E-TENDER NOTICE

e-Tenders are invited for fabrication Ordinary District Type Bus Bodies on TATA Chassis of below mentioned items in two bid system i.e. Technical Bid and Financial Bid:-

## BID FORM FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES

### BID FEES AND DATES

<table>
<thead>
<tr>
<th>S. NO</th>
<th>GROUP OF ITEM</th>
<th>ELIGIBILITY FOR FIRM</th>
<th>ESTIMATE QUANTITY</th>
<th>COST OF BID DOCUMENTS (NON REFUNDABLE) IN RS.</th>
<th>BID PROCESSING FEE IN RS. (NON REFUNDABLE)</th>
<th>TECHNICAL BID FEES IN RS. (NON REFUNDABLE)</th>
<th>BID SECURITY FOR FINANCIAL BID IN RS.</th>
<th>LAST DATE FOR SUBMISSION/OPENING DATE OF TECHNICAL BID</th>
<th>BID SECURITY FOR FINANCIAL BID IN RS.</th>
<th>DATE FOR OPENING OF FINANCIAL BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fabrication of Ordinary Distt. Type bus bodies with passenger seats</td>
<td>Bus Body maker, Who have got their workshop accredited from Authorized Govt. Test House.</td>
<td>90</td>
<td>3000/-</td>
<td>1000/-</td>
<td>2000/-</td>
<td>15,00,000/-</td>
<td>16th Jan. 2020 at 17:00 pm &amp; Technical bid open on 17th Jan 2020 at 01:00 pm</td>
<td></td>
<td>20th Jan. 2020 at 01:00 pm</td>
</tr>
</tbody>
</table>

Note: The Bidders can download the tender documents from the Portal: [https://etenders.hry.nic.in](https://etenders.hry.nic.in)

General Manager,
Hr.Roadways Engg.Corpn.Ltd.,
Gurugram
HARYANA ROADWAYS ENGINEERING CORPORATION “HREC”
Office -6" MILE STONE, JAIPUR HIGHWAY BEHRAMPUR ROAD, KHANDSA, GURUGRAM-122001
(HARYANA) TEL.0124-2215660, TEL.FAX.0124-2215389 EMAIL.ID: gm.hrec27@gmail.com
Website - https://hartrans.gov.in

BID DOCUMENTS FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES
E-BID NOTICE

BID FORM FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES

BID FEES AND DATES

<table>
<thead>
<tr>
<th>S. NO.</th>
<th>GROUP OF ITEM</th>
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<td>20th Jan. 2020 at 01:00 pm</td>
</tr>
</tbody>
</table>

NOTE:-
1. HREC reserves the right to increase or decrease the Nos of Buses.
2. Ordinary district type Bus Bodies to be fabricated on EURO-IV chassis of TATA having wheel base 5100mm to 5500mm approximately as per drawing, design and specification of HARYANA ROADWAYS ENGINEERING CORPORATION, GURUGRAM by Bus Body Fabricators / Firms who have their bus body workshop duly accredited from Authorized Govt. Test House i.e. ICAT, ARAI & CIRT.
3. The technical bid without any of or all the required fees/cost of documents etc mentioned above shall be liable to be rejected for which bidders shall be fully responsible.
4. The Fabrication shall be completed in all respect within 30 days (i.e. by 25th March 2020 failing which the cost of chassis shall be recovered from the Fabricator/Firms.
5. The Fabricator/Firms/Company may tender for fabrication of any nos of Buses upto 90 but not less than 20 no’s of Bus by 25th March 2020.
6. For further details, the bids documents can be seen at TRANSPORT DEPARTMENT HARYANA website i.e. https://hartrans.gov.in

General Manager,
Hr.Roadways Engg.Corpn.Ltd.,
Gurugram
Haryana Roadways Engineering Corporation has entered its 33rd year of business, since its inception on 27 November 1987. The corporation has been established with the objective of fabricating bus bodies for Haryana Roadways, other STU etc.

**Scope of Work:**

On line bids are invited from Bus Body fabricators who have got their workshop accredited FOR FABRICATION OF ORDINARY DISTRICT TYPE BUSES on TATA OR ANY OTHER SUITABLE CHASSIS HAVING WB 5100 MM TO 5500 MM to Haryana Roadways Engineering Corporation “HREC”, having its office at 6TH MILE STONE, JAIPUR HIGHWAY BEHRAMPUR ROAD, KHANDSA, GURUGRAM-122001 (HARYANA) TEL.0124-2215660, TEL.FAX.0124-2215389 EMAIL.ID: gm.hrec27@gmail.com, on the terms ,conditions and specifications of this bid, detailed as per specification for fabrication of Ordinary district type buses with passenger bus seats. (52 Seater)
TECHNICAL PRE-QUALIFICATION BID DOCUMENTS
FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES -

PART – I

GENERAL CONDITIONS

RELATING TO

TECHNICAL CAPABILITY
1. **INTRODUCTION:**

To judge the capability of the Body Builders who are willing to undertake fabrication work of different type of bus bodies, certain technical and financial information is required to be furnished so as to consider the financial bids of such Body Builders. The capacity and capability of interested Body Builders shall be judged by taking into account

a. Bus body building workshop accreditation from central Govt. Approved Test House.

b. The experience and past performance

c. Type and quality of equipments, plants, financial position and availability of expert man power.

2. **The pre-qualifications of Bidders shall be judged with regard to**

The pre-qualification of Bidders shall be judged in respect of following points which are mandatory. In case of not meeting these points the bidder may be disqualified. These must be supported by relevant document wherever necessary. The bidder should have and submit the following:-

(a) The bus body fabricator’s (bidder) workshop should be accredited by ARAI, Pune or any other agency approved by Govt. of India (attach proof).

(b) Capability for fabrication of Ordinary District Type buses as per Bus body code (Type Approval Design of HREC) accreditation certificate AIS-052 (Revised or amended up to date)

2.1 Bidder shall be a manufacturer of bus bodies for a minimum of last 3 years and should have fabricated minimum 300 bus bodies in the last 3 years.

2.2 The average annual turnover of the bidder, from the body fabrication during last three financial year (i.e. 2016-17, 2017-18, 2018-19) should not be less than Rs. 10 Crore with audited balance sheets.

2.3 Must have tools and plants as follows:-

1. Shower testing of complete vehicle
2. Battery charger of suitable capacity
3. Air compressor of high capacity along with tyre inflating arrangements
4. Panel stretching machine
5. Press brake machine of capacity min 120 MT (assorted)
6. Sheering machine of capacity 6 mm thick
7. MIG welding equipments
8. DG set min 200 KVA (assorted)
9. Suitable painting booth and spray painting arrangement
10. Suitable fixture for bending of roof sticks, pillars etc.
11. Pneumatic riveting machine
12. Portable drill machine, grinders and other hand tools required for fabrication work.
13. Side panel rolling machine.
14. Roof panel rolling machine.
15. dry film thickness measuring equipments, gloss
   measuring equipment andaddision testing facilities
   hardness testing machine

2.4 Min bus bodybuilding capacity = 25 per month
2.5 Registrations in following Govt departments:-
   i.   GST No
   ii.  Factory license
   iii. Insurance
   iv.  Ownership of factory
   v.   Partnership deed

3. TECHNICAL CAPABILITY:

The bidders must have BUS Building workshop (from Central Govt. Approval
Test House) accreditation certificate.

Bid document fees of Rs. 3,000/- is required to be furnished by each Applicant
along with submission of this application in the form of DD in favour of
General Manager, Haryana Roadways Engineering Corporation, Gurugram. (Non-Refundable). The said demand draft to be enclosed with the
technical bid document. Without submission of this fee/cost, the bid shall be
liable to reject.

Technical bid fees of Rs. 2,000/- is required to be furnished by each Applicant
along with submission of this application in the form of DD in favor of General
Manager, Haryana Roadways Engineering Corporation, Gurugram. (Non-
Refundable). The said demand draft to be enclosed with the technical bid
document. Without submission of this fee/cost, the bid shall be liable to reject.

The processing fee of Rs. 1000/ is to be submitted in form of demand draft in
favor of GM,HREC is non-refundable. The said demand draft to be enclosed
with the technical bid document. Without submission of this fee/cost, the bid
shall be liable to reject.

An BID SECURITY of Rs. 15,00,000/- towards FINANCIAL BID is also required to be
submitted in the form of DD/FDR/ IRREVOCABLE BANK GUARANTEE valid for minimum
period of 18 months from the date of issue in favor of General Manager, Haryana
Roadways Engineering Corporation, Gurugram separately along with
TECHNICAL PRE-QUALIFICATION DOCUMENTS ONLY, failing which the Financial Bid
may not be opened even after acceptance of Pre-qualification Evaluation. Bid security in the
form of FDR should be in the name of General Manager, Haryana Roadways
Engineering Corporation, Gurugram and furnishes an undertaking from the bank to
make payment/pre-mature payment of the FDR on demand of HREC without requirement of
consent of the firm concerned.

Bid Security deposited shall not bear any interest.

No proposal shall be evaluated in the absence of the BSD on any ground,
whatsoever may be.
BSD shall be returned to unsuccessful bidder, after issue of work order to the successful bidders.

BSD shall be forfeited in case; bidder withdraws his bid during its validity period or successful bidder does not execute the order within the delivery period given, including extended delivery period, if any.

BSD will be returned back to successful bidder on completion of work order.

The information is required to be furnished in the prescribed formats, in PART-II of the document attached with the Application Form.
4. INSTRUCTIONS TO BIDDERS:-

4.1 The bidder may be pre-qualified for any one or more type of bus bodies. However, he may make only one bid in providing the Technical Details required for the purpose.

4.2 Technical information questionnaire, as indicated below, should be submitted on line and also submit in duplicate, to GENERAL MANAGER (HREC) by due date and time, indicated in the notice inviting bid.

4.3 The technical information questionnaire consists of 13 formats pertaining to the items listed below:-
   a) Technical Capability application.
   b) Schedule 'A' regarding Organizational set up.
   c) Schedule 'B' regarding Financial Status.
   d) Schedule 'C' regarding Factory Area, plant and machinery.
   e) Schedule 'D' regarding Working experience.
   f) Schedule 'E' regarding Technical manpower availability.
   g) Schedule 'F' regarding Quality Assurance measures availability.
   h) Schedule 'G' regarding Information reg. litigation/debarring/expelling of BIDDER.
   i) Schedule 'H' regarding Information reg. sub-contracting.
   j) Schedule 'I' regarding Joint Venture data.
   k) Schedule 'J' regarding Affidavit.
   l) Schedule 'K' regarding list of minimum required plant & machinery.
   m) Schedule 'L' regarding pre-qualification mandatory conditions for the bidder for fabrication of bus bodies.

4.4 If so needed the bidder may enclose copy of the documents / brochures providing the relevant additional information.

4.5 Each page of the Technical information document should be signed by the bidder or by the Authorized Representative.

4.6 Incomplete and inappropriately filled in bids are likely to be rejected.

4.7 If the bid is made by a firm in partnership/ proprietary, then, it shall be signed by all the partners of the firm indicating their full names and addresses. A certified copy of the partnership deed may also please be enclosed.

4.8 If the bid is made by a Limited Company; it should be signed by the Authorized person, holding the power of the Attorney for signing the application. A certified copy of the power of attorney must also be enclosed with the application. Such Limited Company will be required to furnish evidence of its existence before the contract is awarded.

4.9 In case an bidder deliberately hides/ gives incorrect information about their working capacity and performance or if they have been black listed or debarred by any other STU, HREC will be free to take appropriate action against such defaulting firms. The bidder is expected to be familiar, with the latest bus body designing of various types in vogue preferably with the type of bus bodies in HARYANA ROADWAYS according to Bus body code accreditation certificate AIS-052 (Revised or amended up to date) at the time of fabrication.

4.10 An affidavit, as prescribed in Schedule 'J' is required to be furnished along with technical information. The applicants' attention is explicitly drawn to the fact that, even after pre-qualification of potential bidders have been carried out, the Bidders may also submit a Statement of the changes that may have occurred after submission pre-qualification.
4.11 In case of joint venture, all parties to the joint venture shall sign the bid and they shall be jointly and severally liable, and a joint venture shall nominate a representative who shall have the authority to conduct all business for and on behalf of any or all the parties to the joint venture. In case of acceptance of the bid of joint venture, either they shall form a registered joint venture company/firm or otherwise all the parties to the joint venture shall sign the agreement.

4.12 The corporation fully reserves the right to accept or to reject any of the pre-qualification bid received and will also not be liable to explain the reason to anybody for the decision taken by the Corporation.

4.13 Bid must be submit online and also submit hard copy of the full bid documents along with DD/FDR/BG of required fees/BSD duly signed and stamped by the bidder with seal.

4.14 The Managing Director fully reserves the right to accept or to reject any of the pre-qualification bid or full bid received and will also not be liable to explain the reason to anybody for the decision taken by the Corporation.

4.15 The bid should be valid for a period of three month from the Date of opening of the bid.

5. Pre-Bid Meeting-
A pre-bid meeting will be held on 10.01.2020 at 11.00 Hrs. at office, General Manager, HREC address 6th MILE STONE, JAIPUR HIGHWAY BEHRAMPUR ROAD, KHANDSA, GURUGRAM-122001 (HARYANA) TEL.0124-2215660, TEL.FAX.0124-2215389 EMAIL.ID: gm.hrec27@gmail.com. Prospective bidders are requested to make it convenient to attend the pre-bid meeting.

Any clarification issued after the pre-bid meeting shall be made available on the website - https://hartrans.gov.in

6. Two Stage bid-
There shall be TWO stages bid. “Technical Bid” and “Financial Bid”. The bidders are expected to submit their offer in TWO separate envelops.

Envelope 1: “Technical Bid”
This envelope should contain following document:-

a. Bid document Fee, processing fee, Technical bid fees and BSD (Bid Security Deposit)
b. Documents related to "Pre-qualification criteria"
   i. Copy of complete bid document dully signed as an acceptance of the bid terms and conditions.
   ii. Certificate of ownership/ Incorporation/ Registration issued by the Registrar of Companies & partnership deed whatsoever.
   iii. Copy of the accreditation certificate for the Bus Body Building Workshop.
   iv. Specification sheet dully signed.
c. Documents as per point 2 of Pre-Qualification.

Envelope 2: “Financial Bid”.
The financial bid (price per bus body – delivery at HREC Gurugram put under this envelope.
Both the envelopes dully sealed separately should be put in a big envelope with subscription “Bid for fabrication of ordinary district type buses with passenger bus seats” – date of opening– on cover and name with address of the bidder at corner.
Only technical bid will be first opened on dated **17.01.2020**. Technical Bid so opened will be examined in line with pre-qualification / eligibility criteria to assess its responsiveness. Financial bid of only those bidders will be opened whose, technical bid is responsive (meets the bid requirement and other criteria’s). Financial bid of Non-responsive bidders (not meeting out the pre-qualification / eligibility criteria) will not be opened.

7. **Pre-qualification (Eligibility) Criteria:-**

The bidder should have the BUS Body Building workshop accreditation certificate (Revised or amended up to date) for fabrication of bus body as per drawing, specifications given in the bid document from any of the authorized testing agency approved by Govt. of India. Copy of the certificate should be provided with technical bid. The bidder should fulfill all the terms, conditions etc. mentioned in the technical bid document.

**Cost & Language of Bidding**-

a) The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the procuring entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

b) The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the procuring entity, shall be written only in English/Hindi Language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English/ Hindi language, in which case, for purposes of interpretation of the Bid, such translation shall govern.

11. **Withdrawal, Substitution, and Modification of Bids**

a) If permitted on e-Procurement portal, a Bidder may withdraw its Bid or re-submit its Bid (technical and/ or financial cover) as per the instructions/ procedure mentioned at website.

b) Bids withdrawn shall not be opened and processes further.

12. **Acceptance of the successful Bid and award of contract**

a) The procuring entity after considering the recommendations of the bid evaluation committee and the conditions of Bid, if any, financial implications, trials, sample testing and test reports, etc., shall accept or reject the successful Bid. If any member of the bid evaluation committee has disagreed or given its note of dissent, the matter shall be referred to the next higher authority, as per delegation of financial powers, for decision.

b) Decision on Bids shall be taken within original validity period of Bids and time period allowed to procuring entity for taking decision. If the decision is not taken within the original validity period or time limit allowed for taking decision,
the matter shall be referred to the next higher authority in delegation of financial powers for decision.

c) Before award of the contract, the procuring entity shall ensure that the price of successful Bid is reasonable and consistent with the required quality. A Bid shall be treated as successful only after the competent authority has approved the Procurement in terms of that Bid.

d) The procuring entity shall award the contract to the bidder whose offer has been determined to be the lowest or most advantageous in accordance with the evaluation criteria set out in the bidding document and if the bidder has been determined to be qualified to perform the contract satisfactorily on the basis of qualification criteria fixed for the bidders in the bidding document for the subject matter of procurement.

e) Prior to the expiration of the period of bid validity, the procuring entity shall inform the successful bidder, in writing, that its Bid has been accepted.

f) As soon as a Bid is accepted by the competent authority, its written intimation shall be sent to the concerned bidder by registered post or email and asked to execute an agreement in the format given in the bidding documents on a non-judicial stamp of requisite value and deposit the amount of performance security or a performance security declaration, if applicable, within a period specified in the bidding documents or where the period is not specified in the bidding documents then within fifteen days from the date on which the letter of acceptance or letter of intent is dispatched to the bidder.

g) To get the bus body fabricated in time, the corporation reserve the right to engage more bidder for fabrication of bus bodies on approved rates.

13. DISQUALIFICATIONS

If any such information which would have entitled HREC to reject or disqualify the bidder, becomes known after the bidder has been pre-qualified, HREC reserves the right to cancel the pre-qualification of the bidder at any later stage, without assigning any reason thereof.

NOTE-

a. All supporting documents w.r.t. the above shall have to be provided with Technical bid (envelope 1).

b. Financial bid of only those bidder will be opened, who fulfill all the above eligibility criteria's

c. Technical and Financial bids should also be online and also hard copy be submitted in separate envelop.

d. The corporation fully reserves the right to accept or to reject any of the pre-qualification application received and will also not be liable to explain the reason to anybody for the decision taken by the Corporation.
TECHNICAL BID DOCUMENT FOR
FABRICATION OF ORDINARY DISTRICT
TYPE BUS BODIES

PART-II

TECHNICAL BID
QUESTIONNAIRE FORMS
TECHNICAL BID APPLICATION

To,

The GENERAL MANAGER,
Haryana Roadways Engg. Corpn,
6th Milestone Behrampur Road Village-Khandsa NH-8,
Gurugram-122001 Haryana

Ref: Bid notice for Bus Body Building Work.

Advertisement No._________ dtd _________
published in _______________ Newspaper.

Dear Sir,

Having examined the Technical Bid Documents, we hereby submit all the necessary information and relevant documents for pre-qualifying us for consideration of financial bids for the under mentioned works as per drawings and specifications of HREC. (Please tick the appropriate serial number)

1. Fabrication of District type bus bodies with passenger bus seats.

The application is made by us on behalf of ________________________
(Group of firms) in the capacity of ____________________________ duly authorized to submit the offer.

We are also submitting our financial bid for Fabrication of District type bus bodies with passenger bus seats on chassis having wheel base 5100 mm to 5500 mm as per drawings and specifications of HREC bus body type approval. We understand that Corporation reserves the right to reject any application without assigning any reason.

2. The demand drafts as details given below are enclosed herewith:-

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Particulars</th>
<th>Amount in Rs.</th>
<th>DD/FDR/BG No. &amp; Date</th>
<th>Bank Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cost of Bid documents</td>
<td>3000/-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Bid processing fee</td>
<td>1000/-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Technical bid fees</td>
<td>2000/-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>BID SECURITY for financial bid</td>
<td>15,00,000/-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. We hereby also submit that we carefully read all the terms, conditions, specifications & instructions mentioned in this Bid documents and we ensure to comply with the same and we have BUS BODY BUILDING WORKSHOP accreditation certificate.
The necessary evidence admissible in law in respect of authority assigned to us on behalf of the group of firms for applying and for completion of the contract document is attached herewith.

We are also submitting our financial bids for the works indicated above. We understand that Corporation reserves the right to reject any application without assigning any reason.

Dated the ________________

Signature of the Applicant

Including title and capacity in which application is made.

Enclosures:

1. Technical Bid Documents with related terms, conditions, duly signed and stamped on each page by the Bidder and with DDs of BID SECURITY, Bid cost, Bid processing fee & Technical bid fee in a separate envelop.
2. Financial Bid documents schedule of rates (BOQ) duly signed and stamped by the bidder on each page, in a separate envelop.
## SCHEDULE – "A"
### ORGANIZATIONAL SET UP

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of applicant&lt;br&gt;Applicant Father's name&lt;br&gt;Residence Address&lt;br&gt;Telephone No.&lt;br&gt;Fax No. Mobile&lt;br&gt;No. E-mail address</td>
</tr>
<tr>
<td>2</td>
<td>Name of the firm&lt;br&gt;In case of the Joint venture/ consortium, the name of the lead firm</td>
</tr>
<tr>
<td>3</td>
<td>Head-Office Address&lt;br&gt;Telephone No.&lt;br&gt;Mobile No. E-mail address</td>
</tr>
<tr>
<td>4</td>
<td>Regional Office Address (If any)&lt;br&gt;Telephone No.&lt;br&gt;Mobile No. E-mail address</td>
</tr>
<tr>
<td>5</td>
<td>Factory/ Works Address&lt;br&gt;Telephone No.&lt;br&gt;Mobile No. E-mail address</td>
</tr>
<tr>
<td>6</td>
<td>Local Office Address in India (If any)&lt;br&gt;Telephone No.&lt;br&gt;Mobile No. E-mail address</td>
</tr>
<tr>
<td>7</td>
<td>Description of Applicant (e.g. fabrication of</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
|   | coaches.  
   ii. In House facilities available. (for design/ supply/ quality assurance.) |
| 8 | Year of incorporation (attach copy of certificate of registration) |
| 9 | Name and address of Bankers |
| 10 | Attach the copy of Bus body building workshop accreditation certificate |

Note:

1. Applicant covers proprietary firm, partnership, Limited company or Corporation, Joint Venture of Consortium.

2. Particulars of item 2 to 8 above should be furnished separately for each partner of Joint Venture/ Consortium.
SCHEDULE – "B"
FINANCIAL STATUS

(To be given separately for each constituent firm of Joint Venture/ Consortium)

1. Name of Applicant (in case of Joint Venture/ Consortium, the names of the constituent firms)

2. Summary of assets and liabilities on the basis of the audited financial statement of the last three financial years (Attach copies of the audited financial statement of the last 3 financial years).

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Particulars</th>
<th>Rs. in lacs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Year 2016-17</td>
</tr>
<tr>
<td>1.</td>
<td>Asset value</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Liquidity position</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Current assets</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Current liabilities</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Net worth</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Working capital</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Paid up capital</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Assured capacity to raise finance loans and market borrowings.</td>
<td></td>
</tr>
</tbody>
</table>

3. Turnover of fabrication works undertaking the last 3 years and projected turnover for the current year.

(Rupees in lacs)

<table>
<thead>
<tr>
<th>Current year</th>
<th>2018-19</th>
<th>2017-18</th>
<th>2016-17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Profit before Tax:
   a. Profits earned during the last 3 years.
   b. Please enclose a copy of the last year audited balance sheet P&L/A/c.
   c. Please enclose a latest copy of Income Tax clearance certificate.

5. Applicant's specific financial bids (mention amount in Indian Rupees)
   a. Equity Capital
   b. Loan capital
   c. Market Borrowings and others.
6. Details of working experience:-

Note:

All items should be properly filled in. Where any particular item is not applicable, it should be clearly mentioned as "Not applicable".
## SCHEDULE – "C"

**FACTORY AREA AND PLANT & MACHINARY**

<table>
<thead>
<tr>
<th>Name of the Applicant</th>
<th>M/s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **SHED:**

   a) **FACTORY AREA:**

      i. Top cover with pucca flooring
      ii. Top cover with kutcha flooring
      iii. Without shed and kutcha flooring

2. **PRESS BRAKES AVAILABILITY (PLEASE MENTION CAPACITY: I)**

3. **SHEARING MACHINE:**

   a) Capacity
   b) Thickness

4. **WELDING EQUIPMENT:**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type</th>
<th>Capacity</th>
<th>Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Mig</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. **AIR COMPRESSOR:**

   | Nos. of air compressors | Available and their capacity |

6. **DG SET**

   | No. | Capacity |

7. **BENDING AND SLOTTING MACHINE:**

   a) Hand operated
   b) Machine operated.

8. **PAINTING SYSTEM TYPES:**
a) Close
b) Open
c) Paint baking

9.

<table>
<thead>
<tr>
<th>Riveting arrangement</th>
<th>No. of machinery available</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Pneumatic riveting</td>
<td></td>
</tr>
</tbody>
</table>

10. Firefighting equipment.

11. Battery chargers:

<table>
<thead>
<tr>
<th>Capacity of battery charge to charge the batteries at a time.</th>
</tr>
</thead>
</table>

14. Water leakage test arrangements:

<table>
<thead>
<tr>
<th>a</th>
<th>Shower testing of complete vehicle at a time</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>Car washer testing.</td>
</tr>
</tbody>
</table>

15. Tyre inflating arrangement.

16. Penal stretching machine availability and their capacity details of:

17. Any other equipment which may be available, may please be provided, for constructions of quality of Body Building.
### SCHEDULE - D'
WORKING EXPERIENCE

(TO BE GIVEN SEPARATELY FOR EACH CONSTITUENT FIRM OF JOINT VENTURE/ CONSORTIUM)

<table>
<thead>
<tr>
<th>Name of the Applicant</th>
<th>M/s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

1. Numbers of years and experience in fabrication of passenger vehicles (More than 22 seater).

2. Nos. and type of passenger vehicles fabricated during the last 3 years.

<table>
<thead>
<tr>
<th>Period</th>
<th>Type of bus bodies</th>
<th>Nos of Buses</th>
<th>For STUs</th>
<th>Private Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-18</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2018-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SCHEDULE – "E"
TECHNICAL MANPOWER AVAILABILITY

Name of the Applicant

M/s

1. Skilled staff available on roll.

2. Unskilled staff available on roll.

3. Availability of Supervisors and their qualification.

4. Information regarding key personnel.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Year of Education of the applicant</th>
<th>Education</th>
<th>Proposed Experience of the applicant</th>
<th>Relevant experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
SCHEDULE- "F"
QUALITY ASSURANCE MEASURES AVAILABILITY

<table>
<thead>
<tr>
<th>Name of the Applicant</th>
<th>M/s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Whether following quality assurance equipments are available, if yes, indicate quantity and capacity of each equipment.

1. Painting depth measuring equipment.

2. Micrometer

3. Vernier Calipers

4. Hardness Testing Machine
   a) Brinell
   b) Rock well

5. Any other (with capacity and make)
# SCHEDULE – "G"
INFORMATION REGARDING LITIGATION/ DEBARRING/ EXPPELLING OF BID

1.  
|   |   |  
|---|---|---|
| a | Is the applicant currently involved in any Litigations/ arbitration relating to the contract works. | Yes / No |
| b | If yes, give details: |  
| i. | With HR/HREC |  
| ii. | With others. STUs etc |  

2.  
|   |   |  
|---|---|---|
| a | Has the applicant or any of its constituent partners been debarred / expelled by any Agency in India, during last 3 years. | Yes / No |
| b | If yes, give details: |  

3.  
|   |   |  
|---|---|---|
| a | Has the applicant or any of its constituent partners failed to perform on any contract work in India during last 3 years. | Yes / No |
| b | If yes, give details: |  

Note:

If any information in this schedule is found to be incorrect or concealed, pre-qualification application may be rejected.
SCHEDULE-"H"
INFORMATION REGARDING SUB-CONTRACTING

1. Would you sub-contract any part of work. - Yes/ No.

   If Yes, then

2. Type of work proposed to be sub-contracted.

3. Give names of the sub-contractors and their particulars.

4. Give names of the specialized Contractors which are proposed to be associated Indicating the nature of work.
## SCHEDULE-"I"
### JOINT VENTURE DATA

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of applicant</td>
</tr>
<tr>
<td>2</td>
<td>Head-Office Address</td>
</tr>
<tr>
<td></td>
<td>Telephone No.</td>
</tr>
<tr>
<td></td>
<td>Mobile No.</td>
</tr>
<tr>
<td></td>
<td>Fax No.</td>
</tr>
<tr>
<td></td>
<td>E-Mail Address</td>
</tr>
<tr>
<td>3</td>
<td>Local/ Regional Office Address (If any)</td>
</tr>
<tr>
<td></td>
<td>Telephone No.</td>
</tr>
<tr>
<td></td>
<td>Mobile No.</td>
</tr>
<tr>
<td></td>
<td>Fax No.</td>
</tr>
<tr>
<td></td>
<td>E-Mail Address</td>
</tr>
<tr>
<td>4</td>
<td>Name of partners</td>
</tr>
<tr>
<td></td>
<td>a)</td>
</tr>
<tr>
<td></td>
<td>b)</td>
</tr>
<tr>
<td></td>
<td>c)</td>
</tr>
<tr>
<td></td>
<td>d)</td>
</tr>
<tr>
<td></td>
<td>e)</td>
</tr>
<tr>
<td></td>
<td>Details about constituent firms to be provided on separate sheet.</td>
</tr>
<tr>
<td>5</td>
<td>Name (s) if lead firm</td>
</tr>
<tr>
<td></td>
<td>a)</td>
</tr>
<tr>
<td></td>
<td>b)</td>
</tr>
<tr>
<td>6</td>
<td>Joint venture Agreement</td>
</tr>
<tr>
<td></td>
<td>a) Date of Agreement</td>
</tr>
<tr>
<td></td>
<td>b) Place</td>
</tr>
<tr>
<td>7</td>
<td>Proposed distribution of responsibilities among constituent firms.</td>
</tr>
<tr>
<td></td>
<td>a) Financial distribution</td>
</tr>
<tr>
<td></td>
<td>b) Work distribution</td>
</tr>
</tbody>
</table>
SCHEDULE-"J"
AFFIDAVIT

(TO BE GIVEN SEPARATELY BY EACH PARTNER OF JOINT VENTURE)

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.

2. The undersigned also hereby certifies that either our firm M/s ______________________________ nor any of its constituents partners have abandoned any work on any State Transport Undertaking in India nor any contract awarded to us for such works has been rescind during last 3 years prior to the date of this bid.

3. The undersigned hereby authorize (s) and request (s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the department to be verified this statement or regarding by (our) competence and general reputation.

4. The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the department/ projection implementing agency.

(Signed by an Authorized Officer of the firm.)

(Title of the Officer)

(Name of the firm)

Date
SCHEDULE – "K"
LIST OF MINIMUM REQUIRED PLANT AND MACHINERY

1. AL. H PRIMER & EPOXY
2. Shower testing of complete vehicle :IS:
3. Battery chargers of suitable capacity.
4. Air compressor of high capacity along with tyre inflating arrangement.
5. Panel stretching machine.
6. Press brake machine of capacity _____
7. Shearing machine of capacity ______mm thick
8. Mig welding equipments 2 Nos. minimum.
9. DG Set.____
10. Suitable painting booth with spray painting arrangement
11. Suitable fixture for bending of roof sticks, pillars etc.
12. Pneumatic riveting machine minimum 4 Nos.
13. Portable drill m/c, grinders and other hand tools required for fabrication work.

**********
**SCHEDULE – "L"**

Pre-qualification mandatory conditions for the bidder for fabrication of bus bodies

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Questionaire</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Whether your bus body fabrication workshop is accredited from ARAI, Pune or any agency approved by Govt. of India (Attach copies of issued letter. Please note that in absence of above, bid may not be considered at all.)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Whether the average annual turnover of the bidder from the bus body fabrication during last three financial years (i.e. 2016-17, 2017-18 &amp; 2018-19) is Rs. .......... ..... or more.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Bidders shall be manufacturer of bus bodies for a minimum of last three years.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Whether the firm has shower testing.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Whether the firm has air compressors.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Whether the firm has battery chargers.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Whether the firm has panel stretching machine.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Whether the firm has press brake machine, capacity 120 MT (assorted)</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Whether the firm has shearing machine 6mm thick.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Whether the firm has mig welding equipment.</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Whether the firm has DG set minimum 200 kva</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Whether the firm has painting booth and spray painting arrangement.</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Whether the firm has fixtures for bending roof sticks.</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Whether the firm has pneumatic riveting machine.</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>Whether the firm has portable drill machine, grinders and other hand tools.</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Whether the firm has side panel rolling machine.</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Whether the firm has roof panel rolling machine.</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Whether the firm has in house design facilities.</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Whether the firm has minimum bus body building capacity 25 Nos. per month.</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Assurance of quality by accepting penalty clause.</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>Whether the firm has Registration in Govt. Dept.</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>Whether the firm has dry film thickness meters.</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Whether the firm has hardness testing machine.</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Whether the firm has pre-delivery inspection facilities.</td>
<td></td>
</tr>
</tbody>
</table>
FINANCIAL BID DOCUMENTS
FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS
BODIES WITH PASSENGER SEATS

I. BID FORM
II. TERMS & CONDITIONS
III. SPECIFICATIONS
IV. LIST OF APPROVED SOURCES OF MATERIAL
V. DRAWINGS
BID FORM

Bid form for fabrication and supply of Ordinary Distt. type bus bodies with GI tubular structure on the sides and MS top hat section for roof top, Aluminum paneling on roof top and below floor level, GP stretch panel from waist rail TATA AND ANY OTHER SUITABLE CHASSIS 5100MM to 5500MM WB without FES chassis with passenger bus seats.

INSTRUCTIONS FOR THE BIDDERS

1. INSTRUCTIONS:

a) Bid must be online and also submit hard copy on the annexed form and along with annexed general conditions & schedule duly signed and stamped by the BIDDER with seal.

b) Before the bid is delivered, the BIDDER must fill in the blank in it and the schedule annexed thereto.

c) Bid form not accompanied with ANNEXURE SCHEDULE duly filled in all respects, as per the instructions given below will be liable for rejection.

2. GENERAL CONDITIONS, GUARANTEE ETC.

BIDDER should refer to the general conditions and in particulars to those relating to guarantee, completion of contract and PERFORMANCE SECURITY DEPOSIT.

3. a) The BIDDER must quote his rates as per Schedule enclosed. The following words should superscribed on right hand corner of the envelop:

"FINANCIAL BID FOR FABRICATION OF SUPER EXPRESS-BLUE LINE - BUS BODIES ON TATA/ LEYLAND/EICHER AND ANY OTHER SUITABLE CHASSIS".

The BIDDER must quote his rates separately per unit specified on the schedule in figures as well as in words. The rates of GST or other Govt. levy if any, should be specifically indicated. The chassis shall be lifted from ware-
house of the chassis suppliers i.e. Haryana Roadways Engineering Corporation “HREC” Office -6™ MILE STONE, JAIPUR HIGHWAY BEHRAAMPUR ROAD, KHANDSA, GURUGRAM-122001 (HARYANA) TEL.0124-2215660, TEL.FAX.0124-2215389 EMAIL.ID: gm.hrec27@gmail.com and completed bus bodies shall also be delivered at, HREC, GURUGRAM by the Body Builder/s at their own cost.

2. No variations in the rates such mistake, misunderstanding etc. will be allowed on any ground after the bid has been submitted.

3. BIDDERs are prohibited from making any addition or alterations in the descriptions mentioned in the schedule or in the column. They should either quote rates for the articles as described in the schedule or write the words "No Rates" against each item.

4. The BIDDERs are requested not to subject their bids to hedging conditions such as 'offer subject to the availability of stock', 'offer subject to confirmation at the time of order', 'rates subject to market fluctuations, offer availability stock etc. etc. as such conditions shall disqualify the bid.

5. The corporation reserves the right to reduce or increase the number of bus bodies to be constructed and supplied at the time of placing the order during the tenure of the contract, which will have no corresponding effect on the rates quoted for the bid.

   No change in the schedules of delivery of bus bodies will be entertained by the Corporation. However, considerations on any point in dispute, will be given by the Managing Director, at his discretion on merits of each case.

3. BID SECURITY:

A sum of Rs. 15,00,000/- in the form of DD/FDR/IRREVOCABLE BANK GUARANTEE valid for minimum period of 18 months from the date of issue in favor of General Manager., Haryana Roadways Engg. Corpn, Gurugram giving reference of the Bid Number should be paid as BID SECURITY along with PRE-QUALIFICATION TECHNICAL BID. In case of non receipt of BID SECURITY of Rs. 15,00,000/- with PRE-QUALIFICATION TECHNICAL BID, Financial Bid shall not be considered for OPENING, even if the firm is technically qualified.

Bid received without BID SECURITY shall not be considered on any ground, whether registered with DGS & D or Board of Small Scale Industries/. BID
SECURITY in the form of CHEQUES etc. will not be accepted. No interest shall be allowed on this deposit. BID SECURITY will be forfeited if:-

a) The BIDDER fails to deposit the required security.
b) Bid is withdrawn within the period of its validity of 03 months from the date of opening of the bid.
c) In case of any default or violation of terms and conditions of the bid by the bidder.
d) When the bidder withdraws or modifies its bid after opening of bids.
e) When the bidder does not execute the agreement, if any, after placement of supply / work order within the specified period.
f) When the bidder fails to commence the supply of the goods or service or execute work as per supply / work order within the time specified.
g) When the bidder does not deposit the performance security within specified period after the supply / work order is placed.
h) If the bidder breaches any provision of code of integrity prescribed for bidders specified in the Act and Chapter VI of RTPP rules.

4. **ADDRESSING BID:**

This financial bid and the accompanying schedules must be submitted in an addressed envelope which must be properly sealed by the BIDDER with their office seal and super scribed with following:-

"FINANCIAL BID FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES ON TATA OR ANY OTHER SUITABLE CHASSIS"

TO,

The GENERAL MANAGER,
Haryana Roadways Engg. Corpns,
6th Milestone Behrampur Road Village-Khanda NH-8,
Gurugram-122001 Haryana

The last date for online of bid is JAN 2020 upto 3.00 PM.

6. **OPENING OF BID:**

Technical bid will be opened through online on JAN 2020 at 11:00AM.

7. **ACCEPTANCE OF BID:**

The corporation is not bound to accept the lowest or any bid, neither to assign any reasons for rejection of the bids. The BIDDER or his part is bound by his offer in part or whose at the option of the Corporation.

HREC reserves the right to increase/decrease, quantity or to reject any/ all bids and / or carry out any amendments without assigning any reason thereof.

8. **BID SECURITY OF UNSUCCESSFUL BIDS:**

BID SECURITY DEPOSITED by the unsuccessful BIDDERs will be returned as soon as possible after the bid has been settled / finalized.

9. **DISCHARGE OF BID CONDITIONS:**

The Managing Director reserves to himself the right to reject any bid which does not confirm to any of the above mentioned instructions or which does not accept the conditions laid down by HREC.

**********
FINANCIAL BID

To,

The GENERAL MANAGER,
Haryana Roadways Engg. Corpn,
6th Milestone Behrampur Road Village-Khandsa NH-8,
Gurugram-122001 Haryana

Dear Sir,

We the undersigned hereby offer and undertake:-

To fabricate ORDINARY DISTRICT TYPE bus bodies with passenger bus seats during the year 2019-20 with GI tubular structure on the sides and MS top hat section for roof top, Aluminum paneling on roof top and below floor level, GP stretch panel from waist rail to floor level on TATA OR ANY OTHER SUITABLE CHASSIS 5100 MM to 5500 MM WB chassis without FES to be supplied by the Corporation and supply the complete bus bodies ready for the road as described or mentioned in the drawings, specifications and schedules or annexed hereto & AIS-052 in a thoroughly good workmanship like manner, and in strict accordance with terms, provisions, conditions also hereto annexed, and in said drawings specifications.

1. We hereby undertake to deliver bus bodies complete in all respects mounted on Corporation chassis and ready for road at the place and in the manner to be directed by the Managing Director or his Authorized Representative as set forth in the prescribed schedules.

2. We agree that this bid shall remain open, to be accepted or not, by the Corporation and shall not be withdrawn till the expiry of 03 months after the date of opening.

3. We agree that payment under the contract shall be on the basis of lump sum and not by way of measure and value and undertake to execute a contract agreement to be prepared at our expenses for the proper and complete fulfilment of the terms and conditions, drawings, specifications, schedule or prices or this bid and to deposit performance security to a sum equivalent to 10% of the total value of work order in the form of DD/FDR/IRREVOCABLE BANK GUARANTEE valid for minimum period of 18 months from the date of issue of BG in favour of GENERAL MANAGER., HARYANA ROADWAYS ENGG. CORPN,GURUGRAM set forth in the prescribed schedule with the Corporation for securing the due and complete performance of the contract.

AS WITNESS:
____________________________________ Hand this ____________________
day of _____________________________

________________________________ Name _____________________________
________________________________ Address _____________________________

SIGNATURE
(The contractor’s name to be written in full)
**SCHEDULE OF RATES FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODY WITH PASSENGER BUS SEATS ON TATA OR ANY OTHER SUITABLE CHASSIS” HAVING WB 5100MM TO 5500MM WITHOUT FES CHASSIS**

Bid for fabrication and supply of **ORDINARY DISTRICT** type bus bodies with GI tubular structure, GP stretch & aluminium paneling on Tata OR and any other suitable chassis

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Particulars</th>
<th>Basic rate for bus body</th>
<th>GST</th>
<th>Net landing price</th>
<th>Monthly Fabrication capacity for HREC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fabrication and supply of Blue line type bus bodies with passenger bus seats, GI tubular structure, GP stretch &amp; aluminium paneling on TATA OR <em><strong>ANY OTHER SUITABLE CHASSIS &quot;5100 mm to 5500MM WB chassis without FES having 58.10% to 60% ROH.</strong></em></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
TERMS & CONDITIONS OF FINANCIAL BID AND CONTRACT FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES ON TATA OR ANY OTHER SUITABLE CHASSIS.

These conditions should be read very carefully by the BIDDERs while filling in their bids:

A. In the following general conditions and broad specifications and expression "CORPORATION" shall mean Haryana Roadways Engineering Corporation “HREC”, GURUGRAM. The Managing Director shall be the Managing Director of Haryana Roadways Engineering Corporation “HREC”, GURUGRAM. The contractor shall mean the person or persons, company of firm, whose bid shall be accepted by the Corporation. The "work" comprising of or referred to in these conditions, specifications, drawings and schedules of prices, which are intended to executed and performed by the Contractor. The singular number shall include the plural and masculine gender shall include the feminine. The specifications are intended to be explanatory of the work required to be done but should any discrepancies or omissions, appear or any misunderstanding arises, with regard to intention/meaning of anything contained in the specifications, the explanation of the Managing Director shall be final and binding on all the parties.

B. Bid must be submitted online and also hard copy be submitted in the office of General Manager HREC, GURUGRAM.

C. Financial bids should be submitted before the prescribed hours and date and must be accompanied by BID SECURITY of Rs. 15,00,000/- for ORDINARY DISTRICT TYPE BUS BODIES in the form of DD/FDR/ IRREVOCABLE BANK GUARANTEE valid for minimum period of 18 months from the date of issue of BG in favour of GENERAL MANGER., HREC, GURUGRAM. The BID SECURITY shall bear no interest. BID SECURITY in the form of CHEQUES etc. shall not be accepted. Bid received after prescribed hour and date are liable to be rejected.

D. The bid submitted shall not be considered in case of non deposition of BID SECURITY or on any ground, whether registered with DGS & D/ Board of Small Scale Industries, i.e. Bids without BID SECURITY will stand rejected.

E. In respect of unsuccessful BIDDERs, BID SECURITY be refunded. But in respect of successful BIDDERs, the BID SECURITY shall be adjusted towards PERFORMANCE SECURITY DEPOSIT.

F. The contractor shall be deemed to have carefully examined the conditions, broad specifications, size and drawings etc. of the bus bodies to be fabricated. If he has any doubt as to the meaning of any of these conditions or of the specifications, drawings etc. shall before submission of bid, refer to the GENERAL MANAGER HREC, GURUGRAM and get the clarifications from him in writing. The interpretation of the Managing Director on this behalf shall be final and binding on the BIDDERs.
Bid documents can be downloaded from online website https://hartrans.gov.in.

G. The rates for fabrication of bus bodies should be quoted per unit and must not under any circumstances be altered and the rates must be entered in words as well as in figures.

H. Any increase/decrease in Government Levies shall be leviable to the firm on production of proof to the satisfaction of the Corporation.

I. The BIDDERs should sign the bid form and all these papers, terms and conditions, in token of having accepted all the terms and conditions of bid and contract and should also enclose the same with the bid.

J. The corporation reserves the right to accept any bid or part of a bid not necessarily the lowest and may, similarly, reject any bid, any part of the bid or all the bids without assigning any reasons. Therefore, order can be placed for the fabrication of all the bodies to one Contractor or can be split into more Contractors at the discretion of the Corporation.

K. Dividing quantities among more than one bidder at the time of award.- As a general rule all the quantities of the subject matter of procurement shall be procured from the bidder, whose bid is accepted. However, when it is considered that the quantity of the subject matter of procurement to be procured is very large and it may not be in the capacity of the bidder, whose bid is accepted, to deliver the entire quantity or when it is considered that the subject matter of procurement to be procured is of critical and vital nature, in such cases, the quantity may be divided between the bidder, whose bid is accepted and the second lowest bidder or even more bidders in that order, in a fair, transparent and equitable manner at the rates of the bidder, whose bid is accepted if such condition is specified in the bidding documents. Counter offer to first lowest bidder (L1), in order to arrive at an acceptable price, shall amount to negotiation. However, any counter offer thereafter to second lowest bidder (L2), third lowest bidder (L3) etc., (at the rates accepted by L1) in case of splitting of quantities, as pre- disclosed in the bidding documents, shall not be deemed to be a negotiation.

L. The corporation reserves the right to increase or decrease the sources specified for a particular material in case of any change, the sources shall be effective for those chassis which shall be issued to the Body Builders after notifying changes in writing.

M. On the completion of necessary formalities of Agreement and after signing of the same by both the parties, Corporation will issue detailed work order indicating No. of chassis to be allotted to the Contractor in pursuance of this Agreement.

NOW THESE PRESENT WITNESSES:

1 AT THE TIME OF EXECUTION OF AGREEMENT:

The contractor shall pay 10% performance security of the total value of the Work Order in the form of DEMAND DRAFT/FDR/ IRREVOCABLE BANK GUARANTEE valid for minimum period of 18 months from the date of issue of
BG, pledged in favour of HREC at the time of execution of this AGREEMENT.

The corporation shall have the right to forfeit the amount of security if the work of the Contractor is not found to be satisfactory or the Contractor commits any default in performance of this CONTRACT or fails to fabricate the numbers of received chassis within a period of 30 days i.e. latest by 25th March 2020 violates the terms and conditions of this Agreement. The amount of Security / Bank Guarantee would be released by the Corporation only after satisfactory completion of the contract and expiry of the Guarantee period. No interest on PERFORMANCE SECURITY/ BID SECURITY would be payable to the Contractor.

2 WORK ORDER:
On the completion of necessary formalities of AGREEMENT and after signing of the same by both parties, the Corporation will issue detailed work order indicating number of chassis to be allotted to the Contractor in pursuance of this AGREEMENT.

3 PRE-DELIVERY CONDITIONS:
Chassis shall be delivered by the Corporation to the Contractor after execution of this Agreement and completion of the following formalities:

(A) That the contractor agrees to receive the chassis at HREC, GURUGRAM from the Corporation for fabricating the bus bodies.

(B) It has been further agreed that the Contractor will get the insurance cover at his own cost for the entire period for which the chassis would be retained in his factory against fire, theft, flood, rebellion, riot, accidents and undue exposure or weather or otherwise for the full cost. In case the chassis remain with the Contractor at his factory after expiry of the insurance period, then the Contractor will be liable to get the insurance cover obtained prior to the expiry of the said policy. Factory Insurance shall be for full period of holding the chassis against fire & burglary or any other eventuality i.e. till chassis are kept in factory for fabrication purpose without break in between. However, in case of default, the contractor would be fully liable for any damage to chassis / bus body if any.

(C) The contractor would be required to execute a TRUST BOND on the stamp paper of Rs. 500/- in the format as per Annexure-B at the time of receiving the chassis.

(D) The contractor agrees that he has fully understood the drawings and broad specifications given to him for the purpose of fabrication of bus bodies and that the bus bodies are to be fabricated according to drawings and broad specifications given to him and that no further clarifications are needed. However, in case Contractor feels that some clarifications are required, then he shall obtain the same in writing before taking the delivery of the 1st chassis.

4 INSPECTIONS:
(A) The Authorized Representative of the Corporation shall inspect the bus bodies under fabrication as per schedule stipulated. The Inspecting
Authority shall have right to suggest the modification in fabrication work while pointing out the defects in the workmanship. Further, if Inspector notices the material other than what has been specified is used then the same shall be replaced by the Contractor on the insistence of the organization’s representative, at the contractor's cost.

The 1st stage inspection shall be after the completion of the frame work i.e. complete structure with stretch panel which includes verification of broad structural dimensions as per specifications and quality of workmanship, mainly welding and alignment of the structure.

The 2nd and Final stage inspection shall be final inspection of finished bus painting, interior decoration, seat fixing, shutter, water leakage test etc. etc. The Inspecting Authority will give the necessary movement orders (Gate pass) for the bus to the HREC, GURUGRAM

Surprise Inspection will be made at any stage.

Contractor shall make a written request to the Authorized Representative of HREC, GURUGRAM for the inspection of aforesaid stages as per schedule meant.
(a) The local and outside Contractors located within 350 Kms. of GURUGRAM shall intimate by at least 3 working days in advance before the proposed inspection date.
(b) The contractor located at a distance of more than 350 Kms. from GURUGRAM shall intimate tentatively at least by 07 working days in advance before the proposed inspection date, subject to the confirmation of the same by the Contractor with a margin of at least 3 working days. If the contractor fails to respond to the tentative inspection call given by him and does not offer the vehicle for inspection as per program such an act of omission shall be viewed against him.
(c) After the approval of 1st stage inspection, the Contractor will proceed further for the next stage working. The Corporation reserves the right to point out any defect in the material used, workmanship, quality of stores used etc. at any stage and the Contractor shall abide by the advice of the Inspecting Authority which will not be challengeable on the grounds that the said defects were not pointed during the earlier inspections.

(B) The following inspection schedule is indicated for the guidance of the Contractor:

**1st stage**

Within 15 days from the date of issue of release order of chassis or intimated by Fabricator in case of early completion of 1st stage.
2\textsuperscript{nd} & Final stage

10 days time i.e. final finishing
delivered completed Bus should be
done within 30 days.

In case progress of bus body fabrication of the Contractor is found
unsatisfactory and stage inspections are not expected to be completed
as per stipulated time schedule given above, Corporation shall be at
liberty to cancel the allotment made for which the chassis had not been
lifted, if any.

(C) As regards verification of the genuine material used as specified,
during fabrication stages of bus bodies would be done on the basis of
material purchase bills produced by the Contractor, simultaneously by
collecting the samples of material used in fabrication at different stages
by the Inspector/s. The sample/s collected shall be got tested from
CIRT/ Reputed Established Laboratory.

i) Wherever sources of materials are given by the Corporation, the
same could be verified by the Invoices and in case if it is
necessary to collect samples, then the same may be collected
on random basis for Corporation vendor rating purpose. There
should not be any deduction of the cost of the materials, but
testing charges in case failure of sample/s shall be borne by the
Contractor.

ii) In case of unspecified materials, if the samples fail, recovery
shall be made on pro-rata basis as per ASRTU Rate Contract
penalty clause in that lot of buses fabricated and simultaneously
testing charges shall also be recovered from the bills of the
contractor.

(D) Whenever for any material BIS/IS, ASRTU or any other specifications
have been prescribed in the broad specifications provided by HREC
besides tolerance and other technical conditions, the same will be
applicable for the material used for the bus body fabrication and the
said material must necessarily confirm to such parameters as may be
specified.

(E) The bus bodies shall be fabricated in accordance with the broad
specifications given in the bid documents for using high quality
standard material which will form a part of Agreement. The decision of
the Corporation in this regard shall be final and binding upon the
contractor. In case the material is not approved by the Corporation, the
same shall be rejected and shall be required to be replaced by the
Contractor as per directions of the Corporation. Any loss caused to the
Contractor as a consequence of such rejection or replacement shall be
entirely to the contractor’s account and for this the Contractor shall
have no right to claim or challenge the decision of the Corporation.
The authorized representative of the Corporation shall have the access to the Contractor’s premises and shall have the authority to inspect and examine the material used and the workmanship of the bodies as and when required.

(F) 5 PAYMENTS:
(a) The final payment will be made after the delivery of the buses (complete in all respect) at the identified destination/ depot within 07 working days through NEFT/RTGS. However, the bank charges if any shall be debited to the contractor’s account. However, if the Contractor does not submit the necessary documents related to above payments within prescribed time as required, the responsibility for the same shall devolve on the Contractor.
(b) A certificate from the Authorized Representative shall in no way render free or relieve the contract for any loss, injury or damage, which may result from the use of improper material or workmanship or omission in the workmanship which might have escaped the attention of the Authorized Representative of the Corporation.

6 DELIVERY SCHEDULE:
(a) The contractor shall give his consent for accepting the chassis and to fabricate the specified bus bodies as per specifications approved by HREC and deliver the same within a period of 30 days time to the Corporation. The delivery period shall be counted from the date of issue of release order in connection with the allotment of chassis to the Contractor.
(b) The fabrication period shall be counted up to the 2nd and final stage inspection approval at site.
(c) The contractor shall not be allowed a transportation time for transporting the chassis / bus body from & to his factory site from Gurugram.
(d) The contractor on completion and approval of the bus body shall be obliged to transport the vehicle/s to, HREC, Gurugram with his driver. The HREC shall also arrange for the temporary registration certificate for the vehicles during the transportation from the contractor’s place to the intimated destination i.e. HREC, Gurugram before dispatch of the vehicles.

If the contractor’s driver is found carrying the passengers in the bus in transit to the destination / depot, a penalty equivalent to the full capacity of fare of the bus from the factory of the Contractor to the destination depot shall be charged. In case of an accident, the Contractor shall be fully liable for the payment of all type of compensation / damages penalties/ payment as the case may be as
per orders of the court or as per out of Court settlement which may include passengers claims or claim of the legal heirs.

7 DAMAGE/ PENALTY CHARGES:
(a) The contractor will be obliged to complete and deliver the chassis mounted with the bus body duly completed in all respects with all accessories as provided in the broad specifications and drawings, at the given destination i.e HREC, gurugram, within the specified period. In case the work is not completed by the Contractor within the stipulated time period or if the body building work is not carried out to the entire satisfaction of the Authorized Representative of the Corporation, the Managing Director, HREC shall have the powers to revoke the Agreement and withdraw the chassis from the custody of the Contractor after giving 7 days notice.
In the event of such withdrawal, the Contractor shall not be entitled to claim any compensation from the Corporation for the incomplete or defective work done as also for the material used by him for the incomplete fabrication work or for the withdrawal of the chassis.

(b) On withdrawal and non compilation of fabrication within provided period not letter than 25th March 2020, the contractor shall be liable to pay the cost of chassis to HREC in view of Govt. order that after 31st March 2020 EURO IV vehicle shall not be registered and will be of no use.

(c) The damages imposed as per Clause No. 07 (a) shall be adjusted from outstanding of the bills of the Contractor as also from the PERFORMANCE SECURITY DEPOSITs. If an amount after adjusting from the bills and security amount still remains to be recovered / adjusted, the same shall be recoverable from the Contractor’s movable and immovable property under the Public Demands Recovery Act or as be deemed proper by HREC.

(d) The corporation will be at liberty to cancel the allotment and forfeit the BID SECURITY of the Contractor if the chassis are not lifted within 7 days from the date of issue of Release Order.

(e) The Authorized Representative of the Corporation may serve a 5 days notice in writing to the Contractor to make good the losses as referred to above and in case of failure of the Contractor to comply with the notice within the prescribed time, the Corporation will be free to forfeit the amount of PERFORMANCE SECURITY DEPOSIT and pending payments if any, to make good the losses sustained by the HREC. The balance payments if any would be recovered from the movable and immovable property of the Contractor by taking proceedings under the provisions of the Public Demands Recovery Act or as may be deemed proper by the Corporation.

8 GUARANTEE PERIOD:
(a) The contractor shall be responsible to make good any loss that may be caused due to defective workmanship structural defects and material used therein for a period of one year from the date of delivery of the completed bus body fabrication work to the Corporation or till the vehicle has covered 1.5 lacs Kms. on road whichever is later. The
contractor shall be responsible for the replacement of the parts which in the opinion of the Authorized Representative of the Corporation are not found proper.

(b) The contractor would be obliged to attend the defects of the bus bodies developed during the guarantee period at the place of the Corporation of the said vehicles. Thereafter the contractor shall also obtain a Certificate from the General Manager concerned and submit the same to the General Manager (HREC) in support of having attended the work/defects.

(c) If the reported defects are not removed within a period of 15 days by the Contractor, 10% PERFORMANCE SECURITY DEPOSIT of such vehicles shall be forfeited without giving any further notice, in addition to the recovery of extra expenditure incurred by the Corporation against removal of defects, such extra amount shall be recovered out of total PERFORMANCE SECURITY DEPOSIT of the Body Builder.

9 MISCELLANEOUS:

(a) The material required by the Contractor for the bus body fabrication shall be arranged by the Contractor. The Corporation will not be responsible for arranging any articles/material as may be required for the purpose.

(b) The Authorized Signatory of the HREC shall be entitled to order to permit any deviation from the Broad Specifications given by the Corporation and the Contractor shall abide by such instructions. However, in case of deviations having been made without prior approval, then the decision for reducing the cost to that extent shall be taken by the HREC which shall be final and binding by the Contractor.
(c) The repeat order for the fabrication of bus bodies other than the ordered quantity can always be placed on the same rates, terms and conditions and broad specifications, during a period of one year from the date of signing of Agreement, if the Corporation so decides. The Contractor shall be bound to accept the same or else shall have its PERFORMANCE SECURITY DEPOSIT forfeited in favour of HREC. However, placement of repeat order maybe subject to the condition that the total number of chassis ordered does not exceed to the agreed numbers in the Agreement. Any order beyond the quantity indicated in Agreement shall be with the consent by the Body Builder.

(d) The Contractor shall dispatch the vehicles to the HREC Gurugram communicated to him with a copy of the 2nd / Final stage inspection report, gate pass and bill in TRIPlicate along with TRC and shall furnish the GRs from the, HREC, gurugram along with the bill in DUPLICATE (including ORIGINAL COPY) with the gate pass which will be submitted to the office of the General Manager (HREC).

The authorized representative shall have the authority to withdraw all or any of the chassis from the custody of the Contractor. In the event of such withdrawals, the Corporation would be entitled for imposing the suitable penal provisions on the Contractor under the relevant clause of the Agreement.

(e) The contractor shall be fully responsible for the maintenance and safe custody of the chassis as long as the chassis remain in the Contractor’s premises. It is further agreed that contractor will return the chassis after fabrication of bus bodies in the same condition in which it was delivered to them. In case any damage occurred in chassis during fabrication of bus bodies, contractor shall be wholly responsible for the same.

(f) The corporation reserves the right to include or exclude any conditions or to modify or alter the conditions in the Agreement. HREC reserves the right to increase/ decrease quantity and / or carry out any amendments without assigning any reason thereof.

(g) In the event of non fulfillment of any of the terms and conditions of this Agreement, the HREC shall be at liberty to terminate the contract without assigning any reason to the Contractor. In the event of termination of the contract, the Corporation shall be entitled to retrieve the chassis, tools etc. entrusted to the Contractor for Body Building. The contractor shall hand over the same to the Corporation immediately on demand without putting any counter claim on his failure to do so. The contractor would be obliged to allow the Authorized Representative of the Corporation to enter into the premises where these articles are stored and to take their possession.

(h) The contractor can assign or sublet the contract of any part thereof to any other person in his works place.

(i) The contractor shall fully indemnify the Corporation against any action claim or costs, charges and expenses arising out of any infringement or
alleged infringement of letters, patent, design trade mark, make of copy right or any other protected right in respect of any machine, plant, work material or any system or method of using, fixing working or for any other arrangement, used or filed or supplied by the Contractor.

(k) If the contractor declares insolvency or enter into liquidation whether compulsory or voluntary but for the liquidation for the purpose of the reconstruction or suffer an execution for the debt to be levied against him or compounds with the creditors for the settlement of his debts, the HREC would require the assigned work to be completed and if this requisition is not satisfactorily complied with, within 7 days from the date of his notice, the Managing Director, HREC may issue a notice to the contractor in writing to rescind the contract at the cost and risk of contractor. The M.D., HREC shall thereupon have the authority to enter into a fresh contract with any other person, firm or company for the completion of the same without prejudice to his right to recover the losses from the Contractor’s PERFORMANCE SECURITY DEPOSIT etc. Any losses or damages for the default of the contract and the losses sustained by the corporation on account of damages under the contract shall be recovered in all possible manners.

Nothing under the contract clauses contained shall debar the Corporation from recovering the losses from the Contractor by suit or by other means, such extra costs, shall also be recovered from the Contractor.

(l) Any legal proceedings arising between the Corporation and the contractor if it is a must shall be instituted in the Courts situated in GURUGRAM CITY alone and not anywhere else in the country.

10 Arbitration Clause: -

All disputes & difference rising out of or concerning whatsoever, shall be referred to the sole arbitrator, i.e. Chairman, HREC Ltd., acting as such at the time of the reference. There will be no objection to such appointment that the Arbitrator so appointed is a Govt. servant, that he has to deal with such matter in the course of duties as Govt. servant and might have expressed views on all or any of the matters in disputes or differences. The award of such Arbitrator shall be final and binding on the parties involved. The arbitrator has the powers to extend the time for making the award on request from either of the parties.

PLACE: GURUGRAM
DATED: GENERAL MANAGER
Signature of the BIDDER HARYANA ROADWAYS ENGG
With Official Seal. CORP,GURUGRAM
SPECIFICATION FOR FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES

1. GENERAL DESIGN

Stream-lined and balanced bus body with double entrance cum – exit door within the wheel base of the chassis with facing forward in 3x2 layout as per latest applicable bus body code.

2. REGULATION:

The structure of the bus body, general appearance and seat lay out etc. shall be in accordance with the respective approved drawings of HREC. Bus body shall comply with the latest MOTOR VEHICLES ACT OF GOVT. OF HARYANA and latest applicable bus body code.

3. CHASSIS SELECTION:

Bus body shall be fabricated on Tata OR and any other suitable chassis of wheel base 5100 mm to 5500 mm approximately.

4. MAIN DIMENSIONS (ALL DIMENSIONS IN MM)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Tata</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overall length of bus body (from front show to rear show)</td>
<td>10668 Mini.</td>
</tr>
<tr>
<td>2</td>
<td>Over all width</td>
<td>2560</td>
</tr>
<tr>
<td>3</td>
<td>Over all height from ground to roof top</td>
<td>3020</td>
</tr>
<tr>
<td>4</td>
<td>Interior height, saloon head room from the top of cross bearer</td>
<td>1930</td>
</tr>
<tr>
<td>5</td>
<td>Rear over hang (ROH)</td>
<td>As per CMVR &amp; AIS-052</td>
</tr>
<tr>
<td>6</td>
<td>Width of gangway</td>
<td>380</td>
</tr>
<tr>
<td>7</td>
<td>Width of driver door clear</td>
<td>720</td>
</tr>
<tr>
<td>8</td>
<td>Width of saloon door</td>
<td>720</td>
</tr>
<tr>
<td>9</td>
<td>Width of emergency door clear</td>
<td>Top 720 Bottom 720</td>
</tr>
<tr>
<td>10</td>
<td>Seat Pitch</td>
<td>2 Seater 720 -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Seater 770 -</td>
</tr>
<tr>
<td>11</td>
<td>Height front skirt rail to waist rail</td>
<td>As per drawing</td>
</tr>
<tr>
<td>12</td>
<td>Height waist rail to cant rail</td>
<td>As per drawing</td>
</tr>
<tr>
<td>13</td>
<td>Pillar bay size</td>
<td>As per drawing</td>
</tr>
<tr>
<td>14</td>
<td>Average leg space</td>
<td>2 Seater 270 -</td>
</tr>
</tbody>
</table>
5 DETAILS OF DRAWINGS, STRUCTURAL MEMBERS AND OTHER IMPORTANT COMPONENTS:

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Description</th>
<th>Material</th>
<th>Dimensions – In mm</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cross bearer</td>
<td>MS channel section</td>
<td>50x100x50x6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40x75x40x6</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Cab under floor</td>
<td>Channel &amp; Angle</td>
<td>40x75x40x6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50x50x6</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>40x40x3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Roof stick &amp; roof longitude</td>
<td>CRCA MS sheet/CRCA GI pipe</td>
<td>40x40x2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>U for reinforcement of items S. No.3</td>
<td>GP SHEET 1.6MM</td>
<td>12x35x12x1.6</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Pillars Waist rail, anti-drumming rail</td>
<td>CRCA MS GI pipe</td>
<td>60x40x2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Cant rail &amp; diagonal bracing</td>
<td>CRCA GI pipe</td>
<td>60x40x2</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>40x40x2</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Seat rail</td>
<td>GP sheet 1.6 mm &amp; angle</td>
<td>As per drawing</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Skirt rail</td>
<td>CRCA GI pipe</td>
<td>40x40x2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sole bar</td>
<td>CRCA MS GI PIPE</td>
<td>40x40x2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Floor longitude/ floor cross joint support</td>
<td>HRCA MSU Galvanized 120 GSM sheet</td>
<td>30x75x30x3</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Rear mud guard support</td>
<td>MS angle</td>
<td>65x65x6</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Gussets</td>
<td>GP sheet 1.6 mm thick</td>
<td>As per drawing</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Guesses FES Jhula</td>
<td>MS sheet 6mm thick</td>
<td>170x170x6 at angle</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Cross bearer to chassis joint (U BOLT)</td>
<td>U BOLT White draw bar high tensile Gr.8.8 Rod dia 16 mm AS:166:Mar,98</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>180x160x8</td>
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<td></td>
<td></td>
<td></td>
<td>8 mm thick</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Pillar joint fixture</td>
<td>MS plate</td>
<td>180x60x5 welded to cross bearer &amp; pillar on either side.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Front &amp; Rear wheel Arc</td>
<td>CRGI pipe</td>
<td>40X20X2mm</td>
<td></td>
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<td></td>
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<tr>
<td>17</td>
<td>a</td>
<td>Rear wheel arc box</td>
<td>IS:808:1964</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Al.chequered sheet 3.25mm thick</td>
<td>As per drawing</td>
<td></td>
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<tr>
<td></td>
<td>b</td>
<td>Al.chequered sheet 3.25mm thick</td>
<td>IS:737:1966</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>3050x1220x3.25mm</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>a</td>
<td>Cab floor risor in case of Tata</td>
<td>MS channel</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>MS plate</td>
<td></td>
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<td></td>
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<td></td>
<td>40x75x40x6</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>6 mm thick</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Bonnet Assembly</td>
<td>To be retained in Original.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Front show structure and front pillar support frame with chassis - Tata</td>
<td>MS angle</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>MSU channel</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>MS channel (gussets)</td>
<td></td>
<td></td>
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<td>50x50x6</td>
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<td>40x75x40x6</td>
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<td>170x170x6</td>
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<tr>
<td>21</td>
<td>Step well</td>
<td>MS angle Al.chequered sheet 3.25mm thick</td>
<td>40x40x3</td>
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<td></td>
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<td>30x30x3</td>
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<td>22</td>
<td>Cross section of structure</td>
<td>-</td>
<td>As per drawing</td>
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<tr>
<td>23</td>
<td>FES</td>
<td>-</td>
<td>-do-</td>
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<td>24</td>
<td>Front grill</td>
<td>Hinges</td>
<td>As per drawing</td>
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<td></td>
<td></td>
<td>MS trapezoidal section</td>
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<tr>
<td>26</td>
<td>General structural details in case of Tata:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>a.</td>
<td>Side elevation</td>
<td>-</td>
<td>As per drawing</td>
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<tr>
<td>b.</td>
<td>Front structure</td>
<td>-</td>
<td>As per drawing</td>
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<td>c.</td>
<td>Floor structural details</td>
<td>-</td>
<td>As per drawing</td>
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<td>d.</td>
<td>Roof structure plan</td>
<td>-</td>
<td>As per drawing</td>
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<td>e.</td>
<td>Rear end structure Tata</td>
<td>-</td>
<td>As per drawing</td>
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<tr>
<td>27</td>
<td>Seat layout</td>
<td>-</td>
<td>As per drawing</td>
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<tr>
<td>28</td>
<td>J&amp;K door MS pipe</td>
<td>GI pipe</td>
<td>25x50x2</td>
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<tr>
<td></td>
<td>J&amp;K door GP sheet finishers</td>
<td>GP sheet</td>
<td>As per drawing</td>
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<tr>
<td></td>
<td>Heavy duty tower bolt</td>
<td>MS</td>
<td>10mm dia x200mm</td>
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<tr>
<td></td>
<td>Heavy duty railway lock</td>
<td>MS plate</td>
<td>As per drawing</td>
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<tr>
<td>30</td>
<td>Driver door</td>
<td>MS Z-section 40x40x20x2</td>
<td>As per drawing</td>
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<td></td>
<td>Sections for EPDM Door rubber beading</td>
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<td></td>
<td>Section for passenger door roller channel &amp; canopy</td>
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<tr>
<td>31</td>
<td>Emergency door (AIS – 052 or prevailing bus body code at the time of fabrication)</td>
<td></td>
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<tr>
<td>32</td>
<td>Main window</td>
<td>Al. section BW 3653 HINDALCO</td>
<td>As per AIS:</td>
<td></td>
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<tr>
<td></td>
<td>Tie bar section SP.4257</td>
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<td></td>
<td>Joint Plate-Al.</td>
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<tr>
<td></td>
<td>Al.415 section (F-section)</td>
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<td></td>
<td>Al. angle</td>
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<td></td>
<td>Al. section 1752INDAL</td>
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<tr>
<td></td>
<td>Shutter catchers (press metal)</td>
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<td></td>
<td>Terrene felt</td>
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<tr>
<td></td>
<td>Sweep rubber</td>
<td></td>
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<tr>
<td>33</td>
<td>Driver door and main door bay window</td>
<td>Fixed with EPDM rubber (Ethylene Propylene Diane Monomer)</td>
<td>As per drawing.</td>
<td></td>
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<tr>
<td>34</td>
<td>Front quarter window</td>
<td>-do-</td>
<td>As per drawing.</td>
<td></td>
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<tr>
<td>35</td>
<td>GLASS</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Front</td>
<td>&quot;AA&quot; laminated curved glass having thickness 6.3 +/- 0.4 mm &amp; with PVB FILM (Poly Vinyle Butyral film) thickness 0.7mm minimum.</td>
<td>As per drawing (42X48) Two piece AS:296:69:July,05 and IS:2835:1987 &amp; IS:2553:1992</td>
<td></td>
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<tr>
<td></td>
<td>Top fixed strip for main window</td>
<td>&quot;A&quot; toughened 4.8 mm thick flat glasses. Window and partition</td>
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<tr>
<td>window glasses tinted dark green</td>
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<tr>
<td>Shutter glass for main window And others clear transparent</td>
<td></td>
<td>As per drawing</td>
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<tr>
<td>Shutter glasses for main door bay window</td>
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<tr>
<td>Quarter window</td>
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<tr>
<td>Rear wind screen Fixed glasses</td>
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<tr>
<td>36 Conducto seat</td>
<td>As per drawing.</td>
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<tr>
<td>37 Driver partition As per AIS-052</td>
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<tr>
<td>38 Parcel rack</td>
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<tr>
<td>39 Protector cum saloon grab pipe</td>
<td>ERW pipe 25/38x2.</td>
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<tr>
<td></td>
<td>PVC sleeve 2mm thick</td>
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<tr>
<td></td>
<td>T- &amp; Cup Brackets</td>
<td>Drop forged chrome plated.</td>
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<tr>
<td>40 Front bumper</td>
<td>GP sheet 2mm thick</td>
<td>As per drawing.</td>
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<tr>
<td>41 Rear bumper</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
<td></td>
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<tr>
<td>42 Diesel tank neck cover</td>
<td>AL. Cheq. Plate 3.25mm</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43 Rub rail with rubber buffer</td>
<td>EPDM Rubber 2”, Protector &amp; Al. section</td>
<td>2” Al section HINDALCO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44 Battery box</td>
<td>1.6mm thickness stainless steel (Acid proof ) &amp; CRCA</td>
<td>As per drawing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 First aid &amp; complaint box</td>
<td>GP sheet 1mm thick</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51 Tool box</td>
<td>GP sheet</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52 Position of electric fittings</td>
<td></td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53 Destination board with light arrangement behind left wind screen, above main door &amp; at rear glass guard RH side &amp; As per AIS-052</td>
<td>MS</td>
<td>Display board width 900mm height 220m char height 200mm led pitch h 13.4 v 14.1 mm</td>
<td></td>
<td></td>
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<tr>
<td>54 Colour scheme</td>
<td>PU paint</td>
<td>As per drawing</td>
<td></td>
<td></td>
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<tr>
<td>55 Inner panelling</td>
<td>Al sheet 1mm thick</td>
<td>-</td>
<td></td>
<td></td>
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<tr>
<td>56 Roof top</td>
<td>Al. sheet 1.2mm thick</td>
<td>-</td>
<td></td>
<td></td>
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<tr>
<td>57 Outer panelling</td>
<td>Al. sheet &amp; GP stretch panel/ <strong>GP Sheet</strong> 2.6mm thick &amp; <strong>1mm thick</strong></td>
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</table>

Any doubt regarding above mention specification is to be cleared from GM, HREC, Gurugram.
NOTE:- Make of MS channels, MS/GP sheets should be SAIL, TISCO, IISCO, VISHAKAPATANAM (VIZAG) and make of MS angles 50x50x6 and above size should be SAIL. Aluminium sheet & extruded sections should be of make INDAL, BALCO, HINDALCO.

5  METAL TREATMENT:

- All the structural members and other body components should be Epoxy Zinc phosphate coated (Akzonoble -Sikkens/ Asian -PPG)/ Nerolac - Amron, Esdee).
- Epoxy primer is to be provided on the inner side of the entire panel sheet.
- All the loose structure parts i.e. front and rear bumper, parcel racks, ladder, luggage carrier, passenger door, driver door and rear glass guard etc. should also be applied with Epoxy Zinc phosphate coating and then be painted with laid down paint procedure.
- All aluminum paneling sheet and GP sheet should be properly etched and etch primer be applied for good bonding of paint.

7  CAB AND BODY MOUNTING:

- Body shall be mounted on chassis frame with suitable anti shear material of thickness of 8mm (Balata packing as per IS:1370) It should be interposed between chassis frame and body cross bearer plates. The body mounting should be with galvanized U bolt 16 mm dia 8.8 Gr. As per AS:166:65 June, 03 or latest with nyloc nut as per IS :1364:1983 or latest. U bolts should be fitted diagonally/straight with pipe sleeve packing as shown in Drg. 3 so as to remove them during overhauling for replacement purpose, if required. During fitment, the arms should pass through the pipe sleeves and balata packing. During fitment U bolt nyloc nuts should be tightened properly with torque wrench at the specified torque of 12 to 14 Mkg.
- No hole should be drilled in the chassis without approval as well as no welding shall be allowed on the chassis members. The front end structure should be properly and firmly supported with detachable brackets on the front.
- The load of the front and rear end structure should not be allowed directly on the frame. Provision should be made to detach the front bumper and other body component of the front structure to facilitate engine removal. Only mig welding is allowed in fabrication of bus body. Electrical welding is totally restricted. Vertical welding of structure members must be avoided. All welded joints shall be well ground for smooth surface. All front structure bolts should be locked by lock tight/ anabond. Only nyloc nuts to be used wherever are required.

8. STRUCTURE REINFORCEMENT:

ROOF STICKS:

- The roof sticks at driver partition, passenger door and luggage carrier should be reinforced with 3mm MSU channel as per Drg. 1 (N). The reinforcement should be provided for the full developed length of roof stick in single piece.
- The curved area of the roof sticks should be boxed with inverted MSU of 1.6 mm thick from cant rail to 1st roof longitude.
- FES of Tata and Leyland chassis shall be sturdily mounted and supported directly on the chassis. In case of Tata chassis, original rectangular head lights and indicators lights be retained in FES and
extra one indicator light on each side be provided for better turn signaling.
➢ All the boxing/ reinforcement of the roof sticks should be welded by zig zag welding at a distance of 100mm.
➢ MS strip of 2mm thick 100 mm width are to be provided between two roof sticks for sturdy fitment of all the 4 Nos. roof top side indicator.
➢ Side structure shall be fabricated as per Drg. 16 A and 17A. At sole bar level, MS plates of 6mm thick shall be welded with pillar - pipes and cross bearers on either sides.
➢ The cant rail welding to be done zig-zag at a distance of 50 mm pitch and to be welded for minimum 25mm length at every spot. Between the roof stick of passenger door, one MS-U be welded for reinforcement just above the passenger door and simultaneously one MS sheet 1.6mm thick be welded on outer side for reinforcement.
➢ Window corner gussets in single piece of GP sheet 1.6 mm thick be provided as per Drg. No.2.

9. FLOORING STRUCTURE:
➢ The layout and construction of cross bearer and fixing of the cross bearer with chassis frame shall be as per drawing no. 16 & 17.
➢ 3 Nos. floor longitudes of MS 30x75x30x3mm U channel shall be provided and mig welded with cross bearers. Central longitude shall also serve as central floor joint support.
➢ Legs of the seat frames shall rest on the floor longitude by suitable angle support wherever needed.
➢ Four cross bearers as shown in Drg. 16 & 17 should be boxed completely and properly with 3mm MS-U and should be mig welded at a pitch of 100 mm zig-zag.

10. DRIVER CAB UNDER -FLOOR FRAME:
➢ Cab floor frame structure shall be fabricated as per Drg. 9. In case of Leyland cab floor frame should be properly supported on chassis with brackets. In between chassis brackets and cab floor frame, balata packing of 8mm IS:1370 shall be provided.
➢ Original cab floor and front mud dome provided by the Chassis Manufacturer shall be maintained but cab floor riser details shall be as per Drg. 7 & 8.
➢ Chassis cab floor of CRCA MS 2mm sheet shall be welded completely on top and shall be tag welded with the under floor structure, making it completely dust proof and rattle free.

11. STEP WELL:
➢ Step well shall be of MS structure frame and laid with 3mm chequered aluminium sheet duly beaded at edges. At every corner, edge beading of aluminium is to be riveted. At step well Jhulla of MS angle 40x40x3mm and reinforcement of step corners with 40x40x3 angle shall be provided as per Drg. 12. Step well chequered aluminium side sheet be bolted on 2mm MS sheet angle, which in turn be welded to the main door pillars and the side plates be perpendicular to the step floor.
All roof sticks must rest properly and squarely on cant rail and should be welded properly with cant rail. Similarly main pillars should also rest squarely with the cant rail and mig welded properly. Roof support beam shall be fitted below roof sticks, off-set from the center by 30mm on left side to facilitate fixing of vertical support pipe in gangway and the beam should be bolted with 8mm dia bolt. Roof support beam shall be reinforced by boxing at suitable intervals compulsorily. Gussets of proper size and specifications shall be provided at the places as shown in the Drg. 16 & 17.

Side structure as well as roof top structure should be duly aligned at top, centre and bottom.

12. FLOORING:

After making complete structure true and square and welding properly the structure, flooring is to be laid down with 3mm thick Al.chequered. Floor Al. Chequered sheet should be laid with chequered surface facing upward. EPDM rubber mud guard beading and cross joints is to be provided to make the flooring completely dust proof and water proof. Flooring shall be bolted with HT 8mm hexagonal bolts with MS plain 1.6mm washers on both sides of the flooring with nyloc nuts. Pitch of the bolting will be 125mm on cross bearers and joints and 250mm on all sides. The length wise centre joints of the flooring will be bolted in a zig-zag way maintaining pitch of 125mm. All joins of the flooring shall be either on the cross bearer without any gap or on MS-U channel of 30x75x30x3 mm without any gap.

In the gangway aluminium extruded wearing strips section 30x4mm shall be provided in 4 rows from driver cab partition to rear 6 seater. These shall be screwed to flooring with 3/16” counter sunk machine screw and nyloc nuts. Plain washer shall be provided at bottom side with nyloc nut. The pitch of this screw will be kept 125mm zig-zag and joints of the wearing strips should be staggered length-wise. Also aluminium bearing strips in two rows be provided on the riser floor duly riveted in front of 2 & 3 seaters just behind driver partition. The riser floor shall be properly supported at underneath, to prevent drumming.

Two holes of 20mm dia shall be drilled on rear end in floor and 20mm dia pipe be fitted for drainage of water. Gear box trap of the size 355x460 mm be provided in the flooring and trap opening be covered by Al. Chequered cover of 3mm thick with piano 3mm thick hinge on one side and bolts at other sides. Also suitable trap in the cabin floor be provided for vertical sight of injection timing inspection window on the fly-wheel housing. Original half cab floor, if provided, shall be retained.

13. FRONT MUD DOMES:

Original front mud domes of vehicles, if provided, be retained and the required be fabricated with 1.6mm thick GP sheet duly ribbed as per Drg. 9. LH side wall of the front wheel arc box in driver cab located within the tool box should also be provided of GP sheet 1.6 mm thick.
14 **REAR MUD DOMES:**
The rear mud domes shall be fabricated with 10G aluminium chequered plate and pressed out of single sheet. This shall be riveted with rear wheel arc cross bearer and flooring longitude. MS angle size 65x65x6mm be provided where the rear wheel dome shall rest along the chassis long member. 10G Al. Chequered be provided with dust proof EPDM beading as shown in the Drg. 6 & 7. Mud flaps shall be provided on all the 4 mud domes.

15 **DRIVER PARTITION:**
Driver partition as per AIS-052 or prevailing bus body code.

16 **Destination System:**
To be provided as per AIS:052 or as asked by HREC

**BONNET COVER:**
➢ Original bonnet cover shall be retained.

17 **DASH BOARD:**
This shall be fabricated with GP Sheet 1.6mm sheet duly ribbed in two rows supported by MS angle 50x50x6mm above radiator level. The dash board shall be further reinforced by MS CRF section of 15x44x38x3 mm (Drg. 10-H) with proper welding and gusseting. The dash board shall be uniformly designed with good finish and look and shall be rattle free. Original dash board of meters supplied with chassis shall be rigidly held with the dash board. Suitable trap for radiator spout, steering oil bottle etc. be provided.

18 **TRUSS PANEL:**
Truss panel (waist rail to anti drumming rail) shall be of aluminium sheet of 0.91mm. The truss panel shall be riveted with Al. NR-6 multigrip pop rivets of 5mm dia for better grip with a pitch of 100mm on waist rail, anti drumming rail and 100mm pitch on pillars & diagonal bracing zig-zag. Top edge of the inside truss penal should be applied with sealant all over the length to prevent water seepage between two layers of body for avoiding rusting of structural members.

19 **PANELLING:**
➢ Stretch panel of 0.9MM GP sheet properly welded should be fixed on the outer side with two rows of GP stiffeners, flanges of 25mm width supporting the stretch panel as per Drg.13, Waist rail to Anti-drumming rail. The structure before paneling shall be duly coated with epoxy primer. Before paneling 40mm thick thermocol sheet is to be packed properly in the structure, waist rail to floor level. Al. 16G/0.9 GP 120 mm sheet paneling shall be provided and shall be riveted with NR 6
aluminium multigrip pop rivets with 25x3 mm INDAL beading at each pillar. All aluminium panel/GP sheet shall be properly etched and inside shall be coated with thick coat of anti drumming compound to avoid drumming and vibration. The riveting should be done by pneumatic riveting. The complete rear and outer paneling shall be of 16G aluminium sheet. Side panel stiffeners above the skirt rail should support the panel properly and sealant should also be applied to prevent drumming of the panels.

GP sheet tility cover being provided on either side at rear end, near the 6 seater bay from waist rail to cant rail is observed to have cracking line on the painted surface due to failure of tag welding joints on the GP sheet. To over come this problem, this GP cover should be lip joint with the stretch panel and also be supported on the inner side with MS angle duly tag welded. Exterior surface after painting should appear as one piece panel without providing aluminium beading.

All the inner side of the panel sheet shall be epoxy coated to prevent rusting.

20 ROOF EXTERIOR PANELING:

Before roof exterior paneling specified tar-felt covering 2mm thick on full length and full width of roof sticks and roof longitudes, protruding 2mm outside the width of roof sticks and roof longitudes shall be provided.

Roof exterior panel shall be of aluminium alloy sheet of IS:737:1996 or latest and shall be ½ hard 1.2mm thick and shall be in one piece along full length. The exterior panel roof joints shall be longitudinal and shall be inter locked by joggle joint and shall be solid riveted with Aluminium NR-5, 5mm dia rivets with roof sticks and roof longitudes as per Drg. 24. Joggle joints should be properly embodied in the roof longitudes to get smooth surface and no joint should protrude above paneling level. The riveting pitch at cant rail should not be more than 75mm.

At cant rail level a continuous water channel of INDAL, 6250 section shall be provided on longitudinal sides of roof for drainage of water and to prevent water to fall on the windows and driver door and to ensure water proofing. The water channel should also be provided above the rear wind shield glasses to avoid water leakage through emergency door. For proper riveting of water channel to the cant rail, aluminium beading INDAL 5606 shall be fitted on the water channel. Joint of water channel must be filled with sealant to make it leak - proof. Roof exterior paneling should be provided with Epoxy primer thick layer of anti drumming compound of approved quality before fitting. The front exterior roof panel shall be riveted with the front dome with MS solid rivets of 5mm dia and aluminium beading INDAL 5606 beading with the pitch of 75mm. Similarly the rear dome shall be GP sheet 1.22mm and shall be riveted with roof sticks with MS solid rivets of 5mm dia and beaded with aluminium beading 5606 with rivets at 75mm pitch.

21 FRONT SHOW PANELING:
The complete front show shall be made of 1/ 1.6mm GP sheet. For wind screen glasses and top dome GP sheet 1.2mm with Z formation shall be used. The front grill of the buses shall be made of GP Sheet. 2 Nos. of knob type budget lock shall be provided for grill locking. A stay road shall be provided to hold the grill in open
position. Grill shall be hinged with 2 Nos. MS drop forged hinges 3 ½" x 2 ½" x 1/4" and the grill must be flushed with the show. To avoid rattling of the grill, dove tail sets be provided and front top dome GP sheet of 1.22mm shall be provided.

22 INTERIOR PANELLING:

➢ Before fixing interior roof paneling 40mm thermocole packing should be fixed throughout the length between roof longitudes. Thermocole sheet of 40mm thickness in 1 layers should be fixed on the roof corners throughout the length.

➢ Interior roof paneling shall be of aluminium sheet approved shade of .91 mm thickness/ Window finishers, casing and inside pillar covers from waist rail to cant rail should also be of aluminium sheet. The paneling should be fixed with roof sticks with aluminium blind rivets NR-6, 5mm dia and beaded with aluminium extrusion gola beading 30mm wide INDAL 6284 with riveting pitch of 100mm. Interior roof panel shall also be riveted with roof longitude with Al. blind rivets NR-6, 5mm dia and at a pitch of 100 mm.

Suitable close ends to be provided.

➢ The interior paneling sheet should be Epoxy coated on inner side and on overlapping of the interior panel, a thick layer of approved anti drumming compound shall be coated to avoid drumming.

➢ Provisions be made for fitment of 6 Nos.(AS PER AIS-052) of rectangular ROOF Light assemblies at the locations as shown in the Drg. 46.

23 PARCEL RACKS:

Parcel rack brackets shall be made of 2mm thick MS rectangular pipe and fabricated as per drawing –35. The brackets shall be bolted with pillars and roof longitudes with MS high tensile bolt 5/16" size with spring washer and anabond locking compound (with 2 bolts on pillars and 2 bolts on roof longitudes on each bracket). ERW pipe 19mm ODx1.6mm thick passing through the holes of the brackets should be fitted and mig welded with the bracket. The complete parcel rack should be black painted. Minimum 9” clear gap should be maintained between the roof and parcel rack.

24 DOOR:

➢ There shall be only Two saloon door (passenger door) at the off side between wheel base as per Drg.160-A & 17-A and one cab door (for driver) in the right side near the driver seat.

➢ The saloon door shall be fabricated jack & knife type as per Drg. 19. Pivot type bushes of correct fit - clearance as shown in the drawing shall be provided to rattling of doors.

➢ To have proper alignment and air tightness of passenger door, non-hinge side passenger door GP sheet finisher be fabricated with step of 12mm; so that the door in closed position gets locked with this step as indicated in Drg. 19-A. Both the finishers shall be reinforced with MS angle on the inner side, duly tag welded on the floor level to prevent cracking of the same.

➢ 3 drop forge hinges be fitted through bolts and nuts as shown in the drawings. Heavy duty tower bolt 200mm x 10mm shall be fitted on the top
and bottom of saloon door and one heavy duty railway lock made of as per drawing MS flat shall be fitted in the middle. The railway lock rivets be welded at back for rigidness.

Paneling of the saloon door shall be of 1.6mm GP sheet on both sides duly Mig Weld and canopy is also to be provided above the saloon entrance. EPDM beading of the section shown in the drawing shall be provided with saloon door.

In the Upper half of the saloon door, fixed glasses of size as per drawing shall be fitted with EPDM 25 mm EPDM sleek rubber and. A good quality grab handles 250x8mm be provided on the saloon door for opening and closing. The handles shall be through bolted for better strength.

25 DRIVER DOOR:

➢ Driver door shall be fabricated with 2mm thick CRCA MS-Z section. Driver door shall be hinged with front main pillar with 2 Nos. drop forged hinges 3 1/2”x2 1/2”. One tower bolt shall be provided in the driver door as shown in the Drg. 20 and also dove tail set be provided. Usha type heavy duty lock with key shall be provided.

➢ Sponge beading 4mm thick shall be provided to make it leak proof. The beading should touch with the outer flange of the door.

➢ Aluminium edge beading be provided on the lower side of driver door.

26 WINDOWS:

➢ All windows will be of top fixed and bottom sliding panes. All windows glasses shall be tinted light Green 4.8mm thick toughened "A" quality as per drawing.

➢ The window shall be unit construction in panes so that the frame of windows could easily be fixed into the body and will be perimeter glazed type so as to be completely rattle proof. EPDM 40mm sleek rubber shall be used for the purpose.

➢ Window shall be fabricated as per Drg. 25, 26. The frame shall be extruded Al. Section HINDALCO 415, 1562, 1440 and W 3653 or equivalent. Window glasses shall be framed in prescribed aluminium extruded H section HINDALCO or equivalent with resilient packing & EPDM rubber U-channel.

➢ Effective provisions shall be made to draw out any water that enters between the two skins of body on a/c of the full sliding window design.

➢ All windows shall be designed in such a manner so as to be completely rattle proof, the slides will be fitted with the approved quality terrene felt to have smooth operation.

➢ Window locks to keep the windows sliders in closed position shall be of heavy duty self locking type and should be powder coated/ anodized. In between the windows sliders, EPDM sweep rubber beading shall be provided on both sliders to make complete window rattle proof and water proof. Window frame as well as shutter frame shall be anodized. The driver side front quarter window shall be openable type with good quality hinges preferably stainless hinges and the LH side front quarter window shall be fixed type glazed with EPDM rubber. Both the quarter window glasses should be clear, transparent. Window guard rail as per drawing
with 20mm dia ERW pipe with PVC sleeves 1 mm thick shall be provided at 150mm above the waist rail on outer side. The brackets shall be fixed directly on pillars 60x40x2 and be through bolted for better strength. Brackets to be of forged / aluminium black powder coated.

27 WIND SCREEN:

➢ Front wind screen glasses shall be fixed in two (42x48) decorated pane fabricated with GP 1.6 mm sheet. These outside cut out shall be reinforced with another MS 1.2 mm frames provided from inside and lips of both inside and outside cut out shall be tag welded all around so as to have very strong cut out for fitment of such huge front curved glasses and shall be water leak proof. These glasses cut out at top shall also be reinforced properly with front roof sticks with MS-U.

➢ Rear wind screen glass cut out on left side shall be fabricated out of G I pipe duly secured and welded with rear end structure. Rear wind screen glass on right side shall be on emergency door as per drawing.

➢ Front wind screen glasses shall be curved glasses laminated AA quality 6.3 +/- 0.4 mm thick and free from waviness and glazed with 38mm EPDM rubber glazing. Rear wind screen glasses shall be toughened "A" 4.8mm thick clear, transparent and glazed with 25mm EPDM sleek rubber glazing.

29 BATTERY BOX:

➢ To be fabricated as per drawing and at the rear end of front passenger door.

30 ROOF SUPPOORT PILLARS, HORIZONTAL BAR FOR STANDEE, SALOON DOOR GRAB RAIL:

a) ROOF SUPPORT PILLARS (STANCHION)
   : Not to be provided.

b) HORIZONTAL STANDEE BAR:

   There shall be one horizontal bar of MS ERW pipe 25mm ODx2mm thick duly black PVC sleeved 2 mm thick. It shall be provided in full length of saloon. It should be supported to the roof structure on all roof sticks by means of aluminium sections brackets (INDAL 8746/HINDALCO HR 1693) or aluminium casted with identical profile duly anodized. The end brackets shall be close ended or properly plugged.

c) PROTECTOR CUM SALOON DOOR GRAB PIPE:

   At passenger door in front of 2 seater, protector cum grab pipe with roof support pillar shall be provided as per drawing. This will be bolted with roof top as well as floor by means of MS drop forged single piece cup brackets. At waist rail level a saloon grab pipe shall also be provided with MS drop forged cup brackets as per drawing 36.
31 ELECTRICAL SYSTEM:

It should be supplied, wired up and connected. Wires should run through PVC pipe and so arranged in the middle of roof top with suitable cover on the right of horizontal standee bar that this can be readily inspected and renewed without disturbing the interior finish of the bus. All wires should be PVC covered type as given below:-

I. TYPE OF CABLE USED:
PVC insulated LT wire conforming to IS:694 or latest of make Finolex / Havells only.

II. SIZE OF CABLES:

   a. SALOON WIRING:
      4mm PVC insulated 15/0.3/1 LT wire conforming to IS:694 or latest of make Finolex / Havells only.
   b. MAIN SUPPLY SWITCH BOARD:
      6mm PVC insulated LT wire 36/0.3/2.5 conforming to IS:694 or latest of make Finolex / Havells only
   c. BATTERY CABLE:
      Original battery cable of the chassis be used / No. of wires 325, Dia of wire 0.45 mm copper conductor of single length conforming to AS:84:61: Oct.,2000 or latest.

I. Positive wire shall be in red colour and negative wires in black colour. Other colours may be used for loops etc. for special identification purpose.

II. The earth return system shall be used for bus body wires.

III. In order to ensure adequate illumination in the saloon, Roof light assemblies(AS PER AIS-052 or prevailing bus body code) rectangular shall be provided. The location of lights shall be as per Drg.46.

V. One round roof light to be provided at top of passenger door with switch near it to facilitate conductor lighting at his own will. 1 No. round roof light may also be provided in the driver cab. A footlight at step well be provided. Two lights with proper bulb shade may also be provided underneath the saloon floor to facilitate illumination for inspection and maintenance during night.

VI. 4 Nos. indicator lights on all the roof top corners be also provided with wire mesh cover of good quality as directed by G.M. (B/B). This has to be firmly fitted on MS strips of 2mm thick, 100mm width placed between two roof sticks on either side at front and rear. 2 Nos. indicator bulbs be provided in driver cabin for attention of driver.

VII. Wherever PVC pipe cables pass through panels and structural members, suitable grommets made of rubber/ Bakelite shall be inserted in the holes. PVC tube carrying cables be clipped as near as possible.
VIII. All the bulbs shall be of standard boynet cap and shall be of clear gas filled double filament contact type with the following specifications:-

<table>
<thead>
<tr>
<th>S.No</th>
<th>Description</th>
<th>Watt</th>
<th>Volts</th>
<th>Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Head light</td>
<td>80</td>
<td>24</td>
<td>In LL 4 Nos.</td>
</tr>
<tr>
<td>b</td>
<td>Night lamp</td>
<td>20</td>
<td>24</td>
<td>2 Nos.</td>
</tr>
<tr>
<td>c</td>
<td>Front indicator</td>
<td>-</td>
<td>-</td>
<td>2 Nos.</td>
</tr>
<tr>
<td>d</td>
<td>Rear tail light</td>
<td>-</td>
<td>24</td>
<td>2 Nos.</td>
</tr>
<tr>
<td>e</td>
<td>Conductor bell (Elect)</td>
<td></td>
<td></td>
<td>Electric buzzer of approved make 1 No. 24V Good quality.</td>
</tr>
<tr>
<td>e-1</td>
<td>Public announce system</td>
<td></td>
<td></td>
<td>AS PER AIS-052 or prevailing bus body code.</td>
</tr>
</tbody>
</table>

➢ 2 Nos. wiper motors shall be provided, one for each side separately. These shall be heavy duty 24V with aerodynamic blades and arms to suit the front curved wind screen glasses. These shall be of approved make and part No. Both the wiper machines should be operated independently i.e. the switches should be separate for each wiper machine.

➢ The original battery cut off switch shall be provided in the driver cab behind the driver seat connecting the self starter assembly so that during short circuit, the engine may not start.

➢ Fuses or cut out of adequate current capacity should be of domestic type made of bakelite (unbreakable). The wiring should run through suitable PVC pipes and should be covered with suitable metal moulding. One control board next to the instrument panel in front of driver seat shall be there to operate piano type switches fitted on junction box on the panel.

32 PASSENGER SEATS: As per AIS-052

a) Readymade passenger bus seats shall be fitted by the body builders as per seat lay out as per Drg. 18 and maintaining equal pitch and adequate leg space. 100 to 150 mm taper be given on driver partition on lower portion to provide adequate leg space to passenger on front seats.

b) Seat pitch (back to back distance) shall be maintained strictly as shown in the Drg. 18. Minimum leg space 270 mm in case of 3 seater and 270 mm in case of 2 seater shall be ensured. The seat frames legs shall be bolted properly on seat rail on the sides and with floor longitude in the middle in the gangway side with 8mm high tensile bolt fitted with plain washer and nyloc nuts.

c) Passenger seat back should be FRP.
33 DRIVER SEAT:
Original Driver seat should be **offset by 3" towards driver door for better view to the driver and** fitted with bolts and nuts, with reinforcement to avoid vibration and cracking of the wheel dome. Good quality raxine cover matching with the colour shade of passenger bus seats be provided on driver seat back rest and bottom.

34 FOLLOWING MISCELLANEOUS FITTINGS SHOULD BE PROVIDED:
A. 2 Nos. rear view mirror, (One on each side) of heavy duty adjustable convex type should be provided with good quality brackets as per Drg.20-A provided, on the exterior panel on the exterior panel at places convenient to the driver to see the traffic coming from the rear.
B. Front bumper shall be fabricated with 14 SWG (2mm) MS sheet in 3 pcs section as shown in drawing. Number plate of size 20"x7" should be pressed sunken type in the centre of the bumper. Original front bumper brackets for the chassis should be retained to hold it firmly position. One step of aluminium chequered sheet of 10G size 12"x8 be fixed at the centre of the bumper to facilitate the driver to clean the wind screen and two numbers additional 4" wide steps be provided on RH and LH side on bumper for better support to the driver.
C. Rear bumper should be made of 16G GP Sheet as per Drg. 38.
D. Front bumper of the vehicle shall be affixed with white reflective tape 50 mm width and at the rear bumper with red reflective tape 50 mm width running across the width of the body & also 1 MTR length of red tape shall be affixed vertically on the outer boundary of the vehicle on RES and the sides of the vehicles shall be affixed with yellow reflective tape 50mm width running across the length of the body.
E. Drop forged toe hook shall be provided on the rear bumper at the centre position shown in the Drg.47.
F. 2 No. wiper machine original/ Lucas/ Prabha/ Mitsubitsi/Camoflex make be fitted for individual front wind screen glasses.
G. 2 reflectors of **good quality** are fitted on the rear end.
H. One step of 6"x6" size shall be provided near driver door.
I. Diesel tank neck cover shall be provided (flap type) with one tower bolt.
J. Diesel tank Jali be provided in neck duly riveted to prevent diesel pilferage.
K. Rear tail light shall be provided as shown in the Drg.47. Water cutter channel shall be provided above tail lamp assembly to prevent water leakage in the vehicle.
L. Appropriate opening for hydraulic fluid bottle/ steering oil reservoir may be provided at the dash board to facilitate topping up of the hydraulic fluid and steering oil.
M. Rubber buffer rail (rub rail) shall be fitted on the anti drumming rail as per Drg. 40. Rubber buffer shall be secured with pop rivets and clamped with 2 suitable clamps in each bay. At the ends suitable closing ends shall be provided.
N. The rear numbers plates should be fixed below waist rail.
35 PROTECTION TREATMENT AND PAINTINGS:
A. Surfaces of all steel parts used in the bus body shall be prepared and carefully Epoxy coated. All welding / grinding done after Epoxy during process or assembling shall also be immediately covered with Epoxy to prevent rust formation.

B. The **Epoxy** primer paint shall be approved specifications.

C. All the hidden / unseen surfaces of complete interior and exterior paneling shall be covered with thick layer of suitable anti drumming compound.

D. All joints shall be applied with liberal coat of suitable jointing compound on the meeting area of both the components to protect against corrosion before assembly.

E. Wherever aluminium is joined to steel or dissimilar metals, same shall be treated with thick layer of di-electric paint before assembly.

F. The entire surface of bus body under floor exposed to the ground shall be covered with thick layer anti corrosive body compound.

G. All the joints on the exterior roof paneling shall be made water proof by liberal application of silicon sealing compound on both the meeting surfaces before assembling.

H. All the aluminium paneling shall be suitably treated as per approved process before painting by etching, to ensure proper paint adhesion.

I. All paneling after fitting shall be under coated with red oxide primer and zinc chromate before final painting.

J. Surface and stopper (putty) shall be applied on all hand beaten and dented panels to fill up all the unevenness so as to present smooth surface for painting. However, the amount of putty used shall be minimum and efforts shall be made to obtain proper finish by better workmanship of various jobs before painting. At joint gap no putty filling or sealing compound should be provided.

K. Sufficient drying time between each successive coat shall be allowed as per the recommendations of the Paint Manufacturers.

L. Each coat except the final finish coat shall be suitably attended and washed down with water paper and water before applying the next coat.

M. To ensure good quality of paint work for good gloss and longevity to adhere to laid down paint procedure:
   1. Dry sanding of all bus bodies structure to remove dust & oil etc. be done.
   2. Apply zinc phosphate epoxy primer on the structure.
   3. After sanding apply PU putty as required with knife. Allow for full curing minimum upto 30 minutes.
   4. Apply one or two coat of PU universal primer on all the metal sheets aluminum & galvanized sheet. Cure for 25 to 30 minutes.
   5. Apply check putty as required.
   6. After check putty, dry sanding of the entire surface be done.
   7. Apply one coat of PU high build primer surface and allow to dry upto 30 minutes.
   8. After 2 or 3 hours carry out dry sanding for smooth surface.
   9. Apply two coats of “A” class PU finish paint, wet to wet.
36 **COLOUR SCHEME AND GRAPHICS:**

Only PU paint as per approved source shall be used. Colour scheme will be provided by HREC.

37 **GENERAL DIRECTIONS:**

A. The body should be rattle proof, dust proof and leak proof. When the chassis remain in the custody of the body builder, they should maintain the batteries by TRICLE CHARGE free of cost. Modification to the fuel tank/ radiator neck, if any, should be carried out by the body builder as per directions without any cost.

B. Inspection of the bus body shall be mainly in the following 2 stages. Body Builders should offer stages inspections after rectifying the defects communicated to him at the earlier stage of inspection, then only they will be allowed to go for next stage. Body Builder has to inform General Manager, HREC, Gurugram in writing for stage wise inspection with the chassis numbers as per terms of Agreement.

<table>
<thead>
<tr>
<th>1st stage</th>
<th>After completion of metal treatment and structure and stretch panel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd &amp; Final</td>
<td>Complete finished bus body including shower test before despatch of completed bus with movement order from Inspecting Authority.</td>
</tr>
</tbody>
</table>

D. The vehicle shall be road tested before final inspection for the following possible defects:-

<table>
<thead>
<tr>
<th>I</th>
<th>Dust proofness</th>
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</thead>
<tbody>
<tr>
<td>II</td>
<td>Rattle proofness of windows, body panels, parcel racks, doors, seat frames, driver partition, dash board</td>
</tr>
</tbody>
</table>
E. Following workmanship must be carefully followed:

<p>| | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>I</td>
<td>All castings must be truly formed and free from visible blow holes.</td>
</tr>
<tr>
<td>III</td>
<td>All welded joints must be chipped and well ground to get smooth surface.</td>
</tr>
<tr>
<td>IV</td>
<td>Sharp corner should be ground and made smooth.</td>
</tr>
<tr>
<td>V</td>
<td>Wherever pitch between rivets/bolts are not specified, it shall be 100 mm.</td>
</tr>
<tr>
<td>VI</td>
<td>Bolts ends should protrude 2 to 3 threads length above the nuts.</td>
</tr>
<tr>
<td>VII</td>
<td>Before commencement of the bus body fabrication all the important units of chassis i.e. alternator, self starter, radiator, tyres, batteries, plastic air pipes etc. to be protected to prevent from damages due to welding, drilling, cutting, hammering, riveting, falling of metal scrap or dust particles etc.</td>
</tr>
<tr>
<td>VIII</td>
<td>Cleats shall be degreased by duly immersing in soda/detergent water after punching without fail.</td>
</tr>
</tbody>
</table>

W Following instructions be followed:-

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<table>
<thead>
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<tbody>
<tr>
<td>I</td>
<td>Body builders are requested to offer complete stages for inspection. They are bound to use only specified material in the vehicle. The material used in the body shall be got tested through a recognized laboratory specified by HREC as and when required.</td>
</tr>
<tr>
<td>II</td>
<td>In case it is reported that material used in the bus body does not conform to the specifications, testing charges shall be recovered from the body builders. In case of failure of such samples of non specified material, pro-rata cost of material used in that lot i.e. release order shall be recovered from the body builders.</td>
</tr>
<tr>
<td>III</td>
<td>Power steering pipes etc. to be clamped properly without any sag.</td>
</tr>
</tbody>
</table>

F. GUARANTEE:

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</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>In general condition, guarantee for the bus body and other materials shall be 1.5 lacs Kms or one year whichever is later.</td>
</tr>
<tr>
<td>II</td>
<td>During the guarantee period, if any defect is observed on account of poor workmanship as well as material, such defects shall be attended by the body builder within stipulated period, failing which either actual expenditure incurred for repair of such vehicles shall be recovered or the PERFORMANCE SECURITY DEPOSIT amount shall be</td>
</tr>
</tbody>
</table>
forfeited. Repetition of continuous 3 such incidents / defects may lead to take action for disqualification of the contractor.

G. In case of any doubt in specifications and drawings, same may be got clarified from the General Manager, HREC immediately after receipt of work order and before lifting of chassis.

H. Body builder should fix their firms' plate / monogram with address and all details at the rear exterior end of the vehicle

I. Attention of the body builders is called for considering the following points during fabrication of the bus bodies:-

i. Air cleaner assembly on LH side on bracket to be receded back by 2 bolt holes and secured firmly.

ii. Cab floor channel 40x75x40x6 on LH side be fixed directly on two chassis brackets without cleats to accommodate air cleaner intake pipe.

iii. Dash board angle is to be receded back by 50 mm to make room for top up of water in radiator and oil in steering oil reservoir.

iv. Traps for gear box, gear lever in driver cab be provided as per requirement.

v. Hand brake flick valve be mounted offset from the driver door, if need be.

vi. Passenger door grab handle and driver door grab handle be placed directly on the GI pipe and through bolted.

vii. Steering support plate is reinforced with structure to avoid rattling.

viii. Low tone pressure horn is provided with the vehicle.

ix. Stapney carrier box, should be provided as per HREC drawing.

x. Panic button to be fitted at suitable location.

xi. The bus body manufacturer has to fit all components as per AIS:140 like panic buttons (Number of panic buttons as per AIS:140) etc. These components supplied by chassis supplier and fitted by bus body manufacturer in the bus.

NOTE-

1. In case of any ambiguity between the specifications mentioned in this RFP / Bid & AIS-052, the later would prevail.

GENERAL MANAGER
HARYANA ROADWAYS ENGINEERING CORPORATION,
GURUGRAM
### LIST OF APPROVED SUPPLIERS / FIRMS FOR SUPPLY OF MATERIAL TO BE USED IN FABRICATION OF ORDINARY DISTRICT TYPE BUS BODIES

<p>| I. | Galvanized MS CR rectangular and square pipe for structure having thickness 2mm [IS:4923:1997 YST 240]: or latest |</p>
<table>
<thead>
<tr>
<th></th>
<th>Company Name</th>
<th>Contact Details</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M/s APL-Apollo Tubes Ltd., 36-Kaushambi, Near Kaushambi Metro Station, Behind Wave Cinema, Gaziabad-201010</td>
<td>0120-4041400/401/402 Fax.0120- 4041444 Mob.08130007522</td>
<td>&quot;APL-APOLLO&quot;</td>
</tr>
<tr>
<td>2</td>
<td>M/s Bihar Tubes Ltd., 37, Har Govind Enclave, Vikash Marg, Delhi-110092</td>
<td>011-22373437 (6 line) Mob-9811140070 Fax-22373537</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>M/s Hi-Tech Pipes Ltd., 15/1, Asaf Ali Road,N. Delhi-110002.</td>
<td>011-41440011 Fax-011-23210503 Mob.09818995060</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>M/s Apollo Metalex (P) Ltd., 37, Hargovind Enclave, Vikas Marg, Delhi-110092</td>
<td>011-22373437 Fax-011-22373537 Mob.09810032075</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>M/s Good Luck Steel Tubes Ltd., Goodluck House, Ambedkar Road, Gaziabad-201001</td>
<td>0120-4196600/4196700 Fax-0120-4196666, 4196777 Mob.09910496358</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>M/s Rama Steel Tubes Ltd., 15/1, 2nd Floor, Asif Ali Road, N. Delhi-110002</td>
<td>011-43656667 Fax-011-43656699 Mob.09871306598</td>
<td></td>
</tr>
</tbody>
</table>
Laminated curved front wind screen glasses in 2 pieces and one piece “AA” quality 6.3 +/-0.4mm with PVB film (Poly Vinyl Butyral film) having thickness 0.7 mm minimum (certificate regarding usage of specified PVB film be given) AS:296:69:July,05 & IS:2553:1992 & IS:2835:1987: or latest

<table>
<thead>
<tr>
<th></th>
<th>Company</th>
<th>Address</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M/s GSC Toughened Glass Pvt. Ltd.</td>
<td>5&amp;7 Udyog Vihar Indl. Area, GREATER NOIDA-201 306 (UP)</td>
<td>0120-2569922, 33, 34 Fax-0120-2560877, Mob-09560491572</td>
</tr>
<tr>
<td>2</td>
<td>M/s Duratuf Glass Industries Pvt. Ltd.</td>
<td>25-Pashim Vihar, Opp- Ordinance Factory, New Delhi-110063</td>
<td>011-25214544, Mob.09992555173 Fax-011-25214540</td>
</tr>
<tr>
<td>4</td>
<td>M/s Art-N-Glass Industries, 71/36, Firni Road, Swaran Park Extension, Mundka, Delhi-110041</td>
<td></td>
<td>011-28343212/13/14 Fax-011-28343215 Mob.09312480655</td>
</tr>
<tr>
<td>5</td>
<td>M/s Chandra Laxmi Safety Glass Ltd., D-3, Prashant Vihar, Delhi-110085</td>
<td></td>
<td>011-27866338 Mob.09899103465 Fax-27556992/93</td>
</tr>
<tr>
<td>6</td>
<td>M/s Hindustan Glass Works Ltd., A-2/21, WHS, DDA, Marble Market, Kirti Nagar, N. Delhi-110015</td>
<td></td>
<td>011-45641721/22 Fax-45641723 Mob. 8802833760</td>
</tr>
</tbody>
</table>

Rubber profile EPDM [AS:276:68Dec.04 or latest:

<table>
<thead>
<tr>
<th></th>
<th>Company</th>
<th>Address</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M/s RK Profiles Pvt. Ltd., Plot No.262, Sector-24 Faridabad-121005</td>
<td></td>
<td>0129-2236643, 2238230 Fax.0129-4063075 Mob.09811019433</td>
</tr>
<tr>
<td>2</td>
<td>M/s ALP Overseas Pvt. Ltd., 32, Sector-18, HUDA. Gurgaon-122015</td>
<td></td>
<td>0124-4731500 Fax-0124-4731598 Mob-098110115051 011-25729126 25165030</td>
</tr>
</tbody>
</table>

Fax-011-25787357 Mob.09871602228 |
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<tr>
<th>5</th>
<th>M/s S.R.Beadings Ltd., 49, Chanderlok, Pitampura, N. Delhi-110034</th>
<th>011-27354010 Fax-011-471042845 Mob.9810134774</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIII</td>
<td>PU paint:</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>M/s Asian PPG Industries Ltd. F-601-648, Road No.6 VKI Area, JAIPUR Head Office: 158, Vidyanagari Marg, Dani Wooltex Compound, Kalina, Santa Cruz (East) MUMBAI-400 098</td>
<td>0141-30055900 M-09833902536 022-30568700 Fax-022-26528044</td>
</tr>
<tr>
<td>2</td>
<td>M/s Esdee Paints Ltd. 203, Navketan, Chambur, MUMBAI-400 071</td>
<td>022-25217982 Fax-022-25212988 M-09321221215</td>
</tr>
<tr>
<td>3</td>
<td>M/s Akzo Nobel Car Refinishes India P. Ltd., Plot No. 2, Functional Industrial Estate, Patparganj, Delhi-110092.</td>
<td>011-40626600 Mob.9999423628</td>
</tr>
<tr>
<td>4</td>
<td>M/s Saboo Coating, Dera Bassi PUNJAB</td>
<td>Mob-9971501818</td>
</tr>
<tr>
<td>IX</td>
<td>READYMADE 3X2 PASSENGER BUS SEATS AS PER AIS:023</td>
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<td>------------------------------------------------</td>
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<tr>
<td>1.</td>
<td>M/s Forbus Industries, Jaipur</td>
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<td>2.</td>
<td>M/s Mobility Solutions Ltd., Chandigarh</td>
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<td>3.</td>
<td>M/s Oto Industries Pvt. Ltd., Faridabad</td>
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<tr>
<td>4.</td>
<td>M/s Paras Motors Industries, Faridabad</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>M/s Swaraj Automotives Ltd., Nabha (Pb.)</td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. Corporation reserves right to include or exclude any source of item at any time without assigning any reason.
2. For above materials ASRTU approved firms may also approved for supply of materials.
3. The above material should be as per specifications of AIS052 or prevailing bus body code at the time of fabrication.
BROAD SPECIFICATIONS OF PASSENGER BUS SEATS FOR ORDINARY DISTRICT TYPE BUSES

<table>
<thead>
<tr>
<th></th>
<th>Type of Seats</th>
<th>1 seater, 2 seater and 3 seater - ERW frame having common bottom seat cushion and back rest for individual passengers without arm rest,</th>
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<tr>
<td></td>
<td></td>
<td>b) Back rest should be curved high back with fixed head rest.</td>
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<tr>
<td>2</td>
<td>Size of Seats</td>
<td>1 seater – 406 x 406mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 seater – 812 x 406 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 seater – 1220x406 mm</td>
</tr>
</tbody>
</table>
3. Seat Material
   a) Seat frame shall be of ERW pipe (1" approx.) 25mm x 2mm conforming to IS specification IS:3074:1979 & IS:3601:1984 both reaffirmed 2002 or latest **as per approved source.**
   b) Inner pipe for reinforcement shall be ERW (3/4" approx.) 19.05mm x 2mm conforming to IS:3074 or latest.
   c) Seat frame material should be pre-treated by the following process before fabrication of seat:
      i. Degreasing
      ii. Derusting
      iii. Phosphating
      iv. Black powder coating
   d) Seat bottom and back rest cover should be FRP of 3 layers.
   e) FRP moulded back tray 2.5mm thick shall be provided on the back rest.
   f) Grab handle of PPCP material to be provided on the top of head rest, except on Rr. 6 seater seats.
   g) PU foam for seat shall be skin moulded type as per specifications of AS:329:70:Feb.,08 or latest.
      i. Density 50 +/-5 kg per cubic Mtr
      ii. Indentation hardness 25-35 kg
      iii. % elongation 70% minimum
   h) Size of seat bottom cushion shall be as under:
      i. 3 seater – 1220x406x90x65 +/-10mm – No negative tolerance on thickness
      ii. 2 seater -812x406x90x65 +/- 10mm – No negative tolerance on thickness
      iii. Seat upholstery – expanded vinyl coated fabric (foam leather conforming to Gr.I Type – A " as per AS:209:70: Feb.,06 or latest.

4. Welding
   Welding process will be MIG – CO2

5. Seat layout
   a) Seat layout consists of 10 rows of 3 seater and 8 rows of 2 seater
   b) 2 Nos. 3-seater in front of passenger door should be provided with 25mm dia ERW pipe fixed arm rest with replaceable black hard PU top of width 35mm on the gangway side.
   c) 6 seater on the rear end shall be in two pieces.

6. Miscellaneous
   a) Drawing of seat assembly is enclosed herewith for showing the vital dimension, angle and curved back rest etc. Sufficient robust grab handle, back rest handle mounting be made for rigidity of the same. 5 mm thick MS angle with welded nut
Be used to hold grab handle firmly and 5 mm thick MS strip with welded nut be provided for fixing of back rest handle.

b) Back rest cushion contour should be best possible comfortable, which should be bucket type giving full support to the passenger's back, neck and lumber support.

c) Head rest raxine cover must be pressed against the contour of the back rest with Velcro grip or any other suitable means, to give sleek and aesthetic appearance.

d) Stitch thread should match the raxine colour and the work should be neatly done leaving no wrinkles.

e) Pipe reinforcement between the adjacent back rest frames be provided along the frame at bottom bend and across the frame midway near the shoulders.

f) Seat leg frame bend radius be maintained 75mm on inner side.

g) Lay out of the seats in fitted position be checked for line alignment on top & gangway and adjacent back rest.

h) If any clarification in respect of specifications and drawings is needed then the same may be obtained from the office of the undersigned. However, any modification later on, as desired by HREC shall be done by the firm.

i) The length of seat leg angle mentioned in drawing for 2/3 seater be considered as 300 mm. with 250 mm. hole PCD.
GENERAL MANAGER
HARYANA ROADWAYS ENGINEERING CORPORATION
GURUGRAM
DIAGONAL BRACING 40x40x2 MM
WHEEL ARCH 40x20x2 MM
SOLE BAR 40x40x2 MM
SIDE PILLAR 60x40x2 MM
WAIST RAIL 60x40x2 MM
CANT RAIL 35x40x35x1.65 MM

86°
R20
780
800
1100
1100
1100
1100
1100
800
1100
930

935
515
210
440

5545

RUB RAIL 60x40x2 MM
SKIRT RAIL 40x40x2 MM

DIAMETER 400
R540

1775
80°

ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY. N.C. JANGID(BBD) RH STR. ASS.
CHD BY. V.K. DATTA TATA LPO1512/55TC
APP.BY HARYANA SHAKTI
SCALE

DSN. NO. H.R.E.C. DATE - 28/08/10

CREATED BY: PARADIGMS STUDIO
ALU. ALLOY PACKING PIECE
FOR 'U' BOLT

MAT-ALU. ALLOY 4600M IS:617, LM 6MBS,1490
REF:- TELCO DRG NO.2914 8200 0528

MAT-160-(EN-B) IS:5517 (HARDENED & TEMPERED TO 60 5KG/MM)

ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY. N.C. JANGID(BBD) U-BOLT & PACKING PIECE
CHD BY. V.K. DATTA (WM)
APP.BY. ER. D.R. KUNDU (GM)
SCALE

5545MM W.B.

HARYANA SHAKTI

DATE - 28/08/10

CREATED BY: PARADIGMS STUDIO
ALU. ALLOY PACKING PIECE
FOR 'U' BOLT

MAT-ALU. ALLOY 4600M IS:617, LM 6MBS,1490
REF:- TELCO DRG NO.2914 8200 0528

MAT-160-(EN-B) IS:5517 (HARDENED & TEMPERED TO-60 5KG/MM

ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY.           CHD BY.         APP.BY.         SCALE         DSN. NO. H.R.E.C.
N.C. JANGID(BRD)  V.K. DATTA       TATA LPO 1512/55 TC 5545MM W.B. HARYANA SHAKTI

U - BOLT & PACKING PIECE

DATE - 28/08/10

CREATED BY: PARADIGMS STUDIO
ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON
EMERGENCY DOOR UNIT
TATA LPO 1512/55 TC 5545 MM W.B. HARYANA SHAKTI

DGN BY: N.G. JANGID (B.B.)
CHD BY: V.K. DATTATRYA
APP. BY: SCALE
DSN. NO. H.R.E.C.

DATE: 29/08/10
CREATED BY: PARADIGMS STUDIO

GLASS DIRECTLY FITTED ON STRUCTURE PIPES
with 25mm DIAMETER BBR RUBBER
OPEN BRACKET

CLOSE BRACKET
ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY. N.C. JANGID(BBD)  PRESS EPDM- RUBBER
CHD BY. V.K. DATTA  TATA LPO 1512/55 TC
APP.BY  5545MM W.B.
SCALE  HARYANA SHAKTI
DSN. NO. H.R.E.C.  DATE - 28/08/10

CREATED BY: PARADIGMS STUDIO
RUB RAIL PROTECTOR

EPDM-SPONGE RUBBER

ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY. N.C. JANGID (BBD)
CHD BY. V.K. DATTA (MD)
APP.BY EPDM RUBBER
SCALE 5545MM W.B.

DSN. NO. H.R.E.C.

DATE - 28/08/10

CREATED BY: PARADIGM'S STUDIO

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AREA - 48 MM² WT./MT.- 60 GMS
ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

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DATE: 28/08/10

CREATED BY: PARADIGMS STUDIO
ALL DIM. ARE IN MM

HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY. N.C. JANGID (BBD)
CHD BY. V.K. DATTA
APP.BY.
SCALE

EPDM-RUBBER PACKING FOR ROOF BEAM
TATA LPO 1512/55 TC
5545MM W.B.
HARYANA SHAKTI

DATE - 28/08/10
CREATED BY: PARADIGMS STUDIO
HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY. N.C. JANGID (BBID) 5MM DARK GREEN GLASS
CHD BY. V.K. DATTA (VP) TATA LPO 1512/55TC
APP.BY 5545MM W.B.
SCALE HARYANA SHAKTI

DSN. NO. H.R.E.C.

DATE - 28.08.10

CREATED BY: PARADIGMS STUDIO
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**HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON**

- **DGN BY.** N.C. JANGID (BBD)
- **CHD BY.** V.K. DAIYA
- **APP. BY.** S.K. KANGA (CM)
- **SCALE.** HARYANA SHAKTI
- **DSN. NO. H.R.E.C.**

**PVC HANDLE FOR PASSENGER SEAT**

- **TATA LPO 1512/55 TC**
- **5545MM W.B.**

**DATE - 28/08/10**

**CREATED BY: PARADIGMS STUDIO**
HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

ALL DIM. ARE IN MM

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CREATED BY: PARADIGMS STUDIO
HARYANA ROADWAYS ENGINEERING CORPORATION LIMITED, GURGAON

DGN BY.  N.C. JANGID (BBD)
CHD BY.  V.K. DATTA (C.I.)
APP. BY.  
SCALE  
DSN. NO. H.R.E.C.  

SECTION DETAILS
TATA LPO 1512/55 TC
5545MM W.B.
HARYANA SHAKTI

DATE - 28/08/10

CREATED BY: PARADIGMS STUDIO