



भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

NOTICE INVITING TENDER (NIT)

Name of the work: Campus Development works of IIT Hyderabad.

SH: Designing, fabrication, Supplying & Installation of Tensile fabric roof sheds to cover the gaps between different blocks, common open areas and corridors etc. to prevent rain water ingress at Convention Centre Building, IIT Hyderabad, Kandi, Sangareddy.


12/02/2025
Executive Engineer (Civil)
IIT Hyderabad

INDIAN INSTITUTE OF TECHNOLOGY HYDERABAD

NOTICE INVITING TENDER

NIT Reference No. IITH/CMD/CIV/2024-25/NIT-72

Indian Institute of Technology Hyderabad invites on behalf of President of India online bids (**e-tender**) Item rate/~~percentage rate~~-tenders from approved *Civil contractors of CPWD and those of appropriate list of M.E.S., BSNL, Railway, State P.W.D. (R&B) OR Specialized agencies/firms having primary business in designing, fabrication, manufacturing, supply and installation of tensile fabric membrane roof covering works.*

Copy of valid registration certificate of the firm/agency, PAN card, **The enlistment of the contractors should be valid on the last date of submission of bid.**

Copy of valid contractor's registration certificate (ROF in case of specialized agency), PAN card, GST Registration certificate & GSTIN should accompany the Technical Bid.

1.1	NIT No.:	IITH/CMD/CIV/2024-25/NIT-72
1.2	Name of Work:	<i>Campus Development works of IIT Hyderabad.</i> <i>SH: Designing, Fabrication, Supplying & Installation of Tensile fabric roof sheds to cover the gaps between different blocks, common open areas and corridors etc. to prevent rain water ingress at Convention Centre Building, IIT Hyderabad, Kandi, Sangareddy.</i>
1.3	Estimated Cost: <i>(given merely as a rough guide)</i>	Rs. 99,37,635/-
1.4	Earnest Money Deposit (EMD):	Rs. 1,98,800/-
1.5	Period of Completion:	90 days
1.6	Date of Online Publication of Tender	12/02/2025 @1100hrs
1.7	Date of Downloading of Tender	12/02 /2025 @1130hrs
1.8	Last Date for Submission of Bids	19/02 /2025 @1500hrs
1.9	Date and time of Opening of Technical Bids	20/02 /2025 @1530hrs
1.10	Date and time of Opening of Financial Bids	21/02 /2025 @1530hrs
1.11	Cost of Bid Document:	NIL

Instructions to the Bidders for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g., Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e- mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g., PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

Note: *My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.*

SUBMISSION OF BIDS

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e., on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date and time of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise, the uploaded bid will be rejected.
- 5) ***Tenders without valid EMD will be summarily rejected. No exemption of EMD's or process fee for MSME/NSIC registered contractors.***

- 6) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- 7) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 8) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 10) Upon the successful and timely submission of bids (i.e., after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 11) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

NOTICE INVITING TENDER

NIT Reference No. IITH/CMD/CIV/2024-25/NIT-72

1. Bidders shall produce definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-

Criteria of eligibility for submission of tender documents apart from basic eligibility:

**Three similar works each of value not less than 40% of estimated cost
(OR)**

**Two similar works each of value not less than 60% of estimated cost
(OR)**

One similar work of value not less than 80% of estimated cost (rounded to nearest Rs. 10 lac) in last 7 (Seven) years ending last day of the month previous to the one in which the tenders are invited.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of tender.

“Similar Work” shall mean “Designing, fabrication, Supplying & installation of Tensile fabric roof sheds to Open Corridors/Balconies of high-rise buildings at all levels and heights”.

The intending bidders has to submit the Similar work experience certificate furnishing with all details of the format provided at Annexure – B.

2. **The bidder should have had average annual financial turn over (gross) of Rs. 80.00 Lakh on similar works during the last three Consecutive years ending March 2024, Balance sheets should be duly audited by Chartered Accountant. Year in which no turnover is shown would also be considered for working out the average. (Scanned copy of Audited Balance Sheet to be uploaded).**
3. **Bidder has to submit tax returns filed for the firm during last three years ending 31st March 2024 (Scanned copy of returns filed to be uploaded).**
4. **Should not have incurred any loss (profit after tax should be positive) in more than two years during the last five consecutive years ending 31st March 2024, duly audited and certified by the Chartered Accountant.**
5. **Should have a Net worth certificate of Rs. 10.00 Lakh (Net worth certificate of Rs. 10.00 Lakh issued by certified Chartered Accountant with UDIN as per Format prescribed in Form B-1 of CPWD SOP 2022 at page No.203).**
6. To become eligible, the tenderer shall have to furnish an affidavit as per Form ‘J’ of the NIT.
7. Agreement shall be drawn with the successful tenderer on prescribed Form which is available in the website: https://drive.google.com/file/d/19_LkFZ1IeQb_3BznXQtinslcLISYVdbo/view (with up-to-date correction slips if any and additional conditions are enclosed as annexure – I) Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
8. The time allowed for carrying out the work will be as stated at para 1 from the

date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.

9. The site for the work is available.
10. Tender documents consisting of plans, specifications, the schedule of quantities of the various classes of work to be done and the set of terms & conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can be seen for information at the above-mentioned website:
11. Applicants are advised to keep visiting the above-mentioned website from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respects including updates thereof, if any. An incomplete application may be liable for rejection.
12. The contractor whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.
13. The description of the work is as follows:

Campus Development works of IIT Hyderabad.

SH: Designing, fabrication, Supplying & Installation of Tensile fabric roof sheds to cover the gaps between different blocks, common open areas and corridors etc. to prevent rain water ingress at Convention Centre Building, IIT Hyderabad, Kandi, Sangareddy.

Copies of other drawing and documents pertaining to the works will be open for inspection by the tenderers at the office of above-mentioned officer.

Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically

provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

14. Tenders with any condition including that of conditional rebates shall be rejected forthwith.

15. Cost of Bid document and EMD may also be remitted to Institute's account number as per bank particulars given below:

Name of the Account Holder	: Indian Institute of Technology Hyderabad
Account Number	: 30412797764 (Current Account)
Name of the Bank	: State Bank of India
Address of the Bank	: IIT Kandi, IIT Hyderabad Campus, Kandi, Sangareddy, Telangana - 502284
Branch code	: 14182
IFSC code	: SBIN0014182
MICR code	: 502002528
SHIFT code	: SBININBB762

16. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.

17. Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

18. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.

19. The contractor shall not be permitted to tender for works if his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Institute.

20. No Engineer of gazette rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.

- 21.** The tender for the works shall remain open for acceptance for a period of One Hundred and Twenty (120) days from the date of opening of tenders/Sixty days (60) from the date of opening of financial bid in case tenders are invited on 2/3 envelop system (strike out as the case may be) if any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the retendering process of the work.
- 22. (A) All taxes, Labour Cess etc., as applicable shall be borne by the contractor himself. The contractor shall quote his rates considering all such taxes including GST on works. Any recovery towards GST is notified by the competent authority, the same shall be effected and no claim what so ever shall be entertained by IITH. The contractor shall quote his rates accordingly.**
- (B) 2% as TDS amount of GST amount payable on the bills will be deducted as per the Govt. of India, Ministry of Finance, Department of Revenue notification vide No.65/39/2018-DOR, dtd: 14-09-2018.**
- 23. *GST registration certificate of the state in which the work is to be taken up, if already obtained by the bidder.***

If the bidder has not obtained GST registration in the state in which the work is to be taken up or as required by GST authorities, then in such a case the bidder shall scan and upload following under taking along with other bid documents.

“If the work awarded to me, I/We shall obtain GST registration certificate of the state, in which work is to be taken up, within one month from the date of receipt of award letter or before release of any payment by IIT Hyderabad, whichever earlier, failing which I/We shall responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by IIT Hyderabad or GST department in this regard.”

- 24. Bidder has to submit Undertaking on their letter head pursuant to the Section 206AB (as applicable) of the Income Tax Act,1961 in prescribed format as enclosed at Annexure-A along with each and every bill submitted for payment.**
- 25.** This notice inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
- a) The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
 - b) Standard Contract form (General Conditions of Contract) as posted in the

website of the Institute. The bidder is deemed to have gone through and understood the Standard Contract Form and the General Conditions of Contract.

26. Public Procurement (Preference to Make in India), Order 2017:

IIT Hyderabad shall compare all substantially responsive bids to determine the lowest valuated bid. This Institute is following and abiding with the **Public Procurement (Preference to Make in India), Order 2017, DIPP, MoCI Order No. P-45021/2/2017-B.E. II dated 15th June 2017** and its subsequent amendments. Accordingly, preference will be given to the Make in India products while evaluating the bids, however, it is the sole responsibility of the bidder(s) to specify the product quoted by them is of Make in India product along with respective documentary evidence as stipulated in the aforesaid order in the technical bid itself.

As per the above order and its subsequent amendments “Local Content” means the amount of value added in India which shall be value of the item procured (excluding net domestic indirect taxes) minus the value of the imported content in the item (including all the custom duties) as a proportion of the total value, in percent. Accordingly, the suppliers will be classified in following categories.

Class I local Supplier – has local content minimum 50%

Class II local Supplier – has local content minimum 20%

Verification of Local Content: The Class I Local Supplier /Class II Local Supplier at the time of bidding shall be required to indicate the percentage of local content and provide **self- certification as per Annexure-C** that the items offered meet the local content requirement. The details of the location(s) at which the local value addition is made also needs to be specified.

In case of procurement in excess of Rs.10 crores, the suppliers shall be required to provide the certificate from the Statutory auditor or cost auditor of the company giving the percentage of local content.

The bidders can be debarred for a period up to two years as per Rule 151(iii) of GFR 2017, in case of false declaration.


12/02/2025
Executive Engineer (Civil)
IIT Hyderabad

(Signature of bidder)

FORM 'J'

AFFIDAVIT

I/we undertake and confirm that our firm/partnership firm has not been blacklisted by any state/Central Departments/PSUs/Autonomous bodies during the last 7 years of its operations. Further that, if such information comes to the notice of the department, then I/we shall be debarred for bidding in IIT Hyderabad in future forever. Also, if such information comes to the notice of IIT Hyderabad on any day before date of start of work, the Engineer-in-charge shall be free to cancel the agreement and to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee (Scanned copy of this notarized affidavit to be uploaded at the time of submission of bid)

NOTE: Affidavit to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-

Signature of Bidder(s) or an authorized Officer of the firm with stamp

Signature of Notary with seal

Checklist of documents to be submitted along with Technical Bid

Sl. No.	Doc Ref	Description of the Document	Enclosed Yes/No	Remarks
1	As per GCC, Applicant shall submit the documents for Technical scrutiny	Copy of valid contractor's registration certificate, PAN card, GST Registration certificate & GSTIN should accompany the Technical Bid		
2	As per NIT: Registration of Contractors	<i>Civil contractors of CPWD and those of appropriate list of M.E.S., BSNL, Railway, State P.W.D. (R&B) OR Specialized agencies/firms having primary business in designing, fabrication, manufacturing, supply and installation of tensile fabric membrane roof covering works</i>		
3	As per NIT: Eligible Contractors	Date of Validity of Enlistment		
4	Details of Works completed during last 7 years <i>(Detailed statements to be enclosed)</i> <i>The intending bidders has to submit the Similar work experience certificate furnishing with all details of the format provided at Annexure – B</i>	Not less than 40% of estimated cost (Three similar works)		
		Not less than 60% of estimated cost (Two similar works)		
		Not less than 80% of estimated cost (One Similar work)		
5	As per the NIT (Affidavit)	The tenderer shall have to furnish an affidavit in prescribed format. (Form J)		
6	As per Para No. 1.4 of NIT	Cost of EMD		
7	As per Sl. No.23 of NIT	Undertaking for GST registration in the state in which the work is to be taken up		
8	As per Sl. No. 24 of NIT	Undertaking pursuant to Section 206AB (as applicable) of the Income Tax Act, 1961 (Proforma enclosed as Annexure-A)		
9	As per Sl. No. 26 of NIT	Self-certification for Declaration of Local Content (Proforma enclosed as Annexure-C)		
10	Eligibility criteria for financial eligibility and submission of Annual Turnover related documents	Average annual financial turn over (gross) of Rs. 80.00 Lakh on similar works (Scanned copy of Audited Balance Sheet to be uploaded)		

11	Eligibility criteria for financial eligibility and submission of Profit and Loss Statements	Should not have incurred any loss (profit after tax should be positive) in more than two years during the last five consecutive years ending 31st March 2024, duly audited and certified by the Chartered Accountant to be uploaded. (Scanned copy of returns filed to be uploaded)		
12	Eligibility criteria for financial eligibility and submission of Net Worth Certificate	Should have a Net worth certificate of Rs. 10.00 Lakh. (Net worth certificate of Rs. 10.00 Lakh issued by certified Chartered Accountant with UDIN as per Format prescribed in Form B-1 of CPWD SOP 2022 at page No.203)		
13	Manufacturer's authorization letter for fabric from one of the Manufacturers of <i>Serge Ferrari/ Mehler/ Dickson as per Annexure-D</i>	The intending Bidder has to furnish the details of certificate as per the enclosed format Annexure-D		

SCOPE OF THE WORK

The broad details of the specifications are as mentioned below:

*Designing, fabrication, supply and installation of pre-stressed Tensile Membrane Fabric structure with supporting steel structure shall be made of built up pre/post 120gsm galvanised coated tubular round sections of **Tata, Jindal or equivalent approved make** including cutting, hoisting, fixing in a position including welding and bolted/anchored with special shaped washers/anchors/fasteners etc. complete **with fabric of make Serge Ferrari/Mehler/Dickson of total system** comprising details as furnished below as per the approved drawings and directions of the Engineer In-charge (The Steel work, Anchor fasteners, Pre/Post 120gsm galvanisation coatings and Zinc Chrome Yellow priming coat shall be measured and paid separately under relevant items) and as per the particular Specification of the item as enclosed.*

1. Tensile fabric roofing system at the following 1 location with 1050GSM fabric with Serge Ferrari, Mehler or Dickson make with 10 years of warranty

- a) Covering the open roof of cafeteria with vertical covering at both sides – 400Sqm.

The detailed specification as follows : *The tensile membrane fabric shall be of high quality 1050 GSM having minimum Tensile strength (Warp/ Weft) 420/400 daN/5 cm & minimum tear strength (Warp/ Weft) of 55 / 50 da N, Adhesion 12daN/5cm, Multi composed PVDF-lacquer system on both sides, UV-protected with Flexlight perform 1002 S2 of Make Serge Ferrari, Mehler or Dickson which should be weldable without grinding having a minimum weight of 1050 gm/sqm should carry a warranty of minimum 10 years over steel structure frames with all fittings and fixtures such as Galvanized MS End Plate of 120 Microns thickness, Shackles, Rigging Screws , Turnbuckles, swedge, fork , keder rods & galvanized MS strands with stainless steel end terminals complete as per Drawing / Detail & as per particular/ technical specifications and as per the directions of Engineer-in-charge.*

- b) Cutout Openings of 480 sqm existed at top buildings considered to be covered by using Tensile fabric with 750GSM fabric with Serge Ferrari, Mehler or Dickson make with 10 years of warranty.

The detailed specification as follows: *The tensile membrane fabric shall be of high quality 750 GSM having minimum Tensile strength (Warp/ Weft) 280/280daN/5cm & minimum tear strength (Warp/ Weft) of 30/28daN, Adhesion 10daN/5cm, Multi composed PVDF-lacquer system on both sides, UV-protected with Flexlight perform 1002 S2 of Make Serge Ferrari, Mehler or Dickson which should be weldable without grinding having a minimum weight of 1050 gm/sqm should carry a warranty of minimum 10 years over steel structure frames with all fittings and fixtures such as Galvanized MS End Plate of 120 Microns thickness, Shackles, Rigging Screws , Turnbuckles, swedge, fork , keder rods & galvanized MS strands with stainless steel end terminals complete as per Drawing / Detail & as per particular/ technical specifications and as per the directions of Engineer-in-charge.*

2. *Steel work in built up with 120 GSM hot dip galvanised coatings to the Pre/Post coated steel tubular sections (round, square or rectangular hollow tubes etc.) including cutting, hoisting, fixing in position including welding and bolted with special shaped washers etc. complete with synthetic enamel painting.*
3. *Installation of M16 anchor fasteners (Hilti/Fischer or equivalent brand) up to a required depth with installation of Chemical Hilti RE 500 or equivalent brand at required locations as approved drawing.*
4. *Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to seven story height made with 40 mm dia M.S. tube 1.50m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube chollies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc.*
5. *Providing and laying of solid concrete block masonry with M7.5 block for making the upstand wall at required locations over the cantilever slab including 18mm thick cement plaster with CM 1:3.*
6. *All other miscellaneous works as required to complete the above stated subject work.*

On Contractor/ Agency's Letter Head

Undertaking pursuant to Section 206AB (as applicable) of the Income Tax Act, 1961

**To,
The Registrar
IIT Hyderabad
Kandi, Sangareddy- 502284.**

Dear Sir/Madam,

Subject: Declaration confirming filing of Income Tax Return for immediate two preceding years.

I, Ms./Mrs./Mr. _____ in capacity of Authorized Signatory of _____ having PAN _____ and registered office at _____ do hereby declare that _____ has filed Income Tax Returns for immediately last 2 preceding Financial Years as mentioned below per due dates under Section 139 (1) of the Income Tax Act, 1961 ('the Act') and details of which are as given under:

Financial Year for which Income Tax Return was due as per Section 139(1)	Acknowledgement no. of ITR filed under Section 139(1)	Date of Filing
2023-24 <i>(if applicable on date of this declaration)</i>		
2022-23		
2021-22		

Further, I confirm that _____ has lined the above PAN with Aadhaar number as on this date.

I also undertake that _____ hereby indemnify **Indian Institute of Technology Hyderabad** for any loss/liability (including any Tax, interest, penalty, etc.) that may arise due to incorrect reporting of above information.

For _____

Signature: _____

Name of person:

Designation:

Place:

Date:

PROFORMA OF SCHEDULES

SCHEDULE 'A'

Schedule of quantities (Enclosed): As enclosed at Page No to.....

SCHEDULE 'B'

Schedule of materials to be issued to the contractor

Sl. No.	Description of item	Quantity	Rates in figure & words at which the material will be charged to the Contractor	Place of issue
..... NIL				

SCHEDULE 'C'

Tools and plants to be hired to the contractor

Sl. No.	Description	Hire Charges per day	Place of issue
..... NIL			

SCHEDULE 'D'

Extra schedule for specific requirements/documents for the work, if any.

--- NIL ---

SCHEDULE 'E'

Reference to General Condition of Contract.: Posted in the website of the Institute.

Name of the work : ***Campus Development works of IIT Hyderabad.
SH:Designing, Fabrication, Supplying & Installation of Tensile fabric roof sheds to cover the gaps between different blocks, common open areas and corridors etc. to prevent rain water ingress at Convention Centre Building, IIT Hyderabad, Kandi, Sangareddy.***

Estimated cost of work : **Rs. 99,37,635/-**

Earnest money : **Rs. 1,98,800/-**

Performance Guarantee : 5.00% of the accepted tendered value

Security Deposit : 2.50% of the tendered value

SCHEDULE 'F'

GENERAL RULES AND DIRECTIONS:

Officer inviting tender: : *Executive Engineer (Civil), IITH*

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3 : *See below*

Definitions:

2(v) Engineer -in- Charge : *Executive Engineer (Civil), Indian Institute of Technology, Hyderabad.*

2(viii) Accepting Authority : *Superintending Engineer(Civil), Indian Institute of Technology, Hyderabad*

2(x) Percentage on cost materials and Labour to cover all overheads and profit : *15% (Fifteen) per cent.*

2(xi) Standard Schedule of Rate : *CPWD, Delhi Schedule of Rates (DSR) 2023 Civil / Electrical (2022), with up-to-date correction slips.*

Standard Contract Form : *IITH General Conditions of Contract*

Clause 1

i) Time allowed for submission of Performance Guarantee, Programme Chart (Time and Progress) and applicable licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance, in days : *7 (Seven) Days*

ii) Maximum allowable extension beyond the period provided in(i) above : *3 (three) days*

Clause 1A

Whether Clause 1A is applicable : *Yes*

Clause 2

Authority for fixing Compensation under Clause 2 : *Superintending Engineer, Indian Institute of Technology, Hyderabad*

Clause 3(VII): If the contractor had secured the contract with Government as a result

of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement-will be made ineligible.

Clause 5:

Number of days from the date of issue of letter of acceptance for reckoning date of start : *7 Days or date of issue of LOC whichever is later*

Milestones : Not Applicable

Table of Milestones if Applicable (Not Applicable)			
Sl. No.	Description of Milestone	Time Allowed (From Date of Start)	Amount to be withheld in case of non-achievement of Milestone
1	25% agreement value	One fourth of time allowed for completion.	In the event of non-achieving the necessary progress as assessed from the running payments, 2.5% of tendered value of work will be withheld for failure of each milestone.
2	50 % agreement value	One half of time allowed for completion.	
3	75% agreement value	Three fourth of time allowed for completion.	
4	100% agreement value	Full period of time allowed for completion.	

Time allowed for execution of work : **90 Days**

Authority to give fair and reasonable Extension of time for completion of work (Web based hindrance register) : *Superintending Engineer, IITH*

Rescheduling of mile stones : *Superintending Engineer, IITH*

Clause 6:- Measurement Book : (i) *For works having estimated cost more than Rs 15 Lakh – Clause 6*
 Clause applicable, 6 : (ii) *For works having estimated cost Rs. 15 Lakh or less – Contractor’s option of Clause 6 or to be exercised at the time of Tender Submission*

Clause 7:

Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment : Rs. 5 Lakhs/-

Clause 7A:

Whether Clause 7A is applicable

: Yes.

No running account bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-charge.

Clause 10A:

List of testing equipment to be provided by the contractor at site lab

: As given in additional specifications

Clause 10B (ii)- Mobilization advance:

Whether Clause 10 B (ii) shall be applicable

: Applicable

Clause 10C:

Component of labour expressed as percent of value of work

: 25%

Clause 10CA

: Not Applicable

Sl. No.	Material covered under this clause	Nearest Materials (other than cement, reinforcement bars and the structural steel) for which All India Wholesale Price Index to be followed	Base Price of all Materials covered under clause 10 CA* (INR)
	Reinforcement steel (TMT)		(63,000/-)/MT
	Cement		(6,800/-) /MT
	Structural steel		(69,000/-)/MT

Clause 10CC

: Not Applicable

Clause 11:

Specification to be followed for execution of work

CIVIL WORKS

CPWD DSR Items:

CPWD Specifications 2019 Vol. I & II, with up-to-date correction slips,

For MORTH Items

MORTH Specifications 2013, with up-to-date correction slips.

For ELECTRICAL WORKS

i) CPWD DSR Items:

CPWD General Specifications
Part I Internal 2023
Part II External 2023
Part III Lifts & Escalators 2003
Part IV Substations 2013
Part V Wet Riser
Sprinkler System 2020
Part VI Fire Detection and Alarm
System 2018
Part VII DG Sets 2013
Part VIII: Gas based fire
extinguisher systems 2013
all with up-to-date Corrections
Slips.

For all Market Rate Items:

Particular Specifications

Clause 12:

12.2 & 12.3: Deviation limit beyond which Clause 12.2 & 12.3 shall apply for building work : *100% (as per CPWD circular No. DG/SOP/16 Dt: 15.02.2021)*

12.5 : Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for foundation work : *100% (One hundred per cent)*

Clause 14: : *Yes.*
Whether Clause 14 is applicable

Clause 16 : *Superintending Engineer, IIT Hyderabad up to 5% of tendered amount, beyond which, Director, IITH.*
Competent Authority for deciding reduced rates.

Clause 18: : *As required for the work.*
List of mandatory machinery, tools & plants to be deployed by the contractor at site

Clause 25:
(i) Settlement of disputes by Conciliation and Arbitration:

- | | |
|-----------------------------------|-------------------------|
| • Conciliator | Dean (Planning) |
| • Authority to appoint arbitrator | Director, IIT Hyderabad |
| • Place of Arbitration | Hyderabad |
| • Venue of Arbitration | IIT Hyderabad |
| • Type of Arbitration Tribunal | Sole Arbitrator |

Note: Provisions of Arbitration and Conciliation Act 1996 with latest amendments in force shall be applicable.

Clause 32:

Requirement of Technical Representative(s) and Recovery Rate

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Technical Representative)	Minimum Experience (years)	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i) (INR) / Month / Each	
						Figures	Words
1	Engineering Graduate	Civil/Mechanical	Sr. Technical Representative	10	NIL	50,000/-	Rupees Fifty Thousand Only
2	Diploma Engineer	Civil/Mechanical	Technical Representative (Construction Manager)	5	1	30,000/-	Rupees Thirty Thousand Only
3	Diploma Engineer	Electrical/Mechanical	Technical Representative (Construction Manager)	5	NIL	30,000/-	Rupees Thirty Thousand Only

Note: Assistant Engineers retired from government services that are holding diploma will be treated at par with graduate engineers.

Clause 38

(i): Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates

: *DSR – 2023 for Civil and 2022 for Electrical published by CPWD*

(ii): Variations permissible on theoretical quantities:

- | | | |
|---|---|-------------------------------------|
| (a) Cement | : | 2% plus/minus |
| (b) Bitumen All Works | | 2.5% plus only & nil on minus side. |
| (c) Steel Reinforcement and structural steel sections for each diameter, section and category | : | 2% plus/minus |
| (d) All other materials | | Nil |

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl. No.	Description of Item	Rates in figures and words at which recovery shall be made from the Contractor	
		Excess beyond permissible variation	Less use beyond permissible variation
1.	Cement	Nil	6,800+10% per MT
2.	Steel Reinforcement	Nil	63,000+10% per MT
3.	Structural Steel Sections	Nil	69,000+10% per MT

Special Conditions of Contract

SPECIAL CONDITIONS:

1. Before tendering, the contractor shall inspect the site of work and shall fully acquaint himself about the conditions prevailing at site, availability of materials, availability of land and suitable location for construction of godowns, stores and camp, transport facilities, the extent of lead and lifts involved in the work (over the entire duration of contract) including local conditions, as required for satisfactory execution of the work and nothing extra whatsoever shall be paid on this account.
2. The contractor shall at his own expense and risk arrange land for accommodation of labour, setting up of office, the storage of materials, erection of temporary work-shops, and construction of approach roads to the site of the work including land required for carrying out of all jobs connected with the completion of the work. In any case, IIT Hyderabad (Institute) shall not permit setting up of labour camps within its premises. If during construction it becomes necessary to remove or shift the stored materials shed workshop, access roads, etc. to facilitate execution of any other work by any other agency, the contractor shall do as directed by the Engineer-in-charge and no claim whatsoever, shall be entertained on this account.
3. It shall be deemed that the contractor shall have satisfied himself as to the nature and location of the work, transport facilities, availability of land for setting up of camp etc. The department will bear no responsibility for lack of such knowledge and the consequences thereof.
4. The contractor shall have to make approaches to the site, if so required and keep them in good condition for transportation of labour and materials as well as inspection of works by the Engineer-in-charge. Nothing extra shall be paid on this account.
5. The contractor shall be responsible for the true and proper setting out of the work in coordination with the Engineer-in-charge or his authorized representatives and for the correctness of the positions, levels, dimensions and alignments of all parts of the structure and for the provisions of all necessary instruments appliances and labour in connection therewith. If at any time, during the progress of work, any error appears or arises in the position, levels, dimensions or alignment of any part of the work, the contractor on being asked to do so by the Engineer-in-charge, shall rectify such error to the entire satisfaction of Engineer-in-charge. The checking by the Engineer-in-charge or his authorized representative shall not relieve the contractor of his responsibility for the correctness of any setting out of any line or level. The contractor shall carefully protect and preserve all bench marks pegs and pillars provided for the setting out of works.
6. All setting out activities concerning establishment of benchmarks, theodolite stations centre line pillars etc. including all materials, tools, plants, equipment, theodolite and all other instruments, labour etc. required for performing all the functions necessary and ancillary thereto at the commencement of the work, during the progress of the work and till the completion of the work shall be

carried out by the contractor and nothing extra shall be paid on this account.

- 7.** The contractor shall at his own cost submit samples of all materials sufficiently in advance and obtain approval of the Engineer-in-charge. Subsequently, the materials to be used in the actual execution of the work shall strictly conform to the quality of samples approved by the Engineer- in-charge and nothing extra shall be paid on this account. The acceptance of any sample or material on inspection shall not be a bar to its subsequent rejection, if found defective.
- 8.** The contractor shall at his cost, make all arrangements and shall provide necessary facilities as the Engineer-in-charge may require for collecting, preparing, packing forwarding and transportation of the required number of samples for tests for analysis at such time and to such places as directed by the Engineer-in-charge, and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The cost of tests shall be borne by the contractor/Institute in the manner indicated below (except for water):

 - a) By the contractor, if the results show that the material does not conform to relevant specifications and BIS codes or any other relevant code for which conformity test is carried out.
 - b) By the Institute, if the results show that the material conforms to relevant specifications and BIS codes or any other relevant code for which conformity test is carried out.
- 9.** The necessary tests shall be conducted in the laboratory approved by the Engineer- in-charge. The samples for carrying out all or any of the tests shall be collected by the Engineer-in-charge or on his behalf by any other officer of the Institute. The contractor or his authorized representative shall associate himself in collection, preparation, packing and forwarding of such samples for the prescribed tests and analysis. In case he or his authorized representative is not present or does not associate him, the results of such tests and consequences thereon shall be binding on the contractor.
- 10.** Materials used on work without prior inspection and testing (where testing is necessary) and without approval of Engineer-in-charge are liable to be considered unauthorized, defective and not acceptable. The Engineer-in-charge shall have full powers to require removal of any or all of the materials brought to site by contractor which are not in accordance with the contract, Specifications or do not conform in character or quality to the samples approved by the Engineer-in-charge. In case of default on the part of the contractor in removing rejected materials, the Engineer-in- charge shall be at liberty to have them removed at the risk and cost of the contractor.
- 11.** The contractor shall make his own arrangement for the water required for execution of work and get the water tested at his own cost with regard to its suitability for use in the works and get written approval from the Engineer-in-charge before he proceeds with the use of same for execution of work. Nothing extra shall be paid to the contractor on this account.

- 12.** The work shall be carried out in such a manner so as not to interfere/or effect or disturb other works being executed by other agencies, if any.
- 13.** Any damages done by the contractor to any existing work or work being executed by other agencies shall be made good by him at his own cost.
- 14.** The work shall be carried out in the manner complying in all respects with the requirement of relevant rules and regulations of the local bodies under the jurisdiction of which the work is to be executed and nothing extra shall be paid on this account.
- 15.** For completing the work in time, the contractor might be required to work in two or more shifts and no claims whatsoever shall be entertained on this account, notwithstanding the Fact that the contractor will have to pay to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amount for any other reasons,
- 16.** The contractor will have to make his own 'arrangement for obtaining electric connection from the state electricity board and make necessary payments directly to the department concerned and/or install generators at the site of work, if required and nothing extra whatsoever will be payable on this account.
- 17.** The drawings for the work attached in the document relating to this contract and all other drawings that will be issued by the Engineer-in-charge during the execution of work shall at all times be properly correlated before executing any work and no claim whatsoever shall be entertained on this account.
- 18.** The contractor shall maintain in good condition all work executed till the completion of the entire work entrusted to the contractor under this contract and nothing extra shall be paid on this account.
- 19.** No payment will be made to the contractor for damage caused by rain, floods and other natural calamities whatsoever during the execution of the works and any damage to the work on this account shall have to be made good by the contractor at his own cost and nothing whatsoever' shall be paid on this account.
- 20.** The item rates or percentage rates for all items of work, unless clearly specified otherwise, shall include the cost of all labour materials, de-watering and other inputs involved in the execution of the items.
- 21.** Unless otherwise provided in the schedule of quantities or CPWD Specifications the percentage rates tendered by the contractor shall be all-inclusive and shall apply to all heights, depths, leads and lifts.
- 22.** No claim whatsoever for idle labour, additional establishments, costs of hire and labour charges for tools and plants etc. would be entertained under any circumstances.
- 23.** For the safety of all labour directly or indirectly employed in the work for the performance of the contractor's part of this agreement, the contractors shall, in addition to the provisions of Safety code and directions of the Engineer-in-charge

make all arrangements to provide facility as per the provisions of Indian Standard Specifications (Codes) listed below and nothing extra shall be paid on this account.

- (a) IS 3696 Part I Safety Code for scaffolds and ladders
- (b) IS 3696 Part II Safety Code for scaffolds and ladders Part II ladders
- (c) IS 764 Safety Code for excavation work
- (d) IS 4081 Safety Code for Blasting and Drilling operations,
- (e) IS4138 Safety Code for working in compressed air.
- (f) IS 7293 Safety Code for working with construction machinery
- (g) IS 7969 Safety Code for storage and handling of building materials
- (h) IS 5216:1982 code of safety procedures and practices in electrical works

24. The contractor shall take all precautions to avoid all accidents by exhibiting necessary caution boards and by providing red flags, red lights and barriers. The contractor shall be responsible for any accident at the site of work and consequences thereof.

25. In case of Specifications the following hierarchy will be followed:

- (1) Nomenclature of the item.
- (2) Additional Specifications, particular Specifications, special / additional conditions if any as defined in the contract documents.
- (3) Drawings
- (4) CPWD Specifications,
- (5) BIS Specifications (Latest version) if CPWD Specifications not available.
- (6) Manufacturers Specifications if BIS Specifications not available.
- (7) Sound Engineering Practices Standard Textbooks.
- (8) If none of the above is available decision of Engineer-in-Charge will be final.

26. All Stone aggregates, sand, stone dust, etc shall be obtained only from the quarry or other source approved by the Engineer in charge before they are actually procured and used in the work. The percentage rate for the items mentioned in the schedule of quantities includes all charges and nothing-extra payable on any account.

27. Labour Welfare Cess @ 1% shall be deducted at source from the bills of Gross value (which includes the cost of stipulated materials) of the work done and Government shall not entertain any claim whatsoever in this respect in this contract.
28. The ESI and EPF Contribution on the part of the employer in respect of the contract shall be paid by the contractor. This contribution on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-Charge to the contractor on actual basis. The applicable and eligible amount of EPF and ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.
29. No Running Account Bill shall be paid for the work till the applicable labour license, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-charge.
30. The contractor shall obtain a valid licence under the contract labour (R A) Act, 1970 and the contract labour (Regulation and Abolition) Central Rules, 1971 before the commencement of the work, and continue to have a valid licence until the completion of the work. The contractor shall also comply with provision of the Inter-state Migrant Women (Regulation of Employment and conditions of service) Act 1979.
31. ***On completion of work, the contractor has to provide product warranty for a period of 5 years on a 100 rupees non-judicial bond paper. The Security deposit of 2.5% of the gross value of Tensile Fabric Sheet roofing work done (BoQ Item No. 1 an 2) to be withheld from the contractor's bill towards the said product warranty. The SD shall be released upon submission of BG/FD for the same amount with a validity of 5 years product warranty period.***
32. ***The bidder has to provide free service for the tensile fabric roof sheds provided once in every 3 months till completion of DLP (defects Liability Period) of 12 months.***
33. ***As this work is time targeted and in view of the allocated budget/fund for the said work will be lapsed by 31st March, 2025, the contractor has to complete the work as per the time allowed for the completion of work (OR) on or before 1st March, 2025 strictly, whichever is the earlier and to make the payment on or before the 31st March, 2025, the final bill of the completed work shall be submitted by this office to concerned finance unit of IIT Hyderabad on or before 10th March, 2025 and to this extent the contractor shall be ensured to submit the Bill of Quantities and Invoice to this office by 10th March, 2025.***
34. ***In any circumstances, if the Contractor not completed the work on or before 1st March 2025 and unable to submit the final bill of the work by 10th March, 2025, then the Contractor shall submit the Running Bill for the completed work as on 1st March 2025 along with the Bank Guarantee (BG) for the Balance amount towards non-completion of the some of the items of work/snags (i.e. on substantial completion of the work) on or before 10th of March 2025, on the basis of that the institute will be***

released the full amount of the work including advance amount for the non-completed work against the submission of BG by the Contractor to overcome the funds exhaust situation by 31st March 2025 and the contractor can complete the balance works even later 31st March 2025 too and thereafter their BG will be released subsequent completion of the balance works as per terms and conditions of the contract agreement.

- 35. Though the timelines provided for completion of the work in such, but in view of the lapse of allocated funds by 31st March 2025, the contractor has to fulfill the either above clause Sl.No.33 OR agreeable to clause Sl.No.34 and to that extent they have to be ready with submission of BG/BC/DD against non-completed items by 10th March 2025.*
- 36. The intending bidders shall be submitted “Manufacturer’s Authorization Certificate” from one of the tensile fabric manufacturers of Serge Ferrari/Mehler/Dickson in the prescribed format as enclosed at Annexure-D. This will be evaluated during the technical evaluation process of bids of the intending bidders and those who have not been submitted the said certificate, their bids will not be evaluated further and considered them as technically disqualified and their financial bids will not be opened. In this regard our office will not entertain any mail/letter correspondences from the intending bidders for relaxing the condition.*
- 37. The NIT enclosed with location layout with brief details of work to be executed. The successful bidder has to prepare & submit the Good for Construction (GFC) Architectural Drawings after review of the schedule of accommodation in line with the conceptual proposals as given in NIT by EIC. On approval of GFC Arch. Drawings by EIC, the successful bidder has to proceed further for approval of structural designs & drawings with the approved consultant as mentioned below.*
- 38. The successful bidder shall submit “Structural Stability Certificate” in prescribed format including soft & hard copies of structural designs & drawings in quadruplicate. All the Structural drawings of the structure and the structural stability certificate shall be signed and certified by the qualified structural Engineer licenced with Greater Hyderabad Municipal Corporation (GHMC) or Hyderabad Metropolitan Development Authority (HMDA) or Structural Engineering Faculty of any Government Engineering College/University/NIT’s/IIT’s.*

CLIENT’S CERTIFICATE REG. PERFORMANCE OF CONTRACTOR

Name & address of the Client.....

Details of works executed by Shri/ M/s.

1. Name of work with brief particulars	
2. Agreement No. and date	
3. Estimated Cost	
4. Agreement amount	
5. Date of commencement of work	
6. Stipulated date of completion	
7. Actual date of completion	
8. Details of compensation levied for delayed completion, if any	
(a) Whether case of levy of compensation for delay has been decided or not	Yes/No
(b) If decided, amount of compensation levied for delayed completion, if any	
9. Amount of reduced rate items, if any	
10. Performance Report	
a) Quality of Work	Outstanding / Very Good / Good /Poor
b) Financial Soundness	Outstanding / Very Good / Good /Poor
c) Technical Proficiency	Outstanding / Very Good / Good /Poor
d) Resourcefulness	Outstanding / Very Good / Good /Poor
e) General behavior	Outstanding / Very Good / Good /Poor

Dated:

Executive Engineer or Equivalent

Declaration for Local Content

(To be given on Company Letter Head - For tender value below Rs.10 Crores)

(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above Rs.10 Crores)

Date:_____

**To,
The Director,
Indian Institute of Technology Hyderabad,
Kandi, Sangareddy 502284.**

Sub: Declaration of Local content

Tender Reference No: _____

Name of Tender / Work: _____

1. Country of Origin of Goods being offered: _____
2. We hereby declare that items offered has _____% local content.
3. Details of location at which local value addition will be made / made: (Complete address to be mentioned) _____

“Local Content” means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

“*False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.”

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

Annexure – D

(To be given on Company Letter Head viz. Serge Ferrari/Mehler/Dickson)

To
The Executive Engineer,
Indian Institute of Technology,
Khandi, Hyderabad, Telangana

Sir,

We are pleased to confirm you that M/s _____,
Address: _____ is a
authorized user of fabric of tensile roof sheds, manufactured by **(Serge
Ferrari/Mehler/Dickson)** and specialized in manufacturing and installation of tensile
fabric roof sheds, provided they meet all the technical requirements of as per their
project at Indian Institute of Technology, Hyderabad vide NIT No. IITH/CMD/CIV/2024-
25/NIT-72. Further we confirm that we will ensure and ready to supply the full quantity
of 400 Sqmt. as per the tender requirements.

Yours sincerely,

(Serge Ferrari /Mehler/Dickson)

Additional Conditions of Contract

Additional Conditions:

1. The contractor shall make his own arrangements for obtaining electric connections if required and make necessary payments directly to the department concerned.
2. Other agencies doing works related with this project will also simultaneously execute the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying/burying in the work of pipes, cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for other agencies. Conduits for electrical wiring/cables will be laid in a way that they leave enough space for concreting and do not adversely affect the structural members. Nothing extra over the agreement rates shall be paid for the same.
3. Some restrictions may be imposed by the Institutes security staff etc., on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.
4. The building work will be carried out in the manner complying in all respects with the requirements of relevant byelaws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.
5. The work of water supply, Internal Sanitary Installations and drainage work etc., shall be carried out as per local Municipal Corporation or such local body bye- laws and the contractor shall produce necessary completion certificate from such authorities after completion of the work.
6. Water tanks, taps sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and specifications of the Municipal Body/Corporation where CPWD specifications are not available. The contractor should engage licenced plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities wherever required at his own cost.
7. The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rules and regulations and pay all fees and charge, which he may be liable.
8. The contractor shall give a performance test of the entire installation(s) as per standard Specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
9. Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been in built in the items and nothing extra shall be payable (or) extra cement considered in consumption on this account.

10. Applicable for Works Costing more than Rs 25 Lakh

The Contractor shall furnish his proposed methodology and programme of construction in comprehensive manner of executing and completing the work within the stipulated period and also for achieving the milestones simultaneously within the specified periods in schedule F within 7 days of award of tender. The programme shall consist of the various components for each part of the work stipulated to be completed and a bar chart may be appended in this connection.

11. The contractor shall take instructions from the Engineer-in-Charge for stacking of materials in any place. No excavated earth or building material shall be stacked on areas where other buildings, roads, services compound walls are to be constructed.
12. As a policy of the Institute, huts for labour are not permitted at the site of work by the contractors. The contractors are required to provide such accommodation outside the premises of the Institute and nothing extra shall be paid on this account.
13. Royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand and bajri etc., collected by him for the execution of the work direct to the Revenue authority or authorized agent of the State Government concerned or Central Government.
14. The Percentage Rate for Centering shuttering includes cost of centering the rate of RCC works include cost of concreting in sloped roof/ chajjas / beams and no extra rate shall be payable on any account. Single stone slab only should be used in treads and risers of staircase steps etc. Payment shall be made in respect of items. No extra rate shall be payable on this account.
15. The Contractor should construct proper mortar bands of lean mix with adequate depth smaller size over the curved roof for flooding with water proper curing. In case of Arches, wet gunny bags shall be used for a period of two weeks.
16. Samples of all materials like UPVC Pipes, fittings, tiles etc., shall be got approved in advance before placing order for them. Similarly, samples of all works shall be prepared in advance and got approved from the Engineer-in-Charge before taking up the work
17. The contractor shall procure all the materials in advance so that there is sufficient time for testing and approving the material and clearance of the same before use in work.
18. The Percentage rate for skirting, dados includes cost of chasing of Brick walls to the required thickness wherever required in order to accommodate required thickness of base cement mortar and nothing extra is payable.
19. The Percentage rate for the different flooring items under flooring sub head, includes the cost of extra cement mortar required to be laid for making the finished floor level at par with the kota stone flooring at all floors and at all levels, and

nothing extra shall be payable on any account.

20. No payment shall be made for preparing the existing surface like flooring, masonry etc. for hacking, cleaning to receive new work.
21. No payment shall be made for extra for scaffolding required for external works at all levels.
22. Applicable for Works costing more than Rs 50 Lakh

23. Reports to be submitted by Contractor

- (i) The contractor shall submit monthly progress report of the work in a computerized form. The progress report shall contain the following, apart from whatever else may be required as specified: i) Project information, giving the broad features of the contract.
- (ii) Introduction, giving a brief scope of the work under the contract, and the broad structural or other details.
- (iii) Construction schedule of the various components of the work through a bar chart for the next 2 quarters (or as may be specified), showing the milestones, targeted tasks and up to date progress.
- (iv) Progress chart of the various components of that are planned and achieved, for the month as well as cumulative up to the month, with reasons for deviations, if any, in a tabular format.
- (v) Plant and machinery statement, indicating those deployed in the work, and their working along with their designations.
- (vi) Manpower statement, indicating individually the names of all the staff deployed in the work, along with their designations.
- (vii) Financial statement, indicating the broad details of all the running account payments received up to date, such as gross value of work done, advances taken, recoveries effected, amounts withheld, net payments, details of cheque payments received, etc.
- (viii) A statement showing the extra and substituted items submitted by the contractor, and the payment received against them, items pending for sanction/decision by the Department, broad details of the bank guarantees, indicating clearly their validity periods, broad details of the insurance policies taken by the contractor, if any, the advances received and adjusted from the department, etc.
- (ix) Progress photographs, in colour, of the various items/components of the work done up to date, to indicate visually the actual progress of the work.
- (x) Quality assurance and quality control tests conducted during the month, with the results thereof.

24. **PROGRESS REPORT**

The progress report submitted by the contractor has to be checked and certified by the Junior Engineer or Assistant Engineer, and has to be reviewed by the Executive Engineer and the Superintending Engineer, over their dated signatures.

A. Physical.

Name of Item	Quantity as per Agreement	Quantity extended during the month	Total up to date quantity executed	Anticipated balance quantity

B. Financial

Total Tendered amount	Work done during the month	Total amount of work done up to Date	Anticipated amount of balance work

25. The contractor has to submit the progress report to the Sub division office in quadruplicate by 10th day of every month as per the above proforma along with photographs of the work done during that month. The contractor shall be charged at Rs. 2500/- (Rupees Two thousand five hundred only) in the event of non-receipt of monthly progress report on due date (i.e., on 10th day of every month) to the sub division office in the manner prescribed above. In case 10th day happens to be a closed holiday then the progress report will be submitted on the next working day.

Annexure – I

Modifications in Clause 12 of GCC for Construction Works

The following modifications are made in the GCC for Construction Works.

Existing Provision	Modified Provision
<p>Clause 12 Deviations/Variations Extent and Pricing The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.</p>	<p>Clause 12 Deviations/Variations Extent and Pricing</p> <p style="text-align: center;">No Change</p>
<p>12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows:</p> <p>(i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus</p> <p>(ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.</p>	<p style="text-align: center;">No Change</p>

12.2 Deviation, Extra Items and Pricing

In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) submit market rate claim rates, supported by proper analysis which shall include invoices, vouchers etc. and Manufacturer's specification for the work failing which the rate approved later by the Engineer- in- Charge shall be binding and the Engineer-in- Charge shall within prescribed time limit of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined, failing which it will be deemed to have been approved.

12.2 Deviation, Extra Items and Pricing

In the case of extra item(s) (items which are not available in the contract), the contractor may within fifteen days of the receipt of order or occurrence of the item(s), submit claim for market rate(s), supported with proper analysis of rate and manufacturer's specification for the work, invoices, vouchers, etc. (as applicable), failing which the rate(s) approved later by the Engineer-in-Charge shall be final and binding. Where the contractor submits claim for market rate(s) in the manner prescribed above, the Engineer-in-Charge shall, within 45 days of the receipt of the claims, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

The rate(s) of extra items so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.

- a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
- b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

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<p>Deviation, deviated Quantities, Pricing In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above-mentioned limits, and the contractor shall be paid in accordance with the rates so determined.</p> <p>The prescribed time limit for finalizing rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items is within 45 days after submission of proposal by the contractor without observation of the Engineer-in-Charge.</p>	<p>Deviation, deviated quantities, Pricing In the case of contract items which exceed the limit laid down in Schedule F, the contractor may within fifteen days of the receipt of order or occurrence of the excess, claim revision of the rates, supported with proper analysis of rate and invoices, vouchers, etc. (as applicable), for the quantity in excess of the above-mentioned limit. The Engineer-in-Charge shall within 45 days of receipt of the claims, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined. The rate(s) so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.</p>
<p>12.3 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.</p>	<p>12.3 In the case of contract items which exceed the limit laid down in Schedule F, the Engineer-in-Charge shall after giving notice to the contractor within 30 days of submission of that bill by the contractor which contains such item(s), and after taking into consideration any reply received from the contractor within 15 days of the issue of such notice, reduce the rate for quantity in excess of the above-mentioned limit on the basis of market rates, within 30 days of the expiry of the said period of 15 days, and the contractor shall be paid in accordance with the rates so determined. The rate(s) so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.</p>
<p>12.4 For the purpose of operation of Schedule "F", the following works shall be treated as works relating to foundation unless & otherwise defined in the contract:</p> <ul style="list-style-type: none"> (i) For Buildings: All works up to 1.2 meters above ground level or up to floor 1 level whichever is lower. (ii) For abutments, piers and well staining: All works up to 1.2 m above the bed level. (iii) For retaining walls, wing walls, compound walls, chimneys, overhead reservoirs/ tanks and other elevated structures: All works up to 1.2 meters above the ground level. 	<p style="text-align: center;">Deleted</p>

<p>(iv) For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 meters above the ground level.</p> <p>(v) For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower.</p> <p>(vi) For Roads, all items of excavation and filling including treatment of sub base.</p>	<p>Deleted</p>
<p>12.5 Any operation incidental to or necessarily has to be in contemplation of tenderer while quoting tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.</p>	<p>12.5 The cost of any operation necessarily in contemplation of tenderer while quoting tender or necessary or incidental to proper execution of an item of work included in the Schedule of Quantities or in the Schedule of Rates mentioned in Schedule F, whether or not specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said Schedule of Rates, as the case may be. Nothing extra shall be admissible for such operations.</p>

Particular Specifications

Design, Fabrication, Manufacturing, Supply, Assembly, & installation of tensile Fabric and Supporting MS steel Structure as per drawing and manufacturers specifications including approved scaffolding, dash fastners, all necessary fixtures & fittings etc as required complete and as per directions of Engineer-In-Charge.

1.0 SCOPE OF WORK

(i) The Contractor shall be responsible for the design, engineering, patterning, fabrication, supply and installation of the tensioned membrane structures as shown on the drawings including the follow:

- Design, engineering, and patterning of Architectural Membrane and related perimeter structural steel attachment hardware supporting system.
- Supply of Architectural Membrane and structural steel perimeter attachment hardware supporting system, and all normally associated components.
- Fabrication of Architectural Membrane.
- Delivery of all supplied components to the project site.
- Installation of all supplied items.

(ii) For steelwork the Contractor shall be responsible for the:

- Steel roof design and documentation
- Engineering drawings
- Steel shop drawings
- Steel fabrication
- Painting of the steel structure
- Steel installation

(iii) The work shall consist of the supply of all labor, tools, plant and materials necessary to complete the design, supply and installation of the tensioned membrane. The work shall be executed in the best trade practice by a Specialized Tradesman, all strictly in accordance with a reputable manufacturer's written instructions.

2.0 FABRIC CANOPY

As depicted in the tender drawings. The canopy shall be an engineered tensioned membrane structure. The Architectural Membrane for the main roofing shall be PVC coated polyester fibre with 100% S2 PVDF top & bottom coatings.

3.0 DESIGN

The following items shall be the design responsibility of the contractor. All calculations and drawings shall be endorsed by a Registered Structural Engineer employed by the Contractor certifying that the structural design complies with the design criteria, codes and standards as listed hereinafter.

- i) Calculation of wind and other loads from information supplied on the Contract drawings And considering local conditions;
- ii) Computer analysis of structure and supporting steelwork;
- iii) Provision of computations;
- iv) Detailed design of structural steel to support tensioned membrane;
- Vi) Design of steel tensioning cables;
- Vii) Provision of reactions and geometry to enable others to check the design and capacity of The foundations and supporting superstructure;
- Viii) Check of as-installed survey data.

4.0 DESIGN CRITERIA, CODES AND STANDARDS

i) The membrane structure shall be designed to comply with all statutory requirements

Under the Building Ordinance and inter-related Regulations and Codes of Practice

1. Live Load: 0.25kpa

2. Wind Load: IS 875 Indian Wind Code: Basic wind speed at 10 mt height $V=44\text{m/s}$ (Hyderabad) $TC=3$
3. Wind pressure coefficient: BS6399: Part 2: 1995 or equivalent.
4. The minimum pre stress in the membrane shall be 2kn/m for type II PVC and 2.5kn/m for type III PVC in both the warp and weft direction.

ii) Life Safety

1. All fabric structures shall be designed so no life safety issue is created in the event of a loss of a part of the fabric.
2. The fabric structure shall not rely completely on the fabric for structural stability.

iii) The tensioned membrane shall conform to the current relevant standards and to the requirements of the statutory authorities. Relevant publications of particular importance are as follows:

- 1) IS 875 Part 3: Code for Wind Loads
- 2) BS 8118: Structural Use of Aluminum
- 3) AS 1441: Method of Test for Coated Fabrics
- 4) AS 1530: Methods for Fire Tests on Building Materials, Components and Structures
- 5) AS 2001: Methods of Test for Textiles

5.0 SUBMISSIONS

1. Computer generated model indicating the shape and overall appearance of the Tensioned Membrane as per the architectural drawing.
2. Specification/Data Sheets by the contractor.
3. Fabric canopy system drawings defining the complete structure, connection details, interfaces, and general fabric seam arrangement shall be submitted by the Contractor for review and approval by the project engineer/EIC. Drawings shall confirm the general arrangement submitted with the tender.
4. A compilation of all calculations and the basis therefore shall be submitted as substantiation for the sizes, loads, and dimensions shown on the drawings.
5. Maintenance manual: Submit two (2) copies of a maintenance manual for the fabric roof structure to the Client. The manual shall include a schedule for routine inspection, an inspection checklist, instructions for emergency repair and use of emergency repair materials, and warranty.
6. Test reports, indicating that the PVC fabric membrane meets the criteria listed: Physical test data of the actual roll goods to be used in the project confirming conformance with specifications for the fabric.

6.0 ENGINEERING

Structural calculation for the project shall be prepared by, or under the direct supervision of a Registered Structural Engineer. Drawings shall define the completed structure, precise interface geometry determination, definition and co-ordination with the superstructure, reaction loads, connections, details, interfaces and seam layout together with foundation layout. All structural drawings and calculations shall be prepared under the supervision of, and endorsed by a fully qualified engineer - the Designer. The Designer must also possess competence and experience in the design and construction of tensioned fabric structures, acceptable to the EIC.

Structural calculation for the tensile structure shall include the following:

- i. Large deflection numerical shape generation that will insure a stable, uniformly stressed, Three dimensionally curved shape that is in static equilibrium with the internal prestress Forces, and is suitable to resist all applied loads.
- ii. Large deflection finite element method structural analysis of the membrane system under all applicable applied wind, snow and live load conditions.
- iii. Large deflection finite element method structural analysis of the support frame system.
- iv. Biaxial fabric test specification, interpretation, and fabric compensation determination.
- v. Accurate generation of the two-dimensional compensated fabric templates required to generate the three-dimensional equilibrium shape.
- vi. Member size calculations of all primary structural members.
- vii. Connection design should include only bolts and secondary member sizing.

- viii Drainage to be taken well care of and gutters for all drainage lines should be galvanized And poly urethane painted and well treated for all kinds of corrosion.

7.0 WARRANTY

- i. All fabric, membrane and structure with all its accessories supplied and installed shall be in accordance with this specification and shall be guaranteed against water leakage, faulty materials and workmanship or any kind of wear and tear equal to or more than 5 years.
- ii. The warranty shall be underwritten by the tensioned fabric structure manufacturer.

8.0 PVC MAINTENANCE KIT

The materials shall be packaged into a maintenance kit for storage by the Client. Supply the Client with the following materials for emergency repair or maintenance:

- 10 no. 300 mm diameter PVC patch
- 10 no. 100 mm x 200 mm rectangular PVC patch
- 1 no. Utility Knife
- Approved PVC glue.
- 1 booklet repair manual

9.0 QUALITY ASSURANCE

Fabrication and erection of the tensioned membrane canopy structure is limited to firms with proven experience in design, patterning & fabrication and construction of complex fabric structures and such firms shall meet the following minimum requirements. Evidence of compliance shall be submitted with the Tender:

Provide written evidence to the EIC of experience and skills of all personnel proposed for This project.

10. FABRIC MATERIALS - PVC

- i. The fabric membrane shall comprise high quality PVC coated polyester fabric with 100% S2 PVDF finish to the top & bottom surfaces (colour shall be white.)
The fabric shall be equivalent or better than the below details;

SPECIFICATIONS OF FABRIC

SPECIFICATIONS OF FABRIC for 1050gsm

Yarn	PES HT 1100 Dtex	
Weight	1050 g/sqm-31 oz/sqyd	EN ISO 2286 – 2
Tensile strength		EN ISO 1421
(warp/weft)	420/ 400 dan/ 5 cm 480/ 450 lbs/in	ASTM D 751-00 Cut Strip Method
Tear strength		DIN 53.363
(warp/weft)	55/50 dan 105/100 Lbs	ASTM D 751-00 Trapezoidal Tear method
Adhesion	12dan/5cm	EN ISO 2411
Flame retardancy	B-S2,d0/EN 13501-1, Rating: B1/DIN4102-1, BS7837, NFPA701,	
1050GSM	CSMF T19,AS/NZS1530.3 & 3877 group1	
Surface treatment	Top & bottom sides of fabric surfaces: S2 PVDF	
Back side treatment		

SPECIFICATIONS OF FABRIC for 750 gsm

Yarn	PES HT 1100 Dtex	
Weight	750 g/sqm-22.1 oz/sqyd	EN ISO 2286 – 2
Tensile strength (warp/weft)	280/ 280 dan/ 5 cm 320/320 lbs/in	EN ISO 1421 ASTM D 751-00 Cut Strip Method
Tear strength (warp/weft)	30/28 dan 85/80 Lbs	DIN 53.363 ASTM D 751-00 Trapezoidal Tear method
Adhesion	10dan/5cm	EN ISO 2411
Flame retardancy 1050GSM	B-S2,d0/EN 13501-1, Rating:M2/NFP 92-507, B1/DIN 4102-1, BS 7837, NFPA 701, CSMF T19	
Surface treatment	Top & bottom sides of fabric surfaces: S2 PVDF	
Back treatment	side	

- ii. The primary materials shall be obtained from one manufacturer for the PVC membrane.
- iii. The entire membrane shall be fabricated from one type of fabric for each structure.
- iv. The grade of fabric shall be that required by detailed finite element analysis calculation.
- v. Edge canopy should be of one piece of fabric or only one piece of fabric to be used per Canopy

11. PATTERNING

i. Design

Membrane-form finding design analysis and patterning shall be **by computer finite element analysis conducted by the manufacturer's engineer experienced in the field** of tensile membrane engineering.

ii. Seam Layout

Submit to the EIC for approvals a seam layout indicating the proposed location of all Seams to be included in the complete membrane.

12. FABRICATION OF FABRIC PANEL

i. General

1. Fabrication shall only be by an approved specialist fabricator experienced in the work.
2. Fabric shop drawings shall include all information necessary for the fabrication of the fabric membrane. They shall include size and shape of envelope, type and location of shop and field connections, size, type, and extent of all heat welded seams.
3. The fabricator shall exercise necessary care to plan and assemble the sections such that the assembly has no shop patches. Splices, if any, shall be patterned into a symmetrical and repetitive geometric arrangement within the assembly, shown on the shop drawings and where feasible hidden by structural members. He shall exercise great care in marking, cutting, aligning, checking, welding seams and additions as well as general handling and soiling prevention procedures to produce a smooth uniform surface with even curved edges free from irregularities and interfaces lacking wrinkling, cuts, abrasions, stains or marks, surface imperfections or welding aberrations. The fabric shall be cut along marked lines to an accuracy of +1mm and -1mm.
4. The fabric membrane shall be fabricated in a sizable, clean, properly equipped and systematically established factory shop condition specialized in the fabrication of tension membrane.
5. All membrane shall be patterned using finite analysis computer modeling. The membrane shall be cut using the latest **CAD/CAM manufacturing technology** with a tolerance of -1mm, +1mm.

ii. Fabric Joints

1. PVC joints shall be formed using ONLY high frequency equipment to a tolerance of +1mm, -1mm.
2. The fabricator shall carefully plan his assembly to ensure that seams are always single laid and that a cut edge does not face uphill.
3. Joints shall be symmetrical as specified by the cutting pattern. No short pieces or selvage will be permitted.
4. All fabricated joints shall have a minimum of 90% of the total strength of the coated fabric in strip tensile testing. All structural joints shall be fused in accordance with industry standards and shall maintain the integrity of the coating.

iii. Hole Punching

At positions where bolt or other penetrations of the fabric is shown or required, holes shall be punched using a sharp 1 mm oversized punch. Holes shall be neat and have uniform edges.

iv. Field Splices

The structure fabricated using field splices shall be limited to places where factory seaming is not possible and applied only where shown and approved by the EIC. Where splices are not specified and the fabricator proposes the use of same, full description including details of location and design shall be provided to the EIC for approval.

13. PACKING

The contractor shall be wholly responsible for employing particular measures to prevent any damage occurring to the fabric coating and/or the base cloth. The fabric shall be folded in such a manner as to minimize sharp creases and folds. All materials shall be packed in substantial crates and shall be designed to protect the materials contained against hazard both during transit and whilst stored at the site.

14. ERECTION

- i. No trade shall have access to, or work from the fabric, unless authorized by the EIC in writing.
- ii. Method of Erection
The erection procedure shall be examined with respect of practicality and compatibility with other work on the project. The Contractor shall submit a detailed work procedure and obtain the approval of the EIC before proceeding with the works.
- iii. Preparation for Installation of Fabric
 1. A clear and level site shall be provided for undertaking erection and assembly procedures of the fabric element. The Contractor shall arrange for activities on the site to co-operatively fit in with the erection procedure of the fabric membrane.
 2. Prior to commencement of erection, the contractor shall check all contact surfaces to be in contact with the fabric for smoothness, and remove causes for rips and/or scratching during the installation of the fabric panels.
 3. The contractor shall provide ground sheets where the membrane is to be dragged across a surface. Prevention of chaffing of the surface is required at all times.
- iv. Installation of Fabric
 1. The contractor shall install the fabric structure in a sequence and with sufficient bracing to ensure stability of the structure.
 2. No creasing or folding of the fabric around sharp corners will be permitted. The fabric shall not be abraded nor damaged in any manner.
- v. Pretension
 1. The minimum pre stress in the membrane shall be 2kn/m type II PVC in both the warp and weft. The structure is to be tensioned after erection to maintain a taut smooth surface to

minimum of +10%, -10% specified prestress levels. Ensure instrumentation for measurement of prestressing levels is approved by the EIC and confirm to appropriate International Standard specifications.

2. The fabric shall be stressed uniformly to avoid local over stresses.

vi. Damage occurring during the installation sequence may be temporarily repaired with field patches; however, permanent repairs shall be made with full panel replacement from seam to seam or seam to approved splice.

15. **CLEANING**

Clean the fabric membrane after erection. Remove all signs of dirt and panel markings. There shall be no wrinkles in the completed membrane that in the EIC's opinion are visually objectionable whether viewed internally or externally.

16. **STRUCTURAL STEEL SECTIONS AND FITTINGS MATERIAL**

A) Structural Steel Sections and Fittings

All edge supportings system shall be provided with structural steel sections as per the design. All tensioners, nuts and bolt shall be hot dipped galvanised and manufactured to the relevant standards.

All membrane plates shall be proprietary design manufactured to IS standards. All membrane plates shall be hot dip galvanised and treated with a two-coat epoxy paint finishing.

B) Swaged & Speltered Terminals

All terminations shall be galvanised. The materials, thickness and swaging/speltered system employed shall be chosen by the specialist contractor to achieve a breaking strength of the terminal detail not lower than the specified minimum breaking strength of the cable.

C) Shackles, Rigging Screws and Turnbuckles

All fitting shall be hot dipped galvanised. The strength of the shackles, rigging screws and Turnbuckles etc shall exceed the minimum breaking load (MBL) as per design. The shackles, rigging screws and turnbuckles etc shall meet the tensioning and tolerance requirements for the fitting.

17. **FABRICATION**

F) Accuracy of Fabrication

The overall cable length including terminations shall comply with the following tolerances at the prestress load:

Strand +/-1mm for lengths less than 2 meters.

+/-2mm for lengths greater than 2 meters but less than 5 meters.

+/-3mm for lengths over 5 meters.

G) Cutting

Cables shall only be cut using carborundum disc cutters or other approved mechanical devices. Under no circumstances will thermal cutting be approved.

18. **MEASUREMENT:**

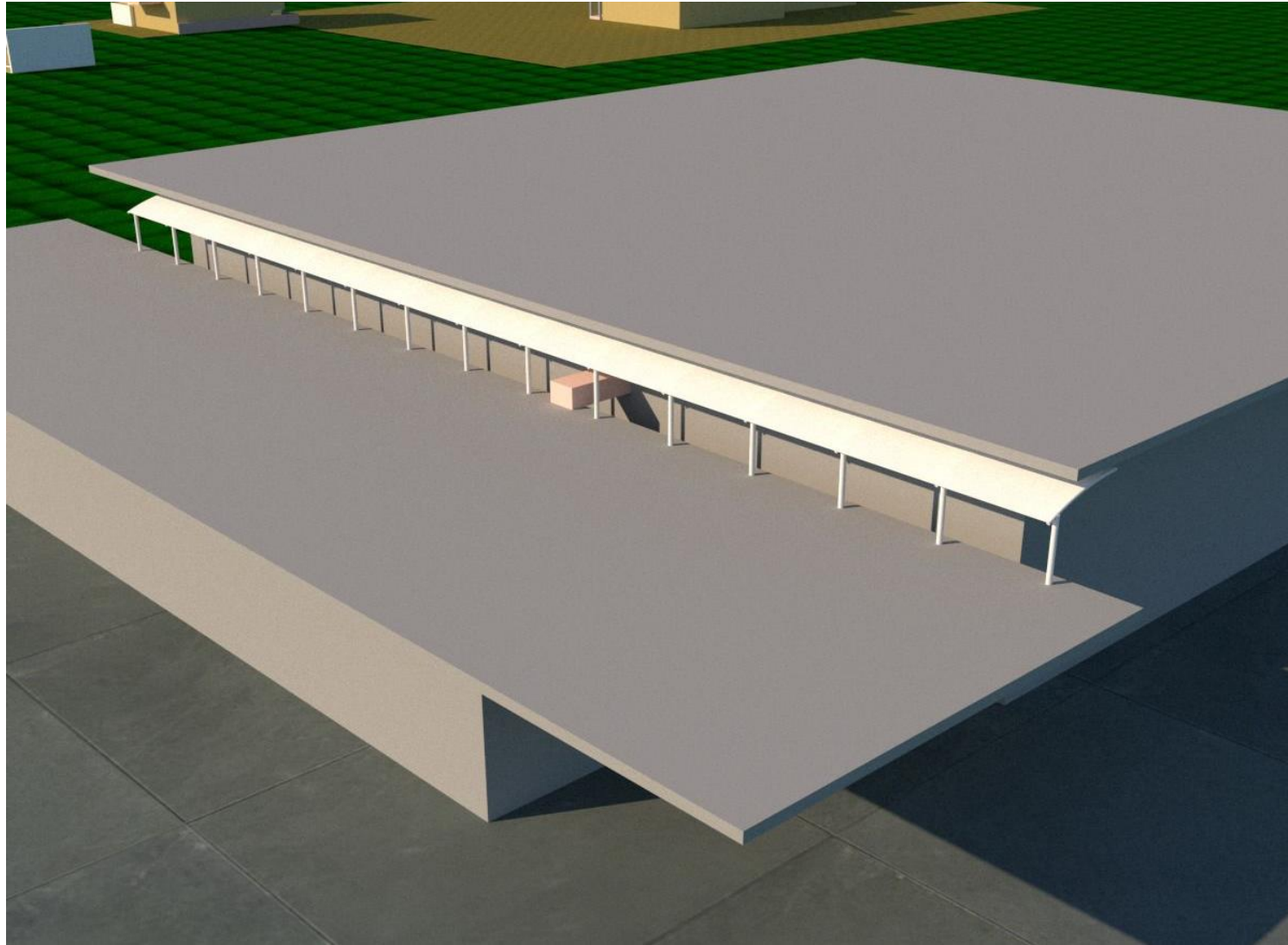
The circumscribed polygonal surface area covered by the tensioned fabric will be measured and paid for.

19. **RATES:**

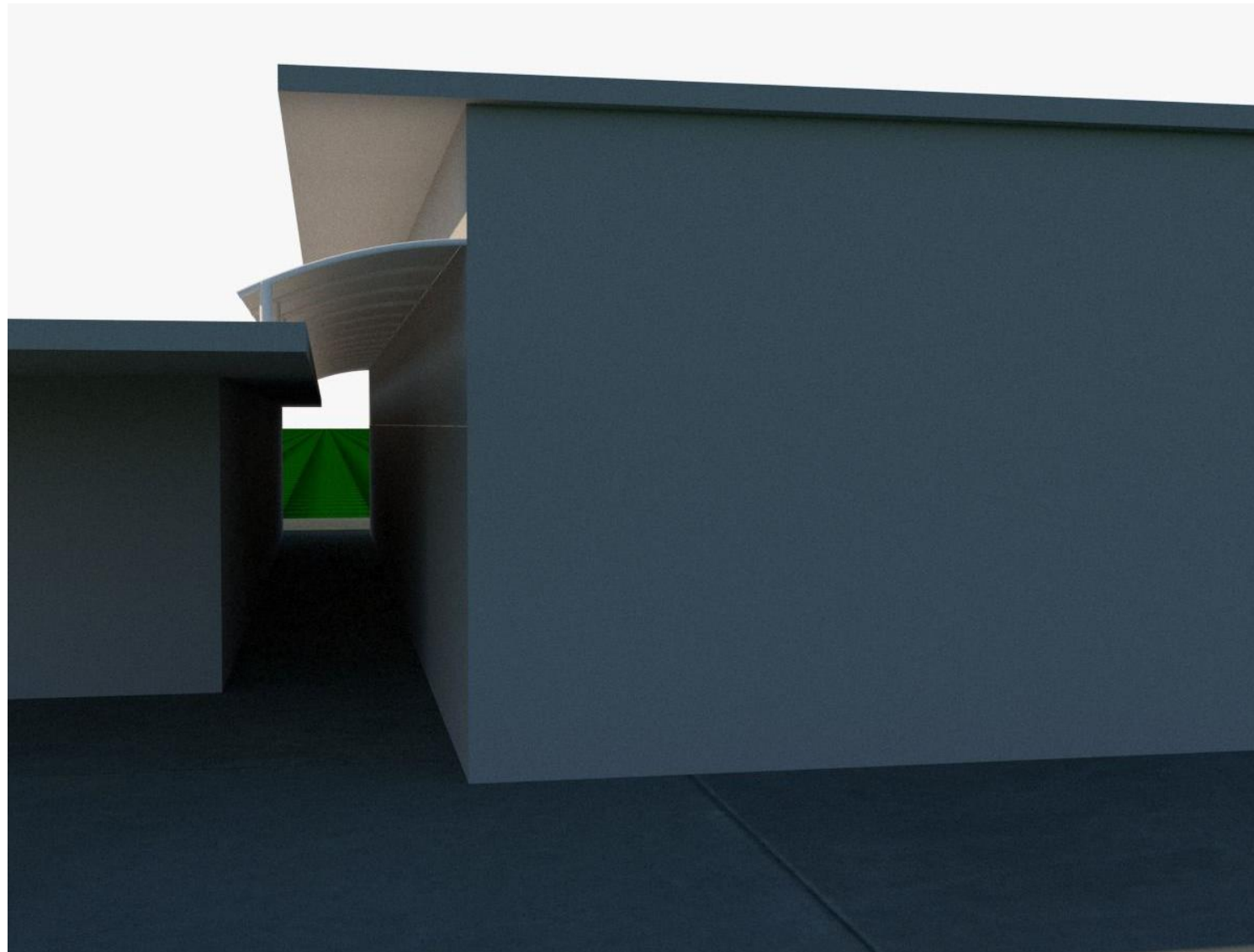
The rate should include all materials, (MS works shall be measured and paid under separate item) labour & all necessary requirements described in preceding parts of technical specification & BOQ

APPROVED MAKE LIST

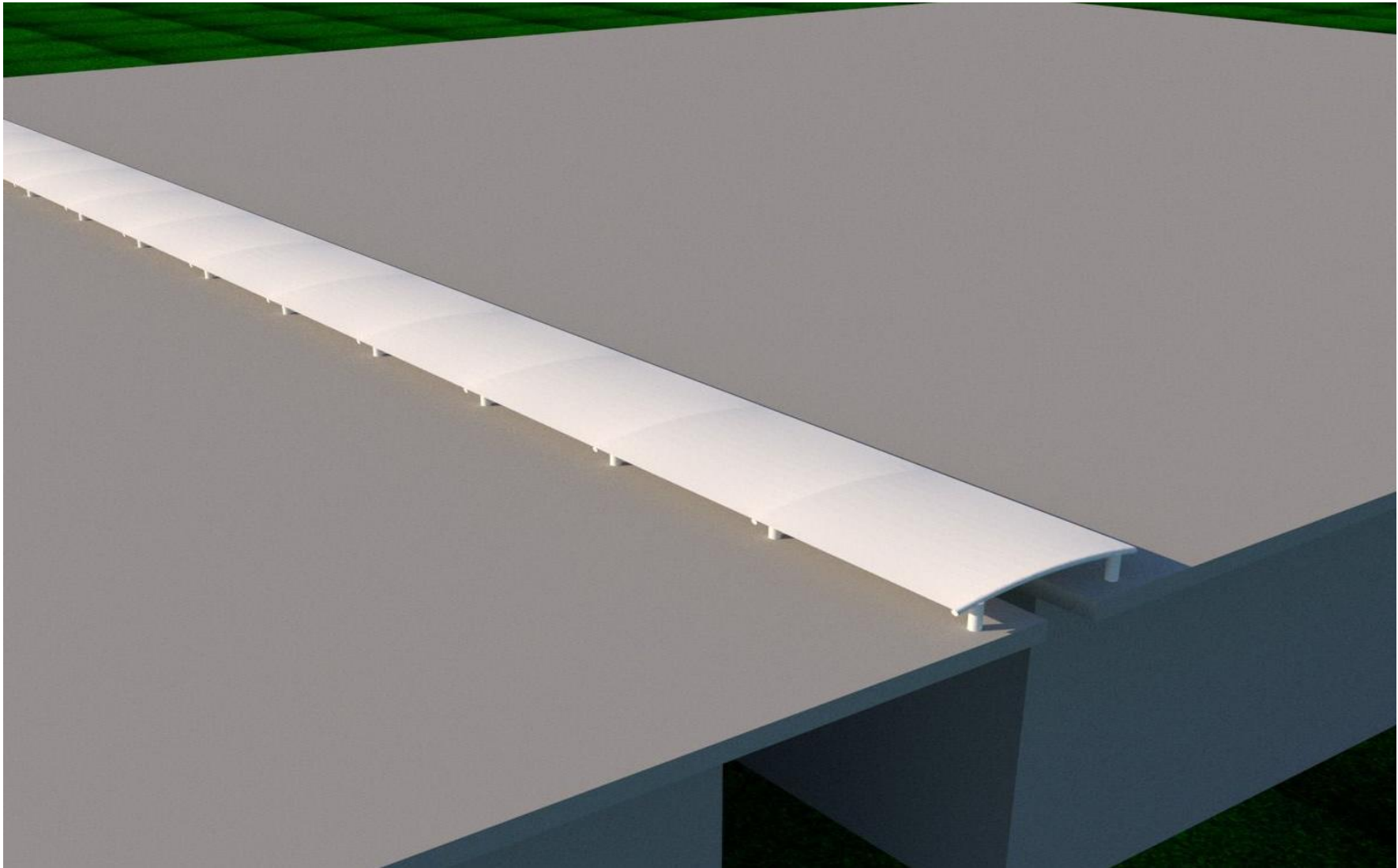
Material / Item	Approved Make
CIVIL WORKS	
Aluminium Accessories	Classic/ Argen/ Oxford/ Nulite/ Crown/ EBCO
Chemical Admixtures & Additives	BASF, Pidilite, Sika, Fosroc, Ecmas, Sunanda Chemicals, Mapei, Hycrete, Bal-Endura, MC Bauchemie, MYK Schomburg,
Crystalline Integral Waterproofing	Kryton, Penetron, Pidilite, BASF, Fosroc, Sika, Xypex
EPDM Gaskets	Anand, Osaka Rubber, Roop, Bohra, Hanu, Maharashtra polymer
Epoxy Grout/ Cementitious Grout for Flooring	Ardexl Endura, MYK Latricrete, Kerakoll, Pidilite
MS Expanded metal mesh (Powder Coated)	Tata, Asian Streck Metal
Non shrink cementitious precision (anchoring) grout	Fosroc, Sika, Ardex Endura, BASF
Patch Fitting	Dorma (XLC), Haffle, Geze, Hettich
PAINT - Cement Based	ICI Dulux, Berger Paints, Asian, Nerolac
Paint - Acrylic, Synthetic Enamel, Acrylic emulsion- interior and exterior	Asian Paints, Akzo Nobel (Dulux), Berger, Nerolac, Jotun
Paint - Texture Paints (Interior, Exterior)	Asian, Jotun, Berger, Nippon
Paint - Oil Bound Distemper & Dry Distemper	Asian Paints, AkzoNobel (ICI Dulux), Berger
Paint - PU paint, epoxy paint and primer	Asian, Nippon, Berger, Jotun, Nippon
Polysulphide Sealant	Fosroc, Dow corning, Sika, MC-bauchemie
PAINT - Cement Based	ICI Dulux, Berger Paints, Asian, Nerolac
Polycarbonate Sheets & Panel system	Tuflite, Gallina India, Dan Pal (Dpi daylighting),
Polysulphide Sealant	Fosroc, Dow corning, Sika, MC-bauchemie
Reinforcement Steel	SAIL, TATA (TISCO), RINL, JINDAL
Silicon Gaskets	Sree Gaurav, Roop
Silicone Sealant	Wacker, Dow Corning, GE momentive, MC-bauchemie, Pidilite
Stainless Steel	SAIL, Jindal, Salem steel
Stainless Steel Bolts, Washers and Nuts, Pressure plates, screws	Kundan, Puja, Atu, GKW, knettlefoldl
Stainless Steel Friction Stay	Giesse, Securistyle, Cotswold, Hefele
Structural Silicon sealant, Weather Silicone	Dow Corning, Momentive (GE)
Structure Steel & Hallow Section Producers only	SAIL, TATA (TISCO), RINL, Jindal steel & Power (JSPL) or approved equivalent for non-structural work
Stainless Steel	SAIL, Jindal, Salem steel
Tensile Fabric Roofing	Ferrari, Saint Gobain, Melher
Tactile Guiding & Warning flooring	Johnson, Pelican ceramics, Maiara technologies
Tensile Fabric Roofing	Ferrari, Saint Gobain, Mehler,



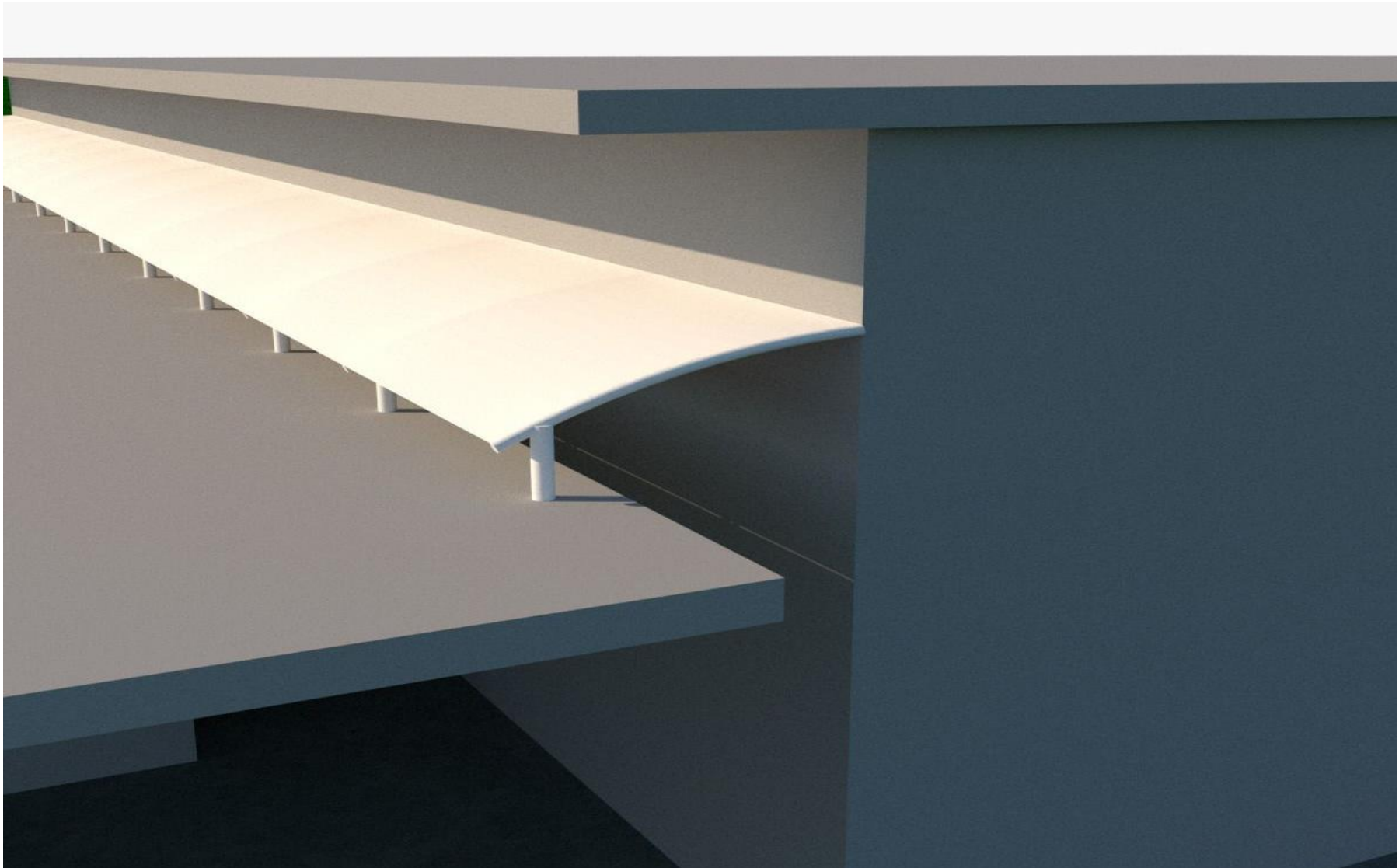
Location : Closing of gap between the block – C and block - G
at CC building



Location : Closing of gap between the block – A and block - B
at CC building



Location : Closing of gap near Block – F at CC building



Location : Closing of gap between the block – A and block -D at CC building



Location : Covering the open roof of cafeteria with vertical covering at both sides at CC building