza[s] from vehicles crossing the Toll Plaza[s] and using the whole or part of the each of the four packages of the Expressway Package; provided that for preventing evasion of Fee by any vehicle circumventing [one or both of] the Toll Plaza[s] and using the whole or part of each of the four packages of the Expressway Package [located between such Toll Plazas], the Concessionaire shall be entitled to set up at its own risk and cost, and in consultation with the Independent Engineer, its temporary or permanent Fee collection booths, or impose such other restrictions on entry to each of the four packages of the Expressway Package, as may reasonably be necessary for preventing such evasion. For the avoidance of doubt, the Concessionaire hereby acknowledges and agrees that it shall not determine or collect Fee from Users who do not use any part of each of the four packages of the Expressway Package which is situated between the two Toll Plazas OR only use part of each of the four packages of the Expressway Package situated on any one side of the Toll Plaza. It is further acknowledged and agreed that the restrictions hereunder shall not extend beyond a distance of 10 (ten) kilometres from the Toll Plaza[s] and the provisions of this Clause 26.7 shall be so enforced as to minimise inconvenience to Users who are not liable to payment of Fee.

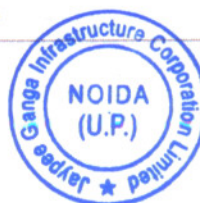
26.8 Additional Charge for Evasion of Fee

26.8.1 In the event that any vehicle uses the Expressway Package without payment of Fee due, the Concessionaire shall, subject to Applicable Law and Applicable Permits, be entitled to determine and collect from such vehicle the Fee due; provided further that upon detection of overloading, the Concessionaire shall prevent the vehicle from using the Expressway Package and shall inform to the concerned local Authorities

26.9 Differential Fee

26.9.1 The Concessionaire may, at any time after the tenth anniversary of the Appointed Date, and after obtaining prior written approval of the "UPEIDA" which approval the "UPEIDA" may in its discretion deny, determine and collect a higher and discounted Fee (the "Differential Fee") for use of the Expressway Package during peak and off-peak hours respectively in accordance with this Clause 26.9. For the avoidance of doubt, the provisions of this Clause 26.9 shall not apply to passes or tickets, as the case may be, issued under Clauses 26.5.

26.9.2 The Concessionaire may designate not more than six hours day as peak hours and a period equal to twice the peak hours as off-peak hours. The Concessionaire may determine and collect a premium of up to 25% (twenty five per cent) of the Fee during peak hours or such higher premium as the "UPEIDA" may by order permit. Simultaneously with such premium on peak hour Fee, the Concessionaire shall offer a discount during off-peak hours at a rate equal to twice the said premium. For the avoidance of doubt, the determination of Differential Fee shall be with reference to the time of entry of a User at the (first) Toll Plaza.



26.10 Partial Tolling

"UPEIDA" may permit for a limited period, subject to relevant legal provisions, of tolling of partially completed sections of Expressway Package, provided all eight lanes are complete in all respects but albeit with a lesser length.

26.11 Display of Fee Rates

26.11.1 The Concessionaire shall, at the beginning of the Expressway Package and near the Toll Plaza[s], prominently display the applicable rates of Fee for information of Users approaching from either side of the Expressway Package.

26.11.2 The Concessionaire shall, from time to time, inform the "UPEIDA" of the applicable Fee and the detailed calculation thereof. Such information shall be communicated at least 15 (fifteen) days prior to the revision of Fee under and in accordance with the Fee Notification.

26.11.3 The Concessionaire shall not revise, display or collect any amounts in excess of the rates of Fee payable under the Fee Notification. In the event any excess amounts are collected by or on behalf of the Concessionaire, it shall, upon receiving a notice to this effect from the "UPEIDA", refund such excess amounts to the "UPEIDA" along with Damages equal to 25% (twenty five percent) thereof.

ARTICLE 27

INSURANCE

27.1 Insurance during Concession Period

The Concessionaire shall effect and maintain at its own cost, during the Construction Period and the Operation Period, such insurances for such maximum sums as may be required under the Financing Agreements, and the Applicable Laws, and such insurances as may be necessary or prudent in accordance with Good Industry Practice (the "Insurance Cover"). The Concessionaire shall also effect and maintain such insurances as may be necessary for mitigating the risks that may devolve on the "UPEIDA" as a consequence of any act or omission of the Concessionaire during the Construction Period. For the avoidance of doubt, the level of insurance to be maintained by the Concessionaire after repayment of Senior Lenders' dues, if any, in full shall be determined on the same principles as applicable for determining the level of insurance prior to such repayment of Senior Lenders' dues.

27.2 Notices to the "UPEIDA"

Not later than 45 (forty five) days prior to commencement of the Construction Period or the Operation Period, as the case may be, the Concessionaire shall by notice furnish to the "UPEIDA", in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article 27. The "UPEIDA" may require the Concessionaire to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.



27.3 Evidence of Insurance Cover

All insurances obtained by the Concessionaire in accordance with this Article 27 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 15 (fifteen) days of obtaining any insurance cover, the Concessionaire shall furnish to the "UPEIDA", notarized true copies of the certificate(s) of insurance, copies of insurance policies and premium payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Concessionaire to the "UPEIDA".

27.4 Remedy for Failure to Insure

If the Concessionaire shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the "UPEIDA" shall have the option to either keep in force any such insurances, and pay such premium and recover the costs thereof from the Concessionaire or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Concessionaire.

27.5 Waiver of Subrogation

All insurance policies in respect of the insurance obtained by the Concessionaire pursuant to this Article 27 shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the "UPEIDA", and its assigns, successors, undertakings and their subsidiaries, affiliates, employees, insurers and underwriters, and of any right of the insurers to 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 or in any way connected with any loss, liability or obligation covered by such policies of insurance.

27.6 Concessionaire's Waiver

The Concessionaire hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, the "UPEIDA" and its assigns, undertakings and their subsidiaries, affiliates, employees, successors, insurers and underwriters, which the Concessionaire may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation 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 applied by Concessionaire for any necessary repair., reconstruction, reinstatement, replacement, improvement, delivery or installation of the Expressway Package, and the balance remaining, if any, shall be applied in accordance with the provisions contained in this behalf in the Financing Agreements.

ARTICLE 28

ACCOUNTS AND AUDIT

28.1 Audited Accounts

28.1.1 The Concessionaire shall maintain books of accounts recording all its receipts (including all Fees and other revenues derived/collected by it from or on account of the Expressway Package and/or its use), income, expenditure, payments, assets and liabilities, in accordance with this Agreement, Good Industry Practice, Applicable Laws and Applicable Permits. The Concessionaire shall provide 2 (two) copies of its Balance Sheet, Cash Flow Statement and Profit and Loss Account, along with a report thereon by its Statutory Auditors, within 90 (ninety) days of the close of the Accounting Year to which they pertain.

28.1.2 The Concessionaire shall, within 30 (thirty) days of the close of each quarter of an Accounting Year, furnish to the "UPEIDA" its unaudited financial results in respect of the preceding quarter, in the manner and form prescribed by the Securities and Exchange Board of India for publication of quarterly results by the companies listed on a stock exchange.

28.1.3 On or before the thirty-first day of May each Year, the Concessionaire shall provide to the "UPEIDA", for the preceding Accounting Year, a statement duly audited by its Auditors giving summarised information on (a) the traffic count for each category of vehicles using the Expressway Package, and (b) Fee charged and received and other revenues derived from the Expressway Package.

28.2 Appointment of Auditors

28.2.1 The Concessionaire shall appoint, and have during the subsistence of this Agreement as its Auditors, a firm chosen by it from the mutually agreed list of 10 (ten) reputable firms of chartered accountants (the "Panel of Chartered Accountants"), such list to be prepared substantially in accordance with the criteria set forth in Schedule-T. All fees and expenses of the Statutory Auditors shall be borne by the Concessionaire.

28.2.2 The Concessionaire may terminate the appointment of its Auditors after a notice of 45 (forty five) days to the "UPEIDA", subject to the replacement of Auditors being appointed from the Panel of Chartered Accountants.

28.3 Certification of Claims by Auditors

Any claim or document provided by the Concessionaire to the "UPEIDA" in connection with or relating to receipts, income, payments, costs, expenses, accounts or audit, and any matter incidental thereto shall be valid and effective only if certified by its Auditors. For the avoidance of doubt, such certification shall not be required for exchange of information in the normal course of business including the submission of Monthly Fee Statements under Clause 19.5.

PART V

Force Majeure and Termination



ARTICLE 29

FORCE MAJEURE

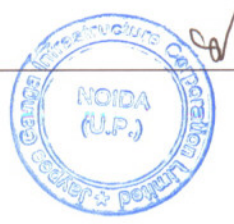
29.1 Force Majeure

As used in this Agreement, the expression "Force Majeure" or "Force Majeure Event" shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 29.2, 29.3 and 29.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the "Affected Party") of its obligations under this Agreement and which act or event (i) is beyond the reasonable control of the Affected Party, and (ii) the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (iii) has Material Adverse Effect on the Affected Party.

29.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

- (a) act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionising radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- (b) 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 Expressway Package for a continuous period of 24 (twenty four) hours and an aggregate period, exceeding 30 (thirty) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 29.3;
- (c) 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;
- (d) any judgement or order of any court of competent jurisdiction or statutory authority made against the Concessionaire in any proceedings for reasons other than (i) failure of the Concessionaire to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the "UPEIDA";
- (e) The discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or
- (f) Any event or circumstances of a nature analogous to any of the foregoing.



29.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

- (a) 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 collection of Fees by the Concessionaire for period exceeding a continuous period of 30 (thirty) days in an Accounting Year;
- (b) Industry wide or state wide or India wide strikes or industrial action which prevent collection of Fees by the Concessionaire for a period exceeding a continuous period of 30 (thirty) days in an Accounting year;
- (c) Any public agitation which prevents collection of Fees by the Concessionaire for a period exceeding a continuous period of 30 (thirty) days in an Accounting Year; or
- (d) Any event or circumstances of a nature analogous to any of the foregoing.

29.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Government Instrumentality:

- (a) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Article 34 and its effect, in financial terms, exceeds the sum specified in Clause 34.1;
- (b) Compulsory acquisition in national interest or expropriation of any Project Assets or rights of the Concessionaire or of the Contractors;
- (c) unlawful or unauthorised or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, license, permit, authorisation, no objection certificate, consent, approval or exemption required by the Concessionaire or any of the Contractors to perform their respective obligations under this Agreement and the Project Agreements; 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 clearance, license, authorisation, no objection certificate, exemption, consent, approval or permit; or
- (d) Any event or circumstance of a nature analogous to any of the foregoing.

29.5 Duty to Report Force Majeure Event

29.5.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

- (a) The nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 29 with evidence in support thereof;
- (b) 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;
- (c) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and
- (d) Any other information relevant to the Affected Party's claim.

29.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event not later than (seven) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement,

29.5.3 For so long as the Affected Party continues to claim to be materially affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 29.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

29.6 Effect of Force Majeure Event on the Concession

29.6.1 The Concessionaire shall be eligible for compensation/adjustment/extensions as provided hereunder in Clause 29.7 only on the occurrence of Force Majeure Events not resulting in Termination, with respect to the Expressway Project. For avoidance of doubt, it is clarified that a Force Majeure Event not resulting in Termination, with respect to the Concession for Development Rights on Land Parcels, shall not entitle the Concessionaire to any compensation/adjustment/extensions etc.

29.7 Compensation for Force Majeure Event not resulting in Termination

29.7.1 Non Political Event

- (a) Upon the occurrence of any Force Majeure Event prior to the Appointed Date, the period set forth in Clause 24.1.1 for achieving Financial Close shall be extended by a period equal in length to the duration of the Force Majeure Event.
- (b) At any time after the Appointed Date, if any Force Majeure Event occurs:
 - (i) before COD, the Concession Period and the dates set forth in the Project Completion Schedule shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or

(ii) after COD, whereupon the Concessionaire is unable to collect Fee despite making best efforts or it is directed by the "UPEIDA" to suspend the collection thereof during the subsistence of such Force Majeure Event, the Concession Period shall be extended by a period, equal in length to the period during which the Concessionaire was prevented from collection of Fee on account thereof.

29.7.2 **Indirect Political Event:** All Force Majeure costs attributable to such Indirect Political Event shall be compensated to the Concessionaire in the form of extension to Concession Period to the extent of 110% of such durations calculated as per 29.7.1 above.

29.7.3 **Direct Political Event:** All Force Majeure costs attributable to such Direct Political Event, shall be compensated to the Concessionaire in the form of extension to Concession Period to the extent of 110% of such durations calculated as per 29.7.1 above.

29.7.4 Save and except as expressly provided in this Article 29, neither Party 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 hereto.

29.8 Termination Notice for Force Majeure Event

If a Force Majeure Event subsists for a period of 365 (three hundred and sixty five) days or more within a continuous period of 730 (seven hundred and thirty) days, either Party may in its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Article 29, and upon issue of such Termination Notice, this Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith, provided that before issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 30 (thirty) days time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

29.9 Termination Compensation for Force Majeure Event

In the event of Termination of this Agreement in accordance with Clause 29.8 above, the Concessionaire shall be entitled for the following:

- a. The rights of the Concessionaire in relation to the land for development as per this Agreement to the extent such land has been leased to the Concessionaire shall not be affected and shall survive. However, subject to following, the Concessionaire shall not be entitled to any further land for development after the Termination of this Agreement; yet it is also furthermore clarified that the Concessionaire shall be liable to return to "UPEIDA" such lands as specified hereinunder.

- b. The land for Expressway along with the construction done on this land shall be transferred by the Concessionaire to "UPEIDA" and "UPEIDA" shall provide to the Concessionaire, excess land in addition to Land Parcels already given to Concessionaire, as compensation, if so required by the Committee hereinafter constituted. Retained Performance Guarantee shall also be released as part of settlement of liabilities.

A committee comprised of experts and headed by a Retired High Court Judge shall be constituted by Government of Uttar Pradesh for the purpose of-

- (a) compensation amount, and
(b) the location as well as area of land to be provided in lieu of above compensation.

For avoidance of doubt it is made clear that above said land will be provided by UPEIDA to Concessionaire after acquiring the required land. Acquisition costs and other related expenses shall be borne by Concessionaire.

ARTICLE 30

TERMINATION

30.1 Termination for Concessionaire Default

30.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Concessionaire fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (sixty) days, the Concessionaire shall be deemed to be in default of this Agreement (a "Concessionaire Default"), unless the default has occurred solely as a result of any breach of this Agreement by the "UPEIDA" or due to Force Majeure. The defaults referred to herein shall include:

- (a) the Performance Security has been encashed and appropriated in accordance with Clause 9.2 and the Concessionaire fails to replenish or provide fresh Performance Security within a Cure Period of 30 (thirty) days;
- (b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 9.2, the Concessionaire fails to cure, within a Cure Period of 90 (ninety) days, the Concessionaire Default for which whole or part of the Performance Security was appropriated;
- (c) the Concessionaire does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-G and continues to be in default for 90 (ninety) days;
- (d) The Concessionaire abandons or manifests intention to abandon the construction or operation of the Expressway Package and/or development of Land Parcel without the prior written consent of the "UPEIDA";

- (e) Project Completion Date does not occur within the period specified in Clause 12.3.3;
- (f) The Punch List items have not been completed within the period set forth in Clause 14.4.1;
- (g) The Concessionaire has failed to make any payment to the "UPEIDA" within the period specified in this Agreement;
- (h) Upon occurrence of a Financial Default, the Lenders' Representative has by notice required the "UPEIDA" to undertake Suspension in accordance with the Substitution Agreement and the Concessionaire fails to cure the default within the Cure Period specified in the Substitution Agreement;
- (i) A breach of any of the Project Agreements by the Concessionaire has caused a Material Adverse Effect;
- (j) The Concessionaire creates any Encumbrance in breach of this Agreement;
- (k) A Change in Ownership has occurred in breach of the provisions of Clause 5.3;
- (l) There is a transfer; pursuant to law either of (i) the rights and/or obligations of the Concessionaire under any of the Project Agreements, or of (ii) all or part of the assets or undertaking of the Concessionaire, and such transfer cause a Material Adverse Effect;
- (m) The Concessionaire is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Concessionaire or for the whole or material part of its assets that has a material bearing on the Project;
- (n) The Concessionaire has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the "UPEIDA", a Material Adverse Effect;
- (o) a resolution for winding up of the Concessionaire is passed, or any petition for winding up of the Concessionaire is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof 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 entire 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 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 Appointed Date; and
- (iii) Each of the Project Agreements remains in full force and effect; or
- (p) The Concessionaire commits a default in complying with any other provision of this Agreement if such default causes a Material Adverse Effect on the "UPEIDA".

30.2 Termination for "UPEIDA" Default

30.2.1 The following event shall constitute an event of default by "UPEIDA" unless any such "UPEIDA" Event of Default has occurred as a result of Concessionaire Event of Default or due to a Force Majeure Event.

- i) "UPEIDA" is in Material Breach of this Agreement and which has caused Material Adverse Effect on the performance of the Project by the Concessionaire.
- ii) "UPEIDA" repudiates this Agreement or otherwise evidences and irrevocable intention not to be bound by this Agreement.
- iii) GOI, GoUP or any Government 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.

30.2.2 Upon the occurrence of any "UPEIDA" Event of Default mentioned in Clause 30.2.1 above, the Concessionaire shall give written notice to "UPEIDA" to cure ("Cure Period") the said default within 90 (ninety) days or as mutually agreed by the Parties of the receipt of notice.

30.2.3 Should "UPEIDA" fails to cure "UPEIDA" Event of Default within the "Cure Period" given in Clause 30.2.2., the Concessionaire shall be entitled to terminate this Agreement by giving 60 (sixty) days notice in writing to "UPEIDA".

30.3 Termination Payment

30.3.1 In the event of Termination of this Agreement on "UPEIDA's" Default, the Concessionaire shall be entitled for termination compensation as provided in Clause 29.9.

30.3.2 In the event of Termination of this Agreement on Concessionaire's Default, the Concessionaire shall be entitled for termination compensation as per Clause 29.9 with only 75% of the expended cost as specified in sub-clause (2) of Clause 29.9(b) eligible for being compensated.

30.4 Other Rights and Obligations of the "UPEIDA"

Upon Termination for any reason whatsoever, the "UPEIDA" shall:

- (a) be deemed to have taken possession and control of the Expressway Package along with its land forthwith;
- (b) take possession and control of all materials, stores, implements, construction plants and equipment on or about the Site;
- (c) be entitled to restrain the Concessionaire and any person claiming through or under the Concessionaire including those coming under the Additional Facilities of Concessionaire from entering upon the Site or any part of the Project;
- (d) require the Concessionaire to comply with the Divestment Requirements set forth in Clause 31.1; and

30.5 Survival of Rights

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

- 30.6 Upon Termination for any reason whatsoever the Concessionaire shall not claim any right of Permanent Guarantee in respect of land over which Expressway has been built by the Concessionaire.

ARTICLE 31

DIVESTMENT OF RIGHTS AND INTEREST

31.1 Divestment Requirements

31.1.1 Upon Termination of this Agreement and fulfillment by "UPEIDA" of its obligations under this Agreement, the Concessionaire shall comply with the following:

- (a) Notify to "UPEIDA" forthwith the location and particulars of relevant assets related to ;
 - i) Expressway; and
 - ii) Land for development (only if applicable in case of Termination before expiry of the Concession Period).

- (b) Deliver forthwith actual or constructive possession of relevant assets as per (a) above and execute such deeds, writings and documents as may be required by the "UPEIDA" for fully and effectively divesting the Concessionaire of all of the rights, title and interest in such assets to "UPEIDA"; and
- (c) Comply with the Divestment Requirements set out in Clause 31.1.1.
- 31.1.2 Upon Termination of this Agreement, the Concessionaire shall comply and conform to the following Divestment Requirements:
- (i) The Concessionaire delivers relevant records and reports pertaining to the Expressway 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 Termination Date;
- (ii) the Concessionaire executes such deeds of conveyance, documents and other writing as the "UPEIDA" may reasonably require to convey, divest and assign all the rights, title and interest of the Concessionaire in the assets mentioned in Clause 31.1.1(a) to "UPEIDA" or its nominee, and
- (iii) 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 assets mentioned in Clause 31.1.1(a) to "UPEIDA".
- 31.1.3 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 60 (sixty) days from the date of Termination, "UPEIDA" shall verify, in the presence of a representative of the Concessionaire, compliance by the Concessionaire with the Divestment Requirements set forth in Clause 31.1.2 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 other Party shall rectify the same at its cost.
- 31.1.4 Upon the Concessionaire conforming to all Divestment Requirements and handing over actual or constructive possession of the assets mentioned in Clause 31.1.1(a) to "UPEIDA" or a person nominated by "UPEIDA" in this regard, "UPEIDA" shall issue a certificate "Vesting Certificates" (Schedule-U) which will have the effect of constituting evidence of divestment of all rights, title and lien in the said assets by the Concessionaire and their vesting in "UPEIDA" pursuant hereto. Issue of the Vesting Certificate shall not be unreasonably withheld by "UPEIDA". The divestment of all rights, title and lien in the said assets shall be deemed to be complete on the date when all the Divestment Requirement have been fulfilled or the Vesting Certificate has been issued, whichever is earlier, it being expressly agreed that any manner be construed or interrupted as restricting the exercise of any rights by "UPEIDA" or its nominee on or in respect of the said assets on the footing as if all Divestment Requirements have been complied with by the Concessionaire.

31.2 Divestment Costs etc.

31.2.1 The Concessionaire shall bear and pay all costs incidental to divestment of all of the rights, title and interest of the Concessionaire in the Expressway Package and in the Land for Development in favour of the "UPEIDA" upon Termination. All stamp duties payable on any deeds or Documents executed by the Concessionaire in connection with such divestment shall be borne by the "Concessionaire".

31.2.2 In the event of any dispute relating to matters covered by and under this Article 31, the Dispute Resolution Procedure shall apply.

ARTICLE 32

DEFECTS LIABILITY AFTER TERMINATION AFTER COMPLETION OF EXPRESSWAY

32.1 Liability for Defects after Termination

The Concessionaire shall be responsible for all defects and deficiencies in the Expressway Package for a period of 120 (One hundred and twenty) days after Termination, and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Expressway Package during the aforesaid period. In the event that the Concessionaire fails to repair or rectify such defect or deficiency within a period of 15 (fifteen) days from the date of notice issued by the "UPEIDA" in this behalf, the "UPEIDA" shall be entitled to get the same repaired or rectified at the Concessionaire's risk and cost so as to make the Expressway Package conform to the Maintenance Requirements. All costs incurred by the "UPEIDA" hereunder shall be reimbursed by the Concessionaire to the "UPEIDA" within 15 (fifteen) days of receipt of demand thereof, and in the event of default in reimbursing such costs, the "UPEIDA" shall be entitled to recover the same from the Performance Security.

32.2 Appropriation of Performance Security

32.2.1 Notwithstanding anything to the contrary contained in this Agreement, if the Expressway construction is complete, for a period of 120 (one hundred and twenty) days after Termination for meeting the liabilities, if any, arising out of or in connection with the provisions of Clause 32.1, or the relevant amounts will be appropriated from the retained Performance Security.

32.2.2 Without prejudice to the provisions of Clause 32.2.1, the Independent Engineer shall carry out an inspection of the Expressway Package at any time between 210 (two hundred and ten) and 180 (one hundred and eighty) days prior to the Termination and if it recommends that the status of the Expressway Package is such that a sum larger than the amount stipulated in Clause 32.2.1 should be retained and for a period longer, than the aforesaid 120 (one hundred and twenty) days, the amount recommended by the Independent Engineer will be appropriated from the retained Performance Security.



Part VI
Other Provisions



ARTICLE 33

ASSIGNMENT AND CHARGES

33.1 Restrictions on Assignment and Charges

33.1.1 Subject to Clauses 33.2 and 33.3, this Agreement shall not be assigned by the Concessionaire to any person, save and except with the prior consent in writing of the "UPEIDA", which consent the "UPEIDA" shall be entitled to decline without assigning any reason.

33.1.2 Subject to the provisions of Clause 33.2, the Concessionaire shall not create nor permit to subsist any Encumbrance, or otherwise transfer or dispose of all or any of its rights and benefits under this Agreement or any Project Agreement to which the Concessionaire is a Party except with prior consent in writing of the "UPEIDA", which consent the "UPEIDA" shall be entitled to decline without assigning any reason.

33.2 Permitted Assignment and Charges

Subject to the provisions of Clause 10.8, the restraints set forth in Clause 33.1 shall not apply to:

- (a) liens arising by operation of law (or by an agreement evidencing the same) in the ordinary course of business of the Expressway Package and the Land Parcels for development;
- (b) Mortgages/ pledges/ hypothecation of goods/assets other than Project Assets, and their related documents of title, arising or created in the ordinary course of business of the Expressway Package and the Land Parcels for development, and as security only for indebtedness to the Senior Lenders, under the Financing Agreements and/or for working capital arrangements for the Expressway Package and the Land Parcels for development;
- (c) assignment of rights, interest and obligations of the Concessionaire to or in favour of the Lenders' Representative as nominee and for the benefit of the Senior Lenders, to the extent covered by and in accordance with the Substitution Agreement as security for financing provided by Senior Lenders under the Financing Agreements; and
- (d) Liens or encumbrances required by any Applicable Law.

33.3 Assignment by the "UPEIDA"

Notwithstanding anything to the contrary contained in this Agreement, the "UPEIDA" may, after giving 60 (sixty) days' notice to the Concessionaire, assign any of its rights and benefits and/or obligations under this Agreement; to an assignee who is, in the reasonable opinion of the "UPEIDA", capable of fulfilling all of the "UPEIDA's" then outstanding obligations under this Agreement.

ARTICLE 34

CHANGE IN STATE LAWS

34.1 Increase in Costs

If as a result of Change in Gol or GOUP Laws relating to Custom Duties, Excise Duties, Service Tax and VAT or equivalent Taxes, 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. 100 crore (Rupees one hundred crore) in any one Account Year, the Concessionaire may so notify the "UPEIDA" and request UPEIDA to adjust such increased financial burden by way of increase in the Concession Period of the Expressway Project. If the decision of "UPEIDA" on this request is disputed by the Concessionaire, the same shall be settled in accordance with the Dispute Resolution Procedure.

34.2 Reduction in Costs

If as a result of Change in Gol or GOUP Laws relating to Custom Duties, Excise Duties, Service Tax and VAT or equivalent Taxes, the Concessionaire benefits from a reduction in costs or increase in net after-tax return or other financial gains, the aggregate financial effect of which exceeds Rs. 100 crore (Rupees one hundred crore) in any one Account Year, the "UPEIDA" may so notify the Concessionaire and propose amendments to this Agreement so as to adjust such financial gains by decrease in Concession Period for the Expressway Project.

ARTICLE 35

LIABILITY AND INDEMNITY

35.1 General Indemnity

- 35.1.1 The Concessionaire will indemnify, defend, save and hold harmless the "UPEIDA" and its officers, servants, agents, government instrumentalities and Government owned and/or controlled entities/enterprises ("the Government Indemnified Persons") against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature arising out of any breach by the Concessionaire of any of its obligations under this Agreement or any related agreement or on account of any defect or deficiency in the provision of services by the Concessionaire to any User, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission or breach of this Agreement on the part of the Government Indemnified Persons.
- 35.1.2 The "UPEIDA" will indemnify, defend, save and hold harmless the Concessionaire against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature arising out of (i) defect in title and/or the rights of the "UPEIDA" in the land comprised in the Site.



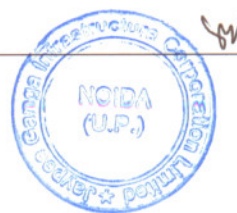
35.2 Indemnity by the Concessionaire

35.2.1 Without limiting the generality of Clause 35.1, the Concessionaire shall fully indemnify, hold harmless and defend the "UPEIDA" and the Government Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- (a) Failure of the Concessionaire to comply with Applicable Laws and Applicable Permits;
- (b) Payment of taxes required to be made by the Concessionaire in respect of the income or other taxes of the Concessionaire's Contractors, suppliers and representative; or
- (c) Non-payment of amounts due as a result of materials or services furnished to the Concessionaire or any of its Contractors.

35.2.2 Without limiting the generality of the provisions of this Article 35, the Concessionaire shall fully indemnify, hold harmless and defend the "UPEIDA" and Government Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages including those from Lessees/Sub-Lessees, which the "UPEIDA" and Government 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, action, 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 revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Expressway Package 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 the "UPEIDA" a license, at no cost to the "UPEIDA", authorizing continued use of the infringing work. If the Concessionaire is unable to secure such license 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 part or process, or modify the same so that it becomes non-infringing.

35.2.3 The Concessionaire shall also fully indemnify, hold harmless and defend the "UPEIDA" Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the "UPEIDA" and Government Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of any action/lapses etc. of sub-lessees, tenants etc. of the Concessionaire.



35.3 Notice and Contest of Claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Article 35 (the "Indemnified Party") it shall notify the other Party (the "Indemnifying Party") within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any cost involved, to its reasonable satisfaction.

35.4 Defense of Claims

- 35.4.1 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 reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Article 35, the Indemnifying Party shall be entitled, at its option, to assume and control the defense of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the 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 defense. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, 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.
- 35.4.2 If the Indemnifying Party has exercised its rights under Clause 35.3, 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).
- 35.4.3 If the Indemnifying Party exercises its rights under Clause 35.3, 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 the Indemnified Party, when and as incurred, unless:
- (a) The employment of counsel by such Party has been authorised in writing by the Indemnifying Party, or
 - (b) 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 defense of such action: or

- (c) The Indemnifying Party shall not, in time, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defense of such action and shall have been so notified by the Indemnified Party: or
- (d) The Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
- (i) that there maybe specific defenses available to it which are different from or additional to those available to the Indemnifying Party; or
- (ii) 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 Sub-clauses (b), (c) or (d) of this Clause 35.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defense of such claim, demand, 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.

35.5 No Consequential Claims

Notwithstanding anything to the contrary contained in this Article 35, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

35.6 Survival on Termination

The provisions of this Article 35 shall survive Termination.

ARTICLE 36

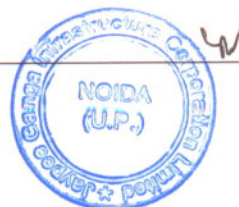
RIGHTS AND TITLE OVER THE SITE

36.1 Licensee Rights

For the purpose of this Agreement, the Concessionaire shall have rights to the use of the Site as sole licensee subject to and in accordance with this Agreement, and to this end, it may regulate the entry and use of the Expressway Package by third parties in accordance with and subject to the provisions of this Agreement.

36.2 Access Rights of the "UPEIDA" and others

- 36.2.1 The Concessionaire shall allow free access to the Site at all times for the authorised representatives and vehicles of the "UPEIDA", and the Independent Engineer, and for the persons and vehicles duly authorised by any Government Instrumentality to inspect the Expressway Package 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.



36.2.2 The Concessionaire shall, for the purpose of operation and maintenance of any utility or road specified in Article 11, allow free access to the Site at all times for the authorised persons and vehicles of the controlling body of such utility of road.

36.3 Restriction on Sub-letting

The Concessionaire shall not sublicense or sublet the whole or any part of the Site, save and except as may be expressly set forth in this Agreement; provided 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 Expressway Package.

ARTICLE 37

DISPUTE RESOLUTION

37.1 Dispute Resolution

37.1.1 Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 37.2.

37.1.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

37.2 Conciliation

In the event of any Dispute between the Parties, either Party may call upon the Independent Engineer to mediate and assist the Parties in arriving at an amicable settlement thereof. Failing mediation by the Independent Engineer or without the intervention of the Independent Engineer, either Party may require such Dispute to be referred to the CEO UPEIDA and the Chairman of the Board of Directors of the Concessionaire for amicable settlement, and upon such reference, the said persons shall meet no later than 15 (fifteen) days from the date of reference to discuss and attempt to amicably resolve the Dispute. If such meeting does not take place within 30 (thirty) days period or the Dispute is not amicably settled within 15 (fifteen) days of the meeting or the Dispute is not resolved as evidenced by the signing of written terms of settlement within 60 (sixty) days of the notice in writing referred to in Clause 37.1.1 or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration in accordance with the provisions of Clause 37.3.

37.3 Arbitration

37.3.1 Any Dispute which is not resolved amicably by conciliation, as provided in Clause



37.2, shall be finally decided by reference to arbitration by a Board of Arbitrators appointed in accordance with Clause 37.3.2. Such arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi (the "Rules"), or such other rules as may be mutually agreed by the Parties, and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996. The venue of such arbitration shall be Lucknow, and the language of arbitration proceedings shall be English.

37.3.2 There shall be a Board of three arbitrators, of whom each Party shall select one, and the third arbitrator shall be appointed by the two arbitrators so selected and in the event of disagreement between the two arbitrators, the appointment shall be made in accordance with the Rules.

37.3.3 The arbitrators shall make a reasoned award (the "Award"). Any Award made in any arbitration held pursuant to this Article 37 shall be final (subject to the provisions of appeal) and binding on the Parties as from the date it is made, and the Concessionaire and the "UPEIDA" agree and undertake to carry out such Award without delay.

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

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

37.4 Adjudication by Regulatory Authority or Commission

In the event of constitution of a statutory Regulatory Authority or Commission with powers to adjudicate upon disputes between the Concessionaire and the "UPEIDA", all Disputes arising after such constitution shall, instead of reference to arbitration under Clause 37.3, be adjudicated upon by such Regulatory Authority or Commission in accordance with the Applicable Law and all references to Dispute Resolution Procedure shall be construed accordingly. For the avoidance of doubt, the Parties hereto agree that the adjudication hereunder shall not be final and binding until an appeal against such adjudication has been decided by an appellate tribunal or High Court, Allahabad, as the case may be, or no such appeal has been preferred within the time specified in the Applicable Law.

ARTICLE 38

DISCLOSURE

38.1 Disclosure of Specified Documents

The Concessionaire shall make available for inspection by any person, copies of this Concession Agreement, the Maintenance Manual, the Maintenance Programme and the Maintenance Requirements (hereinafter collectively referred to as the "Specified Documents"), free of charge, during normal business hours on all working days at the Toll Plaza[s] and Concessionaire's Registered Office. The Concessionaire shall prominently display at [each of] the Toll Plaza[s] and toll booths, public notices stating the availability of the Specified Documents.

38.2 Disclosure of Documents Relating to Safety

The Concessionaire shall make available for inspection by any person copies of all Documents and data relating to safety of the Expressway Package, free of charge, during normal business hours on all working days, at the Concessionaire's Registered Office.

ARTICLE 39

REDRESSAL OF PUBLIC GRIEVANCES

39.1 Complaints Register

39.1.1 The Concessionaire shall maintain a public relations office at [each of] the Toll Plaza[s] where it shall keep a register (the "Complaint Register") open to public access at all times for recording of complaints of any person (the "Complainant"). Information relating to the availability of and access to the Complaint Register shall be prominently displayed by the Concessionaire [at each] Toll Plaza [s] so as to bring it to the attention of all Users.

39.1.2 The Complaint Register shall be securely bound and each page thereof shall be duly numbered. It shall have appropriate columns including the complaint number, date, name and address of the Complainant, substance of the complaint and the action taken by the Concessionaire. Immediately after a complaint is registered, the Concessionaire shall give a receipt to the Complainant stating the date and complaint number.

39.1.3 Without prejudice to the provisions of Clauses 39.1.1 and 39.1.2, the "UPEIDA" may, in consultation with the Concessionaire, specify the procedure for making complaints in electronic form and for responses thereto.

39.2 Redressal of Complaints

39.2.1 The Concessionaire shall inspect the Complaint Register every day and take prompt and reasonable action for redressal of each complaint. The action taken shall be briefly noted in the Complaint Register and a reply stating the particulars thereof shall be sent by the Concessionaire to the Complainant under a certificate of posting.

39.2.2 Within 7 (seven) days of the close of each month, the Concessionaire shall send to the "UPEIDA" and to the Independent Engineer a true photocopy each of all the pages of the Complaint Register on which any entry has been recorded during the course of such month, and upon perusal thereof, the "UPEIDA" may, in its discretion, advise the Concessionaire to take such further action as the "UPEIDA" may deem appropriate for a fair and just redressal of any grievance. The Concessionaire shall consider such advice and inform the "UPEIDA" of its decision thereon, and if the "UPEIDA" is of the opinion that complainant is entitled to further relief, it may refer the matter to the competent forum for its disposal under the Consumer Protection Act, 1986, and advise the complainant to pursue the complaint at his own risk and cost.

ARTICLE 40

MISCELLANEOUS

40.1 Governing Law and Jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the High Court at Allahabad shall have jurisdiction over matters arising out of or relating to this Agreement.

40.2 Depreciation

For the purposes of depreciation under the Applicable Laws, the property representing the capital investment made by the Concessionaire in the Project shall be deemed to be acquired and owned by the Concessionaire. For the avoidance of doubt, the "UPEIDA" shall not in any manner be liable in respect of any claims for depreciation to be made by the Concessionaire under the Applicable Laws

40.3 Waiver

40.3.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:

- a) 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;
- b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and
- c) shall not affect the validity or enforceability of this Agreement in any manner.

40.3.2 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.

40.4 Liability for Review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

- a) no review, comment or approval by the "UPEIDA" or the Independent Engineer of any Project Agreement, Document or Drawing submitted by the Concessionaire nor any observation or inspection of the construction, operation or maintenance of the Expressway Package nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Concessionaire from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and

- b) The "UPEIDA" shall not be liable to the Concessionaire by reason of any review, Comment, approval, observation or inspection referred to in Sub clause (a) above.

40.5 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.

40.6 Survival

40.6.1 Termination shall:

- (a) not relieve the Concessionaire or the "UPEIDA", as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, 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.

40.6.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

40.7 Entire Agreement

This 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 such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn.

40.8 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 to one or more provisions which may be substituted for such 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 the Dispute Resolution Procedure set forth under this Agreement or otherwise.



40.9 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

40.10 Third Parties

This Agreement is intended solely for the benefit of the Parties, and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

40.11 Successors and Assigns

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

40.12 Notices

Any notice or other communication to be given by any 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 facsimile and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Concessionaire may from time to time designate by notice to the "UPEIDA"; provided that notices or other communications to be given to an address outside Lucknow may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile to the number as the Concessionaire may from time to time designate by notice to the "UPEIDA";
- (b) in the case of the "UPEIDA", be given by facsimile and by letter delivered by hand and be addressed to the Chief Executive Officer, "UPEIDA", with a copy delivered to the "UPEIDA" Representative or such other person as the "UPEIDA" may from time to time designate by notice to the Concessionaire; provided that if the Concessionaire does not have an office in Lucknow it may send such notice by facsimile and by registered acknowledgement due, air mail or by courier, and
- (c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered.



40.13 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

40.14 Counterparts

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

ARTICLE 41

DEFINITIONS

41.1 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 the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year;

"Additional Facilities" means the facilities such as service stations, motels, restaurants, shopping areas and amusement parks which the Concessionaire may, in its discretion and subject to Applicable Laws, provide or procure for the benefit of the Users, and which are in addition to the Project Facilities, and not situated on the Site;

"Affected Party" shall have the meaning set forth in Clause 29.1;

"Agreement" or **"Concession Agreement"** means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

"Applicable Laws" means all laws, brought into force and effect by GOI or the State Government including rules, regulations and notifications made thereunder, and judgments, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

"Applicable Permits" means all clearances, licenses, permits, authorisations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction, operation and maintenance of the Expressway Package and for development of Land Parcels during the subsistence of this Agreement;

"Appointed Date" means the date on which Financial Close is achieved or an earlier date that the Parties may by mutual consent determine;

"**Arbitration Act**" means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any reenactment thereof, as in force from time to time;

"**Associate**" or "**Affiliate**" means, in relation to either Party, a person who controls, is controlled by, or is under the common control with such Party (as used in this definition, the expression "control" means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);

"**Average Daily Fee**" means the amount arrived at after dividing the total Fee of the immediately preceding Accounting Year by 365 (three hundred and sixty five);

"**Bank**" means a bank incorporated in India and having a minimum net worth of Rs. 1,000 crore (Rupees one thousand crore) or any other bank acceptable to Senior Lenders, if any, but does not include a bank in which such Senior Lender has an interest;

"**Bank Rate**" means the rate of interest specified by the Reserve Bank of India from time to time in pursuance of Section 49 of the Reserve Bank of India Act, 1934 or any replacement, of such Bank Rate for the time being in effect;

"**Bid**" means the documents in their entirety comprised in the bid submitted by the Jaiprakash Associates Limited (**JAL**) in response to the Tender Notice in accordance with the provisions thereof;

"**Bid Security**" means the security provided by the **JAL** to the "UPEIDA" along with the Bid, in accordance with the Tender Notice, and which is to remain in force until substituted by the Performance Security;

"**Bus**" means any passenger motor Vehicle with a Gross Vehicle Weight exceeding 12,000 (twelve thousand) kilograms;

"**COD**" or "Commercial Operation Date" shall have the meaning set forth in Clause 15.1;

"**Car**" means and includes any motor transport Vehicle, car, jeep, van, omnibus, or three-wheeled motor vehicle with a Gross Vehicle Weight not exceeding 7500 (seven thousand five hundred) kilograms, but does not include a Motor Cycle, Tractor or road roller;

"**Change in Law**" means the occurrence of any of the following after the date of the Bid:

- (a) the enactment of any new Indian law as applicable to the State;
- (b) the repeal, modification or reenactment of any existing Indian law as applicable to the State;

- (c) the commencement of any Indian law, as applicable to the State, which has not entered into effect until the date of Bid;
- (d) a change in the interpretation or application of any Indian law, as applicable to the State, by a judgement of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the date of Bid;

"Change in Ownership" means a transfer of the direct and/or indirect legal or beneficial ownership of any shares, or securities convertible into shares, that causes the aggregate holding of the existing promoters i.e. **JAL** together with their Associates in the total equity of the Concessionaire, to decline below (i) 51% (fifty one per cent) thereof during Construction Period, (ii) 33% (thirty three per cent) thereof during a period of 3 (three) years following COD, and (iii) 26% (twenty six per cent) thereof, or such lower proportion as may be permitted by the "UPEIDA" during the remaining Concession Period, provided that any material variation (as compared to the representations made by the Concessionaire during the bidding process) in the proportion of the equity holding of to the total equity, if it occurs prior to COD, shall constitute Change in Ownership provided that any transfer of the direct and/or indirect legal or beneficial ownership leading to acquisition of more than 15%(fifteen per cent) of the total equity by any person and/ or his Associate at any time during the Concession Period shall constitute a Change in Ownership. For the avoidance of doubt, indirect, legal or beneficial ownership of any shares, or securities convertible into shares shall include transfer of the direct or indirect beneficial ownership or control of any company or companies whether in India or abroad which results in any person acquiring control over the equity or voting rights of the shares of the Concessionaire;

"Change of Scope" shall have the meaning set forth in Clause 16.1;

"Commencement of Concession Period" means the date on which Financial Close is achieved or an earlier date that the Parties may by mutual consent determine;

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

"Completion Certificate" shall have the meaning set forth in Clause 14.2;

"Concession" shall have the meaning set forth in Clause 3.1;

"Concessionaire" shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

"Concession Fee" shall have the meaning set forth in Clause 25.1;

"Concession Period" means the period starting on and from the Appointed Date and ending on the Transfer Date;

"Concessionaire Default" shall have the meaning set forth in Clause 30.1.1;

"**Conditions Precedent**" shall have the meaning set forth in Clause 4.1.1;

"**Construction Period**" means the period beginning from the Appointed Date and ending on COD;

"**Construction Works**" means all works and things necessary to complete the Expressway Package in accordance with this Agreement;

"**Contractor**" means the person or persons, as the case may be, with whom the Concessionaire has entered into any of the EPC Contract, the O&M Contract, the Tolling Contract or any other agreement or contract for construction, operation and/or maintenance of the Expressway Package or matters incidental thereto, but does not include a person who has entered into an agreement for providing financial assistance to the Concessionaire;

"**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 shall:

- (a) commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;
- (b) not relieve any Party from liability to pay Damages or compensation under the provisions of this Agreement; and
- (c) not in any way be extended by any period of suspension under this Agreement;

provided that if the cure of any breach by the Concessionaire requires any reasonable action by the Concessionaire that must be approved by the "UPEIDA" or the PMC/Independent Engineer hereunder, the applicable Cure Period shall be extended by the period taken by the "UPEIDA" or the PMC/Independent Engineer to accord their approval;

"**Damages**" shall have the meaning set forth in Sub-clause (v) of Clause 1.2.1;

"**Debt Due**" means the aggregate of the following sums expressed in Indian Rupees outstanding on the Transfer Date:

- (a) the principal amount of the debt provided by the Senior Lenders under the Financing Agreements for financing the Total Project Cost (the "Principal") but excluding any part of the principal that had fallen due for repayment two years prior to the Transfer Date;
- (b) all accrued interest, financing fees and charges payable under the financing Agreements on, or in respect of, the debt referred to in Sub-clause (a) above until the Transfer Date but excluding (i) any interest, fees or charges that had fallen due one year prior to the Transfer Date, (ii) any penal interest or charges payable under the Financing Agreements to any Senior Lender, and (iii) any prepayment charges in relation to accelerated repayment of debt except where such charges have arisen due to "UPEIDA" Default; and
- (c) any subordinated debt which is included in the Financial Package and disbursed by lenders for financing the Total Project Cost;

provided that if all or any part of the Debt Due is convertible into equity at the option of Senior Lenders and/or the Concessionaire, it shall for the purposes of this Agreement be deemed to be Debt Due even after such conversion and the principal thereof shall be dealt with as if such conversion had not been undertaken;

"Debt Service" means the sum of all payments on account of principal, interest, financing fees and charges due and payable in an Accounting Year to the Senior Lenders under the Financing Agreements;

"Development Period" means the period from the date of this Agreement until the Appointed Date;

"Dispute" shall have the meaning set forth in Clause 37.1.1;

"Dispute Resolution Procedure" means the procedure for resolution of Disputes set forth in Article 37;

"Divestment Requirements" means the obligations of the Concessionaire for and in respect of Termination as set forth in Clause 31.1;

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

"Drawings" means all of the drawings, calculations and documents pertaining to the Expressway Package as set forth in Schedule-H, and shall include 'as built' drawings of the Expressway Package;

"EPC Contract" means the engineering, procurement and construction contract or contracts entered into by the Concessionaire with one or more Contractors for, inter alia, engineering and construction of the Expressway Package in accordance with the provisions of this Agreement;

"EPC Contractor" means the person with whom the Concessionaire has entered into an EPC Contract;

"Emergency" means a condition or situation that is likely to endanger the security of the individuals on or about the Expressway Package, including Users thereof or which poses an immediate threat of material damage to any of the Project Assets;

"Encumbrances" means, in relation to the Expressway Package, 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 any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Expressway Package, where applicable herein but excluding utilities referred to in Clause 11.1;

"**Exempted Vehicle**" means a vehicle exempted from accordance with the Fee Notification;

"**Expressway Package**" means the Site comprising Package I from Greater Noida to Fatehgarh including Link1 from km 0 to km 253 of the Expressway, Package II from Fatehgarh to Dalmau (Raibareli) including Link2 from km 253 to km 558 of the Expressway, Package III from Dalmau to Aurai (Bhadoi) including Link3 from km 558 to km 769 of the Expressway & Package IV from Aurai (Bhadoi) to Balia from km 769 to km 1047 of the Expressway and all Project Assets, and its subsequent augmentation in accordance with this Agreement;

"**Fee**" means the charge levied on and payable for a vehicle using the Expressway Package or a part thereof, in accordance with the Fee Notification and this Agreement;

"**Fee Notification**" means the Notification to be issued by the GOUP in respect of the levy and collection of Fee during the Concession Period, and includes any subsequent notifications issued from time to time for levy and collection of the Fee contemplated by the provisions of this Agreement;

"**Financial Close**" means the fulfillment of all conditions precedent to the initial availability of funds under the Financing Agreements;

"**Financial Model**" means the financial model adopted by Senior Lenders, if any, setting forth the capital and operating costs of the Project and revenues therefrom on the basis of which financial viability of the Project has been determined by the Senior Lenders, if any, and includes a description of the assumptions and parameters used for making calculations and projections therein;

"**Financial Package**" means the financing package indicating the total capital cost of Expressway Package and the means of financing thereof, as set forth in the Financial Model and approved by the Senior Lenders, if any, and includes equity, all financial assistance specified in the Financing Agreements, subordinated debt and Equity Support, if any;

"**Financing Agreements**" means the agreements executed by the Concessionaire in respect of financial assistance to be provided by the Senior Lenders by way of loans, guarantees, subscription to nonconvertible 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 Total Project Cost;

"**Force Majeure**" or "**Force Majeure Event**" shall have the meaning ascribed to it in Clause 29.1;

"**GOI**" means the Government of India;

"**Good Industry Practice**" means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced operator engaged in the same type of undertaking as envisaged under this Agreement

and which would be expected to result in the performance of its obligations by the Concessionaire in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;

"**Government**" means the Government of the State;

"**UPEIDA Default**" shall have the meaning set forth in Clause 30.2.1;

"**Government Instrumentality**" means any department, division or sub-division of the Government of India or the State Government and includes any commission board, authority, agency or municipal and other local authority or statutory body including Panchayat under the control of the Government of India or the State Government, as the case may be, and having jurisdiction over all or any part of the Expressway Package or the performance of all or any of the services or obligations of the Concessionaire under or pursuant to this Agreement;

"**UPEIDA Representative**" means such person or persons as may be authorised in writing by the "UPEIDA" 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 the "UPEIDA" under this Agreement;

"**Gross Vehicle Weight**" or "**GVW**" means in respect of any vehicle the total weight of the vehicle and load certified and registered under the Applicable Laws;

"**Heavy Truck**" or "**Multi-axle truck**" means any goods carrier with a Gross Vehicle Weight exceeding 20,000 (twenty thousand) kilograms and includes a truck with three or more axles;

"**IRC**" means the Indian Roads Congress;

"**Indemnified Party**" means the party entitled to the benefit of an indemnity pursuant to Article 35;

"**Indemnifying Party**" means the party obligated to indemnify the other Party pursuant to Article 35;

"**Independent Engineer**" shall have the meaning set forth in Clause 23.1;

"**Indirect Political Event**" shall have the meaning set forth in Clause 29.3;

"**Insurance Cover**" means the aggregate of the maximum sums insured under the insurances taken out by the Concessionaire pursuant to Article 27 and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable in relation to such act or event;

"**Land for Development**" means the Land Parcels as may be given by "UPEIDA" to the Concessionaire for development rights in accordance with this Agreement;

"**Land Parcels**" means the identified land areas/land assemblies/land pockets for Development Rights given in Annex 10 to Schedule A and in Clause 10.7.7;

"**LOA**" or "Letter of Award" means the letter of award referred to in Recital (E);

"**Lenders' Representative**" means the person duly authorised by the Senior Lenders to act for and on behalf of the Senior Lenders with regard to matters arising out of or in relation to this Agreement, and includes his successors, assigns and substitutes;

"**Light Commercial Vehicle**" or "**LCV**" means any passenger vehicle or goods carrier with a Gross Vehicle Weight exceeding 7500 (seven thousand five hundred) kilograms and includes a Tractor with Trailer but does not include a Tractor, Bus, Truck or Heavy Truck;

"**Local Traffic**" means the traffic on account of commuting by a private Car between a rural area and its nearest city or town by means of the Expressway Package; provided (i) such private Car is owned by a person who resides in such rural area, (ii) such rural area is situated within a distance of 20 (twenty) km from the Toll Plaza [s], and (iii) such rural area has no alternative road connecting such city or town. For the avoidance of doubt, a road that connects such rural area to its nearest city or town shall not be deemed to be an alternative road for purposes hereof if it increases the travel distance by more than 20% (twenty per cent) of the corresponding distance on the Expressway Package;

"**MoSRTH**" means the Ministry of Shipping, Road Transport and Highways or any substitute thereof dealing with highways;

"**Maintenance Manual**" shall have the meaning ascribed to it in Clause 17.3;

"**Maintenance Programme**" shall have the meaning ascribed to it in Clause 17.4.1;

"**Maintenance Requirements**" shall have the meaning set forth in Clause 17.2;

"**Material Adverse Effect**" means a 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 and which act or event causes a material financial burden or loss to either Party;

"**Medical Aid Post**" shall have the meaning set forth in Clause 21.1;

"**Motor Cycle**" means and includes any two-wheeled motor vehicle;

"**Nominated Company**" means a company selected by the Lenders' Representative and proposed to the "UPEIDA" for substituting the Concessionaire in accordance with the provisions of the Substitution Agreement;

"**Non-Political Event**" shall have the meaning set forth in Clause 29.2;

"**O&M**" means the operation and maintenance of the Expressway Package and includes all matters connected with or incidental to such operation and maintenance, provision of services and facilities, and collection of Fee in accordance with the provisions of this Agreement;

"**O&M Contract**" means the operation and maintenance contract that may be entered into between the Concessionaire and the O&M Contractor for performance of all or any of the O&M obligations;

"**O&M Contractor**" means the person, if any, with whom the Concessionaire has entered into an O&M Contract for discharging O&M obligations for and on behalf of the Concessionaire;

"**O&M Expenses**" means expenses incurred by or on behalf of the Concessionaire or by the "UPEIDA", as the case may be, for all O&M including (a) cost of salaries and other compensation to employees, (b) cost of materials, supplies, utilities and other services, (c) premia for insurance, (d) all taxes, duties, cess and fees due and payable for O&M, (e) all repair, replacement, reconstruction, reinstatement, improvement and maintenance costs, (f) payments required to be made under the O&M Contract, Tolling Contract or any other contract in connection with or incidental to O&M, and (g) all other expenditure required to be incurred under Applicable Laws, Applicable Permits or this Agreement;

"**O&M Inspection Report**" shall have the meaning set forth in Clause 19.2;

"**Operation Period**" means the period commencing from COD and ending on the Transfer Date;

"**PWD**" or "**Public Works Department**" means the Public Works Department of the State Government or any substitute thereof dealing with State Highways and "Secretary, PWD" means the Secretary to the State Government in that department;

"**Panel of Chartered Accountants**" shall have the meaning set forth in Clause 28.2.1;

"**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 set forth in Clause 9.1;

"**Political Event**" shall have the meaning set forth in Clause 29.4;

"**Project**" means the construction, operation and maintenance of the Expressway Package in accordance with the provisions of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;

"**Project Agreements**" means this Agreement, the Financing Agreements, EPC Contract, O&M Contract, Tolling Contract, and any other agreements or contracts that may be entered into by the Concessionaire with any person in connection with matters relating to, arising out of or incidental to the Project;

"**Project Assets**" means all physical and other assets relating to and forming part of the Site including (a) rights over the Site in the form of license, Right of Way or otherwise, (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges,



culverts, road over bridges, drainage works, traffic signals, sign boards, kilometer - stones, toll plaza[s], electrical systems, communication systems, rest areas, relief centre, maintenance depots and administrative offices; (c) Project Facilities situated on the Site; (d) all rights of the Concessionaire under the Project Agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) Applicable Permits and authorizations relating to or in respect of the Expressway Package, but does not include Additional Facilities;

"Project Completion Date" means the date on which the Completion Certificate or the Provisional Certificate, as the case may be, is issued under the provisions of Article 14;

"Project Completion Schedule" means the progressive Project Milestones set forth in Schedule-G for completion of the Expressway Package on or before the Scheduled Date of Completion;

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

"Project Management Consultant" means a Consultant, assigned the responsibilities of Management/monitoring of the Expressway during the development and implementation of the Expressway;

"Project Milestones" means the project milestones set forth in Schedule-G;

"Provisional Certificate" shall have the meaning set forth in Clause 14.3;

"Punch List" shall have the meaning ascribed to it in Clause 14.3;

"RBI" means the Reserve Bank of India, as constituted and existing under the Reserve Bank of India Act, 1934, including any statutory modification or replacement thereof, and its successors;

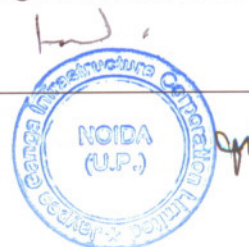
"Reference Exchange Rate" means, in respect of any one currency that is to be converted into another currency in accordance with the provisions of this Agreement, the exchange rate as of 12.00 (twelve) noon on the relevant date quoted in Delhi by the State Bank of India, and in the absence of such rate, the average of similar rates quoted in Delhi by the Bank of India and the Bank of Baroda;

"Re.", "Rs." or "Rupees" or "Indian Rupees" means the lawful currency of the Republic of India;

"Right of Way" means the constructive possession of the Site, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction, operation and maintenance of the Expressway Package in accordance with this Agreement;

"Safety Consultant" shall have the meaning set forth in Clause 18.1.2;

"Safety Requirements" shall have the meaning set forth in Clause 18.1.1;



"**Scheduled Completion Date**" shall have the meaning set forth in Clause 12.3.2;

"**Scope of the Project**" shall have the meaning set forth in Article 2.0;

"**Senior Lenders**" means the financial institutions, banks, multilateral lending agencies, trusts, funds and agents or trustees of debenture holders, including their successors and assignees, who have agreed to guarantee or provide finance to the Concessionaire under any of the Financing Agreements for meeting all or any part of the Total Project Cost and who hold parri passu charge on the assets, rights, title and interests of the Concessionaire;

"**Site**" shall have the meaning set forth in Clause 10.1;

"**Specifications and Standards**" means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Expressway Package, as set forth in Schedule-D, and any modifications thereof, or additions thereto, as included in the design and engineering for the Expressway Package submitted by the Concessionaire to, and expressly approved by the "UPEIDA";

"**State**" means the State of Uttar Pradesh and "**State Government**" means the government of that State;

"**Statutory Auditors**" means a reputable firm of chartered accountants acting as the statutory auditors of the Concessionaire under the provisions of the Companies Act, 1956 including any statutory modification or reenactment thereof, for the time being in force, and appointed in accordance with Clause 28.2.1;

"**Taxes**" means any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, materials, equipment and services incorporated in and forming part of the Expressway Package charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

"**Tender Notice**" shall have the meaning set forth in Recital 'C';

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

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

"**Termination Payment**" means the amount payable by the "UPEIDA" to the Concessionaire upon Termination;

"**Tests**" means the tests set forth in Schedule-I to determine the completion of Expressway Package in accordance with the provisions of this Agreement;

"**Toll Plaza**" means the structures and barriers erected near each of the two



ends] of each of the four packages of the Expressway Package for the purpose of regulating the entry and exit of vehicles in accordance with the provisions of this Agreement and shall include all land, buildings, equipment, and other facilities required in accordance with or incidental to the provisions of this Agreement provided that such Toll Plaza[s] shall not be erected within a distance of [20 (twenty) kilometres and 10 (ten) kilometres] from the notified urban limits of cities and towns respectively as notified on the date of this Agreement as falling along the final alignment of Expressway Packages and shall be situated at locations to be decided by the Concessionaire in consultation with the PMC/Independent Engineer/ UPEIDA;

"Tolling Contract" means the contract, if any, entered into by Concessionaire with the Tolling Contractor for collection of Fee for and on behalf of the Concessionaire and matters incidental thereto;

"Tolling Contractor" means the person, if any, with whom the Concessionaire has entered into a Tolling Contract;

"Total Project Cost" means the lower of the following :

- (a) the capital cost of the Project, as set forth in the Financial Package; and
- (b) a sum of Rs 29,825 crore (Rupees twenty nine thousand eight hundred twenty five crore), [the total cost as indicated in para 1.1 in Instruction to Bidders (ITB) forming part of the RFP documents].

provided that in the event of Termination, the Total Project Cost shall be deemed to be modified to the extent of variation in WPI or Reference Exchange Rate occurring in respect of Adjusted Equity and Debt Due, as the case may be, in accordance with the provisions of this Agreement,

"Tractor" means a motor vehicle which is not itself constructed to carry any load other than the equipment used for the purpose of propulsion, but does not include a road roller; and **"Tractor with Trailer"** means a Tractor with an attached vehicle laden with goods other than agricultural produce or agricultural equipment;

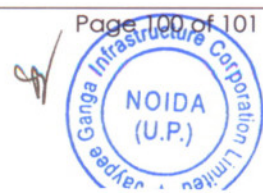
"Traffic Aid Post" shall have the meaning set forth in Clause 20.2;

"Transfer 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;

"Truck" means any goods carrier with a Gross Vehicle Weight exceeding 12,000 (twelve thousand) kilograms and includes a road roller, but does not include a Heavy Truck;

"UPEIDA" means Uttar Pradesh Expressways Industrial Development Authority, an Authority set up by Government of Uttar Pradesh under UP Industrial Development Act 1976;

"User" means a person who travels on the Expressway Package or any part



thereof in/on any vehicle;

"Vesting Certificate" shall have the meaning set forth in Clause 31.1.4; and

"WPI" means the Wholesale Price Index for all commodities as published by the Ministry of Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month.

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED

For and on behalf of THE "UPEIDA" by:

(Signature)

(Name)

(Designation)

Ravindra Singh
(Ravindra Singh)
Chief Executive Officer
Uttar Pradesh Expressways
Industrial Development
Authority (UPEIDA)

SIGNED, SEALED AND DELIVERED

For and on behalf of Concessionaire by:

(Signature)

(Name)

(Designation)

SUNIL KUMAR SHARMA
For Jaypee Ganga Infrastructure Corporation Limited

DIRECTOR

S.K. Sharma

Director

In the presence of:

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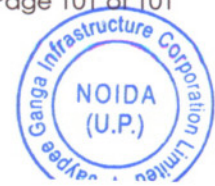
Rajpal Singh
(Rajpal Singh)
Special Secretary
Industries U.P. Govt.
Lucknow.

2

SAMEER GAUR
S/o SH. Jaiprakash Gaur
A-9/27, Vasant-Vihar,
New-Delhi - 110057

Ganga Expressway Project

Ravindra Singh
(Ravindra Singh)
Chief Executive Officer
Uttar Pradesh Expressways
Industrial Development
Authority (UPEIDA)



TECHNICAL SCHEDULES



Volume 1 of 2

TECHNICAL SCHEDULES

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Annexure 5	- Rapid EIA	PART A 176 Pages
Annexure 6a	- Technical recommendation of Irrigation Department	PART B 5 Pages
Annexure 6b	- Pollution Control Board Clearance	PART B 41 Pages
Annexure 7a	- Comment of State level Environmental Impact Authority, U.P.	PART B 5 Pages
Annexure 7b	- Comments of Ganga Flood Control Gol	PART B 4 Pages
Annexure 8	- RR Policy GoUP	PART B 3 Pages
Annexure 9	- ISRO Imageries of River Ganga	PART B 114 Pages
Annexure 10	- Proposed Land Assemblies and related circle rates	TS – 72 of Volume 1 of 2
Annexure 11	- Preliminary Financial Study	PART B 4 Pages



SCHEDULE - A
(See Clause 10.1)

SITE OF THE PROJECT

1. Introduction

The Uttar Pradesh (UP) is the most populous state in the country accounting for 16.4 per cent of the country's population. It is also the fourth largest state in geographical area covering 9.0 per cent of the country's geographical area, encompassing 240.93 lakhs hectare. Garlanded by the Ganga and Yamuna, Uttar Pradesh is surrounded by Bihar in the East, Madhya Pradesh in the South, Rajasthan, Delhi, Himachal Pradesh and Haryana in the west and Uttaranchal in the north and Nepal touch the northern borders of Uttar Pradesh.

1.1 Marginal Embankment Substantially Along Left Bank of River Ganga

Every year the state faces flooding of Ganga on left bank, resulting in loss of usable land, life and property. To mitigate this problem UP Irrigation department has proposed the construction of a Marginal Bund along left bank of Ganga from Narora to UP/Bihar Border (Ballia).

Expressway Over Marginal Embankment

The UP Government has decided to utilize the marginal bund for constructing an access controlled 8lane Expressway. The Expressway will run from Greater NOIDA (Taj Exp.) to Narora over normal Embankment and from Narora to UP/Bihar Border (Ballia) on proposed Marginal Embankment substantially along left/right bank of river Ganga. The construction of expressway will attract industries and overall development of these areas will take place.

The Expressway over Marginal Embankment will pass through Badaun, Shahjhanpur, Hardoi, Unnao, Kanpur, Rae Bareli, Pratapgarh, Allahabad, St. R D Nagar, Ghazipur, Varanasi and Ballia.

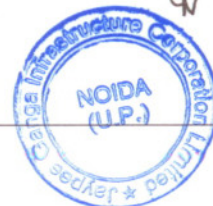
The existing road network (NH/SH/MDR) carry the traffic passing through various important cities of UP along its length. There is phenomenal increase in settlements and developmental activities in and around these existing routes leading to congestion due to ribbon development and resulting in more travel time.

To cater to the future increased traffic demands and opening new areas for development there is need to provide an alternative route. The UP Government has decided to construct an 8-lane Expressway from Greater NOIDA to UP/Bihar Border (Ballia) with controlled access.

2.0 Benefits

The project will have multiple benefits. It will provide flood protection to large population and number of villages along river Ganga from Narora to UP/Bihar Border (Ballia) and facilitate construction of all weather high speed access controlled expressway on top of the bund which will decongest the increasing traffic on the existing network of roads. This expressway will also reduce the travel time substantially and it is expected that the journey from Greater NOIDA to UP/Bihar Border (Ballia) can be covered in shortest possible time. In addition this expressway will provide other benefits like:

- Fast and safe connectivity resulting in savings in Fuel, Travel time and Total Transportation Cost to Society
- Employment opportunity to people
- Development of local industry, agriculture and handicrafts



- Development of tourism and pilgrimage
- Transporting, processing and marketing of agricultural products
- Reduction in accidents
- Reduction in pollution
- Opening up of opportunities for new occupations
- Better approach to Medical & Educational services and quick transportation of Perishable goods like Fruits, Vegetables and Dairy products
- Improved quality of life for people and so on

3.0 Starting And End Points of Expressway

Starting Point: Greater NOIDA (Gautam Buddha Nagar)
(Preferably near the intersection between Taj Expressway
and Eastern Peripheral Expressway)

End Point : UP/Bihar Border (Ballia)
(Merging with NH19 on left side of river Ganga, near Mazi
Ghat)

The alignment from Greater NOIDA to Narora traverses in plain area over normal Embankment. The alignment from Narora to UP/Bihar Border (Ballia) follows the Marginal Bund on left bank of Ganga except Chandoli, Varanasi , where alignment is on right bank of Ganga. The alignment needs to be aligned in such a way so as to provide smooth geometry suitable for the high speed Expressway. This expressway provide connectivity to important towns of Uttar Pradesh. At locations where river meanders the alignment may have to be adjusted so as to avoid sharp loops of the river and provide proper geometric profile.

There will be isolated stretches with elevated structures (Viaducts) in all the Packages.

The Project Expressway passes through plain terrain and the land use along the Project Expressway is mostly Agricultural / Waste land.

The alignment of the proposed expressway is shown in the enclosed **Fig. 1**.

4.0 Disclaimer

The data presented in this schedule is for an initial understanding and guidance of the Concessionaire. UPEIDA 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 the Concessionaire in evaluating the project viability. The Concessionaire will carry out his own Independent surveys at his own cost & risk for assessing actual position of the project corridor.

The Concessionaire acknowledges that prior to the execution of this agreement, the Concessionaire has satisfied himself (based on his own independent assessment) of the survey data specifications and standards, site and all information provided by the UPEIDA. The Concessionaire acknowledges and accepts the difficulties, risks and hazards likely to arise during the course of performance of his obligations under the agreement.

5.0 Districts Linked by the Alignment:

The expressway route will link following districts:

S.No.	District	Population (2001 census)
1	Gautam Budh Nagar	12, 02,030
2	Bulandshahr	29,13,122
3	Aligarh	29,92,286
4	Budaun	30,69,426
5	Etah	27,90,410
6	Shahjahanpur	25,47,855
7	Farrukhabad	15,70,408
8	Hardoi	33,98,306
9	Kannauj	13,88,923
10	Unnao	27,00,324
11	Kanpur	57,31,335
12	RaeBareli	28,72,335
13	Pratapgarh	27,31,174
14	Allahabad	49,36,105
15	SantRavidasNagar	13,3,705
16	Varanasi	31,38,671
17	Mirzapur	21,16,042
18	Chandauli	16,43,251
19	Ballia	30,37,582
TOTAL		5,21,33,290

6.0 Villages Falling Along the Alignment

On preliminary estimate it is found that a total of 733 villages fall within Expressway alignment. The tentative numbers of villages according to the districts falling within, are given below.

S. No.	Name of the Districts	No. of Villages
1	Gautambudh Nagar	10
2	Bulandshahar	58
3	Badaoun	90
4	Sahjanpur	8
5	Farukhabad	19
6	Hardoi	28
7	Unnao	52
8	Raiberelly	49
9	Pratapgarh	21
10	Allahabad	77
11	Sant Ravidas Nagar	35
12	Mirza Pur	13
13	Varanasi	65
14	Chandoli	13
15	Gazipur	92
16	Ballia	103
Total		733

7.0 Structures Proposed

7.1 Along the Expressway

The proposed expressway will be crossing the existing NH, SH, MDR, ODR, Canals, Rivers, railway tracks, where major structures such as bridges, interchanges, Grade separators, ROB's underpasses etc. will be required:

S. No	Structure Type	Location	
		Nearest Place	District
Package I			
1	Eastern Peripheral Expressway crossing	Dadri	Ghaziabad
2	MDR/ ODR crossing	Dadri	Gautam Nagar Budh
2a	ROB Crossing	Dadri	Gautam Nagar Budh
3	Ganga Canal crossing	Dadri	Gautam Nagar Budh
4	MDR/ ODR crossing	Sikandrabad	Bulandshahr
5	MDR/ ODR crossing	Sikandrabad	Bulandshahr
6	MDR/ ODR crossing	Bulandshahr	Bulandshahr
7	SH crossing	Bulandshahr	Bulandshahr
7a	NH 91 Crossing	Bulandshahr	Bulandshahr
8	Upper Ganga Canal crossing	Bulandshahr	Bulandshahr
9	ROB crossing	Bulandshahr	Bulandshahr
10	SH crossing	Bulandshahr	Bulandshahr
11	SH crossing	Anupshahr/ Rajghat	Bulandshahr
12	Upper Ganga Canal crossing	Ramghat	Bulandshahr
13	MDR/ ODR crossing	Ramghat	Bulandshahr
13a	NH 93 crossing	Ahmedgarh	Bulandshahr
14	ROB crossing	Naraura	Bulandshahr
15	Ganga crossing	Naraura	Bulandshahr
16	SH crossing	Naraura	Bulandshahr
17	MDR/ ODR crossing	Gunnaur	Budaun
18	MDR/ ODR crossing	Sahaswan	Budaun
19	ROB crossing	Bitroi	Budaun
20	SH crossing	Bitroi	Budaun
21	MDR/ ODR crossing	Kakora	Budaun
22	MDR/ ODR crossing	Usaihat	Budaun
23	MDR/ ODR crossing	Mirzapur	Shahjahanpur
24	MDR/ ODR crossing	Mirzapur	Shahjahanpur
25	MDR/ ODR crossing	Bet.Amritpur Allahganj	& Farrukhabad

26	SH crossing	Bet. Allaha ganj & Amritpur	Farrukhabad
Package II			
27	Ram Ganga crossing	Ram Ganga (Near Allahganj)	Farrukhabad
28	Garra crossing	Near Allahganj	Farrukhabad
29	MDR/ ODR crossing	Near Allahganj	Farrukhabad
30	MDR/ ODR crossing	Harpalpur	Hardoi
31	MDR/ ODR crossing	Sandi	Hardoi
32	MDR/ ODR crossing	Near Madhoganj	Hardoi
33	MDR/ ODR crossing	Near Madhoganj	Hardoi
34	MDR/ ODR crossing	Above Bilhaur	Hardoi
35	MDR/ ODR crossing	Bangaramau	Unnao
36	MDR/ ODR crossing	Pariar	Unnao
37	MDR/ ODR crossing	Pariar	Unnao
38	ROB crossing	Magarwara	Unnao
39	NH25 crossing	Unnao	Unnao
39a	SH Crossing	Unnao	Unnao
40	MDR/ ODR crossing	Near Bhagwant Nagar	Rae Bareli
41	MDR/ ODR crossing	Sareni	Rae Bareli
42	MDR/ ODR crossing	Lalganj	Rae Bareli
43	SH crossing	Dalmau	Rae Bareli
Package - III			
44	MDR crossing	Allahabad	Allahabad
45	MDR crossing	Allahabad	Allahabad
46	MDR crossing	Allahabad	Allahabad
46a	NH2(Allahabad Bypass) Crossing	Allahabad	Allahabad
47	MDR crossing	Lalgopal Ganj	Pratapgarh
48	NH96 crossing	Lalgopal Ganj	Pratapgarh
50	ROB crossing	Allahabad	Allahabad
51	ROB crossing	Allahabad	Allahabad
52	NH2 crossing	Allahabad	Allahabad
53	SH crossing	Allahabad	Allahabad
54	ROB crossing	Allahabad	Allahabad
55	MDR crossing	Bhiti	Allahabad
56	MDR crossing	Bhiti	Allahabad
57	MDR crossing	Gyanpur	Allahabad
58	MDR crossing	Gopiganj	St. Ravidas Nagar
59	MDR crossing	Gopiganj	St. Ravidas Nagar
60	ROB crossing	Madho Singh	St. Ravidas Nagar
61	SH crossing	Madho Singh	St. Ravidas Nagar

Package - IV			
62	MDR crossing	Kachhwa	Varanasi
63	MDR crossing	Chupar	Varanasi
64	MDR crossing	Chupar	Varanasi
65.	Ganga Crossing	Varanasi	Varanasi
66.	NH 7 Crossing	Ramnagar	Mirzapur
66a	NH2	Chandauli	Chandoli
67.	ROB Crossing	Hamidpur	Chandoli
68.	ROB Crossing	Shahupuri	Chandoli
69.	MDR Crossing	Mawai	Chandoli
70.	Ganga Crossing	Mustafabad	Varanasi
71.	MDR Crossing	Chhitauni	Varanasi
72	MDR Crossing	Chhitauni	Varanasi
73	MDR Crossing	Ghazipur	Ghazipur
74	MDR Crossing= 8 nos.	from Ghazipur to Ballia	Ghazipur, Ballia

In addition to the above, the expressway would require construction of tentatively 75 Minor Bridges, 75 Underpasses and 400 Culverts in the each three initial packages and equal number of bridges & underpasses and 700 culverts for the last package. The additional number of bridges & culverts in each package shall be determined on the basis of detailed hydraulic, drainage and river morphological studies to be conducted by the Concessionaire. The additional number of underpasses shall be provided as per local requirements.

7.2 Along the Links

The tentative details of structures envisaged along the Links are detailed below:

The additional number of bridges & culverts in each package shall be determined on the basis of detailed hydraulic and drainage studies to be conducted by the Concessionaire. The additional number of underpasses shall be provided as per local requirements.

7.2.1 Along Link No. 1

Sl. No	Structure Type	Nos.
1	Ganga Crossing	1 Nos.
2.	Underpasses	2 Nos.
3.	Box Culverts	5 Nos

7.2.2 Along Link No. 2

Sl. No.	Structure Type	Nos.
1.	Ganga Crossing	1 Nos.
2.	Canal Bridge	1 Nos.
3.	ROB	2 Nos.
4.	Expressway Crossing	1 Nos.
5.	SH Crossing	2 Nos.

6.	MDR Crossing	2 Nos.
7.	Minor Bridges	20 Nos.
8.	Underpasses	25 Nos.
9.	Box Culverts	160 Nos.

7.2.3 Along Link No. 3

Sl. No	Structure Type	Nos.
1	Ganga Crossing	1 Nos.
2.	ROB	1 Nos.
3.	Expressway Crossing	1 Nos.
4.	SH Crossing	2 Nos.
5.	Minor Bridges	2 Nos
6.	Underpasses	2 Nos
7.	Box Culverts	20 Nos.

8.0 Proposed Links

Following links are proposed to be connected with the expressway:

Link No.	Nodal Points Connected	Length Of Link (Km)	Location W.R.T. Expressway
Link1	Farrukhabad	3 Km (Including Ganga Bridge)	Right
Link2	Lucknow	77 Km (Existing Network)	Left
	Bilhaur (Kanpur Urban)	3 Km (Including Ganga Bridge)	Right
Link3	Anrai (St. R.D.Nagar)	2 Km (NH2)	Left
	Mirzapur	10 Km (Including Ganga Bridge)	Right

9.0 Contract Packages:

The Project has been divided into the following for Contract Packages:

Contract Package No.	Expressway Section of Contract	Length (km) Approx.	Tentative Project Cost
I	Greater NOIDA to Fatehgarh Link 1 included	253 km	US\$ 1.91 billion (Rs. 7631 crores)
II	Fatehgarh to Dalmou (Raibareli) Link 2 included	305 km	US\$ 2.01 billion (Rs. 8012 crores)

III	Dalmau to Aurai (Bhadoi) included Link 3	211 km	US\$ 1.53 billion (Rs. 6124 crores)
IV	Aurai (Bhadoi) to Ballia	278 km	US\$ 2.02 billion (Rs. 8058 crores)

10.0 Various Techno-Economic Feasibility studies

- 10.1 The copy of concept report undertaken by Department of PWD is placed at **Annexure – 1**. The reports provide approximate cost estimates, list of indicative structures, tentative alignment and other technical investigations carried out. The list of villages along the tentative alignment is placed at **Annexure - 2**. The tentative alignment has been plotted on Shajara maps placed at **Annexure - 3** in soft copy.
- 10.2 The irrigation department Uttar Pradesh has prepared a report regarding flood protection and necessary embankment after preliminary investigation, which is placed at **Annexure - 4**. The report provides details of various technical analysis/ investigations including tentative cost of embankment. The interactions with IIT Roorkee have been initiated to undertake river morphological studies and their advise would be made available during project implementation.
- 10.3 The rapid EIA study done by PWD is placed at **Annexure - 5**,. Technical recommendation of Irrigation Dept is placed at **Annexure - 6(a)**. The UP Pollution Control Board clearance is place at **Annexure - 6(b)**. The comment of State Level Environment Impact Authority, U.P.as well as Govt. of India, Ganga Flood control Board are also placed at **Annexure – 7(a) and 7(b)** respectively. Concessionaire shall take further action as per the above documents. Concessionaire will also undertake detailed EIA and obtain all necessary statutory clearances from Gol, as necessary.
- 10.4 The Rehabilitation & Resettlement Policy of GoUP is placed at **Annexure - 8**. This policy may be seen in the context of detailed Social Impact Assessment (SIA) to be undertaken by the Concessionaire. The Concessionaire shall comply with R& R policy of GoUP.
- 10.5 The irrigation department has procured a set of ISRO imageries on the flood lines along river Ganges. These are placed at **Annexure - 9** for further examination.
- 10.6 Estimate of Traffic has been prepared based on past traffic data & present traffic counts at select locations and the results of the same are placed at Para 12.
- 10.7 The entire project is proposed to be developed without any budgetary support of GoUP. The Concessionaire is expected to recover cost and targeted profit from toll collections under the provisions of UP Toll Act within the upper limits of Toll rates prescribed in this document and through the land development activities. The proposed land assemblies/Land Parcels for 4 packages and related circle rates based valuations are placed at **Annexure – 10**.
- 10.8 The Concessionaire has to carry out his own financial viability study as required. Preliminary Financial study carried out is enclosed for guidance at **Annexure – 11**.
- 10.9 Various Techno-Economic Feasibility studies undertaken includes certain statements, information on environment, irrigation, estimates, projections, targets and forecasts with respect to the project. Such statements, estimate, projections, targets and forecasts reflect various assumptions made by the management, officers and employees of Government of Uttar Pradesh, which assumptions (and the base information on which they are made) may or may not prove to be correct. No representation or warranty is given as to the reasonableness of forecasts or the assumptions on which they may be based and nothing in this RFP Document is, or should be relied on as, a promise, representation or warranty. The Concessionaire shall

undertake detailed design, Engineering, including Hydraulics, Geotechnical and Material Investigations and present the same to the various approving statutory authorities and obtain their clearances.

11.0 Miscellaneous Specifications

- 11.1 GoUP shall support concessionaire for any legal activity subject to his arranging all necessary resources and approvals.
- 11.2 Concessionaire to obtain all required statutory approvals including environmental clearance from Government of India as applicable
- 11.3 Concessionaire shall ensure good access roads (minimum 4 lane standards) to the land parcel being developed by him to the Expressway alignment. All costs related towards construction and maintenance of access roads to the proposed Expressway Project shall be part of the development of Land Parcels. The provision of 2m land width shall be made on both sides of the road in ROW of land parcel access roads for laying public utilities. The land parcel making impact on surrounding road network (SH/MDR/ODR/VR) within 3km of outer boundary of land parcel shall be developed & maintained by the concessionaire as per traffic projection to be undertaken by him on the affected road network. All costs related towards up gradation and maintenance of the affected road network shall be part of the development of Land Parcels.
- 11.4 Concessionaire will be liable to provide reservation in employment, etc. as per the GoUP policies applicable.
- 11.5 Concessionaire to comply strictly to the provisions of the Northern India Canal & Drainage Act 1873 with regard to disposal of sewage.
- 11.6 Concessionaire shall also plan development of land parcels to ensure Zero Net Drawl of ground water for development and post development activities.
- 11.7 The access road to the land parcel (on Right Bank of river Ganga) in district Allahabad will require construction of a new bridge over river Ganga(4 lane) including construction & maintenance of land parcel access road. All costs related towards construction and maintenance of access road & Ganga bridge shall be part of the development of Land Parcel.
- 11.8 Concessionaire shall also look into the possibility of elevated options wherever required for the Project Expressway as well as Links.
- 11.9 Land Parcel development details
- FAR upto a maximum of 2.5 shall be permissible under the master plan to be framed
 - Concessionaire may avail benefits under the existing GoUP, if eligible.
 - UPEIDA will frame rules and regulations to provide interconnectivity to the four individual Expressway packages.
 - Concessionaire will have sub lease/business activity rights as per the Concession Agreement.

12.0 Assessment of Traffic on Expressway

The details of traffic surveys conducted in Nov 2007 on road network in the vicinity of Project Expressway are given below:

Sl. No.	Location	2W & 3W	Car/Jeep	Bus (Mini + Full)	LCV	2-Axle Truck	3-Axle Truck	Artic	Agri. Tractor	Slow Moving	Total Traffic
		(Nos)	(Nos)	(Nos)	(Nos)	(Nos)	(Nos)	(Nos)	(Nos)	(Nos)	(PCU)
1.	NH 2 at Bara (35km before Kanpur) Dist: Kanpur Rural	3218	3053	392	326	2387	2176	632	227	1111	26977
2.	NH 2 at Allipur Dist: Fatehpur	3087	1541	33	321	1658	2079	291	249	2266	19249
3.	NH 2 Shastri Bridge Dist: Allahabad	15992	6726	2338	1713	3500	3542	349	200	11330	56997
4.	NH 2 at Km 280 (Gopiganj) Dist: Mirzapur	4955	2384	357	712	1334	2810	347	97	5986	24572
5.	NH 24 at Arjunpur Dist: Sitapur	3551	3668	600	521	2144	2274	378	145	1378	24362
6.	NH 56 at Islamganj Dist: Sultanpur	2370	1939	423	518	932	1621	306	151	2822	16183
7.	NH 56 at Km122 Dist: Jaunpur	1877	2001	268	290	1089	1901	119	240	1351	15614
8.	NH 91 Dist: Kannuj	1777	1437	489	97	1649	1358	135	153	1160	17788
9.	NH 96 at Km147 Dist: Allahabad	10778	4078	858	447	1423	1806	62	111	13180	31590
10.	SH 36 at Sukhpal Nagar Dist: Pratapgarh	3307	1380	248	304	288	198	0	161	3438	8276
11.	SH 38 at km 77 Dist: Unnao	2051	897	252	103	355	182	100	197	1420	6443
12.	SH 68 at Autaura Bujurg Dist: Rae Bareli	1523	692	201	186	326	208	10	77	1686	5304
13.	Road from Bilhour to Bangarmau	715	546	38	56	567	365	131	164	623	5604
14.	SH 5 at Km302 Dist: Mirzapur	6639	3211	529	585	1554	1700	41	217	7173	24003

The assessment of average daily traffic in year 2007 on expressway is based upon past traffic data & from the traffic studies conducted in November 2007 are as follows:

Package 1	11300 PCU
Package 2	15000 PCU
Package 3	11800 PCU
Package 4	12000 PCU

The expected traffic growth rates are as follows:

Year	Growth Rate %			
	Car	Bus	LCV	Truck
2007 - 2010	9	7	6	7
2010 - 2015	9.9	6.5	7.5	8
2015 - 2020	7.5	6	6.5	6.3
2020 - 2042	6	5	5.5	5.1

13 Assumptions for Traffic projection on Expressway

- Long distance through traffic is expected to use Project Expressway.
- Some traffic will be diverted from NH - 2, NH - 24, NH - 56, NH - 91, NH - 19, SH - 38 and adjoining road network.
- There will be generated traffic due to development of the Project Expressway and the peripheral activities.

14. Right of way

The proposed right-of-way (ROW) of the project expressway is as follows:

Greater NOIDA to Narora	:	110 m
Narora to Ballia	:	150 m
Links	:	100m

15. Assessment of Land Requirement

The Concessionaire shall also verify, identify land requirements for developing Project Expressway and Links per Schedule - B and providing various project facilities as per Schedule - C.

The cost of land for Project Expressway, Links and various project facilities as arrived through process of negotiation with land owner or through compulsory acquisition along with relevant costs shall be borne by the Concessionaire. The Concessionaire shall ensure rehabilitation measures as per R & R policy of Government of Uttar Pradesh. Concessionaire shall be involved proactively in this regard.





Figure 1

SCHEDULE - B
(See Clause 2.1)

DEVELOPMENT OF THE PROJECT EXPRESSWAY

1. **General**

Development of the Project Expressway shall include construction of the Project Expressway as described in this Schedule-B and in Schedule-C.

2. **Width of Carriageway**

Standard cross sections have been developed for normal embankment (For Greater NOIDA to Narrora section) and on marginal embankment (For Narrora to Ballia section). Standard cross sections have been developed for normal embankment for Links. The sections are attached as Appendix.

3. **Project Facilities**

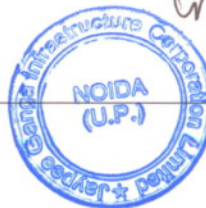
Project facilities shall be constructed in conformity with Schedule - C.

4. **Specifications and Standards**

The Project Expressway shall be constructed in conformity with the Specifications and Standards specified in Schedule - D.

5. The above standards and specifications and those indicated in Schedule - C and D are minimum and indicative, and these may be improved upon by the Concessionaire.

6. Concessionaire has to prepare detailed designs & drawings for the development of Project Expressway & land parcel and submit it to the UPEIDA, for their approval.



SCHEDULE - B

DEVELOPMENT OF THE PROJECT EXPRESSWAY

1. GENERAL

Following section of this schedule briefly highlights part of the scope of the work of the 'Project'. The description of the requirements for the various elements of the Project Expressway given herein under is the bare minimum requirements for the 'Project'.

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

- i) Enable the UPEIDA to provide an acceptably safe expressway in respect of its condition (structural safety) and use (road safety) and,
- ii) Enable the UPEIDA to fulfill its statutory and common law obligations and,
- iii) Enable the UPEIDA to provide a congestion free uninterrupted flow of traffic on the Project Expressway and,
- iv) enable the Police, local authorities, and others in performing statutory duties or functions in relation to the Project Expressway or adjoining roads to fulfill those duties and functions and,
- v) Minimize the risk of damage, destruction or disturbance to third party property and,
- vi) Ensure that members of the public are treated with all due courtesy and consideration and,
- vii) provide a safe clear and informative system of road signs
- viii) comply with any specified program requirements, including for the completion of the new road and,
- ix) enable standards of fitness for the purpose appropriate to a expressway to the character of the Project Expressway to be achieved throughout the Concession Period and,
- x) ensure adequate off street parking facilities for both passenger and goods vehicles and,
- xi) achieve a high standard in the appearance and aesthetic quality of the Project surrounding landscape through both sensitive design and sensitive management of all visible elements and,
- xii) undertake proper road safety audit through an appropriate consultant (i.e. apart from the UPEIDA/ Independent Engineer before C.O.D. and
- xiii) carry out accident recording and reporting (to Independent Engineer/the UPEIDA) by classification on regular basis and,
- xiv) ensure adequate safety of the Project Workers on the work site,
- xv) ensure smooth flow of traffic on existing road facility by construction & maintenance of diversion road during the development of Project Expressway
- xvi) to provide & maintain flood control measures, river training works of the Marginal Bunds/ levees to ensure safety of Project Expressway, structures and surrounding areas

2.0 Project Expressway

Notwithstanding the base alignment plans enclosed with this document, the Concessionaire shall himself carryout and be responsible for engineering surveys, investigations and detailed engineering designs and prepare the working drawings for all the components relevant for the development of the Project Expressway to fulfill the scope of the project as envisaged herein under. These shall comply with design specifications and standards given in Schedule D. The

designs for different project facilities shall be provided as per Schedule C and shall comply with design specifications and standards outlined in Schedule D. The maintenance of the different elements of Project Expressway and facilities thereon shall follow the minimum maintenance requirements as described in Schedule K. All the designs and drawings shall be reviewed by the UPEIDA/Independent Engineer prior to execution.

Table 2.1: The details of Contract Packages are as follows:

Contract No.	Road Section of Contract	Length (km) Approx.
I	Greater NOIDA to Fatehgarh Link 1 included	253 km
II	Fatehgarh to Dalmau (Raibareli) Link 2 included	305 km
III	Dalmau to Aurai (Bhadoi) Link 3 included	211 km
IV	Aurai (Bhadoi) to Balia	278 km

Table 2.2: The details of Links are as follows:

Link No.	Nodal Points Connected	Length Of Link (Km)	Location W.R.T. Expressway
Link - 1	Farrukhabad	3 Km (Including Ganga Bridge)	Right
Link - 2	Lucknow	77 Km (Existing Network)	Left
	Bilhaur (Kanpur Urban)	3 Km (Including Ganga Bridge)	Right
Link - 3	Anrai (St. R.D.Nagar)	2 Km (Nh2)	Left
	Mirzapur	10 Km (Including Ganga Bridge)	Right

2.1.1 Cross Sections

The Project Expressway shall have 8-lane dual carriageway with 2.5 m wide paved shoulder & 1.5m earthen shoulder and 0.7m wide edge strip on median side. The Links shall have 6-lane dual carriageway with 2.5m wide paved shoulder & 1.5m earthen shoulder and 0.7m wide edge strip on median side. The median width shall be 6m for all the cross sections. The tentative typical cross sections to be considered are given in **Drgs. Type B – 1 to Type B - 3** (attached as Appendix).

The cross section of the Project Expressway and Links at the bridges across river Ganga and other cross drainage structures shall be as given in Drgs. Option A to E (attached as Appendix).

The utility services, including optical fibre cables/ telephone lines, power cables, water pipes, electric lines, etc. shall be provided in the utility corridor earmarked for this purpose on the side where it is convenient to the Concessionaire or the concerned Authority with the approval of UPEIDA/ Independent Engineer. The existing optical fibre cables/ telephone lines, power cables, water pipes, electric lines, etc. shall be relocated by the respective owners at a safe place as indicated by Independent Engineer/ the UPEIDA in such a way that it causes least hindrances to the execution of project, the cost of safety and/or shifting of utilities shall be borne by the concessionaire. In urban sections the utility services shall be provided through

underground ducts provided for this purpose. For cross connection, the 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 consultation with the UPEIDA/ Independent Engineer. The underpasses & animal crossing locations shall have proper illumination & drainage, which shall be maintained by the concessionaire at their own cost.

2.2 Service Road

2.2.1 Along Expressway

The service road shall be provided on the entire length of the Expressway including construction of all cross drainage structures upto 30m length of the structures for linkages to adjacent areas through road overbridges and underpasses. The service road shall be discontinued on the railway crossings.

- a) In Project Expressway Section from Greater NOIDA to Narrora, all along the expressway service roads shall be provided on both sides of the carriageway
- b) In Project Expressway Section from Narrora to Ballia, all along the expressway service road for Irrigation department shall be provided towards Ganga side of the carriageway
- c) In Project Expressway Section from Narrora to Ballia, all along the expressway service road shall be provided on other side of the carriageway.

2.2.2 Along Link Roads

On Link roads, the service roads shall be provided on entire length on both sides of the carriageway including construction of all cross drainage structures upto 30m length of the structures for linkages to adjacent areas through road overbridges and underpasses.

2.3 Pavement Composition

2.3.1 Main Carriageway

The detail pavement design for the main carriageway of the Project Expressway and Link roads & slip roads on interchanges shall be done in accordance with Schedule - D. Bituminous Pavement shall be provided as given in Table 2.3

2.3.2 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. The surfacing shall have a different texture for ease of identification.

2.3.3 Service Road/ Irrigation Road Pavement Composition

The detailed pavement design for the service road/ irrigation road shall be done in accordance with Schedule - D. Bituminous Pavement shall be provided as given in Table 2.3

2.3.4 Toll Plaza Pavement Composition

The pavement composition for 70m before entering the Toll Plaza and 35m after leaving the toll plaza shall be designed as rigid pavement as per IRC codes as given in Table 2.3

The expansion, contraction and construction joints with dowel & tie bars joints shall be designed and provided in consultation with the UPEIDA /Independent Engineer.

Table 2.3: Details of Pavement Layer Composition

Sl. No.	Description	Pavement Layers Composition
1.	Main Carriageway of Project Expressway, Link Roads & Slip Roads on Interchanges	BC(AC)+DBM+WMM+GSB+Subgrade
2.	Service Roads	BC(AC)+DBM+WMM+GSB+Subgrade
3.	Irrigation Service Road	MSS+BM+WMM+GSB+Subgrade
4.	Toll Plaza	PQC+DLC+GSB+Subgrade

BC (AC)	:	Bituminous Concrete (Asphaltic Concrete)
DBM	:	Dense Graded Bituminous Macadam
WMM	:	Wet Mix Macadam
GSB	:	Granular Sub-Base
PQC	:	Pavement Quality Concrete
DLC	:	Dry Lean Cement Concrete

2.4 Intersections / Junctions

All intersection/Junctions shall be provided as grade-separated with Project Expressway & Link Roads.

All National Highway/ State Highway crossing project expressway shall be provided with grade separated intersection with interchange. The design of various interchange elements shall be as per design standards in accordance with Schedule – D. Additional access to the Project Expressway can be provided by the Concessionaire through grade separated intersection with interchange only.

All other roads crossing shall be provided with grade separator/ flyover. The detailed list of NH/SH/MDR & other road crossings has been given in Schedule A.

The intersection/ junction of cross roads with service roads shall be provided at grade.

2.5 Structures

2.5.1 Cross Drainage (Bridges & Culverts)

The following guidelines shall be followed in design and construction of cross drainage structures:

- All the cross drainage structures for the new carriageway shall be designed with open median or central collecting chamber.
- For all the river bridges having length more than 30m, well foundation shall be provided and for ROBs, Intersection, underpass, etc, the open/pile foundation can be provided.
- The adequacy of the vent size for all culverts/bridges shall be ascertained through detailed hydrological surveys. The Design High Flood Level / Maximum Supply Level shall be properly assessed after collecting flood histories from local authorities / interviews with locals / Irrigation authorities and Flood Control Department.

- iv) All bridges on the expressway shall be 8-laned structures (4-lane dual carriageway) unless otherwise mentioned in the drawings.

All the cross drainage structures and other structures shall be designed in accordance with the design standards set in Schedule D. The Typical cross section for bridges given as option A to E.

2.5.2 Culverts

The number of culverts and their locations on expressway and link roads shall be decided based on detailed hydraulic & hydrological study to be carried out by Concessionaire. The tentative numbers of culverts required on project expressway & link roads has been given in schedule A.

The culverts (Pipe/Box) shall be provided on cross roads joining project expressway, link roads and service roads for unobstructed drainage for roadside drains/ditches.

All culverts shall be constructed for the full roadway width as per the adjacent road cross sections.

2.5.3 Bridges

The Concessionaire shall carry out detailed hydrological and location survey for major bridges. All the major bridges across river Ganga shall comply with the guidelines of Inland Waterways Authority for the purpose of navigational requirements. The parameters for detailed design of superstructure and well foundation of bridges shall be decided in consultation with the UPEIDA/ Independent Engineer. The well foundations shall be the mandatory parameters for design of major bridges across river Ganga, Ramganga, etc. including the provision of long spans using innovative construction techniques. All other design standard for bridges shall comply with the Schedule - D

2.5.4 Flyover/Grade Separators

The Project Expressway shall be provided with flyover/ grade separator on all the road crossings of NH/SH/MDR designation. The obligatory spans and span arrangement for flyover shall be based upon the existing right of way/ recommended land width as per IRC standards. Design standards for flyover shall comply with the Schedule - D and approval of design shall be obtained from the PMC / INDEPENDENT ENGINEER.

2.5.5 Underpasses

The tentative minimum numbers of Underpasses as per concept report given in Schedule A.

2.5.6 ROB

ROB shall be designed as per the requirements of railway authorities. The construction plans shall be prepared in consultation with the concerned railway authority. The numbers of Railway over Bridge (ROB) at railway crossing as per concept and tentative alignment has been given in Schedule A. Design standard for ROB shall comply the Schedule - D

The following point shall be taken care of:

- 1 The ROBs shall be designed, constructed and maintained as per the requirement of Railway Authorities.
- 2 It is the responsibility of Concessionaire to obtain all necessary approvals from the Railways, MORT&H, NHAI, PWD & Irrigation Department
- 3 The concessionaire shall prepare the GADs of the ROB in consultation with

Railways w.r.t type of traction, future plans, vertical and horizontal clearances etc and get it approved from the Railways.

- 4 The ROBs structure shall be constructed and maintained by Concessionaire as per direction of the Railways.
- 5 All the expenditure related to construction maintenance and supervision of ROB shall be borne by the Concessionaire.

3.0 Geometric Standards

The geometric standards for the proposed facility shall be in accordance with Schedule - D.

4.0 Slope Protection and Drainage

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

4.1 Drainage Measures

Road drainage shall be given due consideration while designing. Drainage of pavement, median, shoulders, embankment and roadside shall be catered.

The paved median and road pavement are proposed to be drained by giving suitable camber of 2.5%. The unpaved shoulder is designed with a camber of 3.5%. The sub base and base layer being granular material will also drain the water. The sub base layer is extended to the full width of embankment for effective drainage. A drainage layer may be provided below the sub base wherever required.

Drains between carriageways would cater for surface run off and would lead the water to nearby outfall. Roadside ditches in open areas with pitching would keep the embankment free from stagnant water. The following indicative measures shall be adopted for drainage provision:

- a) Pitched side ditches of required cross section area for drainage along project roads as per the typical road cross section B1 & B2.
- b) Covered pucca drains underneath the sidewalk in the urban section
- c) Open pitched drains in the separator between main carriageway and service road with proper connection to the outfall location.
- d) Open pitched drains in the separator between main carriageway and irrigation service road with proper connection to the outfall location.
- e) Open pitched drain along the expressway from Narora to Ballia for draining roadside/
interconnecting small channels and carrying outfall to the natural stream/river
- f) Pitched Chute drains along with shoulder drains in high embankment (3m and above)
- g) Median drains at super elevated sections with proper outfall connections.
- h) The drain sizes shall be based upon detailed hydrological analysis of the area. For inundation towards service road in Project Expressway from Narora to Ballia, the

provision of drainage or pumping as appropriate shall be provided.

4.2 **Slope Protection Measure:**

The following measures shall be adopted:

Side Slope of embankments affected by flood shall be protected with pitching on over granular filter. The Pitching shall be extended upto 0.5m above the HFL. All other locations side slopes shall be protecting by seeding & mulching as per specification clause 308 of specification of road & bridge works (MoRT&H) in consultation with the UPEIDA/ Independent Engineer.

4.3 **River Training & Flood Protection works:**

The proposed protective measures are to be designed in accordance with the requirement of IRC: 891998.

It is proposed to provide stone pitching of suitable thickness all around the abutments and in the front portion of abutment with suitable thickness, which will be extended up to 1.5m above HFL.

In order to prevent Expressway embankment erosion during high flood, bank protection works shall be provided as required.

For River Training works, if required, for protection of Embankment from Ganga River, the Concessionaire shall carry out detailed hydrological investigation and provide necessary protection works if required, based on study report.

Flood protection measures shall be provided as follows:

- a) Installation of Sluice gates as given in attached drawing for culverts/pedestrian boxes, cattle crossings or other structures getting affected by Ganga river flood
- b) Construction of Levees (Bunds) as given in attached drawing along both the banks of streams/rivers joining Ganga to contain back flow during Ganga Flood.

5.0 **Traffic Signs and Pavement Markings**

Traffic signs and pavement markings shall include roadside signs, overhead gantry signs, kerb mounted signs and road marking along the Project Expressway. The design and marking for the Project Expressway shall be as per the design standard indicated in Schedule-D and the location for various treatments shall be finalized in consultation with the UPEIDA/ Independent Engineer.

All traffic signs shall be the reflectorized type with high intensity retro-reflective sheeting conforming to ASTM D 4956-01, Type VIII and/or Type IX of micro prismatic type. The retro reflective sheet of Engineering Grade shall NOT be used. The height, lateral clearance, location and installation shall be as per relevant clauses of MoRT&H specifications. Overhead signs shall be installed ahead of major intersections, toll plazas and urban areas as per detailed design requirements.

The Concessionaire shall provide Aluminum Die Cast Matte Finish (Sand Blasted) conforming to IS 617:1994 Designation 4250 Sparkle Solar road studs powered by energy from the Sun having high intensity reflectivity on both edges of the project expressway & interchange ramps etc. @ every 25m to enhance the visibility.

6.0 Road Land Boundary / Fencing

Road land (ROW) boundary shall be demarcated by putting RCC boundary pillars size 120cm x 15 cm x 15 cm embedded in concrete (as per IRC) along the Project Expressway & Link roads at 50 m interval on both sides. All the components used in delineating road land boundary shall be aesthetically pleasing, sturdy and vandal proof.

It necessary to provide chain link fencing to make the road completely access controlled as detailed below.

- a) 1.8m high chain link fencing between carriageway & service roads on both sides of Main Carriageway for Project Expressway from Greater NOIDA to Narrora
- b) 1.8m high chain link fencing between carriageway & service road for Project Expressway from Narrora to Ballia
- c) 1.2m high chain-link fencing between carriageway & irrigation service road for Project Expressway from Narrora to Ballia
- d) 1.8m high chain link fencing between carriageway & service roads on both sides of Main Carriageway for Link Roads

7.0 Guard Rail and Traffic Safety Devices

1.2m high double beam (2 Nos. W-shape beams) metal crash barriers shall be provided on both sides of the Main carriageway of Project Expressway, Link Roads and slip roads at interchanges.

0.75m high single beam metal crash barrier shall be provided on service roads at locations of bridge approaches and high embankments (3m and more) and at curves having radius less than 1000 m at both sides.

Delineators, bollards and other safety devices shall be provided on curves and other locations as directed by Independent Engineer/ the UPEIDA.

At least the following provisions shall be made by the Concessionaire on this 'project' in respect of the metallic beam Guard Rails:

Metal Beam Guard Rails including installation of W-shape Beams/ crash barriers shall be heavy duty as per IRC specifications.

8.0 Pre-Construction Activities

8.1 Land Acquisition (LA)

The cost of land for Project Expressway & Links as arrived through process of negotiation with land owner or through compulsory acquisition along with relevant costs shall be borne by the Concessionaire. The Concessionaire shall ensure rehabilitation measures as per R & R policy of Government of Uttar Pradesh. Concessionaire shall be involved pro-actively in this regard.

8.2 Utility Shifting

As mentioned in clause 2.1.1.

8.3 Clearances to be obtained

The Concessionaire shall obtain all necessary clearances from the concerned authorities

required for implementing the project. The UPEIDA shall provide support letters in this regard.

8.4 **Compensatory Forestation and Rehabilitation & Resettlement**

Compensatory forestation and rehabilitation & resettlement shall be carried out by the Concessionaire in consultation with concerned authorities as per their guidelines.

The Concessionaire shall bear all related costs in this regard and he pro-actively is involved for all related activities, under this section.

8.5 **Landscaping**

The finished road facility shall exhibit adequate landscaping of aesthetically pleasing view. All the borrow areas shall be properly dressed maintaining drain ability outward from the road facility. The side slopes shall be turfed.

8.6 **Environment**

The statutory requirement of environmental clearance shall be obtained for Project Expressway and Land Parcels by the concessionaire.

The Concessionaire shall be responsible for following and implementing the environmental mitigation measures as per statutory requirement of environmental clearance.

The Project Expressway during design, construction, operation and maintenance shall conform to the environmental rules and regulations in force. The Concessionaire shall be responsible for the same.



SCHEDULE - C
(See Clause 2.1)

PROJECT FACILITIES

1. GENERAL

The following sections of this schedule indicate the details of minimum amenities and facilities but not the least to be provided on the Project Expressway & link roads as part of the scope of work under this contract with an aim to cater to the envisaged demand till the end of the Concession Period.

All standard facilities as required for Expressways shall be provided by the Concessionaire. The Concessionaire shall review the adequacy of the proposed facilities at regular interval of 3 years and accordingly provide additional facilities with necessary approval from the UPEIDA/ Independent Engineer and Industrial Development department in order to meet the demand of the road users till the end of the concession period.

The Concessionaire shall provide the details of proposed facilities during execution for approval of the UPEIDA/ Independent Engineer.

All these facilities with all permanent structures shall be handed over 90 days prior to expiry of concession period.

The facilities will include but not limited to the followings.

- a) Toll Plaza
- b) Truck Parking / Laybys with Rest Areas
- c) Rest Areas for Cars & Buses
- d) Underpasses for Pedestrians/ Cattle crossing
- e) Expressway Traffic Management System (ETMS)
- f) Administrative, Operation and Maintenance Base Camp
- g) Expressway Lighting at all Interchanges & Toll Plazas
- h) Arboriculture & landscaping
- i) Project Vehicle
- j) Project Laboratory
- k) Project Furniture and Facilities on roadside
- l) Landscaping

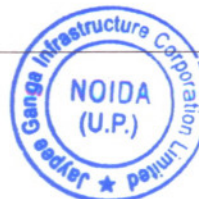
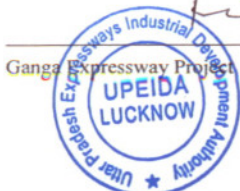
The land required for providing above facilities shall be identified by the concessionaire.

2. Toll Plaza

It is proposed to provide toll plaza on Project Expressway at 20 Km after start and 20km before end of each package. However, the final location and layout of toll plaza shall be finalised in consultation with the PMC/ Independent Engineer/ UPEIDA.

The toll booths shall be provided on each leg of the interchanges. 'Closed' system of toll collection shall be adopted for the Project Expressway.

One number toll plaza is proposed to be provided on Links 1 & 3 and two numbers toll plaza are proposed on Links No. 2. The toll booths shall be provided on each leg of the interchanges.



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'Closed / Open' system of toll collection shall be adopted for the Links.

Toll collection is proposed to be fully automatic / semi-automatic tolling system comprising registering of vehicle classification, ticket issuing, data processing etc. The multiple numbers of toll lanes shall be provided so that no more than 3 vehicles per lane queue up during the peak hours on Expressway / Slip roads & 4 Vehicles on Link Roads. One toll lane in each direction shall be provided for traffic not required to pay users fee.

The design for toll plaza shall conform to the standards set out in Schedule D of the Concession Agreement. The toll plaza / booths layout shall be prepared by Concessionaire and got approved from the UPEIDA / Independent Engineers. At toll plaza locations, rigid pavement shall be provided.

3. **Truck Parking / Laybys with Rest Areas**

The Concessionaire shall provide 4 nos. lay byes for Truck Parking in each package. Two numbers truck lay-byes shall be provided on each side of the carriageway of expressway. In addition two numbers lay-byes for truck parking shall be provided for link – 2. The provision of truck lay-byes shall be governed by site requirements. Parking shall be designed in the form of rectangle / trapezoidal area parallel to and separate from the carriageway by a physical barrier.

The parking lots shall be suitably landscaped. Basic facilities such as food, drinking water toilets, rest facilities, minor repair & maintenance facilities with proper disposal system, shall be provided. The disposal system shall be confirming to environmental / pollution guidelines.

4. **Rest Areas for Cars & Buses**

The Concessionaire shall provide rest areas for cars & buses @ every 50 Km on each side of the carriageway. The parking lots shall be suitably landscaped. Basic facilities such as food, dinking water, toilets, rest facilities, minor repair & maintenance facilities with proper disposal system shall be provided. The disposal system shall be confirming to environmental / pollution guidelines.

5. **Underpass for Pedestrians / Cattle Crossings**

The RCC Boxes shall be provided as per requirement with provision of drainage & electrification.

6. **Expressway Traffic Management System (ETMS)**

Project Expressway shall be provided with Expressway Traffic Management Systems (ETMS) 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 to have full length connected
 - 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 Expressway for both directions of travel (these shall be planned in staggered position in such a way that ECB is available at every 1 km on the Project Expressway) 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 Expressway 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 Expressways. These messages can be varied from control centers based on the data received through surveillance system, Expressway 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 visibility and air pollution parameters like level of SPM, NO₂, SO₂, etc. This information 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 CCTV along the Project Expressway at regular interval to monitor the traffic & providing quick help on accident.
- (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 Expressway and the locations of equipments and of incidents. The main control centre and subcentre would also have ambulance, tow away trucks and cranes, and fire tenders for dispatching these emergency services to the required locations.**

7. Administrative, Operation and Maintenance Base Camp

A minimum of 500 sqm of covered area for functional base camp shall be provided. The base camp shall be located near the toll plaza location. The proposed facilities, which should be available at base camp, are described hereunder.

- a. The main administrative, operation and maintenance base camp shall be provided to cater to the requirements of the following services:
 - i) Main administrative office
 - ii) Fee Collection/Security Office
 - iii) Office of the employer
 - iv) Expressway Maintenance facility and functional laboratory
 - v) First aid and trauma care centre
 - vi) Close circuit cameras , PA systems
 - vii) Facilities for storage and repair of maintenance equipments, vehicles and materials
 - viii) Facility for emergency activities like recovery vehicles, cranes, ambulances, patrol

vehicles and tow trucks.

ix) Any other requirement

- b. The base camp shall be housed in suitable area having round the clock water & power connection. The provision of power back-up shall be made in case of power failures. The layout of the different buildings and facilities shall be finalized in consultation with the PMC / INDEPENDENT ENGINEER.
- c. The Administrative building shall primarily house the Main Control Centre, 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 main base camp shall have adequate parking space for staff and visitors.
- d. The maintenance area shall have a centrally located building to overlook the maintenance workshop etc. A separate storage area shall be earmarked for inflammable materials. The maintenance block shall have enough spaces to park the equipments and machinery deployed for maintenance activities. Adequate parking space shall be earmarked for the staff vehicles and visitors' vehicles. In addition, there shall be adequate and well-illuminated covered parking space for all the maintenance vehicles.
- e. In addition the base camps shall have a power sub-station and supplies room to cater to the power requirements of the camp. The sub-station shall house a standby environmentally friendly generator to provide the required power in case of failure of normal power.
- f. The camps shall have adequate lighting during night.
- g. There shall be (preferably) underground fuel storage area with delivery facilities (Petrol / Diesel Filling Station) at the Main Base Camp site to adequately cater to the demands of maintenance and patrolling activities.
- h. 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 besides installing effective electronic security system.
- i. The camps shall be landscaped so as to protect the area from dust and noise from the Project Expressway.
- j. The laboratory facility to be established for testing of various materials related to road construction and maintenance shall be located at the main base camp.

8. **Expressway Lighting**

Adequate lighting shall be provided at the locations of interchanges and toll plaza. IS: 1944 (Part I and II) shall be followed in regard to lighting installations.

9. **Project Vehicle**

Ten Nos. brand new utility of more than 2500 cc capacity vehicles shall be provided for the use of Project Implementation Unit, PMC / INDEPENDENT ENGINEER (5 nos) & UPEIDA (5 nos) within 30 days of signing of the Concession Agreement. The cost of running, maintenance, driver's salary, fuel etc, complete shall be borne by the Concessionaire. The vehicle shall be required for the use of Project Implementation Unit. The vehicle will run about 4000 km/month including Sundays/Holidays. The vehicles shall be replaced by brand new vehicles after these have run 15000kms or 3 years whichever is earlier.



10. **Project Laboratory**

The fully functional material testing laboratory facility shall be provided by the Concessionaire for testing of various materials, mixes and executed works related to road construction and maintenance activities in each package. The trained technician and helpers, etc. shall also be provided by the Concessionaire for the envisaged tests involved on the project. The laboratory shall be fully equipped and functional including provision of two numbers of vehicles attached to it. The cost of running and maintaining the laboratory including running and maintenance of the vehicles attached to the laboratory and driver's salary, fuel, etc., complete shall be borne by the Concessionaire.

11. **Road Furniture and Facilities on roadside**

Road furniture on the Project Expressway shall be provided in accordance with the Standards set in Schedule 'D'.
Roadside facilities such as litter bins, Public Toilets and Drinking water kiosks shall be provided in accordance with the standards set in Schedule 'D'.

12. **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 Expressway. Plantation scheme shall be prepared in consultation with Forest Department, Government of Uttar Pradesh and the Independent Consultant in accordance with Schedule D.

13. **Completion**

Project Facilities shall be completed on or before the Project Completion Date. Since the Concessionaire has got all the four packages as combined Package, the construction period will run simultaneously.

SCHEDULE - D
(See Clause 2.1)

SPECIFICATIONS AND STANDARDS

This Schedule D brings out the proposed specifications and design standards for the Project Expressway.

1.0 Design Considerations

The postulates and considerations for designing the Expressway are as follows:

- The Expressway will be designed as a fully access-controlled high-speed tolled facility.
- The Expressway will be designed for eight-lane divided configuration
- The section along the left bank of River Ganga will be located at a tentative lateral distance of 500m to 1500m from the river bank. The Expressway embankment will also serve as flood protection bank, and accordingly, it will be designed with necessary freeboard above high flood level and Expressway embankment erosion protection works.
- The Expressway will be provided with modern road furniture and traffic information systems for the safe, convenient and fast movement of vehicles.
- Service roads will be provided all along the Project Expressway including construction of all cross drainage structures upto 30m. The service road shall be discontinued on the railway crossings. The service roads shall be connected to nearest existing cross roads and underpasses for the convenience of local population
- The road sides will be made aesthetically pleasing through suitable planting of trees, shrubs, etc. Wayside amenities to provide rest, food, fuel, repair facilities etc. at periodic intervals for the convenience of the traveling public and truck drivers will also be a part of the project.
- Traffic safety will be in-built in the design process itself, and all the accident prevention measures will be taken.

2.0 Basis of Design Standards

2.1 The codes and standards applicable for the design of the Project and Project Facilities are:

- i) Indian Road Congress (IRC) Codes and Standards; and
- ii) Ministry of Shipping, Road Transport and Highways (MoSRTTH) Specifications
- iii) Guidelines for Expressway Design Standards in India, Volume - II Design Aspects, Ministry of Surface Road Transport & Highways (Roads Wing), January 2000

The terms 'Ministry of Surface Transport' and 'Ministry of Road Transport and Highways' and 'Ministry of Shipping, Road Transport and Highways' shall be considered as synonymous to each other.

2.2 Where the aforesaid codes, standards and specifications are silent on any aspect, the following standards in order of preference shall be adopted in consultation with the PMC/INDEPENDENT ENGINEER, unless otherwise specified in this Schedule:

- a). Bureau of Indian Standards (BIS)
 - b). American Association of State Highway and Transport officials (AASHTO)
 - c). American Society of Testing Materials (ASTM)
 - d). British Standards (BS)
 - e). Suitable specification/standard devised by the Independent Engineer
 - f). Any other standard proposed by the Concessionaire
- 2.3 All items of building works shall conform to Central Public Works Department (CPWD) specifications for Class 1 building works and standards given in the National Building Code (NBC). To the extent specific provisions for building works are provided in IRC/MORTH/MoSRT&H specifications, the same shall prevail over the CPWD/NBC provisions. For this purpose, building works shall be deemed to include road furniture, roadside facilities, landscape elements and/or any other works incidental to the building works.
- 2.4 The Geometric Design Standards for the Project/Project Facilities shall be as per IRC: 73 code as applicable to the Expressways; the important geometric design requirements are given in Table D-1. Where IRC Standards are silent Geometric Design Standards for Ontario Expressways shall be adopted. These should be adhered to and the geometric design standards are the minimum requirements to be maintained for the Project Expressway.

The designed parameters for horizontal and vertical alignments given in this schedule are the minimum requirements to be maintained for the Project Expressway & Link roads. The Concessionaire may adopt better standards enhancing the requirements of safety and mobility

3 Geometric Design Standards

3.1 Terrain Classification

The general cross slope of the terrain along the Expressway alignment is less than 10%, and accordingly, the terrain is classified as "Plain".

3.2 Design Speed

The design speed which determines all other geometric design features shall be as follows:

Ruling Design Speed	120 km / h
Minimum Design Speed	100 km / h

The minimum design speed may be adopted as difficult site conditions and where the longitudinal grade is in excess of 2% such as at approaches to flyovers/interchanges.

3.3 Design Standards for Link Roads

The proposed standards for geometric elements for the Link Roads are given in Table D.2.



Table D.1 : Standards for Geometric Elements of the Project Expressway

Sl. No.	Design Element	Unit	Proposed Design Standards
1	Design Speed • Ruling • Minimum	km/h km/h	120 100
2	Number of traffic lanes	No.	2x4
3	Width of each carriageway	m	14.0
4	Edge strip/median side	m	0.7
5	Shoulder width • Paved • Earthen	m m	2.5 1.5
6	Median Width	m	6.0
7	Cross fall • Carriageway and Edge Strip • Paved Shoulder • Earthen Shoulder	% % %	2.5 2.5 3.5
8	Embankment Slope (H:V)		3:1
9	Sight Distance • Desirable • Absolute minimum	m m	250 180
10	Horizontal Curves • Maximum Super elevation • Ruling minimum radius • Absolute minimum Radius • Radius beyond which super elevation is not required	% m m m	5.0 700 500 2600
11	Maximum length of straight section	m	6000
12	Transition curve length	m	$0.0215 V^3 / CR$ where C = 0.5; V = design speed, R = Radius of curve
13	Vertical Alignment • Ruling Gradient • Maximum Gradient • Minimum Length of Vertical Curve	% % m	2.0 2.5 100

14	Vertical Clearance		
	• Under Flyover	m	5.5
	• Vehicular Underpass	m	5.5
	• Pedestrian and Cattle Underpass	m	4.0
	• Road over Rail	m	6.525*
	• Under Power Lines	m	Upto 650V = 6.0 More than 650V=6.5

* To be modified as per guidelines of Railways

Table D.2 : Standards for Geometric Elements of the Links

Sl. No.	Design Element	Unit	Proposed Design Standards
1	Design Speed	• Ruling	120
		• Minimum	100
2	Number of traffic lanes	No.	2x3
3	Width of each carriageway	m	7.0
4	Edge strip-median side	m	0.7
5	Shoulder width	• Paved	2.5
		• Earthen	1.5
6	Median Width	m	6.0
7	Cross fall	• Carriageway and Edge Strip	2.5
		• Paved Shoulder	2.5
		• Earthen Shoulder	3.5
8	Embankment Slope (H:V)		2:1
9	Sight Distance	• Desirable	250
		• Absolute minimum	180
10	Horizontal Curves	• Maximum Super elevation	5.0
		• Ruling minimum radius	700
		• Absolute minimum Radius	500
		• Radius beyond which super elevation is not required	2600
11	Maximum length of straight section	m	3000
12	Transition curve length	m	$0.0215 V^3 / CR$ where C = 0.5; V = design speed, R = Radius of curve

13	Vertical Alignment		
	• Ruling Gradient	%	2.0
	• Maximum Gradient	%	2.5
	• Minimum Length of Vertical Curve	m	100
14	Vertical Clearance		
	• Under Flyover	m	5.5
	• Vehicular Underpass	m	5.5
	• Pedestrian and Cattle Underpass	m	4.0
	• Road over Rail	m	6.525*
	• Under Power Lines	m	Upto 650V = 6.0 More than 650V=6.5

* To be modified as per guidelines of Railways

3.4 Typical Cross-Sections

Typical cross-sections for the Expressways are detailed as given below:

- (i) Type B1:- When the Expressway is along normal land, i.e. between Greater NOIDA and Narrora (where the Expressway crosses River Ganga); and
- (ii) Type B2:- When the Expressway is on the flood protection bund along the left/right bank of River Ganga
- (iii) Type B3:- Links

For these cases, there can also be alternatives which may or may not include service roads. For these cases, typical cross-sections have been proposed as follows:

The typical cross-sections for both the options are enclosed as Appendix.

4 Geometric Design Standards for Interchange Elements

The proposed geometric design standards for interchange elements are given in

Table D.3

Sl. No.	Particulars / Element	Unit	Value	Remarks
1	Design Speed (V)	• Loop	km/h	50
		• Ramp	km/h	80
2	Stopping Sight Distance	• Ramps	m	130
		• Loops	m	60
3	Radius of Curvature (min.)			

Sl. No.	Particulars / Element	Unit	Value	Remarks
	<ul style="list-style-type: none"> • Loop • Ramp 	m m	85 230	
4	Maximum Super elevation <ul style="list-style-type: none"> • Loop • Ramp 	% %	7.0 6.0	
5	Longitudinal Gradient <ul style="list-style-type: none"> • Desirable max • Absolute 	% %	4.0 6.0	
6	Length of Vertical Curve	m	0.6 V	
7	Acceleration Lane length <ul style="list-style-type: none"> • Loop • Ramp 	m m	445 245	
8	Deceleration Lane length <ul style="list-style-type: none"> • Loop • Ramp 	m m	170 120	
9	Length of Taper <ul style="list-style-type: none"> • Loop • Ramp 	m m	75 90	
10	Carriageway Width	m	7.5	One Way
11	Shoulder <ul style="list-style-type: none"> • Paved • Earthen Shoulder 	m m	2.0 1.5	On both side On both side

5 Materials and Specification

- 5.1 All materials and specifications shall be consistent with IRC/MORTH/MoSRT&H specifications. Where these are silent, the standards as mentioned in clause 2.2 shall be used as appropriate.
- 5.2 Modified Bitumen conforming to the requirement set forth in IRCSP:53 shall be used as bituminous surfacing layers on main carriageway including shoulders and service road.
- 5.3 Fly ash shall be used as fill material in embankment, if available within the radius of 100 km from the project road, in accordance with IRC: SP: 58 – 2001.

6.0 **Embankment Design**

- 6.1 Cut and fill slopes shall be appropriate to the nature of the fill material and the height of embankment or depth of cut. The slopes shall be safe against failure.
- 6.2 Material used in the fill and its compaction requirements shall conform to IRC-36 and relevant Indian Standard. Where these specifications are in variance with the MoSRT&H specifications the latter shall govern and be followed.

7. **Pavement Design**

- 7.1 The flexible/rigid pavement shall be designed as per the IRC method or the AASHTO method or any other international method. The composition and thickness of various layers of pavement and pavement concrete shall not be less than those required as per IRC: 37/ IRC-58.

To ensure internal drainage of the pavement structure, granular sub-base layer shall extend to full width across the shoulders on the embankment as per recommendation of IRC: SP:42. The finished pavement profile for the total project length shall be designed so that the bottom level of the subgrade always remains above the Highest Flood Level (HFL). Modified bituminous binder conforming to IRC: SP: 53(2002) should be used in the surfacing course.

The flexible pavement shall have Bituminous Concrete (BC) [also termed Asphaltic Concrete (AC)] wearing course laid over Dense Bituminous Macadam (DBM). Underneath DBM a base course of Wet Mix Macadam (WMM) shall be provided. It will be laid on Granular sub base layer.

- 7.2 The material used in various pavement layers shall conform to the requirements stipulated in IRC guidelines & MORTH/MoSRT&H specifications. Modified bitumen shall be used for bituminous concrete wearing courses in accordance with the stipulations of relevant and latest IRC & MORTH/MoSRT&H guidelines.
- 7.3 The rigid pavement shall consist of Pavement Quality Concrete, Dry lean Concrete and Granular Sub base layer.
- 7.4 The flexural strength of concrete used for PQC should not be less than the 45 kg/cm² and that of DLC should not be less than 15 kg/cm².

Expansion and Contraction joints with dowel and tie bars shall be provided as per the drawing.

- 7.5 Rigid pavement should be provided below the underpass locations where the Project Expressway is flying over the crossroad and proposed underpass is not a RCC box structure.
- 7.6 Unevenness index of the pavement on completion shall not be more than 2000 mm per km measured with 5th wheel Bump Integrator or an equivalent device approved by the Independent Engineer/the UPEIDA. The instrument used in the measurement of roughness shall be calibrated as per guidelines of the equipment used.

8. **Drainage System**

- 8.1 An effective surface and sub-surface drainage system of pavement structure shall be designed as stipulated in IRC SP: 42 and as per site conditions.
- 8.2 An effective drainage system shall also be planned and designed for the drainage of medians, underpasses, service roads, toll plazas, Wayside Amenities – Service Area, Truck Lay-by areas, and other Expressway features including the area between main carriageway and service road ensuring that there shall be no pooling of water at any time on the project Expressway.
- 8.3 Storm water should be directed away from the bridge deck by providing kerb & gutter and on

the approaches a chute upto the bottom of the embankment and through a system of roadside channel. The drainage & protective work shall be designed to avoid embankment erosion.

- 8.4 For Project Expressway, roadside channels (flat bottomed) shall intercept and remove surface run-off from the Expressway ROW and the adjacent areas and will be drained to the nearest available natural

watercourse. These shall have adequate capacity for the design run-off and be located and shaped to avoid creating traffic hazard and erosion of soil.

- 8.5 Drainage channels and pipe shall be installed at crossings with service pipes and utilities ensuring that conflicts do not occur.
- 8.6 Drainage of Expressway pavements on embankment and steep grade will require designed outlet by means of kerb and gutter and concrete chutes / spillways along the side slope of the embankment in order to prevent its erosion.

9. Standards for Structures

9.1 Major/Minor Bridges / ROBs / RUBs /Grade Separators/Flyovers/Underpasses

A The Bridges having an overall length varying from 6 m to 60m are termed as minor bridges and those having an overall length more than 60m are termed as major bridges.

All new structures on the proposed Expressway shall be designed as 2 individual carriageways with a configuration of four lanes each. Overall deck width of structures shall be 18.2m (comprising of 14m carriageway width, 0.7m shoulder towards inner side, 2.5m shoulder towards outer side with 0.5m high containment crash barrier on either end of deck to match with the proposed approach road).

All new structures on the proposed Links shall be designed as 2 individual carriageways with a configuration of three lanes each. Overall deck width of structures shall be 13.7m (comprising of 10.5m carriageway width, 0.7m shoulder towards inner side, 2.5m shoulder towards outer side with 0.5m high containment crash barrier on either end of deck to match with the proposed approach road).

The median width shall be compatible with the median width of the adjacent pavement sections

9.2 Design of Structures

9.2.1 Type of Structures

The structures are classified based on their functional use. The structures for the project road are classified as given below:

- i. **Drainage Structures**
- Major Bridges
 - Minor Bridges
 - Culverts
- ii. **Viaducts**

iii. **Grade Separators**

- Overpasses
- Road/Rail over Bridges
- Underpasses/Non vehicular underpasses

The major river Ganaga crosses the proposed expressway alignment at Naraura, Varanasi & Mustafabad. Also the link roads (1, 2 & 3) to expressway require construction of bridge across river Ganga. The Concessionaire shall carry out detailed hydrological and location survey for major bridges. All the major bridges across river Ganaga shall comply the guidelines of Inland Waterways Authority for the purpose of navigational requirements. The parameters for detailed design of superstructure and foundation of bridges shall be decided in consultation with the UPEIDA/ Independent. However the provision of long span having innovative construction techniques having less number of expansion joint for better riding quality. Provision of large diameter well foundations shall be the mandatory parameters for design of bridges across river Ganga. The length of the bridges should be sufficient enough to take care free flow without any restriction to flow.

The structures carrying the project road over land and spanning across the valleys are termed as viaducts. The structures carrying the cross roads above the project road are termed as overpasses and the structures carrying the cross roads below the project road are called underpasses. Structures as appropriate shall be provided at important village road crossings.

In case of ROB the vertical clearance between Rail top level (RTL) and soffit of superstructure shall be provided as per Railway codal practice. The concessionaire shall prepare the GADs of the ROB in consultation with Railways w.r.t type of traction, future plans, vertical and horizontal clearances etc and get it approved from the Railways.

Non-vehicular underpasses of minimum clear width of 7.5m having with clear vertical clearance of 4.0m. The finish road level in underpass should be minimum one metre above the natural ground level. The provision of sluice gate shall be made on riverside wherever necessary. The median portion in the box shall be left open to sky. The concrete crash barrier shall be provided on all the four sides of the opening on Project Expressway.

9.2.2 **Design Loading**

The bridges shall be designed to sustain safely the most critical combination of various loads, forces and stresses that can coexist as per the provisions of IRC: 6-2000. The allowable stresses and the permissible increase in stresses for various load combinations shall be adopted as per the relevant IRC codes.

Carriageway Live Load

The combination of Carriageway live load shall be considered as per the provisions of clause No.207.4 of IRC:6-2000.

Tractive and Braking Force

The tractive and braking forces shall be considered as per the provisions of Clause No.214 of IRC: 62000.

Footpath Live Load

As the project road is fully access controlled and without footpath, footpath live load shall not be considered in the design of the structures. However, in case of proposed overpasses footpath live load shall be considered as per Clause 209.1 of IRC:6-2000.

Wind Forces

The effect of wind as per Clause No.212 of IRC:6-2000 shall be considered for the design of the various components of the bridge.

Seismic Forces

Project road passes through the seismic Zone II, III and IV as per the classification given in IRC codes. Seismic forces shall be calculated in accordance with clause number 222.5 of IRC:6-2000 (with latest amendments.)

Buoyancy Effects

The following buoyancy effects are proposed to be considered wherever applicable for the design of various components of the bridges--

For Foundations	100%
For Substructure below water level	15%

9.2.3 Deck Levels of Structures

The deck levels of the structures carrying the project road would be worked out based on the following parameters:

- o Vertical clearance required above the cross roads/rail top level;
- o Vertical profile of the proposed project road and
- o Vertical clearance required above the high flood level.

10. Lighting & Illumination

- a. The average level of illumination at the location of toll plazas, wayside amenities-service areas, Truck Lay-byes shall be 30 lux with suitable high mast poles approved by Independent Engineer/The UPEIDA.
- b. The layout of the lighting system together with type of luminaries for different locations shall be determined in consultation with the PMC / INDEPENDENT ENGINEER.
- c. Arrangement of lighting installations shall be staggered except on curves.
- d. The layout of lighting poles, their height and spacing shall be finalized in consultation with the PMC / INDEPENDENT ENGINEER so that the minimum illumination level prescribed in the aforesaid clauses above can be achieved;
- e. Overhead electrical power and telecommunication lines erected within the ROW by the Concessionaire shall be provided with adequate clearance so that safe use of the Expressway is not affected.
- f. Vertical and horizontal clearances shall conform to IRC: 32(1969).

11. Traffic Signs

- 11.1 All road signs shall be with retro-reflective sheet of high intensity grade conforming to ASTM D-4957-01/ (type VIII and type IX) or equivalent. The retro reflective sheet with engineering grade shall NOT be used and instead micro-prismatic shall be used.
- 11.2 The road signs erected on the Project Expressway shall conform to IRC : 67, Code of Practice for Road Signs.
- 11.3 For overhead signs the standards prescribed by MoSRT&H shall be followed. Where these are silent, standards prescribed in Clause 2.2 shall be used.
- 11.4 The overhead signs shall be placed on a structurally sound gantry or cantilever structure made of tubular structure or steel structure. These signs shall be of high intensity retro reflective sheeting conforming to ASTM D-4957-2001/ (type VIII and type IX). The height, lateral clearance and installation of the sign structures shall be as per the MoSRT&H / IRC specifications;
- 11.5 On kerbed road sections the edges of the road signs shall be at least 600 mm away from the edge of the kerb, whereas on un-kerbed road sections the edge of the signs shall be at a distance of 1.5 m from the pavement;
- 11.6 The design and placement of Expressway kilometre stones, the dimensions of stones, size, colour, arrangement of letter shall be as per IRC : 26(1967) and IRC : 8(180). The design, location and materials to be used for road delineators shall be as per IRC : 79(1981), the colour, configuration, size and location of size of traffic signs shall be as per IRC : 67(2001);
- 11.7 Reflectors shall be provided at regular interval on metal crash barriers.
- 11.8 Road Delineators shall conform to the recommended practice as per IRC 79(1981)

12.0 Road Markings

- 12.1 Road markings shall be as per IRC:35. These markings shall be applied to each lane, edge lines, continuity line, stop lines, give-way lines 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;
- 12.2 Road markings shall be of hot applied thermoplastic materials with glass reflectorising beads as per relevant clauses of section 803 of MoSRT&H specifications;
- 12.3 Synthetic enamel paints shall be used to display details of structure number, span arrangement etc on all culverts and bridges with required description as per MoSRT&H guidelines.

13 Traffic Safety Measures

13.1 Safety Barriers

- 13.1.1 Concrete Crash Barriers and/or Steel Beam Guardrails shall be installed mainly at major hazard locations. Concrete / steel Crash Barrier shall be constructed at the outer edge of both the shoulders of the road. It will also generally be installed on sections of the road (a) where embankment height is more than 3 m, (b) bridge approaches, and (c) where the Project Road passes through large ponds. Concrete Crash Barriers shall be installed along the edge of the outside shoulder with a minimum offset of 2.5m from the edge of the driving pavement.
- 13.1.2 Both Concrete Crash Barriers and/or Steel Beam Guardrails (W-shaped) installation shall have short transition flared section at the approach ends.

14 Expressway 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 UPEIDA/ Independent Engineer in traffic management, road safety and in primary First Aid. The purpose of these patrols is to:

- Provide the users of the Project Expressway with basic mechanical help for vehicles that break down on the Expressway Section, and protect other motorists from such vehicles
- Immediately identify traffic hazards of whatever nature, such as unauthorized parking. The Concessionaire shall take the necessary measures to remove such obstructions.
- Provide emergency management at accident scenes until such time as the appropriate authorities.
- Assist the motorist, for the removal of damaged or mechanically impaired vehicles from the Project Expressway,
- Provide road user information and to further the image of the National Expressway Section in a professional and friendly manner.
- Maintain daily records of assistance provided to motorists
- Observe, record and report suspect aspects of the Expressway, hazards and incidental damage caused by vehicles, floods, storms, or other random events, such that the Expressway maintenance records and data base are continuously improved.
- Assistance of local police & authorities shall be taken for Expressway Patrolling. The concessionaire has to bear all related costs towards police patrolling.

14.1 Patrol vehicles

The Concessionaire will provide 4x4 drive Patrol vehicles for Expressway patrolling. Each vehicle shall accommodate a minimum 3 persons including the driver.

14.2 Ambulances

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

14.3 Cranes

The Concessionaire will provide cranes of 25 MT capacity having all requisite arrangements of pulling and lifting of accidental/break down vehicles. Table D.4 presents the serviceability indicators, required maintenance level that shall be followed by Concessionaire as part of Expressway patrolling.

Table D: 4 Serviceability Indicators and required maintenance level for Patrolling

Sl.	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 Expressway patrol	Every 4/6 hours on each carriageway for entire stretch (logging system)	Daily on regular basis followed by weekly & monthly inspections
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14.4 Road Studs

Road studs shall also be provided on edge lanes, lane lines.

15 Landscaping

15.1 Planting along the Expressway shall follow a variety of schemes depending upon location requirement as per the IRC: SP21. The choice of trees to be planted shall also be made as per IRC: SP 21 : ``Manual of Landscaping''. Eucalyptus (all species) is not recommended for planting. Local, indigenous species that grow in that area shall be planted.

15.2 On medians and island, planting of dust and gaseous substance-absorbing shrubs are recommended. To ensure survival from herbivorous animals, shrubs / plants containing latex shall only be planted.

15.3 The treatment of the Expressway embankment slopes shall be as per the recommendations of IRC:56, depending upon the soil type involved. Pitching works on the slopes shall be as per the MoSRT&H Specifications.

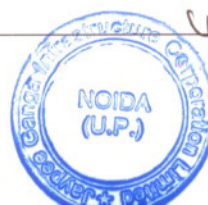
15.4 No advertisement / hoarding shall be allowed within the ROW limits of the Project Expressway.

15.5 Visibility of any signs, signals or any other devices erected for traffic control, traffic guidance and / or information shall not be obstructed by plantation.

16.0 Ancillary Facilities

16.1 Wayside Amenities – Service Area

- a) Wayside Amenity – Service Area design details shall be as per project report.
- b) All building works shall be designed to meet their 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 of MoSRT&H specifications.
- c) All the open spaces around the building(s) shall be landscaped. Boundary walls, fencing with barbed wires, controlled entry points and cattle-catches at all entry and exist points to the buildings shall be provided to protect them from intruders and animals.
- d) The design of water storage (including overhead reservoir) and distribution systems, laying of mains and pipes, cleaning and disinfecting of water supply system shall be as per relevant clauses of section 1 Part IX of the NBC.
- e) The design, layout and construction of sanitary sewer and 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 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 III of NBC.
- f). The design and location of all electrical installations, distribution system, wiring, fittings,



accessories and lighting protection of buildings shall conform to the relevant clauses of Section 2, Part VIII of the NBC;

- g). The internal road system have the same material specifications as that of the mainline road and width shall conform to Clause 4 of part III of NBC;
- h). For Internal parking facility, shall be constructed as per set out in the PR.

16.2 Truck/Bus Lay-byes

- a) The layout and facilities thereon will be designed considering site requirement so as to cater to the estimated parking demand. Layout or design shall be reviewed and accepted by the PMC/INDEPENDENT ENGINEER. The Lay-byes shall be landscaped with low-density plantation to provide shade.
- b) The parking spaces shall have the similar specification as that of the main carriageway or be so paved by pre cast Cement Concrete Block M-40 grade concrete to withstand vehicle loads and forces due to frequent acceleration and deceleration of vehicles. Parking bay/lots shall have proper cross slope and drainage. They shall be marked with paints as per IRC: 35 to demarcate parking and circulation spaces. Illumination shall be provided as per IS: 1944, Part I and II).
- c) The parking lay-byes shall have basic facilities, such as, food, rest rooms, Fuel Stations, Vehicle repair shops, Communication facility (viz. PCO with STD/ISD), Emergency Medical Facilities, drinking water kiosk, and toilet, proper waste disposal system, electricity, water, etc as described elsewhere in this Schedule.

16.3 Road Furniture

Road furniture such as traffic signs, kilometre posts, hectometre stones, ROW pillar etc on the Project Expressway provided as per IRC Codes shall meet requirements of MoSRT&H specifications.

17 Roadside Facilities

17.1 Litter Bin

Litter Bin shall be located conveniently in Wayside Amenities – Service Area, and Truck Lay-byes, Busbays. It shall be simple in shape and its colour and finish shall be conspicuous. Litterbin 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 fireproof. It shall be resistant to wear and tear and the material and design shall be such as to require minimal maintenance. The capacity shall be minimum 30 litres. Disposal of litter bins shall be eco friendly.

17.2 Public Toilets

Separate Public Toilets for men and ladies shall be located in Wayside Amenities – Service Area, Truck Laybyes. The capacity of toilets shall be for minimum 25 users. Toilets shall be provided with septic tank and soak pit. "Sulabh Souchalaya" type toilet is also acceptable. Generally, the Public Toilets 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. It should be aesthetically pleasing in appearance all round. Water supply in public toilets shall be ensured by installing over – head tank and arrangement for refilling.

17.3 Drinking Water Kiosk

Piped water supply shall be provided to the Wayside Amenity – Service Area. 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 sloped away so as to ensure speed disposal of water. The water supplied shall conform to IS: 1050 for quality of potable water. The location of Drinking Water Kiosk shall be finalized in consultation with the Independent Consultant.

17.4 TOLL PLAZAS

17.4.1 Toll Plaza Complex

Tollbooth shall be visually pleasing structurally sound and capable of withstanding extreme weather conditions of the region. It shall have clear visibility of approaching vehicles and shall be strong enough to withstand all forces as per relevant clauses of Section 1, Part VI of NBC.

17.4.1.1 The Toll Plaza complex including its canopy shall have 6 m clear height. Toll gates shall be provided with check barriers, which can be electrically operated from the Tollbooths. High mast lighting shall be provided. Power supply will be from the public power supply system but standby diesel generating sets of adequate capacity shall be provided.

17.4.1.2 The Toll Plaza Complex shall have surface and sub surface drainage system.

17.4.1.3 Fire fighting equipment including smoke detectors and audio visual alarm system shall be planned and installed as per section 4.17.1 of NBC.

17.4.1.4 The pavement of the service lanes shall be of rigid type and shall be designed as stipulated under pavement design.

17.4.1.5 The toll collection system shall be at least automatic/ semi automatic depending upon the number & type of traffic users having latest technology.

17.4.1.6 The weigh beam used in the WIM shall have following Specifications:

- Accuracy:
 - Weigh-in-motion Typically < 1% error
 - Static Typically < 1% error
 - Block Weight 10Kg (Up to 5 KMPH)
- Capacity:
 - Structural Strength 70 tonnes
 - Weighing Capacity 30 Tonnes
- Load Cell
- Weighing Capacity of 15 Tonnes, rated for 50% overload and should be 100% water and dust proof
- Standards
- Should conform to the standards of OIML R 60 class III (US standards)

17.4.1.7 The WIM system shall have compatible software and be connected to a PC for data management and storage. It should be capable of weighing in both modes of operation. The system should be capable of printing and multi language display for local use. There should be facilities for data back-up, and archive functions to facilitate saving monthly operations.

18 **Expressway Traffic Management System (ETMS)**

ETMS shall provide facilities to the Expressway 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 Expressway 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, mobilizing the movement of ambulances, cranes, Expressway patrol units and fire tenders. ETMS shall also provide on line recording and reviewing of the voice and individual information for record and analysis.

- 18.1 All equipment shall comply and be installed in accordance with IEC 364, with minimum of CENELEC standards EN 50128 software integrity level 2.
- 18.2 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.
- 18.3 All outdoor equipment for the facility of the users such as Emergency Call Booths (ECB) and Message Signs (MS) shall be installed at 2 Km intervals staggered on both sides at edge of earthen shoulder. These should be connected to administrative building through currently available remote systems. The ECBs shall have proper sign identification.



SCHEDULE - G
(See Clause 12.1)

PROJECT COMPLETION SCHEDULE

The Construction Period allowed is 48 months including Project Facilities. The Concessionaire shall prepare a detailed Construction Schedule in the format attached as Annex - I of this Schedule - G. Since the Concessionaire has got all the four packages as combined Package, the construction period will run simultaneously.



GANGA EXPRESSWAY PROJECT**Schedule for release of / reduction in Performance Security**

Sl. No	DESCRIPTION	RELEASE OF PERFORMANCE SECURITY IN TERMS OF PERCENTAGE OF TOTAL PROJECT COST	CUMULATIVE RELEASE OF PERFORMANCE SECURITY IN TERMS OF PERCENTAGE OF TOTAL PROJECT COST	BALANCE PERFORMANCE SECURITY IN TERMS OF PERCENTAGE OF TOTAL PROJECT COST
1	ON ACHIEVEING FINANCIAL CLOSE	2.0%	2.0%	3.0%
2	ON COMPLETION OF 20% OF TOTAL ESTIMATED QUANTITY OF EARTHWORK, PROTECTION WORKS AND CONCRETING IN STRUCTURES IN THE EXPRESSWAY	0.5%	2.5%	2.5%
3	ON COMPLETION OF 40% OF TOTAL ESTIMATED QUANTITY OF EARTHWORK, PROTECTION WORKS AND CONCRETING IN STRUCTURES IN THE EXPRESSWAY	0.5%	3.0%	2.0%
4	ON COMPLETION OF 60% OF TOTAL ESTIMATED QUANTITY OF EARTHWORK, PROTECTION WORKS AND CONCRETING IN STRUCTURES IN THE EXPRESSWAY	0.5%	3.5%	1.5%
5	ON COMPLETION OF 80% OF TOTAL ESTIMATED QUANTITY OF EARTHWORK, PROTECTION WORKS, CONCRETING IN STRUCTURES AND START OF PAVEMENT WORKS IN THE EXPRESSWAY	0.5%	4.0%	1.0%
THE BALANCE PERFORMANCE SECURITY OF 1% AFTER AFFORESAID RELEASES/ REDUCTION SHALL REMAIN VALID FOR THE ENTIRE CONCESSION PERIOD AND 120 DAYS THEREAFTER.				



SCHEDULE - H
(See Clause 12.2)

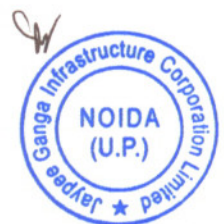
DRAWINGS

1 Drawings

In compliance of the obligations set forth in Clause 12.2 of this Agreement, the Concessionaire shall furnish to the Independent Engineer, free of cost, all Drawings (4 sets) listed in Annex - I of this Schedule - H.

2 Additional drawings

If the Independent Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Annex - I, it may by notice require the Concessionaire to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Concessionaire shall promptly prepare and furnish such drawings (4 sets) to the Independent Engineer, as if such drawings formed part of Annex - I of this Schedule - H.



ANNEX - I
(Schedule - H)

LIST OF DRAWINGS

1. A broad list of the drawings of the various components/elements of the project Expressway and project facilities required to be submitted by the Concessionaire as per construction schedule is given below:
 - a) Drawings of horizontal alignment, vertical profile and cross sections
 - b) Drawings of cross drainage works
 - c) Drawings of interchanges, major intersections, grade separators and ROBs/ RUBs
 - d) Drawings of toll plaza layout, toll collection systems and roadway near toll plaza
 - e) Drawings of Control Centre
 - f) Drawings of bus-bay and bus shelters with furniture and drainage system
 - g) Drawing of a truck parking lay by with furniture and drainage system
 - h) Drawings of road furniture items including traffic signage, markings, safety barriers, etc.
 - i) Drawings of traffic diversion plans and traffic control measures
 - j) Drawings of road drainage measures
 - k) Drawings of typical details slope protection measures
 - l) Drawings of landscaping and horticulture
 - m) Drawings of pedestrian crossings
 - n) Drawings of street lighting
 - o) Layout/Configuration of ETMS
 - p) General arrangement of Base camp and Administrative Block
 - q) Drawings for flood protection measures of the Expressway Embankment along river Ganga
 - r) Drawings for flood protection measures including construction of levees (bunds) along rivers/ streams joining Ganga
 - s) Drawings for flood protection measures of area surrounding Expressway along Ganga by providing Sluice gates on culverts/non vehicular underpasses/ cattle crossings.



SCHEDULE - I
(See Clause 14.1.2)

TESTS

- 1 Tests to be Conducted during Construction
- 1.1 All materials to be used, all methods adopted and all works performed shall be strictly in accordance with MOSRTH's Specifications for Road and Bridge works. For this purpose the responsibility of Contractor as mentioned in Section 900 shall be taken up by the Concessionaire and the responsibility of Engineer shall be taken up by Independent Engineer/ "UPEIDA".
- 1.2 The concessionaire shall carry out quality control tests on the materials and work at the frequency stipulated in Section 900 of MOSRTH's Specifications for Road and Bridge works. In the absence of clear indications about the methods and/or frequency of tests for any item, the instructions of the Independent Engineer/"UPEIDA" shall be followed.
- 1.3 The Concessionaire shall carry out all necessary tests on material and work independently and keep their record for reference. The concessionaire shall prepare a quality audit manual in consultation with Independent Engineer to ensure better quality of work. Following circulars of MOSRTH and IRC codes may also be referred:
- a) IRC:SP-11 "Handbook of Quality Control for construction of Roads and Runways"
 - b) IRC:SP-47 "Guidelines on Quality systems for Road Bridges (Plain, Reinforced, Pre stressed and composite concrete)
 - c) IRC: SP-51 "Guidelines for Load Testing of Bridges"
 - d) IRC:SP-57 "Guidelines for Quality Systems for Road Construction "
 - e) MOSRTH Circular No. RW/NH-34059/1/96-S&R dated 30.11.2000 "Revised Interim Specifications for Expansion Joints"
- 1.4 Above stipulated requirements for tests and quality control are minimum. The Concessionaire shall conduct all possible tests to ensure quality construction.
- 1.5 A brief detail on Tests to be conducted is given in **Annexure - A** to Schedule -I.
- 2 **Tests on Completion**
- 2.1 The concessionaire shall, not later than 30 (thirty) days prior to the likely completion of Project Expressway notify the Independent Engineer and the "UPEIDA" of its intent to subject the Project Expressway to Tests, and not later than 7 (seven) days prior to the actual date of Tests, furnish to the Independent Engineer and the "UPEIDA" detailed inventory and particulars of all works and equipment forming part of Project Expressway.
- 2.2 The Concessionaire shall notify the Independent Engineer of its readiness to subject the Project Expressway to Tests at any time after 7 (seven) days from the date of such notice, and upon receipt of such notice, the Independent Engineer shall, in consultation with the Concessionaire, determine the date and time for each Test and notify the same to the "UPEIDA" who may designate its representative to witness the Tests. The Independent Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 14 and this Schedule - I.
- 2.3 **Visual and physical Test:** The Independent Engineer shall conduct a visual and physical check of Project Expressway to determine that all works and equipment forming part thereof conform to the provisions of this Agreement.

- 2.4 **Test drive:** The Independent Engineer shall undertake a test drive of the Project Expressway by a Car and by a fully loaded Truck to determine that the quality of service conforms to the provisions of the Agreement.
- 2.5 **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 - B of this Schedule.
- 2.6 **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 Expressway. The first pit for the sample shall be selected by the Independent Engineer 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.
- 2.7 **Cross-section Test:** The cross-sections of the Project Expressway shall be checked on a sample basis through physical measurement 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 Expressway. The first spot for the sample shall be selected by the Independent Engineer 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 Engineer in each span of the bridge.
- 2.8 **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 Nondestructive Testing Techniques, at two spots in every span, to be chosen at random by the Independent Engineer. Bridges with a span of 15 (fifteen) meters or more shall also be subjected to load testing, as detailed in Annexure - C.
- 2.9 **Other Tests:** The Independent Engineer may require the Concessionaire to carry out or cause to be carried additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project Expressway with Specifications and Standards.
- 2.10 **Environmental audit:** The Independent Engineer shall carry out a check to determine conformity of the Project Expressway with the environmental requirements set forth in Applicable Laws and Applicable Permits.
- 2.11 **Safety review:** Safety audit of the Project Expressway shall have been undertaken by the Safety Engineer as set forth in Schedule - L, and on the basis of such audit, the Independent Engineer shall determine conformity of the Project Expressway with the provisions of this Agreement.

3 Agency for conducting Tests

All tests set forth in this Schedule - I shall be conducted by the Independent Engineer or such other agency or person as it may specify in consultation with the "UPEIDA"

4 Completion/ Provisional Certificate

Upon successful completion of Tests, the Independent Engineer shall issue the Completion Certificate or the Provisional Certificate, as the case may be, in accordance with the provisions of Article 14.



**ANNEXURE – A
TESTS TO BE CONDUCTED**

Sl. No.	Item	Test	Testing Procedure
1.0 Earthwork for embankment, subgrade construction and cut formation			
1.1	Embankment and sub-grade 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 <ul style="list-style-type: none"> • 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 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 IS2720, Part 28
1.2	Compaction	Quality Audit of the following Tests performed during construction as required by MORT&H specifications for Road and Bridge works. <ul style="list-style-type: none"> • Compaction density and • Determination of dry density of soils in place according to IS-2720, Part 28 by the Sand Replacement Method. 	As per IS2720, Part 28
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. <ul style="list-style-type: none"> • 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



Sl. No.	Item	Test	Testing Procedure
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. <ul style="list-style-type: none"> Aggregate Impact Value as per IS 2386 (Part 4) Particle size and shape as per IS : 2386 (Part 1) 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 D1559
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. <ul style="list-style-type: none"> 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
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 of Schedule I.	Roughness measurement by bump integrator (Annexure B) or an equivalent device approved by "UPEIDA"/IE
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 to 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 it accordance with Annexure C
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	Expressway Lighting System	Level of illumination.	The illumination level shall be measured with lux meter following the method as specified in its manual (Annexure D)
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
6.0	Toll System Operations	1. Certified report of factory acceptance test (FAT) 2. Post installation site test to conform to the function ability 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 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 2001.	To follow ASTM Standard E:810 as per section 800 of MORT&H specifications for Road and Bridge Works published by IRC 2001.



ANNEXURE – B

TEST PROCEDURE FOR MEASURING ROUGHNESS INDEX OF THE RIDING SURFACE OF A FLEXIBLE PAVEMENT

EQUIPMENT – 5th wheel Bump Integrator/ Romdass

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 familiarize 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 3/4 lane carriageway shall be obtained from the average of the values of the 3/4 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.



ANNEXURE – C

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 premarked critical 'points'. 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.
- ii. 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).
- iii. 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.
- iv. Note the deflection and crack widths, if any, for 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 no exceeding the theoretically estimated ones by more than 10%.
- ii. The maximum crack width in reinforced concrete shall not exceed 0.25 mm to 0.33 mm (but no cracks in case of pre-stressed 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.



ANNEXURE – D

Testing Procedure for Illumination intensity by Luxmeter

Instrument : Luxmeter
(make of renowned company)

Basis through a Lab. : Comparison with a calibrated Luxmeter 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
(See Clause 17.2)

Maintenance Requirements

1. Maintenance Requirements

The Concessionaire has to develop a maintenance manual. The Concessionaire shall, at all times, operate and maintain the Project Expressway in accordance with the provisions of the maintenance manual Agreement, Applicable Laws and Applicable Permits. In particular, the Concessionaire shall, at all times during the Operation Period, conform to the maintenance requirements set forth in this Schedule - K (the "Maintenance Requirements").

The Concessionaire shall repair or rectify any defect or deficiency set forth in Paragraph 2 of this Schedule - K within the time limit specified therein and any failure in this behalf shall constitute a breach of the Agreement. Upon occurrence of any breach hereunder, the "UPEIDA" shall be entitled to recover Damages as set forth in Clause 17.8 of the Agreement, without prejudice to the rights of the "UPEIDA" under the Agreement, including Termination thereof

2. Repair/rectification of defects and deficiencies

The obligations of the Concessionaire in respect of Maintenance Requirements shall include repair and rectification of the defects and deficiencies specified in Annex - I of this Schedule - K within the time limit set forth therein.

3. Other defects and deficiencies

In respect of any defect or deficiency not specified in Annex - I of this Schedule - K, the Concessionaire shall undertake repair or rectification in accordance with Good Industry Practice.

In respect of any defect or deficiency not specified in Annex - I of this Schedule - K, the Independent Engineer may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Concessionaire within the time limit specified by the Independent Engineer

4. Extension of time limit

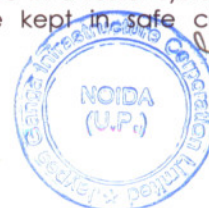
Notwithstanding anything to the contrary specified in this Schedule - K, if the nature and extent of any defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Concessionaire shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Independent Engineer and conveyed to the Concessionaire and the "UPEIDA" with reasons thereof.

5. Emergency repairs/restoration

Notwithstanding anything to the contrary contained in this Schedule - K, if any defect, deficiency or deterioration in the Project Expressway poses danger to the life or property of the Users thereof, the Concessionaire shall promptly take all reasonable measures for eliminating or minimizing such danger.

6. Daily Inspection by the Concessionaire

The Concessionaire shall, through its engineer, shall undertake a visual inspection of the Project Expressway and maintain a record thereof in a register to be kept in such form and manner as the Independent Engineer may specify. The inspection shall be in a roster system so that any section is inspected within a week. Such record shall be kept in safe custody of the



Concessionaire and shall be open to inspection by the "UPEIDA" and the Independent Engineer at any time during office hours.

7. **Divestment Requirements**

All defects and deficiencies specified in this Schedule - K shall be repaired and rectified by the Concessionaire so that the Project Expressway conforms to the Maintenance Requirements on the Transfer Date.

8. **Display of Schedule - K**

The concessionaire shall display a copy of this Schedule - K at the Toll Plaza[s] along with the Complaint Register stipulated in Article 46.



**ANNEX - I
(Schedule-K)**

Repair/Rectification of Defects and Deficiencies

The Concessionaire shall repair and rectify the defects and deficiencies specified in this Annex—I of Schedule - K within the time limit set forth herein.

Nature of defect or deficiency		Time limit for repair/rectification
ROADS		
(a)	Carriageway and paved shoulders	
(i)	Breach or blockade	Temporary restoration of traffic within 24 hours; permanent restoration within 15 days
(ii)	Roughness value exceeding 2,500 mm in a stretch of 1 km (as measured by a standardized roughometer / bump integrator)	180 days
(iii)	Pot holes	48 hours
(iv)	Cracking in more than 5% of road surface in a stretch of 1 km	30 days
(v)	Rutting exceeding 10 mm in more than 2% of road surface in a stretch of 1 km (measured with 3 m straight edge)	30 days
(vi)	Bleeding/skidding	7 days
(vii)	Ravelling/Stripping of bitumen surface exceeding 10 sq m	15 days
(viii)	Damage to pavement edges exceeding 10 cm	15 days
(ix)	Removal of debris	6 hours
(b)	Hard/earth shoulders, side slopes, drains and culverts	
(i)	Variation by more than 2% in the prescribed slope of camber/cross fall	30 days
(ii)	Edge drop at shoulders exceeding 40 mm	7 days
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	30 days
(iv)	Rain cuts/ gullies in slope	7 days
(v)	Damage to or silting of culverts and side drains during and immediately preceding the rain season	7 days
(vi)	Desilting of drains in urban / semi-urban areas	48 hours

(c)	Road side furniture including road signs and pavement marking	
(i)	Damage to shape or position; poor visibility or loss of retro-reflectivity	48 hours
(d)	Street lighting and telecom (ATMS)	
(i)	Any major failure of the system	24 hours
(ii)	Faults and minor failures	8 hours
(e)	Trees and plantation	
(i)	Obstruction in a minimum headroom of 5.5 m above carriageway or obstruction in visibility of road signs	24 hours
(ii)	Deterioration in health of trees and bushes	Timely watering and treatment
(iii)	Replacement of trees and bushes	90 days
(iv)	Removal of vegetation affecting sight line and road structures	15 days
(f)	Rest areas	
(i)	Cleaning of toilets	Every 4 hours
(ii)	Defects in electrical, water and sanitary installations	24 hours
(g)	Toll plaza (s)	
(i)	Failure of toll collection equipment or lighting	8 hours
(ii)	Damage to toll plaza	7 days
(h)	Other Project Facilities and Approach roads	
(i)	Damage or deterioration in Approach Roads, [pedestrian facilities, truck lay-bys, bus-bays, bus-shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and other works]	15 days
BRIDGES		
(a)	Superstructure of bridges	
(i)	Cracks Temporary measures Permanent measures	Within 45 hours Within 45 days
(ii)	Spalling /scaling	15 days
(b)	Foundations of bridges	
(i)	Scouring and/or cavitation	15 days
(c)	Piers, abutments, return walls and wing walls of bridges	
(i)	Cracks and damages including settlement and	30 days

	tilting	
(d)	Bearings (metallic) of bridges	
(i)	Deformation	15 days
(e)	Joints in bridges	
(i)	Loosening and malfunctioning of joints	15 days
(f)	Other items relating to bridges	
(i)	Deforming of pads in elastomeric bearings	7 days
(ii)	Gathering of dirt in bearings and joints; or clogging of spouts, weep holes and ventholes	3 days
(iii)	Damage or deterioration in parapets and handrails	3 days
(iv)	Rain-cuts or erosion of banks of the side slopes of approaches	15 days
(v)	Damage to wearing coat	15 days
(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds	30 days
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	15 days

SCHEDULE - L
(See Clause 18.1.1)

SAFETY REQUIREMENT

1. Guiding principles

Safety Requirements aim at reduction in injuries, loss of life and damage to property resulting from accidents on the Project Expressway, irrespective of the person(s) at fault.

Users of the Project Expressway include motorised and non-motorized vehicles as well as pedestrians and animals involved in, or associated with accidents. Vulnerable Road Users (VRU) include pedestrians as well as riders of motorized two-wheelers, bicycles and other vehicles which do not provide adequate occupant protection.

Safety Requirements apply to all phases of construction, operation and maintenance with emphasis on identification of factors associated with accidents, consideration of the same, and implementation of appropriate remedial measures.

Safety Requirements include measures associated with traffic management and regulation such as road signs, pavement marking, traffic control devices, roadside furniture, Expressway design elements, enforcement and emergency response.

2. Obligations of the Concessionaire

The Concessionaire shall abide by the following insofar as they relate to safety of the Users:

- a. Applicable Laws and Applicable Permits;
- b. Manual for Safety in Road Design, issued by MOSRTH;
- c. relevant Standards/Guidelines: of IRC relating to safety, road geometries, bridges, culverts, road signs, pavement marking and roadside furniture;
- d. provisions of this Agreement; and
- e. Good Industry Practice.

3. Appointment of Safety Engineer

For carrying out safety audit of the Project Expressway under and in accordance with this Schedule - L, the "UPEIDA" shall appoint from time to time, one or more qualified firms or organizations as its Engineers (the "Safety Engineer"). The Safety Engineer shall employ a team comprising. Without limitations, one road safety expert and one traffic planner to undertake safety audit of the Project Expressways.

4. Safety measures during Development Period

4.1 Not later than 90 (ninety) days from the date of this Agreement, the "UPEIDA" shall appoint a Safety Engineer for carrying out safety audit at the design stage of the Project.

4.2 The Concessionaire shall provide to the Safety Engineer, in four copies, the relevant drawings containing the design details that have a bearing on safety of Users (the "Safety Drawings"). Such design details shall include horizontal and vertical alignments; sightlines; layouts of intersections; interchanges; road cross-section; bridges and culverts; side drains; provision for parked vehicles, slow moving vehicles (tractors, bullock carts, bicycles) and pedestrians; bus bays; truck lay-byes; and other incidental or consequential information. The Safety Engineer shall review the design details and forward three copies of the Safety Drawings with its recommendations, if any, to the Independent Engineer who shall record its comments, if any, and forward one copy each to the "UPEIDA" and the Concessionaire.

- 4.3 The design details shall be analyzed by the Safety Engineer for evolving a package of recommendations consisting of safety related measures for the Project Expressway. The safety audit shall be completed in a period of three months and a report thereof (the "Safety Report") shall be submitted to the "UPEIDA", in five copies. One copy each of the Safety Report shall be forwarded by the "UPEIDA" to the Concessionaire and the Independent Engineer forthwith.
- 4.4 The Concessionaire shall endeavor to incorporate the recommendations of the Safety Report in the design of the Project Expressway, as may reasonably be required in accordance with Applicable Laws, Applicable Permits, Manuals and Guidelines of PWD and IRC, Specifications and Standards, and Good Industry Practice. If the Concessionaire does not agree with any or all of such recommendations, it shall state the reasons thereof and convey them to the "UPEIDA" forthwith. In the event that any or all of the works and services recommended in the Safety Report fall beyond the scope of Schedule - B, Schedule - C or Schedule - D. The Concessionaire shall make a report thereon and seek the instructions of the "UPEIDA" for funding such works in accordance with the provisions of Article 18.
- 4.5 Without prejudice to the provisions of Paragraph 4.4, the Concessionaire and the Independent Engineer shall, within 15 (fifteen) days of receiving the Safety Report, send their respective comments thereon to the "UPEIDA", and not later than 15 (fifteen) days of receiving such comments, the "UPEIDA" shall review the same along with the Safety Report and by notice direct the Concessionaire to carry out any or all of the recommendations contained therein with such modifications as the "UPEIDA" may specify; provided that any works or services required to be undertaken hereunder shall be governed by the provisions of Article 18.
- 5. Safety measures during Construction Period**
- 5.1 A Safety Engineer shall be appointed by the "UPEIDA", not later than 4 (four) months prior to the expected Project Completion Date, for carrying out a safety audit of the completed Construction Works.
- 5.2 The Safety Engineer shall study the Safety Report for the Development Period and inspect the Project Expressway to assess the adequacy of safety measures. The Safety Engineer shall complete the safety audit within a period of 4 (four) months and submit a Safety Report recommending a package of additional road safety measures, if any, that are considered essential for reducing accident hazards on the Project Expressway. Such recommendations shall be processed, *mutatis mutandis*, and acted upon in the manner set forth in Paragraphs 4.3, 4.4 and 4.5 of this Schedule - L.
- 5.3 The Concessionaire shall make adequate arrangements during the Construction Period for the safety of workers and road Users in accordance with the guidelines of IRC for safety in construction zones, and notify the "UPEIDA" and the Independent Engineer about such arrangements.
- 6. Safety measures during Operation Period**
- 6.1 The Concessionaire, shall develop, implement and administer a surveillance and safety programme for Users, including correction of safety violations and deficiencies and all other actions necessary to provide a safe environment in accordance with this Agreement.
- 6.2 The Concessionaire shall establish a Expressway Safety Management Unit (the "ESMU") to be functional on and after COD, and designate one of its officers to be in-charge of the ESMU. Such officer shall have specialist knowledge and training in road safety and traffic engineering by having attended a course conducted by a reputed organization on the subject.
- 6.3 The Concessionaire shall keep a copy of every FIR recorded by the Police with respect to any accident occurring on the Project Expressway. In addition, the Concessionaire shall also collect

- data for all cases of accidents not recorded by the Police but where a vehicle rolled over or had to be towed away. The information so collected shall be summarized in the form prescribed by IRC/ PWD for this purpose. The Concessionaire shall also record the exact location of each accident on a road map. The aforesaid data shall be submitted to the "UPEIDA" at the conclusion of every quarter and to the Safety Engineer as and when appointed.
- 6.4 The Concessionaire shall submit to the "UPEIDA" before the 31st (thirty first) May of each year, an annual report (in ten copies) containing, without limitation, a detailed listing and analysis of all accidents of the preceding Accounting Year and the measures taken by the Concessionaire pursuant to the provisions of Paragraph 6.1 of this Schedule - L for averting or minimizing such accidents in future.
- 6.5 Once in every Accounting Year, a safety audit shall be carried out by the Safety Engineer to be appointed by the "UPEIDA". It shall review and analyze the annual report and accident data of the preceding year, and undertake an inspection of the Project Expressway. The Safety Engineer shall complete the safety audit within a period of 1 (one) month and submit a Safety Report recommending specific improvements, if any, required to be made to the road, bridges, culverts, markings, signs, road furniture and Project Facilities, including cattle crossings and pedestrian crossings. Such recommendations shall be processed, *mutatis mutandis*, and acted upon in the manner set forth in Paragraphs 4.3, 4.4 and 4.5 of this Schedule - L.
- 6.6 The concessionaire shall conduct regular safety education programs through appropriate media and signages.
- 7.0 **Costs and expenses**

Costs and expenses incurred in connection with the Safety Requirements set forth herein, including the provisions of Paragraph 2 of this Schedule, shall be met in accordance with Article 18, and in particular, the remuneration of the Safety Engineer, safety audit, and costs incidental thereto, shall be met by the Concessionaire.



SCHEDULE - U
(See Clause 31.1.4)

VESTING CERTIFICATE

1. UPEIDA represented by its CEO, and (the "Concessionaire") entered into Concession Agreement dated for **Development of 8-Lane Access Controlled Expressway Project from Greater NOIDA to Ballia** in the State of Uttar Pradesh on design, build, finance and operate (DBFO) basis;
2. The "UPEIDA" hereby acknowledges compliance and fulfillment by the Concessionaire of the Divestment Requirements set forth in Clause 31.1.4 of the Agreement on the basis that upon issue of this Vesting Certificate, the "UPEIDA" shall be deemed to have acquired, and all title and interest of the concessionaire in or about the Project Expressway shall be deemed to have vested unto the "UPEIDA", free from any encumbrances, charges and liens whatsoever.
3. Notwithstanding anything to the contrary contained hereinabove, it shall be a condition of this Vesting Certificate that nothing contained herein shall be construed or interpreted as waiving the obligation of the Concessionaire to rectify and remedy any defect or deficiency in any of the Divestment Requirements and/or relieving the Concessionaire in any manner of the same.

Signed this day of 20... at

ACCEPTED, SIGNED, SEALED
For and on behalf of
CONCESSIONAIRE by:

SIGNED, SEALED AND DELIVERED
For and on behalf of
"UPEIDA" by:

(Signature)
(Name and Designation)
(Address)

(Signature)
(Name and Designation)
(Address)

In the presence of:

1.



Appendix

Typical Cross Section



NON TECHNICAL SCHEDULES



Volume 1 of 2

NON TECHNICAL SCHEDULES

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SCHEDULE – F

PERFORMANCE SECURITY

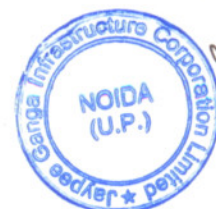
To,
Shri Ravindra Singh, IAS
Chief Executive Officer UPEIDA,
3rd Floor, A Block, UPEIDA Camp Office,
PICUP Bhawan,
Lucknow 226 010

WHEREAS:

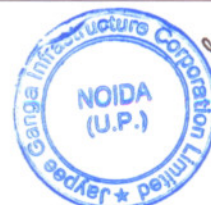
- A. The Uttar Pradesh Expressway Industrial Development Authority (hereinafter referred to as "UPEIDA") represented by its Chief Executive Officer, through its Letter of Award No. 07/UPEIDA/LOA/08 dated January 24, 2008 (hereinafter referred to as the "LOA") awarded the project for development of 8-Lane Access Controlled Expressway Project from Greater Noida to Ghazipur-Ballia on Design, Build, Finance and Operate Model (hereinafter referred to as the "Project") to Jaiprakash Associates Limited, having its Registered Office at Sector 128, Noida (hereinafter referred to as "JAL"); and
- B. In terms of the provisions of the LOA, JAL's subsidiary is required to sign the Concession Agreement as SPV with UPEIDA and is required to furnish to UPEIDA, Performance Security for a sum of Rupees 1,491,25,00,000/- (Rupees one thousand four hundred ninety one crore and twenty five lac only) for the due and faithful performance of its obligations, under and in accordance with the Concession Agreement, during the Concession Period and 120 days thereafter. Accordingly JAL's subsidiary namely having its registered office at (hereinafter referred as the Concessionaire) shall be signing the Concession Agreement with UPEIDA.
- C. At the request of the Concessionaire, we, (name of the Bank with address of its registered office) through our Branch at (branch name and address) (the "Bank") have agreed to furnish this Bank Guarantee for Rs..... (Rupees) towards the Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Concessionaire's obligations during the Concession Period, under and in accordance with the Concession Agreement, and agrees and undertakes to pay to the "UPEIDA", upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Concessionaire, such sum or sums upto the full amount of the Bank Guarantee as the "UPEIDA" shall claim, without the "UPEIDA" being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. This Bank Guarantee, is for an amount of Rupees (Rupees only).
3. A letter from the "UPEIDA", under the hand of an Officer not below the rank of CEO to the "UPEIDA", that the Concessionaire has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Concession Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the "UPEIDA" shall be the sole judge as to whether the Concessionaire is in default in due and faithful performance of its obligations during the Concession Period under the Concession Agreement and its decision that the Concessionaire is in default shall be final, and binding on the Bank, notwithstanding any differences between the "UPEIDA" and the Concessionaire, or any dispute between them pending before any court, tribunal, arbitrator or any other authority or body, or by the discharge of the Concessionaire for any reason whatsoever.



4. In order to give effect to this Bank Guarantee, the "UPEIDA" shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Concessionaire and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Bank Guarantee.
5. It shall not be necessary, and the Bank hereby waives any necessity, for the "UPEIDA" to proceed against the Concessionaire before presenting to the Bank its demand under this Bank Guarantee.
6. The "UPEIDA" shall have the liberty, without affecting in any manner the liability of the Bank under this Bank Guarantee, to vary at any time, the terms and conditions of the Concession Agreement or to extend the time or period for the compliance with, fulfillment and/or performance of all or any of the obligations of the Concessionaire contained in the Concession Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the "UPEIDA" against the Concessionaire, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Concession Agreement and/or the securities available to the "UPEIDA", and the Bank shall not be released from its liability and obligation under these presents by any exercise by the "UPEIDA" of the liberty with reference to the matters aforesaid or by reason of time being given to the Concessionaire or any other forbearance, indulgence, act or omission on the part of the "UPEIDA" or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Bank Guarantee and the Bank hereby waives all of its rights under any such law.
7. This Bank Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the "UPEIDA" in respect of or relating to the Concession Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Concessionaire under the Concession Agreement.
8. The liability of the Bank under this Bank Guarantee is restricted to the amount of the Guarantee given in paragraph 2 above and this Bank Guarantee shall remain in force for the period specified in paragraph 9 below and unless a demand or claim in writing is made by the "UPEIDA" on the Bank under this Bank Guarantee, not later than 6 (six) months from the date of expiry of this Bank Guarantee, all rights of the "UPEIDA" under this Bank Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
9. The Performance Security shall come into force with effect from the date of signing of the Concession Agreement. The Bank Guarantee will be available and valid for the entire Concession Period and 120 days thereafter. To ensure this, initially the Bank Guarantee is being issued so as to remain valid upto 31.12.2009 with the provision that the Bank Guarantee shall be renewed from time to time for specified period at the request of the Concessionaire in writing two weeks before the date of expiry of the Bank Guarantee failing which the UPEIDA shall be entitled to exercise its rights under the Bank Guarantee as provided hereinabove.
10. The Performance Security may be released to the Concessionaire after achieving the Financial Close and thereafter proportionate to the progress on implementation of the Project after achieving the stipulated milestones or any extension thereof as set-forth in the Concession Agreement and advised to the Bank ; provided always that there shall remain a Performance Security in the form of an irrevocable and unconditional Bank Guarantee of a value not less than 1% (one percent) of the total project cost of Rupees 29,825,00,00,000/- (Rupees twenty nine thousand eight hundred twenty five crore only) for the satisfactory performance of the Concessionaire's obligations including O&M; and provided further that the Concessionaire is not in breach of the Concession Agreement.



11. The Bank undertakes not to revoke this Bank Guarantee during its currency, except with the previous express consent of the "UPEIDA" in writing, and declares that it has the power to issue this Bank Guarantee and the signatories hereto have full powers to do so on behalf of the Bank.
12. Any notice by UPEIDA by way of request, demand or otherwise hereunder may be sent by registered post to the bank addressed as aforesaid and if sent by registered post it shall be deemed to have been given at the time when it would be received and duly acknowledged by the Bank at its counters. Alternatively such a request, demand or otherwise by UPEIDA may be sent by personal messenger and shall be deemed to have been given at the time when delivered at the Bank counters.

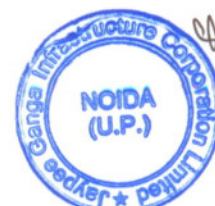
"NOTWITHSTANDING anything contained hereinabove:

- a) Our liability under this Bank Guarantee shall not exceed Rupees (Rupees).
- b) This Bank Guarantee shall be valid upto 31.12.2009 and
- c) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee, only if we receive (served upon us by you) a written claim or demand on or before 30.06.2010 and after the expiry of said date, this Bank Guarantee shall automatically stand cancelled notwithstanding that the original Bank Guarantee may not be returned to us by you.

Signed and sealed thisday of, 2008 at

SIGNED, SEALED AND DELIVERED

For and on behalf of the BANK by:
(Signature)
(Name)
(Designation)
(Address)



SCHEDULE J

(See Clause 14.2)

COMPLETION CERTIFICATE

- 1 I / We, (Name of the Independent Engineer), acting as Independent Engineer, under and in accordance with the Concession Agreement dated (the "Agreement"), on Design, Build, Finance and Operate (DBFO) Model for Development of 8-Lane Access Controlled Expressway Project from Greater Noida to Ghazipur-Ballia" (the "Project Expressway"), through (Name of Concessionaire), hereby certify that the Tests specified in Article 14 and Schedule - I of the Agreement have been successfully undertaken to determine compliance of the Project Expressway with the provisions of the Agreement, and I / we am / are satisfied that the Project Expressway can be safely and reliably placed in commercial service of the Users thereof.

- 2 It is certified that, in terms of the aforesaid Agreement, all works forming part of the Project Expressway have been completed, and the Project Expressway is hereby declared fit for entry into commercial operation on this the day of 20.....

SIGNED, SEALED AND DELIVERED
For and on behalf of
INDEPENDENT ENGINEER by:

(Signature)
(Name)

(Designation)
(Address)



SCHEDULE – J1
(See Clause 14.3)

**PROVISIONAL CERTIFICATE
OF
COMPLETION**

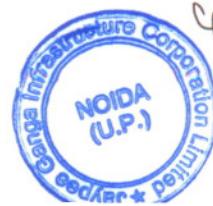
- 1 I / We, (Name of the Independent Engineer), acting as Independent Engineer, under and in accordance with the Concession Agreement dated (the "Agreement"), **on Design, Build, Finance and Operate Model for Development of 8-Lane Access Controlled Expressway Project from Greater Noida to Ghazipur-Ballia** (the "Project Expressway"), through (Name of Concessionaire), hereby certify that the Tests specified in Article 14 and Schedule - I of the Agreement have been undertaken to determine compliance of the Project Expressway with the provisions of the Agreement.
- 2 Construction Works that were found to be incomplete and/or deficient have been specified in the Punch List appended hereto, and the Concessionaire has agreed and accepted that it shall complete and/or rectify all such works in the time and manner set forth in the Agreement. *[Some of the incomplete works have been delayed as a result of reasons attributable to the "UPEIDA" or due to Force Majeure and the Provisional Certificate cannot be withheld on this account. Though the remaining incomplete works have been delayed as a result of reasons attributable to the concessionaire].* I/we am/are satisfied that having regard to the nature and extent of such incomplete works, it would not be prudent to withhold commercial operation of the Project Expressway, pending completion thereof.
- 3 In view of the foregoing, I/we am/ are satisfied that the Project Expressway can be safely and reliably placed in commercial service of the Users thereof, and in terms of the Agreement, the Project Expressway is hereby provisionally declared fit for entry into commercial operation on this day of 20....

ACCEPTED, SIGNED, SEALED
AND DELIVERED
For and on behalf of
CONCESSIONAIRE by:

(Signature)
(Name and Designation)
(Address)

SIGNED, SEALED AND
DELIVERED
For and on behalf of
INDEPENDENT ENGINEER by:

(Signature)
(Name and Designation)
(Address)



SCHEDULE – M
(See Clause 19.5)

MONTHLY FEE STATEMENT

Project Expressway

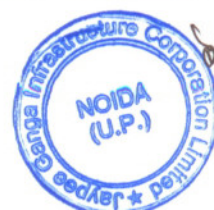
Month:

Type of Vehicle	For Corresponding Month of Previous Year		For Preceding Month		For the Month Reported upon		
	No. of Vehicles	Fee Collected (in lakh Rs.)	No. of Vehicles	Fee Collected (in lakh Rs.)	Fee per Vehicle (in Rs.)	No. of Vehicles	Fee Collected (in lakh Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Car							
B. Mini Bus / LCV							
C. Bus							
D. Mini Truck / LCV							
E. Truck							
F. Heavy Truck							
G. Total							

Note 1: The above statement does not include Local Traffic and vehicles traveling on Daily Passes or Monthly Passes

Note 2: Monthly Fee Statements shall be prepared for Daily Passes and Monthly Passes issued separately in the above format.

Remarks, if any:



SCHEDULE – N
(Sheet 1 of 2)
(See Clause 22.1)

MONTHLY TRAFFIC CENSUS

Project Expressway

Month ending:

Type of Vehicle	No. of Vehicle using the Project Expressway during		
	Corresponding month / last year	Preceding month	Month of Report
(1)	(2)	(3)	(4)
A Fee paying Traffic			
A1 Car			
A2 Mini Bus/ LCV			
A3 Bus			
A4 Mini Truck/LCV			
A5 Truck			
A6 Heavy Truck			
Total (A)			
B Local Traffic			
B1 Car			
Total (B)			
C Exempted Vehicles			
C1 Car			
C2 Minibus /LCV			
C3 Bus			
C4 Mini Truck/ LCV			
C5 Truck			
Total (C)			
D Total Traffic (A+B-C)			
D1 Car			
D2 Mini Bus/ LCV			
D3 Bus			
D4 Mini Truck/ LCV			
D5 Truck.			
D6 Heavy Truck.			
Grand Total (E)			

Ganga Expressway Project



NTS - 9

Remarks, if any:

SCHEDULE – N (Sheet 2 of 2)
(See Clause 22.1)

MONTHLY REPORT FOR WEIGH STATIONS

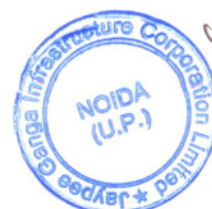
Project Expressway:

Month Ending:

Type of Vehicle	Permitted Gross vehicle Weight (Tonnes)	No. of Vehicles weighed (Sample size)	No. of Vehicles carrying load :			
			Within permissible limits	Up to 10 % in excess	Over and up to 20 % in excess	Over 20 % in excess
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A Mini Truck / LCV						
B Truck						
C Heavy Truck						
D Total						

Note: Sample size shall not be less than 200 trucks per week and 20 trucks per day, and should include a proportionate number of Heavy Trucks.

Remarks, if any:



SCHEDULE – O
(See Clause 22.3)

TRAFFIC SAMPLING

"UPEIDA" 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 Expressway. 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 Expressway 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.

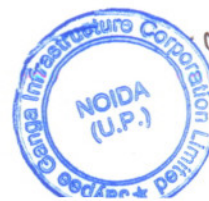
Software - The system shall have software and manuals to analyze the data from output of vehicle count, classification speed and headway. It should have capability of graphic/tabular representation of analysis data.

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 Count-cum-Classifer 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 utilized 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 "UPEIDA". The traffic count as obtained from the samples shall be taken as actual traffic on the Project Expressway at the locations of the counting.

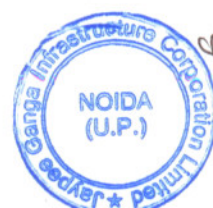


SCHEDULE – P

(See Clause 5.2.2 & 23.1)

**Selection of Project Management Consultant during development and construction phase
and Independent Engineer during Construction and O&M phase**

- 1.0 **Selection of Project Management Consultant (PMC) during development and construction phase**
- 1.1 The Government (GOUP) is in the process of forming a Project Development Special Purpose Vehicle (PDSPV) with the shareholding of The Pradeshiya Industrial & Investment Corporation of UP Limited, a Government of Uttar Pradesh Undertaking (PICUP) and Consultants consortium led by Srei Infrastructure Finance Limited (SIFL) with Consulting Engineering Services (India) Pvt. Ltd. (CES and Rites Ltd.). The UPEIDA may nominate the PDSPV as the PMC for the project entrusting them with the responsibility of coordination, monitoring and supervision of the project implementation by the Concessionaire. Alternatively, for monitoring of the project, a separate and specialized monitoring consultant shall be engaged as per the provision of consultant selection as prescribed in the Guidelines for Selection of Consultants/Advisors issued by the Government of UP.
- 1.2 The concessionaire may if so chooses, engage the above PMC to discharge the duties of an independent engineer with the prior approval of UPEIDA and on such TOR's and payment condition as approved by UPEIDA and on such payment as decided by UPEIDA, Concessionaire and PMC.
- 2.0 **Selection of Independent Engineer during Construction and O&M Phase (See Clause 23.1)**
- 2.1 The Selection of the Independent Engineer during Construction and O&M phase for carrying out the Scope of Services during the Construction and O&M Phase of the Project Expressway as defined in the guidelines for selection of consultants/advisor etc. issued by Department of Infrastructure, GOUP in June 2007 and as amended from time to time.
- 2.2 The nature and quantum of duties and services to be performed by the Independent Engineer during the Construction and Operation Period shall be determined by UPEIDA in conformity with the provisions of this Agreement and with due regard for economy in expenditure. The Government shall endeavour that payments to the Independent Engineer are made as per the terms and conditions of TOR.
- 3.0 **Constitution of fresh panel for Independent Engineer**
Not later than three years from the date of this Agreement, and every three years thereafter, the Government shall prepare a fresh panel of firms for the selection of Independent Engineer in accordance with the criteria set forth in this Schedule P provided that the Government may, at any time, prepare a fresh panel with prior written consent of the Concessionaire.
- 4.0 **Fee and expenses**
The fee and expenses of both the PMC and the Independent Engineer shall be borne by the Concessionaire in accordance with the provisions of this Agreement.



SCHEDULE – Q
(See Clause 23.2)

1. Duties of Independent Engineer during Construction Operation and Maintenance Period

- 1.1(a) The duties and services to be performed by the Independent Engineer during construction period shall be determined by UPEIDA as per provisions of the Concession Agreement.
- 1.1(b) Review work plan and schedules of various operation and maintenance activities required to be carried by Concessionaire as per Maintenance Operation standards stipulated in Concession Agreement.
- 1.2 Review of the performance of Operation and Maintenance (O & M) activities including equipment, service, traffic operation and safety, toll plazas and fees collection system, environmental issues and way side amenities.
- 1.3 Review Operation and Maintenance manual prepared by the Concessionaire.
- 1.4 Initiate necessary action to in the event of failure of Concessionaire to carry out O&M as per concession agreement.
- 1.5 Review and inspect the Project Expressway at regular intervals during the O&M period and issue an Inspection Report of such inspections.
- 1.6 Monitoring/Ensuring the compliance of Concessionaire to the various conditions of Agreement.
- 1.7 Review the accident record on the Project Expressway and suggest remedial measures.
- 1.8 Any other services mutually agreeable.
- 1.9 The appointment of supervisory agency, to fulfill above mentioned objective, shall initially for a period of 2 years which may extended for further period of one year on mutual agreement.
- 1.10 Man month input for Key personnel and minimum qualification of Key Personnel shall be as determined by UPEIDA.

2. Termination

- 2.1. At any time, not earlier than 90 (ninety) days prior to Termination but not later than 10 (ten) days prior to such Termination, the Independent Engineer shall, in the presence of a representative of the Concessionaire, inspect the Project Expressway for determining compliance by the Concessionaire with the Divestment Requirements set forth in Clause 31.1 and, if required, cause tests to be carried out at the Concessionaire's cost for determining such compliance. If the Independent Engineer



- determines that the status of the Project Expressway is such that its repair and rectification would require a larger amount than the sum set forth in Clause 32, it shall recommend retention of the required amount in the Escrow Account and the period of retention thereof.
- 2.2. The Independent Engineer shall inspect the Project Expressway once in every 15 (fifteen) days during a period of 90 (ninety) days after Termination for determining the liability of the Concessionaire under Article 32, in respect of the defects or deficiencies specified therein. If any such defect or deficiency is found by the Independent Engineer, it shall make a report in reasonable detail and send it forthwith to the "UPEIDA" and the Concessionaire.
3. **Determination of costs and time**
- 3.1 The Independent Engineer shall determine the costs and/or their reasonableness that are required to be determined by it under the Agreement.
- 3.2 The Independent Engineer shall determine the period, or any extension thereof, that is required to be determined by it under the Agreement.
- 4 **Assistance in Dispute resolution**
- 4.1 When called upon by either Party in the event of any Dispute, the Independent Engineer shall mediate and assist the Parties in arriving at an amicable settlement.
- 4.2 In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Independent Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on Good Industry practice and authentic literature.
- 5 **Other duties and functions**
- 5.1 The Independent Engineer shall perform all other duties and functions specified in the Agreement.
- 6 **Miscellaneous**
- 6.1 The Independent Engineer shall notify its programme of inspection to the "UPEIDA" and to the Concessionaire, who may, in their discretion, depute their respective representatives to be present during the inspection.
- 6.2 A copy of all communications, comments, instructions, Drawings or Documents sent by the Independent Engineer to the Concessionaire, and a copy of all the test results with comments of the Independent Engineer thereon shall be furnished by the Independent Engineer to the "UPEIDA" forthwith.
- 6.3 The Independent Engineer shall obtain, and the Concessionaire shall furnish in two copies thereof, all communications and reports required to be submitted, under this Agreement, by the Concessionaire to the Independent Engineer, whereupon the Independent Engineer shall send one of the copies to the "UPEIDA" along with its



comments thereon.

- 6.4 The Independent Engineer shall retain at least one copy each of all Drawings and Documents received by it, including as built' Drawings, and keep them in its safe custody.
- 6.5 Upon completion of its assignment hereunder, the Independent Engineer shall duly classify and list all Drawings, Documents, results of tests and other relevant records, and hand them over to the "UPEIDA" or such other person as the "UPEIDA" may specify, and obtain written receipt thereof. Two copies of the said document shall also be furnished in micro film form or in such other medium as may be acceptable to the "UPEIDA".



SCHEDULE – T
(See Clause 28.2.1)

**PANEL OF CHARTERED ACCOUNTANTS AS PER THE GUIDELINES OF INFRASTRUCTURE
DEVELOPMENT DEPARTMENT, GOUP**

1. Procedure

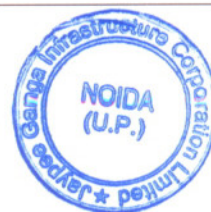
- 1.1 Pursuant to the provisions of Clause 28.2.1 of the Agreement, the "UPEIDA" and the Concessionaire shall prepare a mutually agreed panel of 10 (ten) reputable firms of Chartered Accountants having their registered offices in India (the "**Panel** of Chartered Accountants"). The criteria for preparing such Panel and the procedure to be adopted in this behalf shall be as set forth in this Schedule - T.

2. Criteria

The Following eligibility criteria may be prescribed for the above process

- 2.1 The "UPEIDA" shall invite offers from all reputable firms of Chartered Accountants who fulfill the following eligibility criteria, namely:
- a) the firm should have conducted statutory audit of the annual accounts of at least one hundred companies registered under the Companies Act, 1956, of which at least ten should have been public sector undertakings;
 - b) the firm should have at least 5 (five) practicing Chartered Accountants on its rolls, each with a minimum experience of ten years in the profession;
 - c) the firm or any of its partners should not have been disqualified or blacklisted by the Comptroller and Auditor General of India or the "UPEIDA"; and
 - d) the firm should have an office in the State or in an adjacent State with at least 2 (two) practicing Chartered Accountants on its rolls in such State.
- 2.2 Interested firms meeting the eligibility criteria shall be required to submit a statement of their capability including the bio-data of all the practicing Chartered Accountants on its rolls. In particular, each firm shall be required to furnish year wise information relating to the names of all the companies with an annual turnover exceeding Rs 25,00,00,000 (Rs twenty five crores) whose annual accounts were audited by such firm in any of the preceding 5 (five) Accounting Years.
- 2.3 Evaluation and selection

The information furnished by each firm shall be scrutinized and evaluator by the "UPEIDA" and 1 (one) point shall be awarded for each annual audit of the



companies specified in Paragraph 2.2 above. For the avoidance of doubt, a firm which has conducted audit of the annual accounts of any such company for five years shall be awarded five points.

The "UPEIDA" shall prepare a list of all the eligible firms along with the points scored by each such firm and 10 (ten) firms scoring the highest points shall be identified and included in the draft Panel of Chartered Accountants.

3. Consultation with the Concessionaire

The "UPEIDA" shall convey the aforesaid panel of firms to the Concessionaire for scrutiny and comments, if any. The Concessionaire shall be entitled to scrutinize the relevant records of the "UPEIDA" to ascertain whether the selection of firms has been undertaken in accordance with the prescribed procedure and it shall send its comments, if any, to the "UPEIDA" within 15 (fifteen) days of receiving the aforesaid panel.

4. Mutually agreed panel

The "UPEIDA" shall, after considering all relevant factors including the comments, if any, of the Concessionaire, finalize and constitute a panel of 10 (ten) firms which shall be deemed to be the mutually agreed Panel of Chartered Accountants.

After completion of every five years from the date of preparing the mutually agreed Panel of Chartered Accountants, or such earlier period as may be agreed between the "UPEIDA" and the Concessionaire, a new panel shall be prepared in accordance with the provisions of this Schedule - T.

