**No.SMPK/KDS/CIV/T/2533/679** **Dt .15.06. 2021**

**CORRIGENDUM-XII**

**Name of Work:"**SELECTION OF CONSULTANT FOR -
**"PREPARATION OF TECHNO ECONOMIC FEASIBILITY REPORT FOR COMPREHENSIVE EVACUATION STRATEGY IN RESPECT OF CARGO TRAFFIC FOR DIRECT CONNECTIVITYOF KOLKATA DOCK SYSTEMAT KOLKATATO NATIONALHIGHWAY ALONG WITH IMPROVEMENT/BETTERMENT OF EVACUATION INFRASTRUCTURE"**

**NIT NO.: SMPK/KDS/CIV/T/2533/65 dt. 06.01.2021**

The following amendment/changes have been made in the RFP document:

1. After 'Details of Options ' in 'Scope of Work/Terms of Reference' under 'Schedule-1',the followings are included:

**Additional issues needed for further Study:**

The Scope of Work further includes:

[A] Consideration of the best design and construction approaches of the underground tunnel with a study the following parameters:

(i) Size of the tunnel which can be accommodated
(ii) Options with optimal construction methods
(iii) Options of providing connectivity linkages to the tunnel facility with the existing
(iv) Requirement of safety features in the tunnel

This TEFR study will also include: Viability of a truck tunnel primarily mean from a technical perspective and from a financial perspective, with the latter including analysis of construction, operating and long-term renewal costs of such a facility.

[B] Issues that need to be studied will include but are not limited to those of the community such as:

- Potential damage to buildings/foundations due to tunnelling at the construction and post-construction stages, e.g. groundwater drawdown and clay soil shrinkage, vibration from trucks

- Impacts on the community during the construction phase for the various tunnel route alternatives

- Movement of trucks carrying dangerous substances in the confided space of a tunnel, safety of the community and how emergency response will be handled

- Location of tunnel air vent towers as to their aesthetic, air pollution and noise pollution impacts

- How much "local" truck traffic remains on local streets or can 100% of all trucks be removed.

In more specific detail the Study Design will include:

[i] **a description of the purpose of the proposed undertaking and resource allocation to each major task**

[ii] **a confirmation of the study area**

[iii] **a review of similar projects in Kolkata**

[iv] **a response to anticipated community issues concerning a tunnel**

**[v] Review of Similar Projects in Other Cities and Countries**

Research should be undertaken to present information on existing and proposed tunnels for trucks in other cities. Although the review would preferably be for those tunnels used exclusively for trucks it is likely that the review will present information for tunnels with mixed traffic where a high proportion is truck traffic. The review of those projects should include information such as: the problem being solved by the tunnel, its length, construction method, the cost of construction, toll or other funding considerations for its use and recovery of operating and long term maintenance costs, community impacts, any unforeseen problems, treatment of trucks carrying dangerous goods, an assessment as to the success of the tunnel, are vehicles other than trucks permitted during certain times of the day/week, etc. Tunnel projects to be examined could include the Ports of Miami and Dublin and the cities of Seattle, Oakland, Auckland, Brisbane and Calgary, Antwerp.

**[vi] Truck Traffic Current and Future Volumes**

An analysis of truck traffic, for current and future volumes, in this corridor should be performed. The analysis will include:

- The ratio of heavy trucks to light trucks, their current and projected volumes to future target years, e.g. 2030.
- How much of this truck traffic is through traffic that does not stop for delivery or pick up in this section of the city
- A perspective on the volume and types of truck traffic whose destination is in this area.
- Impacts of the option, depending on tunnel portal locations, of requiring mandatory use of the tunnel for all trips including local
- If the conclusion of this analysis is that a tunnel solely for trucks is difficult to justify given traffic volumes then a mixed traffic solution would be investigated.

**[vii] Technical Review of Tunnel Route Alternatives**

A technical review of various tunnel route alternatives should be performed.

The substantive task of this Feasibility Study will be an examination of potential alternative routes for a tunnel and their technical feasibility for construction. An evaluation of the tunnel alternatives will be provided focusing on the key criteria relating to the technical feasibility of tunnel construction. Among evaluation criteria would be:

- Soil and bedrock conditions, including groundwater
- Potential conflicts with major utilities, transportation systems
- Contaminated soils that may be impacted
- Ease of interface with the existing road network at tunnel portals
- Anticipated operational, geometric and traffic impacts to the surface road network

- Impact of portals and air vent towers due to noise and air pollution
- Degree of consistency with planning policies of national highway, state, local bodies
- Potential land needs and building displacement
- the tunnel alternatives would include various ramps to facilitate local connections.
- Study should address the excavation method of tunneling

**[viii] Cost Evaluation**

A costing evaluation of the various tunnel route alternatives should be performed.
The alternative tunnel routes identified in the previous task need to be costed in regard to:

- Capital cost for construction, including land acquisition and design
- Operating cost
- Life cycle and planned capital renewal costs

Given that the cost figures are anticipated to be significant and a burden on the owner/operator of the facility a review should be provided of the financial environment where other similar tunnel facilities exist, addressing such matters as:

(1) Is ownership and maintenance undertaken by central, state or private operator,
(2) Is the tunnel operated as a toll road or not?
(3) Are there other user pay options in use?
(4) Travel time and cost saving from such.

[ix] **Safety**

In addition to meeting the geometric requirements for roadways, the tunnel facility would provide a safe environment for roadway operations and would support emergency responses. Hazardous cargo and fuel trucks would be prohibited from using the tunnel. The tunnels would have a ventilation system to ensure the air is safe during traffic made up of internal combustion engine vehicles and to provide the ability to control smoke and heat in an emergency fire condition. The ventilation system would work in conjunction with fire detection and protection systems. In case of emergency, emergency egress routes for people to walk out of the incident tunnel would be provided. The roadway would be well lighted and signed for both day-to-day operations as well as under emergency conditions, to include traffic control systems, dynamic (variable) message signs, and closed-circuit televisions. The tunnel would have drainage systems to control storm water as well as water within the tunnel to include that from maintenance washing and fire suppression. All water collected in the tunnels will be sent to the appropriate facility for treatment before discharge.

[x] **Regulatory Approvals**

An outline of regulatory approvals needed to advance with this project should be given to assist in the understanding of regulatory approvals needed to advance with a truck tunnel, if such is the direction that may occur, a description should be provided of the further steps that would need to be undertaken.

2. In the table provided for 'Key Personnel' under '2.INSTRUCTIONS TO APPLICANTS' another row is added as follows:

| Sl.No. | Key Personnel | Nos | Responsibilities |
|---|---|---|---|
| 10 | Transport Planners | 1 | transport planners with experience in transport planning, modelling, network analysis to find out the best possible option of evacuation. |

3. In the table provided for 'Key Personnel & Experience requirements' under 'A.GENERAL/2. INSTRUCTIONS TO APPLICANTS' another row is added as follows:

| Sl.No. | Key Personnel | Minimum Qualification | Length of Professional Experience | Experience of Eligible Experience |
|---|---|---|---|---|
| 10 | Transport Planners | Graduate in Civil Engineering with post-graduation in Transportation Engineering or Highway Engineering | Minimum 20 years experience in transport planning, modelling, network analysis to find out the best possible option of evacuation | Minimum 5 relevant assignments with traffic/feasibility/DPR etc. in roads, highways, bridges, flyovers and tunnels preferably below rivers/waterways etc. |

4. The table provided against 'Relevant Experience of Key Personnel' under 'E. APPOINTMENT OF CONSULTANT/3. CRITERIA FOR EVALUATION/ Technical Scoring Criteria' has been revised and is replaced with the following table:

| **Position** | **Educational Background & Experience** | **Scoring** | **Total Marks** |
|---|---|---|---|
| Team Leader | Graduate in Civil Engineering preferably with post graduation in Transportation Engineering / Highway Engineering/Soil Mechanics. | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | 15 |
| | Minimum 25 years of professional experience across the areas of planning, designing, feasibility, traffic study, market assessment and DPR etc. in roads, highways, bridges, flyovers and tunnels preferably below rivers/waterways etc. [7.5 marks] | More than 30 years: 7.5 marks | |
| | | Between 26 - 30 years : 5 Marks | |
| | | 25 years: 4 Marks | |
| | Led the Team in Minimum 10 relevant assignments with planning, designing, feasibility, Traffic study, DPR etc. in roads, highways, bridges, flyovers and tunnels preferably below rivers etc. [7.5 Marks] | More than 15 assignment:7.5 Marks | |
| | | Between 15 – 11 assisgnments:5 Marks | |
| | | 10 assignments: 4 Marks. | |
| Project Manager | Graduate in Civil Engineering preferably with post graduation either in Transportation Engineering or Highway | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | 10 |

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|---|---|---|---|
| | Engineering | | |
| | Minimum 17 years of professional experience of planning, designing, feasibility, traffic study, market assessment and DPR etc. in roads, highways bridges, flyovers and tunnels preferably below rivers/waterways etc. [5 Marks] | More than 20 years: 5 Marks | |
| | | Between 18 – 20 years : 4Marks | |
| | | 17 years: 3 Marks | |
| | Minimum 5 relevant assignments with traffic/feasibility/DPR etc. in roads, highways, bridges, flyovers and tunnels preferably below rivers/waterways etc. [5 Marks] | More than 10 assignment: 5 Marks | |
| | | Between 6 – 10 assignments: 4 Marks | |
| | | 5 assignments: 3 Marks. | |
| Expert in tunnelling work | Graduate in Civil Engineering preferably with specialisation either in Transportation Engineering or Highway Engineering. | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | 7.5 |
| | Minimum 20 years of professional experience across the areas of expertise and services involving planning, designing & execution of tunnelling work in roads/highways. [5 Marks] | More than 25 years: 5 Marks | |
| | | Between 21 – 25 years: 4 Marks | |
| | | 20 years: 3 Marks | |
| | Should have experience of managing at least 5 national/international consultancy assignments in tunnelling activities with an exposure of National/International assignments in similar domain within the last 10 years. [5 Marks] | More than 10 assignment: 2.5 Marks | |
| | | Between 6 – 1.5 assisgnments:4 Marks | |
| | | 5 assignments: 1 Marks | |
| Structural Engineer | Graduate in Civil Engineering with post graduation in Structural Engineering | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | 5 |
| | Minimum 12 years of professional experience across the areas of expertise and services involving planning, designing & execution of bridges/flyovers/tunnelling | | |

| | | | |
|---|---|---|---|
| | work.<br>[5 Marks] | | |
| Soil Expert | Graduate in Civil Engineering with post graduation in Soil Mechanics | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria are not met. | **5** |
| | Minimum 12 years of professional experience across the areas of expertise and services involving planning, designing & execution of bridges/tunneling /roads / highways work as Soil Experts<br>[5 Marks] | | |
| Environmental Specialist | Graduate in Civil Engineering with post graduation in Environmental Engineering | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | **2.5** |
| | Minimum 12 years of professional experience across the areas of expertise and services involving planning, designing & execution of Projects involving Environmental Engineering.<br>[2.5 Marks] | | |
| Hydrographer | Graduate in Civil Engineering/Marine Engineering with specialization of Hydrography | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | **2.5** |
| | Minimum 12 years of professional experience across the areas of expertise and services involving planning, designing & execution of Projects involving Hydrography.<br>[2.5 Marks] | | |
| Marine Expert | Degree in Port Management/Marine Engineering or Master Mariner or equivalent | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | **5** |
| | Minimum 10 years of professional experience as marine expert of which at least 2 projects related to | | |

| | | | |
|---|---|---|---|
| | marine/port related advisory.<br>[5 Marks] | | |
| Finance Expert | CA/Cost Accountant/MBA Finance<br>Minimum 10 years of professional experience across the areas of financial feasibility and project structuring. | | **2.5** |
| | Minimum 4 relevant assignments with traffic/feasibility studies in posrts/terminals and maritime sector in last 10 years.[2.5 Marks] | | |
| Transport Planners | Graduate in Civil Engineering with post-graduation in Transportation Engineering or Highway Engineering | This is the qualifying criteria. Proposed CV will be summarily rejected if the criteria is not met. | **5.0** |
| | Minimum 20 years experience in transport planning, modelling, network analysis to find out the best possible option of evacuation<br>[5 Marks] | | |

Bidders are requested to upload this "CORRIGENDUM-XII" duly signed under office seal alongwith their Techno-Commercial bid, i.e. cover-I offer as an acknowledgement and acceptance.

All **other terms** & **conditions and Clauses will remain same as per original.**

**Superintending Engineer**
**(Contract Cell)**
For **मुख्य अभियंता / Chief Engineer**