

**Govt. of Bihar**  
**Department of Agriculture**  
**Bihar Horticulture Development Society**  
**2<sup>nd</sup> Floor, Krishi Bhawan, Mithapur, Patna-800001,**  
 Phone Fax: 0612-2521776, e-mail: dir-bhds-bih@nic.in,  
 Website: horticulture.bihar.gov.in

**NOTICE INVITING E-TENDER**

Through e-procurement mode only over (<https://eproc2.bihar.gov.in>)

**Very Short e-Tender for empanelment for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar.**

Bihar Horticulture Development Society (BHDS) invites online bids from reputed and experienced organizations for empanelment for supply and installation of the Poly House, Shade Net and Mulch Film from reputed Manufacturers/Authorized Dealers/ Firms/ Agencies/Govt. /Companies. The interested specialized organizations/firms/companies, which are involved and having experience of Supply and Installation of Protected Structures and Hi-tech Horticulture related materials may apply. Empanelled firms will be eligible for supply and installation of the different components mentioned above in the state.

The filled e-tender for technical & financial bid should be uploaded on the website: [eproc2.bihar.gov.in](https://eproc2.bihar.gov.in) by the bidder. EMD and tender fee must be sent through online mode (NEFT/RTGS).

<b>SN</b>	<b>Particulars</b>	<b>Details</b>
1.	Start Date & Time for Downloading of Tender document	05.01.2026 (11:00 Hrs.)
2.	Date & Time, Place for attending pre-bid meeting. The mode of meeting will be hybrid (physical and virtual)	07.01.2026 (12:00 Hrs), 2nd Floor, Krishi Bhawan, Mithapur, Bihar – 800001, Directorate of Horticulture, Department of Agriculture Link for virtual pre-bid meeting will be published on BHDS website <a href="http://horticulture.bihar.gov.in">http://horticulture.bihar.gov.in</a>
3.	Last Date & Time for Downloading of Tender document	12.01.2026 (12:00 Hrs.)
4.	Last Date & Time for submission/uploading of offer/Bid	12.01.2026 (15:00 Hrs.)
5.	Date and time of technical bid opening	12.01.2026 (15:30 Hrs.)
6.	Date and time of financial bid opening	To be intimated to technically successful bidder(s) only
7.	Nodal officer/Contact person for queries	Deo Narayan Mahto, Deputy Director Horticulture (Mob No.- 9431818930)
8.	Mode of Selection	Least Cost Based Selection – LCBS(L1)
9.	It is mandatory to submit the EMD through online mode (NEFT/RTGS)	

Mission Director, Bihar Horticulture Development Society, Patna reserves the right to revise/change/cancel the Tender without assigning any reasons thereof.

**Mission Director**  
 State Horticulture Mission, Bihar, Patna

**Govt. of Bihar**  
**Department of Agriculture**  
**Bihar Horticulture Development Society, Patna.**  
**(State Horticulture Mission)**  
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**1. Factsheet**

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5.	Date and time of technical bid opening	12.01.2026 (15:30 Hrs.)
6.	Date and time of financial bid opening	To be intimated to technically successful bidder(s) only
7.	Mode of Proposal submission	E-tender
8.	Bid validity	120 days from date of bid submission
9.	Tender Processing Fee	Rs. 590 (including GST) through online payment (applicable as per eproc2 norms)
10.	Earnest Money deposit (EMD)	An EMD of Rs. 2,00,000/- (Rupees Two lakh only) through online mode (NEFT/RTGS)
11.	Tender Document Fee	Rs. 5000/- through online mode(NEFT/RTGS)
12.	Nodal officer/Contact person for queries	Deo Narayan Mahto, Deputy Director Horticulture (Mob No.- 9431818930)
13.	It is mandatory to submit the EMD through online mode (NEFT/RTGS)	

**Note:** Technical & Financial bid along with technical proposal should be uploaded on the website: <https://eproc2.bihar.gov.in> by the bidder. The EMD and Tender document fee, payment through online mode (NEFT/RTGS) will be mandatory for bidders.

## **2. Disclaimer**

2.1 The information contained in the tender document or subsequently provided to Applicants, whether verbally or in documentary or any other form by or on behalf of the Bihar Horticulture Development Society (BHDS), Agriculture Department, Government of Bihar (GoB), is provided to Applicants on the terms and conditions set out in the RFP and such other terms and conditions subject to which such information is provided.

2.2 The RFP is not an agreement and is neither an offer nor invitation by the BHDS to the prospective Applicants or any other person.

2.3 The purpose of this tender is to provide interested parties with information that may be useful to them in the formulation of their Proposals pursuant to this tender.

2.4 Information provided in this tender to the applicants is on a wide range of matters, some of which depends upon the interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Authority accepts no responsibility for the accuracy or otherwise for any interpretation or opinion in the law expressed herein.

2.5 BHDS also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any applicant upon the statements contained in this tender. BHDS may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this tender.

2.6 The issue of the tender does not imply that BHDS is bound to select any Applicant or to appoint the Selected Applicant, as the case may be, for the event management activities and BHDS reserves the right to reject all or any of the proposals without assigning any reasons whatsoever.

2.7 The applicant shall bear all its costs associated with or relating to the preparation and submission of its proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by BHDS or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Applicant and BHDS shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Proposal, regardless of the conduct or outcome of the selection Process.

2.8 BHDS and/or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information forecast, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in connection with any omission, negligence, default, lack of care or misrepresentation on the part of BHDS and / or any of its officers, employees.

## **3. Eligibility Criteria for agency:**

<b>S N</b>	<b>Particulars</b>	<b>Details</b>	<b>Required Documents</b>
i.	Registered Agency	May be Govt. Organization /Semi-Govt. Organization/ registered Organization.	Certificate of Incorporation/ Registration of the bidder Company/Agency/ Organization. Agencies with Common Partners/Directors would not be allowed to apply under this Tender Note: The bidder should be registered entity in India since last 5 years

ii.	Agency's Office	Should have its office/branch in Bihar or if not, then selected agency have to establish it after the final selection.	If the bidder has office in Bihar, has to submit Office address proof. (Rent Agreement) If the bidder does not have office in Bihar, a <b>self-declaration of establishing office in Bihar</b> within 30 days after final selection has to submit with sign and stamp of the head/authorized person of the organization.
iii.	Agency's Annual Turn Over	<p>The average annual financial turnover during the last 3 consecutive financial years FY- 21-22, 2022-23 &amp; 2023-24 or 2022-23, 2023-24 &amp; 2024-25 should be at least Rs. 2.00 Cr.</p> <p>For bidders of all components of the tender except for agencies applying only for mulch components, average annual turnover should be atleast 1 crore.</p>	<p>1. CA certified Audited report/ Audited Balance Sheet and Profit and Loss statement (with UDIN) of the agency should be submitted as supporting documents.</p> <p>2. I.T. return of last three FY 23-24, 22-23 and FY 21-22 or 2022-23, 2023-24 &amp; 2024-25 must be submitted with Computation duly certified and stated by CA that in last three-year FY, average annual financial turnover of the firm was not less than 200 Lakh (<b>Annexure-VII</b>)</p> <p>Note: If a bidder owns more than one business, the turnover of the unit engaged in the production of materials involved in the tender will be considered and overall turnover of the bidder consolidating every unit will not be considered.</p>
iv.	Experience	Should have minimum 3 year experience of supplying Polyhouse, Shade Net and Mulch Film in the last 3 financial years.	<p>Attach the following as proof documents for each assignment completed:</p> <ol style="list-style-type: none"> <li>1. supply order/ work order</li> <li>2. invoice bill voucher</li> <li>3. Concerned payment proof as shown in Bank Statement as Proof (Kindly highlight the payment details in the payment proof documents against each work order).</li> <li>4. E-way Bill of concerned supply.</li> </ol> <p>Note: All the three Documents mentioned above should be in linear order and Payment proof must be highlighted and should match with Invoice Bill Voucher. Work Completion Certificate should also be mandatorily attached.</p> <p>If the payment proof is not matching with bill voucher kindly submit the Reconciliation Statement of the difference.</p> <p><b>(Annexure VIII)</b></p>
v.	Earnest Money Deposit	An EMD of Rs. 2,00,000/- (Rupees Two lakh only) through online mode (NEFT/RTGS) will be mandatory. <b>(Annexure III)</b>	EMD is exempted for Bihar based manufacturing unit duly registered with Udyam and as 'Start-Up' under Bihar Start Up Policy-2022

Vi	Certification	Organization should have valid ISO certification	Attach ISO certificates. Bidder should conform to ISO/BIS standard ( <b>IS 17216: 2019</b> ) for all the supplied materials provided. (As per <b>Annexure X</b> ).
vii	Agency's GST Sale Tax	Furnish copy of GST return with GST registration Number.	GST return file documents of last year 2024-25 and it should match with Audited Balance Sheet and Profit and Loss Statement of respective years. Copy of GST return (GSTR 3B & GSTR-9 & 9C if applicable) of FY 2024-25 and it should match with Audited Balance Sheet and Profit and Loss Statement of respective years.  Every Bidder should submit GSTR 3 B of FY 2024-25 and it should match with Audited Books of Accounts.  1. If the Bidder Turnover is more than Rs 5 Crore then bidder should submit GSTR 9C, 9 and GSTR 3B. 2. If Turnover is more than 2 Crore but less than 5 Crore then bidder should submit GSTR 9 along with GSTR 3 B.
viii.	Affidavit	From notary stating that the firm is not blacklisted/debarred by any State Govt./Central Govt. on account of corrupt or fraudulent practices.	<b>As per ANNEXURE V</b>
IX	PAN Card Details	Provide the pan card details of the company/firm/organization	PAN Card
X	Manufacturing Unit	Should have its own manufacturing unit and authorized dealers should have proper authorization of concerned manufacturers.	Mention complete address and area with location of manufacturing unit with contact person name and mobile number as asked in Proposer Information sheet ( <b>Annexure II</b> ). - (Rent agreement of manufacturing unit, if unit is on Rent and Ownership Document if unit is owned by Bidder.)  Authorized dealer certificate: Certificate issued by manufacturer being authorized dealer/firm/agency on its letter head with Sign and Stamp and attached OEM details.
Xi	In view of the Public Procurement Policy for MSMEs 2012, Rule 170 of GFR-2017 and clause 4.3 of Bihar start up Policy, 2022 prior turnover and experience criteria for Bihar based startups/ MSEs having valid udyam/startup recognition and established manufacturing units in Bihar will be exempted.		

#### **4. General terms and conditions:**

- 4.1 The Bidders participating in the tender will invariably be accepting all the terms and conditions of the tender. Non-compliance to any terms and conditions may cause rejection of the bid.
- 4.2 The Bidder will have to ensure all compliances related to registration with Environment/Atmosphere /Non-Air pollution work in nature after the final selection (If applicable).
- 4.3 All documents submitted by the bidder should be Self Attested and valid till the date of bidding of the tender.
- 4.4 The Bidder should follow the Bureau of Indian Standards (BIS) Standards with respect to Poly-house and Shadenet house: -
  - (A) **Poly-house-**
    - i) IS 14462: 1997- Recommendation for Layout, design and construction of Poly-house.
    - ii) IS 14485: 1998- Recommendation for heating, ventilating and cooling of Poly-house.
    - iii) IS 15827: 2009- Plastic films for Poly-house.
  - (B) **Shadenet-house-**
    - (i) IS 16008 (Part 1): 2016- For Shade nets made from tape yarns.
    - (ii) IS 16008 (Part 2):- For Shade nets made from monofilament yarns.
    - (iii) IS 17355:2020- General Technical specifications for various agro-textiles including shade nets
- 4.5 **In case, any confusion/dispute occur due to different interpretation of the statement mentioned in the tender document, the decision of the Mission Director, BHDS shall be final and binding upon all concerned parties.**
- 4.6 Notwithstanding anything contained in the RFP, Mission Director, BHDS, Patna, reserve the right to accept or reject any proposal and annul the selection process and reject all proposals at any time without any liability or any obligation for such acceptance, rejection or annulment and without assigning any reasons thereof.
- 4.7 The Mission Director reserves the right to reject any or all proposals if:
  - ✓ At any time, a material misrepresentation is made or uncovered: or, the bidders do not provide, within the specified time, the supplemental information/any additional information it may find necessary or require clarifying, supplement or authenticate the Bid sought by Mission Director. Any request for clarification (s) and all clarification (s) on response thereto shall be in writing.
- 4.8 Further, in case of failure to execute the work by the agency as per the work order except in case of any loss of natural calamity or unforeseen conditions the contract will be terminated, and the EMD will be forfeited. The pending work will be allocated to another firm and the charges will be at risk and cost of the previous firm.
- 4.9 The department reserves the right to relax or waive any of the condition mentioned in this document as deemed necessary in the best interest of the Govt. and the objective of the scheme without assigning any reasons thereof.
- 4.10 Non-compliance to any of the criteria/ conditions set in the RFP may cause rejection of the bid.
- 4.11 An affidavit on Rs.1000/- on non-judicial Stamp Paper from Public Notary shall be attached/uploaded by the bidder (It should be made on or one month before the publication of tender online on website) with following declaration that:
  - a) The agency shall submit an affidavit from notary that "the agency has not been blacklisted by any State Govt./Union Govt. and no legal issues regarding Supply and Installation of Poly House, Shade Net and Mulch Film in the State of Bihar and any other State in India."
  - b) The Bidder has not been blacklisted by any State Government/GOI/Union territory/State and Central Educational Institutes etc. during last 5 (five) Years from the date of submission of tender bid for any item or by any reason.
- 4.12 **The technical Proposal shall not include any financial information relating to the Financial Proposal.**
- 4.13 Participation for the empanelment process will automatically imply the acceptance, on all the terms and conditions of this notice for empanelment.

4.14 Evaluation and selection process of the bidder will be governed by the guidelines of Bihar Financial Rules (2005).

4.15 Further, in case of failure to execute the work by the party/firm/company/organization as per the order, the contract will be terminated, and the security money will be forfeited. The work will be completed by another firm and the charges will be at risk and cost of the previous firm.

4.16 All documents submitted by the bidder should be Self Attested and valid till the date of bidding of the tender.

4.17 The duration of installing the project will be for 1 months from the date of work order.

4.18 **Submit the Signed “Forwarding Letter of Proposer on firm letterhead’ as per tender document.**

4.19 Agency Should submit catalogue of the components (optional)

4.20 Tender can be submitted for one component or more than one component or all components.

4.21 Manufacturing unit/authorized dealer point may be inspected before approval as and when Mission Director, BHDS feel necessary to ensure the performance and quality of the product.

4.22 EMD and Tender document costs will be the part of Technical Proposal only.

4.23 **Empanelment/ Registration Fee:** Agency who get qualified for empanelment with BHDS, Patna need to deposit a fee of Rs. 1 Lakh as empanelment fee which will be non-refundable in favor of the **Mission Director, Bihar Horticulture Development Society payable at Patna, Bihar.**

4.24 The material should be as per the quality specifications mentioned in the Tender notice. Failure to supply as per the quality specifications shall result in for forfeiture of EMD, blacklisting and legal action against the company.

4.25 Agencies with Common Partners/Directors/Shareholders would not be allowed to apply under this Tender. For Example: - If any Sole proprietor is applying for tender and he is in Board of Director/Shareholders in any Company applying for the said tender. Then that Company is not allowed to participate in the Tender. (**Annexure – IX**)

4.26 Financial Quote should strictly be filled in the BoQ (excel sheet format) of the eproc2. Any scanned upload of financial format will certainly cause rejection of financial bid. Evaluation will be done on the basis of Excel Sheet uploaded in BOQ Section.

4.27 Conditional proposal will not be accepted.

4.28 Empaneled agency will be bound to complete the entire work within 60 days from the date of issue of work order. **If he fails to complete the job within the time frame without any valid reason i.e., 60 days from date of issue of work order then, the penalty will be imposed @ 1% of work order amount after every 15 days. maximum up to 5% and beyond which the contract of the agency will be terminated, and the Performance Security money will be forfeited. The penalty amount will be deducted from the final payment amount.**

4.29 **Performance Security money:** The successful agency will have to deposit a Performance Security in favor of the **Mission Director, Bihar Horticulture Development Society payable at Patna, Bihar.** Performance Security money will be collected based on work orders issued to bidder as mentioned below :-

Sr No	Particulars	Number of Work Order	Performance Security Amount
1	<b>For FLD</b>	1-5 Work Order	Rs 5 Lakh
		6-10 Work Order	Rs 10 Lakh
		<b>10 &amp; Above</b>	Rs 15 lakh
2	<b>For Polyhouse and Shade Net</b>	1-5 Work Order	Rs 1 Lakh
		6-10 Work Order	Rs 2.5 Lakh
		11-20 Work Order	Rs 5 lakh
		20 & Above	Rs 10 lakh

4.30 The security amount will be/shall be forfeited if the empaneled agency fails to provide services i.e., supply, installation and maintenance in stipulated time. Performance security money of the agency will be released after 3 years of completion of the project.

4.31 EMD of the successful bidder will be returned only after submission of Performance Security Money.

4.32 After construction of all the relevant structures, the vendor agency will provide technical support to the farmer for 3/1 years as well as maintain a file with the details of crops being planted seasonally. The File would be preserved with the farmers. If the crops to be planted are not entered in the file by the agency/company, then amount will be deducted from the bidder's performance security w.r.t Gap analysis. The aforementioned work will be ensured for three years from the date of completion of work in Front Line Demonstration (FLD) and one year in other structures of Protected Cultivation.

4.33 In the event of any complaint regarding after sales service and in case of supply of defective/substandard material, the empaneled agency shall have to rectify the defects within a period of 15 days.

4.34 In execution of the work, BHDS shall not have any liability of incurring any loss of natural calamity or unforeseen conditions during the contracting period.

#### **4.35 Tender Document Fee and Earnest money deposit (EMD)**

- EMD amounting Rs. 2,00,000.00 (Rupees Two Lakh only) must be submitted through online mode (NEFT/RTGS). In case of non-submission of EMD, the bid will be summarily rejected, and financial bid will not be opened.
- EMD will be returned to all unsuccessful bidder after finalization of the successful bidder without any interest
- **EMD of the successful bidder will be returned only after submission of Performance Security Money**

4.36 Participation for the empanelment process will automatically imply the acceptance, on all the terms and conditions of this notice for empanelment.

4.37 The Companies Participating in tender need to give affirmation certificate regarding BIS confirmation

### **5. Disqualification**

The agency will be disqualified if:

- a. The interested bidder has made misleading or false representation in the firms, statements, attachments submitted in proof of eligibility.
- b. The e-tender is not accompanied by required documentation.
- c. The bidder fails to provide clarification related thereof, when sought.
- d. The interested Entity is found to canvass, influence or attempt to influence in any manner, the qualification or selection process, including without limitation, by offering e-tender or other illegal satisfaction.
- e. Notwithstanding anything written above or elsewhere, the e-tender may disqualify the Interested Entity without assigning or disclosing any reason thereof.
- f. **Any change in the Annexure format/ Financial format specified in the tender document/E-proc2, will certainly cause rejection of the bid.**

### **6. Technical specifications of the components**

#### **A) POLY HOUSES**

<b>Sr. No</b>	<b>Item</b>	<b>General Specification</b>
1	Type	<ul style="list-style-type: none"> <li>• Minimum top ventilation should be 10% of total Polyhouse/Greenhouse area and side ventilation depends on requirement of the climatic conditions.</li> <li>• Preferably Saw footh design or Even Span, Ridge &amp; Furrow depending upon suitability for naturally ventilated polyhouse/greenhouse</li> </ul>
2	Size	<ul style="list-style-type: none"> <li>• Area = As per the requirement</li> <li>• Length = Multiples of 8 Meter 4 Meter. Ex. 8x2+4 or 8x3+4. (Length is side along the gable or side along the truss lines)</li> <li>• Width = Multiples of 4 Meter. Ex. 4x2 or 4x3 (Width is side along the gutter or side along the Purlin lines)</li> </ul>
3	Grid	<ul style="list-style-type: none"> <li>• 8M x 4M. 2 Meter corridors/balcony along all four sides.</li> <li>• If the area is <math>\leq</math> 250 Sq m then it is better to go for single span green house</li> </ul>

4	Shape	<ul style="list-style-type: none"> <li>To reduce the impact of wind and consequent damage to greenhouse structure: Green house will be aero dynamic along all four sides with curvature shaped balcony pipes of 48 mm OD/2 mm thick GI pipes</li> </ul>																																																
5	Structure	<ul style="list-style-type: none"> <li>Hot Dip Galvanized Tubular Structure. Galvanization of the structural members of BIS standards should not be less than 300 GSM (grams per square meter).</li> </ul>																																																
6	Stability of Structure	<ul style="list-style-type: none"> <li>Structure should withstand minimum wind velocity of 100 Km/hr.</li> </ul>																																																
7	Size of the Structural members	<ul style="list-style-type: none"> <li>Refer sequence as =</li> </ul> <table border="1"> <thead> <tr> <th>Members Name</th><th>Outside Diameter (mm)</th><th>Thickness (mm)</th><th>Wt. per meter length (kg)</th></tr> </thead> <tbody> <tr> <td>Columns</td><td>76</td><td>2</td><td>3.75</td></tr> <tr> <td>Top Purlins</td><td>48</td><td>2</td><td>2.30</td></tr> <tr> <td>Gutter Purines</td><td>42</td><td>2</td><td>2.10</td></tr> <tr> <td>Top Arches of the truss</td><td>42</td><td>2</td><td>2.10</td></tr> <tr> <td>Bottom Chord of the truss</td><td>60</td><td>2</td><td>2.85</td></tr> <tr> <td>Internal Bracings of the truss</td><td>33</td><td>2</td><td>1.60</td></tr> <tr> <td>Corridors Balconies</td><td>60</td><td>2</td><td>2.85</td></tr> <tr> <td>Curtain Runner</td><td>42</td><td>2</td><td>2.10</td></tr> <tr> <td>Flap control pipe</td><td>21</td><td>2</td><td>1.08</td></tr> <tr> <td>Curtain Shaft</td><td>27</td><td>2</td><td>1.30</td></tr> <tr> <td>Cross Bracing</td><td>33</td><td>2</td><td>1.60</td></tr> </tbody> </table> <p>Note:- Welded pipes should not be used for structure erection except bottom pipe of m length</p>	Members Name	Outside Diameter (mm)	Thickness (mm)	Wt. per meter length (kg)	Columns	76	2	3.75	Top Purlins	48	2	2.30	Gutter Purines	42	2	2.10	Top Arches of the truss	42	2	2.10	Bottom Chord of the truss	60	2	2.85	Internal Bracings of the truss	33	2	1.60	Corridors Balconies	60	2	2.85	Curtain Runner	42	2	2.10	Flap control pipe	21	2	1.08	Curtain Shaft	27	2	1.30	Cross Bracing	33	2	1.60
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8	Fixtures to join structural Members	<ul style="list-style-type: none"> <li>Different type of fixtures are used to join structural members of poly-house like brackets, cleats, clamps, nut &amp; bolts, washers, self tapping &amp; drilling screw etc. The entire iron fixture should be galvanized and strong enough</li> </ul>																																																
	a) Brackets and cleats	<ul style="list-style-type: none"> <li>Made from the section like angle, channel, I beams and should be cold galvanized with minimum coat of 120 GSM</li> </ul>																																																
	b) Clamps	<ul style="list-style-type: none"> <li>Different type of clamps like 76/60/48/42/33 mm OD full, 76/60/48/42/33 mm OD half are used which should be made from min. 42 mm wide and 2.1 mm thick GP Coil having minimum 120 GSM Galvanization. Curtain clamp should be made from high carbon steel strips of min 30mmwide and 0.8mm thick. Such clamp should have proper spring action so that after foxing at the place they should not change the location.</li> </ul>																																																
	c) Nut, bolt and Washers	<ul style="list-style-type: none"> <li>From M12 to M6 Bolts, Nuts, washers should be used and they should be cold galvanized with min. 120 GSM Coat.</li> </ul>																																																
	d) Self tapping and drilling Screw	<ul style="list-style-type: none"> <li>These screws should be used to assure extra safety. They prevent dislocation of clamps from its place Distance between tapping screw specially for fixing profile to gutter should be 35 cm.</li> </ul>																																																
9	Gutter	<ul style="list-style-type: none"> <li>Gutter should be made of Galvanized sheet of 2 mm thickness in trapezoidal shape having 500 mm wide perimeter (Preferably of single length without joint) Coil having 120 GSM Galvanization. It should be leak proof. Min. 1% slope required for the gutter. Assure uniform slope to gutter to avoid stagnant water in gutter to achieve maximum life of gutter.</li> <li>Gutter Orientation North-south and may change according to wind direction.</li> </ul>																																																
	a) Gutter Height	<ul style="list-style-type: none"> <li>Gutter height should be 4.5 meter from foundation formation level</li> </ul>																																																
10	Ridge Height	<ul style="list-style-type: none"> <li>Ridge height should be 6.5 meter from foundation formation level.</li> </ul>																																																
12	Arches Overlap	<ul style="list-style-type: none"> <li>Minimum overlap of top arch over second (small) arch should be 600mm to avoid direct rain entrance into the greenhouse from the vent</li> </ul>																																																
13	Foundations	<ul style="list-style-type: none"> <li>Pit size should be min 450mm dia. Depth 750 to 900mm or suitably altered depending upon Ground strata/level so as to ensure safety and stability of the structure even under extreme wind conditions. Columns are fitted over ground "Inserts and bolted to Insert pipe of 60 mm OD/2mm thick GI Pipe. Length of Insert 1200 to 1300 mm. &amp; filling the pit with 1:2:4 concrete hand mixed with</li> </ul>																																																

		<p>appropriate Grade cement.</p> <ul style="list-style-type: none"> <li>Before doing the line out for the foundation, ensure that slope of greenhouse ground along the gable should be 1% and along gutter 2%. Slope along the gable and gutter should be uniform. If developed ground has filling depth more than 200 mm then ask grower to do the flooding of water over the ground so that it should settle down. If the flooding is not done then there are chances of foundation piercing into the ground after application of structural load even foundation may dislocate.</li> </ul>
14	Civil Works	<ul style="list-style-type: none"> <li>Cement concrete 1:2:4 blocks of size 30 cm x 30 cm x 80 cm for embedding vertical pipe/poll in brick work for wall around poly house will be 23 cm thick, 0.5 meter high (0.3 m below GL and 0.2 m above GL) in cm 1:6 with 10 cm thick with PCC 1:4:8 in foundation of wall. Wall will be plastered in cm 1:4 on top and sides.</li> <li>80 cm to 1m wide and 10cm thick footpaths made of cement concrete ratio of 1:2:4 should be provided</li> </ul>
15	Curtain opening	<ul style="list-style-type: none"> <li>To reduce the inside poly-house temperature increase, side ventilation, minimum 20% of floor area is necessary. Minimum 1.5m clear side curtain opening is required. Side curtain should have min. 200mm overlap to the bottom apron. This overlap is necessary to avoid direct entrance of rain into the greenhouse and also to stop direct air entry in the nights.</li> </ul>
16	Bottom Apron	<ul style="list-style-type: none"> <li>To tap the CO, inside the greenhouse, bottom apron is necessary. It should have min.0.6m height from the ground and max 1.5 meter depending upon the crop and climatic conditions.</li> </ul>
17	Doors	<ul style="list-style-type: none"> <li>Double door entry, Doors should be made of form FRP Sheets or polycarbonate sheets. Opening and closing is either hinged or sliding. Min width of door should be 1m and min height 2m. The door area should have 50 mm PCC Flooring over 75 mm thick sub base.</li> </ul>
18	Top Shading and Side shading	<ul style="list-style-type: none"> <li>Top shading can be done by using following material: <ul style="list-style-type: none"> <li>a) Shading net: Shading net made from HDPE should be used. The selection of shade net depends upon the selection of crops grown and the light spectrum. It should not be more than 50% shade factor. It should be UV stabilized so that it should last long for min. three years. GSM should be minimum 100. Opening and closing arrangement either manual or auto should be provided to the shading net to increase its utility.</li> <li>b) Thermal screen/Aluminate: It reflects the light back and by the means controls the temperature also This defuses the light also. This is made from HDPE with hot dip aluminium coating. Minimum GSM should be 100 and minimum aluminium coating should 25 micron. Manual Opening and closing arrangement provided to the thermal screen to increase its utility. Farmers may avail this facility on payment basis.</li> </ul> </li> </ul> <p>Side Shading:</p> <p>Shade net of 35% should be used to create side shading. This is useful to avoid direct entry of sunlight into the polyhouse/greenhouse when curtain is open. Minimum GSM should be 75.</p> <p>AND</p> <p>Use of 40mesh UV stabilized insect proof net is also recommended to protect direct entry of insects into the polyhouse/greenhouse. This should have minimum 100 GSM weight.</p>
19	Polythnene	<ul style="list-style-type: none"> <li>Technical Specifications of polythene should be as per Indian standard (IS 15827: 2009)</li> <li>Polythene should be properly UV stabilized and pro rated warranted for at least three years. Thickness of polythene should be minimum 200 micron (0.2mm) Polythene quantity accommodate maximum 5.4 sq. meter area in its 1 Kilogram weight. (For example, 5.5m x 100 m polythene roll should have minimum weight of <math>5.5 \times 100 / 5.4 = 101.85</math> Kg or 4.5m x 100m one raill should have minimum weight of <math>4.5 \times 100 / 5.4 = 83.33</math> Kg.).</li> </ul>

		<ul style="list-style-type: none"> <li><b>Options in green house film:</b>            Compulsory Properties:            "UV stabilization            *Diffusion/Clear (Light Transmission)            "Sulphur Resistant            Thermic            "Anti Drip            "Anti Mist            "Anti Dust            Manufacturing Process:            Three Layer/Five layer            Recommendation of minimum properties of polythene is:            1. Dutch Roses: 200 micron thick. UV Stabilized, UV Blocking (Not for bi color roses), anti dust, anti sulphur, with cooling effect. Light diffusion should be maximum (upto 75%) but it should not be less than 50%.            2. Gerbera, Coloured Capsicum, Anthurium and orchids: 200 micron thick, UV Stabilized, anti dust, with cooling effect. Light diffusion should be maximum (upto 75%) but it should not be less than 50%            3. Carnation: 200 micron thick, UV Stabilized, anti dust, with cooling effect.         </li> </ul>
20	Aluminum Profile/Poly fixing	<ul style="list-style-type: none"> <li>C type profile made from Alloy Aluminum should have - high strength with light weight (approx 220-250 gm/rmtrs), smooth edges, curve bottom proper for 1.25 to 3 pipes, Proper Channel for spring and suitable for double spring locking 0.9mm thick. Self Drilling Screw should be fixed on profile every 40 cm along the full length of the profile.</li> </ul>
21	Spring Insert	<ul style="list-style-type: none"> <li>A plastic coated GI wire spring of 2.2mm diameter, having good elasticity must be used for longer life that transferring less heat to the cladding materials as plastic films or shade net.</li> <li>If we are using GI spring, use a two inch strip of new poly film to be placed over the main plastic in the profile and then lock it with GI profile. This will help in longer life of the plastic as the rusted spring will not directly come in contact with the main plastic.</li> <li>All spring must end inside the profile. Any spring outside profile must be either fixed inside or should be cut so that it does not damage the plastic in strong wind as it will initiate all the plastic being pulled out of profile.</li> </ul>

**General Conditions:**

1. Green house structural design should be sound enough to withstand wind speed of 100 km/hr.
2. The companies should be asked to get their structural design verified from the structural engineer because the proposed design is based on the functional requirements and field experience.
3. The firm should guarantee for free maintenance/damage to the structural material for ONE year.
4. The firm should be able to construct the entire green house within eight weeks of the issue of work order

**B) FAN AND PAD CONTROLLED POLY HOUSE**

**Selection of Fan:** The fans should deliver the required air at 15mm static pressure. The maximum centre to centre spacing between the two fans should be of 7.5m. The height of the fans is to be determined based on the plant height which is proposed to be grown in the greenhouse. The fan blades and frame are to be made of non-corrosive materials like aluminium/stainless steel.

**Design:** The cross fluted cellulose pad is preferred. It should have atleast 100mm thickness. One meter of pad height is given for every 20m of pad to fan distance. However, the fan to pad distance should not exceed 60m. The air flow rate should be of 75 cubic meter/minute/sq.m of pad. The water flow rate should be of 9 litres per minute/linear meter *påd*. The uniform distribution of water on pad is to be maintained.

**Technical Standard of Fan and Pad cooling system Poly-house: with Fan pad/ fogging system**

1	Size	<ul style="list-style-type: none"> <li>As per requirement</li> </ul>																																																								
2	Shape	<ul style="list-style-type: none"> <li>Aero Dynamic along all four sides with curvature shaped hockey pipes of 48.0 mm OD G.I. Pipes with a view to reduce the impact of wind and consequent damage of Poly House Structure. The structure must be closed from the top in dome shape.</li> <li>Gutter Orientation - North South and may change according to wind direction.</li> <li>- PAD should be in Wind direction and must have covered elevated balcony for shade.</li> </ul>																																																								
3	Structure	<ul style="list-style-type: none"> <li>Hot Dip Galvanized Tubular Structure of BIS standards. Galvanization of the structural members should not be less than 300 GSM (grams per square meter).</li> </ul>																																																								
	Withstand to Wind Velocity	<ul style="list-style-type: none"> <li>Structure should withstand to minimum wind velocity of 100 Km/hr.</li> </ul>																																																								
	Size of the structural members	<table border="1"> <thead> <tr> <th>Members Name</th> <th>Outside diameter (mm)</th> <th>Thickness (mm)</th> <th>Wt. per meter length (kg)</th> </tr> </thead> <tbody> <tr> <td>Columns</td> <td>76</td> <td>2</td> <td>3.75</td> </tr> <tr> <td>Top Purlins</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Gutter Purlins</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Top Arches of the truss</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Bottom Chord of the truss Horizontal (GI pipe)</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Top chords and trusses member</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Internal Bracings of the truss Pipe structural members to be fitted in plated nuts, bolts and washers without welding</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Corridors/Balconies</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Curtain Runner</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Flap control pipe</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Curtain Shaft</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Cross Bracing</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td colspan="4">Not:- Welded pipes should not be used for structure erection except bottom pipe of 8 m length.</td></tr> </tbody> </table>	Members Name	Outside diameter (mm)	Thickness (mm)	Wt. per meter length (kg)	Columns	76	2	3.75	Top Purlins		2		Gutter Purlins		2		Top Arches of the truss		2		Bottom Chord of the truss Horizontal (GI pipe)		2		Top chords and trusses member		2		Internal Bracings of the truss Pipe structural members to be fitted in plated nuts, bolts and washers without welding		2		Corridors/Balconies		2		Curtain Runner		2		Flap control pipe		2		Curtain Shaft		2		Cross Bracing		2		Not:- Welded pipes should not be used for structure erection except bottom pipe of 8 m length.			
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	Purlin	48 mm OD/2.0 mm thick at ridge and 42/43 mm OD/2 mm thick for centre																																																								
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	Clamps and Nut Bolts	Well Compatible.GI Clamps < 120 GSM, 2 mm thickness.																																																								
4	Grid Size	-8 m x 4 m (Ideal size)																																																								
5	Balcony and Corridor	2-meter-wide, vertical/curved pipe-60 mm, OD/2 mm thick G.I Pipe with 32 mm OD/1.8mm thick horizontal Gl pipe as supporting pipe.																																																								
6	Foundation	<p>Pit size should be min. 450mm dia. Depth 750 to 900mm or suitably altered depending upon ground strata/level so as to ensure safety and stability of the structure even under extreme wind conditions. Columns are fitted over ground "Inserts" and bolted to Insert pipe of 60 mm OD/2mm thick G I Pipe. Length of Insert 1200 to 1300 mm. &amp; filling the pit with 1:2:4 concrete hand mixed with appropriate Grade cement.</p> <p>Before doing the line out for the foundation, ensure that slope of greenhouse ground along the gable should be 1% and along gutter 2%. If slope of ground exceeds this limit then ask grower to do the land development and maintain the slopes of the</p>																																																								

		ground within the limits. Slope along the gable and gutter should be uniform. If developed ground has filling depth more than 200 mm then ask grower to do the flooding of water over the ground so that it should settle down. If the flooding is not done then there are chances of foundation piercing into the ground after application of structural load even foundation may dislocate.
7	Gutter	Should be made of Galvanized sheet of 2 mm thickness in trapezoidal shape having 500 mm wide perimeter (Preferably of single length without joint) Coil having 120 GSM Galvanization and should be leak proof. Min. 1% slope required for the gutter. Assure uniform slope to gutter to avoid stagnant water in gutter to achieve maximum life of gutter. Gutter Orientation - North-south and may change according to wind direction.
	(a) Gutter Height	4.5 m
	(b) Gutter Slope	1 to 1.5% to be provided in civil structural work Ridge Height/Centre Height: 6 meter.
	Ridge Height/Centre Height	Minimum 6 meter.
8	Fasteners	Cold Galvanized well compatible M6 to M10 bolts & nuts, 50 to 150 mm long with plain washers as per requirement and with the best quality plating to have good anti-corrosiveness.
9	Poly film	Technical Specifications of polythene should be as per Indian standard (IS 15827: 2009)  To select the proper film for poly-house is very important and which have direct relation with type of the crop as well quantity of the produce. Polythene should be properly UV stabilized to ensure life of at least three years. Thickness of polythene should be minimum 200 micron (0.2mm). Green house film should have following properties:- *UV stabilization  *Diffusion/Clear (Light Transmission)  *UV Blocking/Antivirus  "Sulphur Resistant  *Thermic  "Anti Drip  "Anti Mist  *Anti Dust  Manufacturing Process:  Five layer  Crop wise recommendation of minimum properties of polythene is: <ol style="list-style-type: none"> <li>1. Dutch Roses: 200 micron thick, UV Stabilized, UV Blocking (Not for bi color roses), anti dust, anti sulphur, with cooling effect. Light diffusion should be maximum (upto 75%) but it should not be less than 50%.</li> <li>2. Gerbera, Coloured Capsicum, Anthurium and orchids: 200 micron thick, UV Stabilized, anti dust, with cooling effect. Light diffusion should be maximum (upto 75%) but it should not be less than 50%.</li> </ol> Carnation: 200 micron thick, UV Stabilized, anti dust, with cooling effect. Where altitude is high polythene should be with IR protection.

10	Thermal net	<p>40%, alluminate/thermal net as per requirement - Minimum 100 GSM</p> <p>-Power operated crank mechanism should be provided for expanding and retracting the shade net.</p>
11	Poly fixing	C type profile made from Alloy Aluminum, should have high strength with light weight-(approx 220-250 gm/rmtrs), smooth edges, curve bottom proper for 1.25" to 3" pipes, Proper Channel for spring and suitable for double spring locking 0.9mm thick. Self Drilling Screw should be fixed on profile every 40 cm along the full length of the profile.
12	Spring Insert	<p>A plastic coated GI wire spring of 2.2mm diameter, having good elasticity should be used for longer life that transferring less heat to the cladding materials as plastic films or shade net.</p> <p>Use a two inch strip of new poly film to be placed over the main plastic in the profile and then lock it with GI profile. This will help in longer life of the plastic as the rusted spring will not directly come in contact with the main plastic.</p> <p>All spring must end inside the profile. Any spring outside profile must be either fixed inside or should be cut so that it does not damage the place in strong wind as it will initiate all the plastic being pulled out of profile</p>
13	Entrance	Double door entry, Doors should be made of form FRP Sheets or polycarbonate sheets. Opening and closing is either hinged or sliding. Min. width of door should be 1m and min height 2m. The door area should have 50 mm PCC Flooring over 75 mm thick sub base.
14	Civil Work	<p>Wall on fan side will be 35 mm thick and 80 cm high and wall on pad side will be 23 cm thick &amp; 100 cm high from ground level with required foundation (1:6). All the walls will be plastered in cm 1:4 on top and sides.</p> <p>80cm to 1m-wide and 10 cm thick footpaths made of cement concrete ratio of 1:2:4 should be provided as per the requirements.</p>
15	Electrical fittings:	<p>Conduit and wiring as required for connecting light, fan motor and pumping to main electrical supplies.</p> <p>Use copper wire to withstand the load of the electrical appliances of Indian standards.</p>
16	Climate Control System	
A	Fan Pad System	<p>Numbers of Fan depends upon size of Fan-pad house and it should be capable of exhausting air volume in one minutes.</p> <p>Exhaust Fans- 50" however it depends upon size of fan-pad house with louvers, 1.5 HP-3 phase ISI standard electric motor.</p> <p>Cellulose cooling pads of 1.8 meter height with 130mm thickness covering the area properly, PVC water distribution system, screen/disc filter, valve and pumps etc.</p> <p>-Control panel with provision of manual operation, temp. and humidity sensors also be there.</p> <p>The necessary digital controller with sensory device &amp; accessories of standard quality as per requirement should be provided to operate the fan &amp; pad system for controlling temperature &amp; humidity inside the Greenhouse.</p>
B	Fogging System	<p>It consists of four way anti leak fogger 28 lph flow rate (working pressure should be mentioned at which we will be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe, 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensor etc., complete application rate of 3 mm/hr.</p>

### C) SPECIFICATION OF SHADE NET HOUSE

Sr No	ITEM	SPECIFICATION
1	STRUCTURE	
	Size	According to requirement
	Shape	Dome Shaped
	Withstand to wind velocity	Structure may be design to withstand wind velocity up to 100 Km/hr.
	Main Column	2mm thickness GI Pipes compatible with columns, length 1.2m.
	Purlins	Size 60 OD, Thickness 2 mm, Wt. per length 2.85 kg, length-4 m- Purlin GI pipes- size 42/43 00/ thickness 2 mm, Wt. per length 2.00/2.10kg length- 4 m. Purlin members-33/32 mm OD/2mm thickness, Wt. per length 1.60 kg.
	Comer	Size 48 OD Thickness 2 mm, Wt. per length 2.30 kg, length-0.15 m,
	Four Way Pipe Couplers	Size 48 OD, Thickness 2 mm, Wt. per length 2.30 kg. length-0.15 m
	Five Way Pipe Couplers	Size 48 OD, Wt. per length 2.30 kg. Thickness 2 mm, length-0.15
	NuT Bolts	Size 3/8"
	Grid Size	8 mx4m
	Gable length	4.0 m.
	Centre Height	Flat Structure-4m
		Hut/dome type structure Centre height 4m. Side height-2.5m.
2	Aluminum Profile	C type Aluminum profile to fix shade net to the structure by means of self tapping screws. Weight of aluminum profile is 220 gm/meter. Self Drilling Screw should be fixed on profile every 40 cm along the full length of the profile
3	Spring insert	A coated spring must be used as spring transfer less heat to the plastic and thus enhances the life of the plastic  With GI spring use a two inch strip of new poly film to be placed over the main plastic in the profile and then lock it with GI profile. This will help in longer life of the plastic as the rusted spring will not directly come in contact with the main plastic. Wire material should be high carbon spring steel with spring action
4	Shade Net	UV stabilized, ranging from 50% GSM shade, made up of ISI/ applicable national standard, white/green/black/suitable colour.
5	Door	Polycarbonate/polythene sheet door with 1 m widths and 2 m height and another door of 1 m x 2m Box section frame is embedded inside for the strength
6	Anti Room	Anti room of size 4 m x 3 m attached to net house
7	Civil work/foundation	Cement concrete 1:2:4 block of size 40 cm x 40 cm x 90 cm for embedding vertical poll/pipe of shade net, subject to revision as per requirement of site.
8	Overall slope	1.25%
	APRON	Use of APRON in shade net

### D) The specification/ requirement of Mulch film is as below:

- Visual appearance:** The mulch film – LLDPE (Linear Low Density polyethylene with UV Stabilizer) uniform in color, texture and finish and free from pin- holes, tears, blisters and foreign particles
- Film form:** Mulch film should be furnished in the form of flat roll/ folded film or in the form of flat tubing
- Color:** The color of the mulch film should be black/ Silver on the two sides.
- Odour:** The mulch film should be free from objectionable odour
- Dimensions:**
- Thickness: 25-30 micron
- Tolerance: 5%
- Width: 1202 mm

- **Impact Strength:**
- Drop height- 66 cm
- Tensile strength at break: Length wise  $\geq 2.5\text{kg/mm}^2$  (ASTH D882)
- UV Stabilization: 400-600 klg
- Cross wise(min)-  $\geq 3.2\text{kg/mm}^2$
- **Elongation at break**
  - ✓ Length wise (min)- 676.8 %
  - ✓ Cross wise (min)- 632.0
  - ✓ Coeficient of friction- 0.279
- **Elmendorf tear strength**
  - ✓ Machine direction(min)- gms/micron- 9.84
  - ✓ Transverse direction(min)- gms/micron- 19.6
  - ✓ Opacity- 99%
  - ✓ Tolerance- (-)0.05

**E) Plastic Woven Tunnel - Specification of Low Tunnels:**

- **GI rod in round shape, 2 metre length and 6 mm diameter**
- **No of pieces-165 per 1000 Sqm**
- **Poly ethylene plastic sheet:**

Thickness	Tensile Strength (M.D.)	Tensile Strength (T.D.)	Elongation (M.D.)	Elongation (T.D.)	Dart Impact Strength	U.V. Stability
25 micron	110/ kg/cm <sup>2</sup>	90/ kg/cm <sup>2</sup>	250%	350%	100 gh	4 months
50 micron	150/ kg/cm <sup>2</sup>	130/ kg/cm <sup>2</sup>	300%	450%	150 gh	12 months

- **Poly propylene non woven sheets:**
  - Technical data sheet-----product u.v. non woven fabric
  - Raw material-----polypropylene
  - Decomposition temperature-----  $>300^{\circ}\text{C}$  ( $572^{\circ}\text{f}$ )
  - Physical status-----solid non woven fabric
  - Gsm range-----20 gsm, 25 gsm & 50 gsm
  - Colour----- as per customer requirement
  - Width----- 1.6 metre
  - length----- as per customer requirement
  - Packing-----stretch wraping
  - Standard -tested as per the standard of “edana” and “inda”

**NOTE: (i) If any confusion is there regarding construction and maintenance, then NHB guidelines is to be followed.**

- (ii) Purchase Tax Invoice should also be submitted by Bidder to verify thickness of Mulch Film.
- (iii) If any related structures of Protected Cultivation work is assigned, the Specifications as per NHB guidelines must be ensured.

**7. Evaluation and selection process**

**Terms for Evaluation of Bids:** Prior to evaluation of Proposals, the BHDS will determine whether each Proposal is responsive to the requirements of the RfP. A Proposal shall be considered responsive only if:

- It is received in the specified format.
- It is received by the due date including any extension thereof.
- It contains all the information (complete in all respects) as requested in the RfP.
- It does not contain any conditions or qualification.
- It has paid Rs. 2,00,000/- (Rupees two Lakh Only) as Earnest Money Deposit (EMD) and Document cost of Rs. 5000/- (Rupees Five Thousand Only) through online mode (NEFT/RTGS)
- It is not non-responsive in terms hereof.

**7.1 Technical Evaluation:** The Technical Proposals will be opened first and will be evaluated by the evaluation committee constituted at the society who shall look into eligibility criteria, compliance of specifications and other terms & conditions for empanelment. Only those bidders qualifying through the Technical Bid will be considered for financial evaluation.

**7.2 Financial Evaluation:** At the second stage, Financial Proposal of only technically acceptable agencies will be opened, for further evaluation. Rate of each component will be discovered on the basis of L1(LCBS). The agency who wish to work on L1 will be empaneled with the BHDS. All the companies willing to work on L1 rates will be allowed to work according to their capacity. All the work will be divided among all the interested companies accordingly.

## 8. Brief Description of the Empanelment Process

The process of empanelment of successful Bidder(s) would be as follows:

- In the first stage, evaluation will be done on the basis of the Eligibility Criteria, compliance of specifications and other Terms & conditions of tender.
- In the second stage, Financial Proposal of only technically acceptable agencies will be opened, for further evaluation. Rate of each component will be discovered on the basis of L1(LCBS). The agency who wish to work on L1 will be empaneled with the BHDS.
- The evaluation committee may negotiate will the price of L1, if needed. This fixed price after approval of competent authority will be final and applicable to the whole state of Bihar under mentioned schemes.
- Agencies shortlisted for empanelment will be issued an empanelment letter and, the agency must submit its acceptance in written to BHDS.

**9. Work allocation and Order quantity:** The work will be allocated to the agency as per the farmer's choice of agency. Order quantity to each empaneled agency will depend on the farmer's choice of selecting agency for supply and installation of the Polyhouse, Shade net and Mulch film. Preference may be given to Bihar based industries in procurement.

**10. Payment:** Payment against bill/invoice shall be done only after satisfactory completion of work and subject to verification by the officer designated for this work. The progress of work will be inspected by DHO of concerned districts when required. After satisfactory Inspection report from the DHO, the payment will be released. **No interest will be payable on the delayed payment. Payment will be made directly to the successful bidder through RTGS.** Installation of the component and final satisfactory response of farmer will be considered as completion of work .

- ✓ **50% payment-** after supply of materials
- ✓ **Final Payment-** after installation of the materials
- ✓ The payment will be released only after satisfactory response of the beneficiary.

**It is to be noted that:** Payment shall be made only after completion of the work and submission of request letter for payment to the DHO of concerned districts with invoice/ bill and GEO tagged photographs. Farmers will deposit their contribution to BHDS.

**11. Force Majeure is added as below:**

- ✓ For the purpose of this contract Force Majeure means an event which is beyond the reasonable control of the party.
- ✓ The terms “Force Majeure “as implied here in shall mean an act of God, War, Civil Riots, Fire directly affecting the performance of the contract, Acts and regulations of respective government of two parties, namely the organization and contractor. Both upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid, shall within seventy two hours of the alleged beginning and ending thereof intimate the other party giving full particulars and satisfactory evidence in support of its claim.
- ✓ If deliveries are suspended by Force Majeure conditions lasting for more than 2(Two) months, the organization shall have the option of cancelling this contract in whole or part as its discretion without any liability in its part. Force Majeure shall not include insufficiency of funds and inability to make any payment required here under.

**12. Dispute Resolution:** The High Court at Patna shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the selection of firm/company/organization.

**13. Jurisdiction of court:** In the court of Patna jurisdiction shall alone have an exclusive jurisdiction to decide any difference, dispute, claim for and against the Mission Director, Bihar Horticulture Development Society, Patna. The undersigned reserves right to reject whole or part of any or all the RfP without assigning any reason.

**14. Contract agreement**

The successful bidder will have to execute contract agreement after the issuance of LOI or work order. A tri-partite agreement would be made mandatory for functional working of supply and installation of any component mentioned in Tender between concerned Assistant Director Horticulture of concerned district, farmer/Applicant and firm.

**Technical Proposal**

**(Forwarding Letter on firm letter head)**

To,

**The Mission Director,**  
Bihar Horticulture Development Society,  
2nd floor, Krishi Bhawan,  
Mithapur, Patna-800001

**Subject: Short e-Tender for empanelment for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar.**

Sir,

In accordance with the terms & conditions of the bid **Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar:**

I/We submit the **Technical Proposal** containing the following documents:

1. **Authority Letter** (Annexure I)
2. Proposer/Bidder **Information Sheet** (Details of firm) (Annexure II)
3. Details of **Earnest Money Deposit** through online mode (NEFT/RTGS/CHALAN) (Annexure III)
4. Details of **Proposal Document cost** through online mode (NEFT/RTGS/CHALAN) (Annexure IV)
5. **Submission of Affidavit that the firm has not been blacklisted by any Union or State Government in any matter** (Annexure V)
6. **GST Registration Certificate & GST return Filing**
7. **Copy of PAN Card and IT return**
8. Copy of PAN Card
9. **ISO Certificate**
10. **Work Orders/MoU/Completion Letter** along with payment proof  
Proof document regarding working experience on these assignments in the last three years FY (24-25), (23-24), FY (22-23) in supplying/installing of above mentioned Items. (Annexure VIII)  
(Kindly highlight the payment details in the payment proof documents against each work order.
11. **CA certified Balance sheet and Profit & Loss Account (with UDIN)**
12. Catalogue/Literature (Optional).
13. Turnover of the Firm attested by CA with UDIN.(Annexure VII)
14. Affidavit Towards RELATED PARTY DISCLOSURE (Technical Proposal) (Annexure IX)
15. Affidavit Towards obeyance of all terms and conditions related to the work (Annexure XI)
16. Conforming to ISO/BIS Standard (Annexure-X)

Further, it is certified that the information furnished in this Bid Documents is true and correct to the best of my/our knowledge & belief. I/we fully understand terms and conditions mentioned above and undertake to abide by the terms & conditions and rules & regulations mentioned in the Bid document.

**Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated : .....

**Annexure I – Authority letter**

*(On the letter head of the bidder)*

**AUTHORITY LETTER**

M/S. ....

..... (Name & address with telephone no. of bidder) is working with/on behalf of our firm as our authorized representative/ dealer for the State of Bihar.

He/ She is authorized to submit, collect & correct all Bid/quotations/project documents on behalf of firm.

**Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated.....

**Annexure II – Bidder information sheet**

1. Name of the Item:

2. (a) Name & Address of the firm/ authorized dealer,

(b) Office address of the firm/ authorized dealer in the state of Bihar.

Telephone No. :

3. (a) GSTIN Registration No. :

(b) Income Tax PAN No. :

4. Address with telephone no./e-mail/web address where  
Manufacturing Unit is situated

Certified that above information is correct.

**Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated.....

**Annexure III – Details of EMD**

**DETAILS OF EARNEST MONEY THROUGH ONLINE MODE**

Earnest money through online mode as per details below is enclosed for the purpose of bid for “**Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar**”

NEFT/RTGS/CHALAN No.....

Name of the bank.....

Branch.....

Dated.....

Amount (In figures & words).....

.....

**Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated.....

**Annexure IV**

**DETAILS OF PROPOSAL DOCUMENT COST**

Proposal Document Cost through online mode as per details below is enclosed for the purpose of bid for “**Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar**”

NEFT/RTGS/CHALAN No.....

Name of the bank.....

Branch.....

Dated.....

Amount (In figures & words).....

.....

**Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated.....

**Annexure V – Affidavit Towards Blacklisting**

Agency should submit affidavit towards blacklisting on Non-Judicial Stamp Paper of Rs.- 1000/- duly attested by the Notary Public

(Through Notary Public on Non-Judicial stamp paper of Rs. 1000.00)

The agency shall submit an affidavit from notary that "(The Bidder has not been blacklisted by any State Government/GOI/Union territory/State and any autonomous body of the government during last 5 (Five) Years from the date of submission of tender bid for any item or by any reason)."

**Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated.....

## Annexure VI – Financial Proposal

**Name of Firm:**

**Address:**

**Phone no/Mobile no:**

To,

**The Mission Director,**

Bihar Horticulture Development Society,

2nd floor, Krishi Bhawan,

Mithapur, Patna-800001

**Subject: Financial Proposal: Selection of agency for “empanelment for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar”**

Sir,

In accordance with the terms & conditions of the bid “**empanelment for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar**” our financial quote for the assignment is mentioned in the BoQ as below :-

<b>Sl. No.</b>	<b>Name of the Item</b>	<b>Per Unit Rate including GST (in figure/words)</b>	<b>As submitted in BoQ attached on e-Proc-2</b>
1	Poly house (as per the specification prescribed in tender/NHB)- unit cost per sq.m		
2	Shadenet (as per the specification prescribed in tender/NHB)- unit cost per sq.m		
3	Mulch Film (as per the specification prescribed in tender/NHB) - unit cost per hectare		
4	Fan & Pad Polyhouse (as per the specification prescribed in tender/NHB)- unit cost per sq.m		
5	Shadenet Tunnel (as per the specification prescribed in tender/NHB)- unit cost per sqm		
6	Plastic Woven Tunnel (as per the specification prescribed in tender/NHB) - unit cost per hectare		
7	Indoor Poly house-unit cost per fan		

- Rate of each component will be discovered on the basis of L1. The agency who wish to work on L1 will be empanelled with the BHDS.
- The validity of rates quoted will be for 2 (two) years.
- No claim will be entertained afterwards for any increase in market price or otherwise.
- The rates should be quoted in Indian Rupees only, for each item separately, both in figures and words.
- **Financial Quote should strictly be filled in the BoQ (excel sheet format) of the eproc2. Any scanned upload of financial format may cause rejection of financial Bid.**
- The rates should include all taxes and transportation cost in supplying and installing at destination in concerned Districts in Bihar. Only one price should be quoted for above mentioned items. Multiple prices for above mentioned items will not be entertained.

**Signature of Authorized Signatory**

Name

Designation

Dated

Seal of the firm.....

**TURNOVER OF THE FIRM**

**Certificate for selection of agency for “Empanelment and fixation of rate for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar.**

<b>S. No.</b>	<b>Financial Year</b>	<b>Annual Turnover of the firm</b>
1	FY 23-24	
2	FY 22-23	
3	FY 21-22	
<b>Average Annual Turnover</b>		

**Or**

<b>S. No.</b>	<b>Financial Year</b>	<b>Annual Turnover of the firm</b>
1	FY 24-25	
2	FY 23-24	
3	FY 22-23	
<b>Average Annual Turnover</b>		

Name of the CA:

Seal of the CA:

Signature of Authorized Signatory

Name

Designation

UDIN:

Seal of the firm

Dated.....

## **EXPERIENCE OF THE FIRM**

Signature of Authorized Signatory  
Name

### Designation

Seal of the firm  
Dated.....

## Annexure -IX

### Certificate Towards RELATED PARTY DISCLOSURE (Technical Proposal)

The Bidder ..... (Name of Agency) applying for the Tender for empanelment and fixation of **rate for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar.** is not in Board of Directors/Shareholders/Key Managerial Person with any Companies who is willing/Eligible to apply for the said tender. If Yes, then attach List of Companies in which agency is in Board of Director/Shareholders/Key Manager Person.

AND

The Bidder ..... (Name of Agency) applying for the Tender for empanelment and fixation of **rate for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar** is not Partners with any firms who is willing/Eligible to apply for the said tender.

If Yes, then attach List of Firms in which agency is Partner.

And

The Bidder ..... (Name of Agency) applying for the Tender for empanelment and fixation of **rate for Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for 2025-26 to 2027-28 in the State of Bihar** is not Co-sharer with any Organizations who is willing/Eligible to apply for the said tender. If Yes, then attach List of Organizations in which agency is in Co -share or related to.

Name of the CA:

Seal of the CA:

Signature of Authorized Signatory

Name

Designation

UDIN:

Seal of the firm

Dated.....

## **Annexure X**

Conforming to ISO/BIS Standard

**(On the letter head of the bidder)**

**(Agency should submit self-certified declaration/document as below as annexure X).**

I/We ----- (Post Name) Competent authority of ----- (Company/Firm/Agency Name) do hereby solemnly affirm and declare that our firm will use BIS/ISO standard materials if it is covered under BIS/ISO standards.

**Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated.....

## Annexure XI

### **Affidavit towards obeyance of all terms and conditions related to this work.**

(Through notary public on stamped paper of Rs 1000)

I/We ----- (Post Name) Competent authority of ----- (Company/Firm/Agency Name) do hereby solemnly affirm and declare as follows :

1. That I/We have read and understood the terms and Conditions for being empanelled.
2. That our firm will obey all the terms conditions to Supply and Installation of Protected Structures and Hi-tech Horticulture related materials for Front Line Demonstration (FLD) 2025-26 in the State of Bihar as per standard.
3. That our firm will be bounded to make available and install Protected Structures and Hi-tech Horticulture related materials for Front Line Demonstration (FLD) as per technical specification mentioned in the Bid documents.
4. That our firm will provide operational training and agronomical advice whenever the beneficiary will need for three years.
5. That our firm will provide after sale service to the beneficiary.
6. That our firm will use BIS/ISO standard materials if it is covered under BIS/ISO standards.
7. That in case of structure damaged by natural disaster, if farmers bear the cost of materials required, our firm will provide technical and non-technical services free of cost for restructuring the structure.
8. That our firm will abide by the instruction to complete the work within the specified period.

#### **Signature of Authorized Signatory**

Name

Designation

Seal of the firm

Dated.....