New Delhi Municipal Council
Education Department

Tender No. 543/Dir. /Edn./2018   **Dated: 12/01/2018**

CORRIGENDUM-2

Name of the work: Setting up of and management of 3D printing and Design tech labs for 10 NDMC Schools

(**Earlier Ref.:** Tender ID: 2017_NDMC_141662_1, Dated: 08.12.2017; Corrigendum 1: No. 537/Dir./Edn./2017 dated: 02/01/2018)

As per the tendering schedule in respect of the above project, a Pre-bid meeting with the prospective bidders was held on 26th Dec, 2017 in the Council Room of NDMC. During the meeting, the prospective bidders raised several queries and presented some suggestions.

2. **The tender document is revised to the extent that the last date for submission of bids has been extended from 15th January, 2018 to 19th January, 2018.**

3. The reply to the queries raised in the Pre-bid meeting is given below:-

S.n.	Query	Page No	Clarification/Suggestion	Decision
3Dexter				
1.	This section states the bidder to procure the license of Collab CAD software developed by NIC. Currently the software license is not available for the same as discussed with the Collab CAD officials on call for the next 1 year. Also as discussed with them the software is suitable for college students and is made for the same purpose.	Page – 16 Section IV- Scope of work clause no. 4 and point no. 4.1	We suggest the use of SelfCAD license software which is suitable for higher grade students of classes 9-12th and Maker's empire software suitable for classes 6-8th.	RFP document has been revised to the effect that demo version of the Collab CaD will be used in 3D printing Lab and when NICSI will roll out the licence in coming year. Education Department, NDMC will procure it at their own end. Hence, prices of Collab CAD in the financial bid get NIL. Accordingly, Estimated amount of the project gets reduced due to which amount of EMD, Turnover and Experience has modified as under: | Details	Modified Provision(Rs)
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Estimated Cost	46,01,900/-
EMD Amount	92,038/-
Annual Turnover	23,00,950/-
Experience : (80% of the Estimated cost)	36,81,520/-
(60% of the Estimated cost)	27,61,140/-
(40% of the Estimated cost)	18,40,760/-
Bank Solvency	18,40,760/-
In the evaluation Sheet Average annual Turnover in last 3 financial year	Between 23 Lakh to 35 Lakh : **05 Marks**	

| 2. | The trainer required here is listed having qualification of BTech in CS or IT.

Min 1 year handling of a similar lab. | Chapter IV, Scope and Objectives of the work/project Clause 12.1, Point 6, Page 27 | We suggest that the trainer can be from any stream as this is a specialized course where trainers from mechanical, civil, electrical streams can also be equally qualified.

1-year minimum handling of lab experience would be difficult to recruit as this is a new field and many trainers are trained by the company for a month and then deployed in schools. We will have operations managers with an experience of more than 1 year handling these trainers on a weekly basis. | the clause may be modified to the extent that as under:

Minimum Academic Qualifications of the Mentor/Instructor shall be B.E. Computer Science/Electronics or B. Tech in IT.
Or
B. Tech/B.E. in Civil/Electric/Mechanical with CAD as one of the subject
Or
Bachelor Degree in Architect.

As this is a new field and it may be difficult to find trainers, having one year experience, as required by NDMC for 3 months. It may be modified that trainer should have one subject related to CAD in their discipline and should be trained by the company for a month to handle software and then deployed in schools. Successful bidder will be fully responsible for the expected performance of the trainers. |
| 3. | The technical specifications for the software are low for the CAD software to work. Putting the CPU power requirements in the suggestion box. These are easy to change and implement. | Chapter IV, Scope and Objectives of the work/project – clause - | **Sketchup Make CAD Design Software**

Minimum hardware

Operating System- Windows-7, 1 GHz Processor ,1 GB processor - i3,16 GB of total hard disk space ,300 MB free hard disk space ,3D Class Video Card | It has been decided that minimum specifications of hardware for the demo version of the Collab CAD may be modified as follows:

Minimum Hardware Operating System - Windows 7 or latest version, RAM: 2 GB minimum (recommended 4 GB), Free Disk Space: 1 GB (Basic) 2 GB (Advanced), Virtual memory: 800MB to 1GB, Graphics Card: Open GL supported H / W accelerated graphics adapter, System: Intel based systems, |

		12.1- Point 3. Page - 26	with 256 MB of memory or higher **Collab CAD** **Minimum Hardware** Operating System - Windows 7,RAM: 1GB minimum ,Free Disk Space: 1 GB (Basic) & 2 GB (Advanced),Virtual memory: 800MB to 1GB , Graphics Card: Open GL supported H / W accelerated graphics adapter, System: Intel and AMD based systems ,OS: Windows and Linux **Makers Empire Software** Operating System- Windows 7 and above, Processor -I3 intel, RAM- 2GB, Minimum Graphic Card : Direct X 9.0c,Graphics card memory- 1 gb,Disk Space: 40gb free space,Internet Connectivity **SelfCAD**	

		Operating System- Windows 7 and above,Ram - 4 gb, Graphics card- High end - 1 gb minimum - Webgl enabled, Processor- i3 intel,Disk space- 40gb free This again needs higher disk space and a strong graphics card	
BiBOX			
4.	Suggestion with regard to the curriculum	Chapter IV, Scope and Objectives of the work/proje ct Page 20 to 21, Point 8	Integration of Product Designing, IOT and Virtual Reality will help the students to take their imagination to the next Level. This will also help in changing their Ideas to prototypes.	Integration of Product Designing, IOT has been made. Virtual reality will be added in future if needed. Hence, no modification in the clause.
5.	Suggestion with regard to the minimum specification of technical specification of the 3D Printer	Chapter IV, Scope and Objectives of the work/proje ct Clause 12.1 page 24	Fully Metal Cover 3D printer will enhance the Quality, Sustainability and Reliability of the 3D printer in comparison with Plastic or wooden frame 3D printer. **Machine Type** : 3D printer should be covered from all four sides with a transparent safety	**Machine Material:** Machine Material would be Plastic, wood, Acrylic, metallic. **Machine Type**: 3D Printer should be adequately covered from all four sides with a transparent safety doors on front which can be can be opened or closed as per the requirement. **3D Printing Speed:** 3D printer should have an adjustable speed from 75mm – 300mm per/sec.

		door on front because of the following reasons :	
		a) Nozzle temperature is too high during the printing process, however dealing with kids makes it really necessary to take care of their security and safety parameters. All side Covered 3D printer will help to take the precautionary approach for their safety on the other hand transparent safety door will help the students to enjoy and see the printing of the 3D model. This Safety door at the front can be opened or closed as per the requirement. b) Closed 3D printer help to maintain the temperature inside the printer which resolves the bending issues of the printed model due to external heat or wind over the period of time. **3D Printing Speed:** This is again an important feature of the good quality 3D printer. Printer should have an adjustable speed from 100mm -300mm per/Sec for getting the desired output	

			within the required time frame.	
6.	Suggestion for the **Integration of Virtual Reality Designing**	Chapter IV, Scope and Objectives of the work/proje ct Clause 12.1	3D modelling alone will not help to get the desired output. Over the period of time Kids will get bored by only 3D modelling. We suggest Virtual Reality, which is really an important part of 3D designing and future of Architectural & Automobile Designing. Visualization of 3D modelling will help Kids to understand 3D design and they will enjoy the same.	Virtual reality, if needed, will added in future.
7.	Suggestion with regard to the Electronic Kits	Chapter IV, Scope and Objectives of the work/proje ct Clause 12.2 pg 27	**Electronics Kits**: Embedded programmable boards with Basic input and output components will help the Students to convert their Ideas and 3D models in working prototypes.	The item 'Electronic Kits' which is the part of Electronic assets should have programmable embedded boards with standard input & output components.
8.	Replacement of tablets from HD Mobile phones	Chapter IV, Scope and Objectives of the work/proje ct Clause 12..2 pg 28	**Tablets:** Tablets can be replaced or Mobile Phones with Full HD Display can be added for programming of Virtual reality.	Tablets cannot be replaced by the Mobile phone. It may be procured in future if required.

Director (Education) receiving EMD and tender cost in original form shall examine the EMD deposit and tender cost by the bidder and shall issue a receipt of deposition of earnest money and tender cost to the agency in a given format uploaded by the tenderer. The scanned copy of receipts issued by the Department shall also be uploaded by the tenderer along-with the technical bid.

It is mandatory to upload the scanned copy of EMD and tender cost along-with the scanned copy of submission receipts with the technical bid. It is advised to the bidder to submit EMD and Tender cost well in advance.

Sd/-

DIRECTOR (EDUCATION)