

Instructional Farm - Vellanikkara

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No. IF/Hi-Tech/12/2013,

Dated, 07-10-2016

TENDER NOTICE

Sealed super scribed tenders are invited for the **system integrators for supply, installation and commissioning of Solar Power unit at Hi-Tech Research & Training Unit, Instructional Farm, Vellanikkara, Kerala Agricultural university**. The details, specifications and tender form can be downloaded from the KAU website www.kau.edu/tenders. The duly filled tenders with EMD (1%) by way of crossed demand draft in favour of The Professor and Head, Instructional Farm, Vellanikkara, Kerala Agricultural University payable at S.B.T Ollukkara Branch has to be submitted before 3.30 PM on 26-10-2016 and will be opened at 4 pm on the same day in presence of available bidders or their authorized representatives. Cost of Tender form is as indicated below:

Particulars	Cost of tender form (Rs.)	Duplicate (Rs)
Supplies costing Rs.50,000/- or less	Rs.300 +VAT@5%	Rs.300 +VAT@5%
Supplies costing above Rs.50,000/- and upto Rs.10 lakhs	0.2% of the quoted amount rounded to the nearest multiple of 100, subject to a minimum of Rs.400 and maximum of Rs.1500 +VAT@5%	50% of the cost of the original upper rounded to the nearest multiple of Rs. 100 + VAT@ 5%
Supplies costing more than Rs.10 lakhs	0.15% of the cost of the items rounded to the nearest multiple of 100, subject to a maximum of Rs.25000 +VAT@5%	50% of the cost of the original upper rounded to the nearest multiple of Rs. 100 + VAT@ 5%

Last date of receipt of tender : 26- 10-2016 at 3.30 pm

Date and time of opening of tender : 26- 10-2016 at 4.00 pm

Installation and commissioning of Solar Power unit at Hi-Tech Research & Training Unit, Instructional Farm, Vellanikkara, Kerala Agricultural university with following specifications:

1.0 INVITATION TO BID:

Sealed tenders are invited in two parts (Technical and Commercial offers separately) from original manufacturers and their authorized representatives, or system integrators for **supply, installation and commissioning** of solar inverter power units as per following specifications at HTRTU KAU Vellanikkara , India. The original manufacturer or system integrator should be a reputed company and should have sufficient experience in supplying, installation and commissioning of solar power plants The qualification requirements are given in Annexure 2.. Preference would be given to those tenderers who have supplied / installed similar systems in some government organizations of repute. A list of actual users/ customers should also be furnished along with the Technical Bid.

2.0 Scope and Purpose

The supply, installation and commissioning of one Off Grid Solar Power system with Battery Energy storage consisting of Solar PV panels Inverters, battery banks and all accessory equipment as per detailed specification complete with mounting structures suitable to be mounted on ground, electrical panels, MCB's wire, cables, conduits, erection hardware etc to make a complete and fully operational system.

3.0 Application

- 1, Powering of pumps Family Aquaponics System
(5 pumps of 12 W each) – 60 W Hydroponics System (5 pumps of 12 W each) – 36 W
2. Powering the Commercial Aquaponics System
(1 HP pump + 0.5HP aerator) – 2 HP
3. Solar UPS for office

Configuration of the system

1. Unit I: Off Grid Solar Power system with Battery Energy storage consisting of 2 nos 250Wp/300 Wp Solar Photovoltaic Module, 1 kW Off Grid Inverter with inbuilt MPPT Charge Controller, 2 nos 150AH batteries
2. Unit II: Off Grid Solar Power system with Battery Energy storage consisting of
 - A. 10 nos 250Wp/300Wp Solar Photovoltaic Module, (2.5kW-3 kW)
 - B. 3kVA Off Grid Inverter with inbuilt MPPT Charge Controller, The system shall operate in parallel with the Grid while generating solar power and shall isolate from grid and work on battery storage when grid power is interrupted .The mode of operation shall be
 1. Priority manager shall be set as Solar - Battery – Grid
 2. During day time solar energy will simultaneously charge the battery and supply to load. During this operation EB will not be used to either charge the battery or to the load.
3. At the time of evening, or in the absence of sunlight , Batteries will be feeding power to the load.
4. Once the batteries get discharged, Grid will be powering the load. At the same time Grid power is used to charge the batteries up to 50%. After sunlight is available again, solar will charge the balance 50% to the batteries.
5. The inverter shall have adequate surge suppressor specifically designed for pump and motor application.

6. 2 nos 150AH batteries
2 kVA UPS system with solar charging input

4. EARNEST MONEY DEPOSIT (EMD) :

A sum of Rs.20,000 should be submitted as Earnest Money Deposit (EMD) along with the technical bid in the form of nationalized bank's demand draft drawn in favor of "-----." The EMD of the accepted tender will be retained as Security Deposit and the EMD of other unsuccessful bidders would be refunded.

5.Price :

The Price shall be Firm and final inclusive of costs for transport, insurance and all applicable taxes for of the solar power system with the above specifications and features. The Price schedule shall indicate All applicable Duties and taxes charges for installation and commissioning at site, and Cost towards the training of customer's personnel. Price of spares and consumables for operating the system at least for ten years should be mentioned separately. A list of spares needed for ten years trouble free operation should be attached.

6. DELIVERY PERIOD:

The systems, complete in all respects as per specifications above, in a single consignment should be delivered at the site/consignee within 2 months from the date of issue of confirmed supply order.

7. INSPECTION:

The supplier should satisfy himself/herself that the system fully conforms to the specifications by carrying out complete pre-inspection of each component before dispatch.

Final inspection will be carried out in the presence of firm's representative/Indian agent when the consignment arrives at KAU

8. GUARANTEE/WARRANTY:

Solar Panel: 25 years
Solar PCU: 5 years
5 years for whole system from the date of supply

9. DISPUTES:

In case of any dispute the decision of Dean, KAU Vellanikkara Thrissur Kerala will be final and binding on both parties. Further dispute, if any will be settled in the Court of Law at Thrissur jurisdiction only.

10. IMPORT LICENSE:

The supplier will be fully responsible for obtaining the required authorization of export from country of origin, if necessary.

11. IMPORTANT DATES:

Annexure 1
General Technical Specification for solar PV systems

1. Quality and Workmanship

1.1 Solar PV modules are designed to last 25 years or more. It is therefore essential that all system components and parts, including the mounting structures, cables, junction boxes, distribution boxes and other parts also have a life cycle of at least 25 years. Therefore all works shall be undertaken with the highest levels of quality and workmanship. During inspection special attention will be given to neatness of work execution and conformity with quality and safety norms. Non compliant works will have to be redone at the cost of the Installer.

2.0 Specification of Solar PV Modules

2.1 Solar PV modules shall be of the crystalline silicon type, manufactured in India. Detailed specifications of the solar PV modules are given below:

Type	Crystalline silicon
Origin	Manufactured in India
Efficiency	$\geq 13\%$

Fill factor Degradation warranty	$\geq 70\%$ Panel output (W_p) capacity to be $\geq 90\%$ of design nominal power after 10 years and $\geq 80\%$ of design nominal power after 25 years.
Module frame	Non-corrosive and electrolytically compatible with the mounting structure material
Termination box	Thermo-plastic, IP 65, UV resistant
Blocking diodes	Schottky type
Module minimum rated power	The nominal power of a single PV module shall not be less than 74Wp.
RF Identification tag for each solar module	Shall be provided inside the module and must be able to withstand environmental conditions and last the lifetime of the solar module.
RF Identification tag data	a) Name of the manufacturer of PV Module b) Name of the Manufacturer of Solar cells

	<ul style="list-style-type: none"> c) Month and year of manufacture (separately for solar cells and module) d) Country of origin (separately for solar cells and module) e) I-V curve for the module f) W_m, I_m, V_m and FF for the module g) Unique Serial No and Model No of the module h) Date and year of obtaining IEC PV module qualification certificate i) Name of the test lab issuing IEC certificate
	j) Other relevant information on traceability of solar cells and
	module as per ISO 9000 standard
Power output rating	To be given for standard test conditions (STC). I-V curve of the sample module shall be submitted.
Compliance with standards and codes	IEC 61215 / IS 14286 IEC 61730 Part 1 and 2
Salt Mist Corrosion Testing	As per IEC 61701

3.0 Solar PV Modules Mounting Structure

3.1 The PV modules shall be mounted on fixed metallic structures having adequate strength and appropriate design, which can withstand the load of the modules and high wind velocities. The support structure shall be hot dip galvanized steel or aluminium.

3.2 Detailed specifications for the mounting structure are given below:

Wind velocity withstanding capacity	150 km / hour
Structure material	Hot dip galvanised steel with a minimum galvanisation thickness of 120 microns or aluminium alloy.
Bolts, nuts, fasteners, panel mounting clamps	Stainless steel SS 304
Mounting arrangement for RCC-flat roofs	With removable concrete ballast made of pre-fabricated PCC (1:2:4), M15

Mounting arrangement for metal sheet roofs	Mounting directly on the sheet metal, ensuring stability and wind withstanding capacity, or penetrating the sheet metal and fixing to the sub-structure, ensuring that the roof remains water proof and ensuring stability and wind withstanding capacity.
Mounting arrangement for ground installations	With removable concrete ballast made of pre-fabricated PCC (1:2:4), M15; assuring enough ground clearance to prevent damage of the module through water, animals and other environmental factors.
Installation	The structures shall be designed for simple mechanical on-site installation. There shall be no requirement of welding or complex machinery at the installation site.
Minimum distance between roof edge and mounting structure	0.6m
Access for panel cleaning and maintenance	All solar panels must be accessible from the top for cleaning and from the bottom for access to the module-junction box.
Panel tilt angle	North – south orientation with a fixed tilt angle of 11 – 13 degrees (depending on location), south facing.

3.3 The prospective Installer shall specify installation details of the solar PV modules and the support structures with lay-out drawings and array connection diagrams. The work shall be carried out as per the designs approved by KAU and their consultant .

Solar Array Fuse

3.3 The cables from the array strings to the solar grid inverters shall be provided with DC fuse protection. Fuses shall have a voltage rating and current rating as required. The fuse shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

4.0 Solar Grid Inverter:

4.1 The solar grid inverter converts the DC power of the solar PV modules to grid-compatible AC power.

4.2 The detailed specifications of the solar grid inverter are given below.

	Remarks	Typical for 1	Typical for 3
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Parameter		KVA	kVA
Total output power (AC)	To match solar PV plant capacity while achieving optimum system efficiency	1 kWp	3 kWp
Tecnology	DSP based PWM technology		
Power device	IGBT/ MOSFET		
Input DC voltage range	As required for the solar inverter DC input.	22-30 V +0.4V	88-120V+ 2%
Low battery cutoff		22.6 V	88 V
Battery OV protection		30 V	130 V
Output AC Voltage		230 V+ 5% , 50 hzsingle phase	230 V + 5% 50 Hzsingle phase
Output wave form	Pure sine wave		
Output frequency regulation	Within+ 0.2 HZ		
Efficiency	>=85%		
AC voltage Range Grid Charging	Single phase 230V (+ 12.5%, -20%)		
Grid Frequency range	47.5 – 52.5 Hz		
Nominal frequency	50 Hz		
Power factor of the inverter	>0.98 at nominal power		
Total harmonic distortion	Less than 3%		
Power Usage priority	Solar PV array		
Solar charge controller	MPPT/ series		
Built-in Protection	AC high / low voltage; AC high /low frequency , Over Current, Battery over Charge Protection, PV/Battery Reverse Polarity, Reverse Current Flow, High Temperature		
Operating ambient temperature range	-10 °C - +60 °C		
Humidity	0 – 95% Rh		
Inverter weighted efficiency	>=94%		
Protection degree	IP 65 for outdoor mounting, IP 54 for indoor mounting		

Communication interface	RS 485 / RS 232 / RJ45		
Safety compliance	IEC 62109-1, IEC 62109-2		
Cooling method	Device shall not require air conditioned space for installation	Forced air / natural	Forced air / natural
Data logging and monitoring	PV voltage ;PV current ; PV Power ; output voltage AC; Output current AC; Output cum kWh Solar cumulative kWh		
Visual annunciators	Faults shall be indicated by LED or messages on the display		

Environmental Testing	IEC 60068-2 (1,2,14,30)
Efficiency Measurement Procedure	IS/IEC 61683
Cooling	Convection
Display type	LCD for data display. LCD / LED for status display
Display parameters to include	Output power (W), cumulative energy (Wh), DC voltage (V), DC current (A), AC voltage (V), AC frequency (Hz), AC current (A), cumulative hours of operation (h).

5.0 DC Combiner Box

5.1 A DC Combiner Box shall be used to combine the DC cables of the solar module arrays with DC fuse protection for the outgoing DC cable(s) to the DC Distribution Box.

6.0 DC Distribution Box

6.1 A DC distribution box shall be mounted close to the solar grid inverter. The DC distribution box shall be of the thermo-plastic IP65 DIN-rail mounting type and shall comprise the following components and cable terminations:

- 6.2 Incoming positive and negative DC cables from the DC Combiner Box;
- 6.3 DC circuit breaker, 2 pole (the cables from the DC Combiner Box will be connected to this circuit breaker on the incoming side);
- 6.4 DC surge protection device (SPD), class 2 as per IEC 60364-5-53;
- 6.5 Outgoing positive and negative DC cables to the solar grid inverter.

6.6 As an alternative to the DC circuit breaker a DC isolator may be used inside the DC Distribution Box or in a separate external thermoplastic IP 65 enclosure adjacent to the DC Distribution Box. If a DC isolator is used instead of a DC circuit breaker, a DC fuse shall be installed inside the DC Distribution Box to protect the DC cable that runs from the DC Distribution Box to the Solar Grid Inverter.

7.0 AC Distribution Box

7.1 An AC distribution box shall be mounted close to the solar grid inverter. The AC distribution box shall be of the thermo plastic IP65 DIN rail mounting type and shall comprise the following components and cable terminations:

7.2 Incoming 3-core / 5-core (single-phase/three-phase) cable from the solar grid inverter

- AC circuit breaker, 2-pole / 4-pole
- AC surge protection device (SPD), class 2 as per IEC 60364-5-53
- Outgoing cable to the building electrical distribution board.

- Connection to the Existing Electrical System

7.3 The AC output of the solar grid inverter shall be connected to the building's electrical system at load points as per application requirements. The solar inverter output shall be connected to a dedicated module in the Distribution Board (MDB). It shall not be connected to a nearby load or socket point. Consumer loads are to be connected from this MDB

7.4 Batteries

7.5 Batteries shall be lead acid type suitable for solar applications and shall be sized to meet the application requirements .

8.0 Cables

8.1 All cables shall be supplied conforming to IEC 60227/ IS 694 & IEC 60502/ IS 1554. Voltage rating: 1,100V AC, 1,500V DC

8.2 For the DC cabling, XLPE or XLPO insulated and sheathed, UV stabilised single core flexible copper cables shall be used. Multi-core cables shall not be used.

8.3 For the AC cabling, PVC or XLPE insulated and PVC sheathed single or multi-core flexible copper cables shall be used. Outdoor AC cables shall have a UV-stabilised outer sheath.

8.4 The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.

8.5 The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%

8.6 The DC cables from the SPV module array shall run through a UV-stabilised PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.

8.7 Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.

8.8 All cables and conduit pipes shall be clamped to the rooftop, walls and

ceilings with thermo-plastic clamps at intervals not exceeding 50 cm. The minimum DC cable size shall be 4.0 mm² copper. The minimum AC cable size shall be 4.0 mm² copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires. The following colour coding shall be used for cable wires:

- DC positive: red (the outer PVC sheath can be black with a red line marking)
- DC negative: black
- AC single phase: Phase: red; neutral: black
- AC three phase: Phases: red, yellow, blue; neutral: black
- Earth wires: green

8.9 Cables and conduits that have to pass through walls or ceilings shall be taken through a PVC pipe sleeve.

8.10 Cable conductors shall be terminated with tinned copper end-ferrules to prevent fraying and breaking of individual wire strands. The termination of the DC and AC cables at the Solar Grid Inverter shall be done as per instructions of the manufacturer, which in most cases will include the use of special connectors.

9.0 Earthing

9.1 The PV module structure components shall be electrically interconnected and shall be grounded.

9.2 Earthing shall be done in accordance with IS 3043-1986, provided that

earthing conductors shall have a minimum size of 6.0 mm² copper, 10 mm² aluminium or 70 mm² hot dip galvanised steel. Unprotected aluminium or copper-clad aluminium conductors shall not be used for final underground connections to earth electrodes.

9.3 A minimum of two separate dedicated and interconnected earth electrodes must be used for the earthing of the solar PV system support structure with a total earth resistance not exceeding 5 Ohm.

9.4 The earth electrodes shall have a precast concrete enclosure with a removable lid for inspection and maintenance. The entire earthing system shall comprise non-corrosive components.

9.5 Surge Protection

9.6 Surge protection shall be provided on the DC side and the AC side of the solar system.

9.7 The DC surge protection devices (SPDs) shall be installed in the DC distribution box adjacent to the solar grid inverter.

9.8 The AC SPDs shall be installed in the AC distribution box adjacent to the solar grid inverter.

9.9 The SPDs earthing terminal shall be connected to earth through the

above mentioned dedicated earthing system. The SPDs shall be of type 2 as per IEC 60364-5-53

10.0 Junction Boxes

- 10.1 Junction boxes and solar panel terminal boxes shall be of the thermo plastic type with IP 65 protection for outdoor use and IP 54 protection for indoor use.
- 10.2 Cable terminations shall be taken through thermo-plastic cable glands. Cable ferrules shall be fitted at the cable termination points for identification.

UPS for Office Loads:

One no UPS with minimum of 1600VA Capacity for feeding the Office and Library lighting, Fans and Computer Systems shall be provided. This UPS system may be provided with Solar charging of the Batteries, necessary Solar PV panel, Inverter and Battery as may be required for providing minimum 3 Hour Backup shall be offered. Details of loads for this UPS are as follows,

Particulars	Numbers	Powers
Tube Light	5	200
Fan	7	560
CFL Lamps	-	
Computer System	4	720
Projector	1	200

Specification for UPS

Battery Voltage : 48 V

Solar PV voltage Nominal 68 V (52-90 V)

Solar charging current 10% of battery Ah rating

Inverter output power 2000 VA

Output Voltage 230 V \pm 5%

Output Frequency 50 Hz \pm 0,1%

Wave form Pure sine wave

Technology Micro controller PWM, MOSFET

Surge rating 150% for 1 sec

Protection : Output overload, Short circuit, Battery Overvoltage undervoltage

LED display : ON, Grid available, Grid charging, Solar charging, Overload,

Battery Low

Audible alarm for Overload and Low battery

Operating Environment 50 deg c 95% RH Installed indoor, Natural ventilated space

11.0 Tools, Tackles and Spares

- 11.1 The Installer shall provide as part of the supply scope, one set of tools, tackles and essential spares that will be needed for the day-to-day maintenance of the solar PV system. This shall include but not be limited to, the following:
- 11.2 Screw driver suitable for the junction boxes and combiner boxes;
- 11.3 Screw driver and / or Allen key suitable for the connectors, power distribution blocks, circuit breaker terminals and surge arrester terminals;
- 11.4 Spanners / box spanners suitable for the removal of solar PV

modules from the solar PV module support structure;

- 11.5 Solar panel mounting clamps;
- 11.6 Spare fuses.
- 11.7 Caution Signs
- 11.8 Metering
- 11.9 An energy meter shall be installed in between the solar inverter and the distribution board to measure gross solar AC energy production (the “Solar Generation Meter”).

12.0 Documentation

- 12.1 The Installer shall supply the following documentation:
- 12.2 System description with working principles.
- 12.3 System single line diagram.
- 12.4 Solar PV array lay-out.
- 12.5 Routing diagram of cables and wires.
- 12.6 Data sheets and user manuals of the solar PV panels and the inverter.
- 12.7 A system operation and maintenance manual.
- 12.8 Name, address, mobile number and email address of the service centre to be contacted in case of failure or complaint.
- 12.9 Warranty cards.
- 12.10 Maintenance register.

13.0 Test Certificates and Reports to be Furnished

Test Certificates / Reports from IECQ / NABL accredited laboratory for relevant IEC / equivalent BIS standard for quoted components shall be furnished. Type Test Certificates shall be provided for the solar modules and the solar grid inverters to provide evidence of compliance with standards as specified in articles 4.0 and 7.0 of this Technical Specification. Customer reserves the right to ask for additional test certificates or (random) tests to establish compliance with the specified standards.

ANNEXURE-2
TENDER ELIGIBILITY CRITERIA

The Bidder(s) shall meet the following Eligibility Criteria to participate in the Tender and shall enclose documentary proof for fulfilling the Eligibility in the Techno commercial Bid.

S.NO	Minimum Eligibility Criteria	Proof to be submitted for fulfilling the Eligibility Criteria
1.	The Bidder/its wholly owned subsidiary shall be A Registered Manufacturing Company/ Firm of SPV Cells/Modules OR Battery OR PV System Electronics, in India Or A PV System Integrator in India in existence for at least past one audited year.	Certificate of Incorporation or Registration and relevant proof shall be submitted.
2.	b) Consortium not exceeding three partners. Each partner of the Consortium shall be a Registered Company / Firm in existence for at least past one audited year. The prime Bidder amongst the consortium partners shall be either (i) a registered manufacturing company/ Firm of SPV cells / Modules or PV system Electronics in India. Or (ii) a PV system integrator in India	i. Certificate of Incorporation / Registration of all the partners shall be submitted ii. Copy of consortium agreement shall be submitted (OR) A letter of intent to execute a consortium agreement in the event of a successful bid shall be signed by all the partners and submitted with the Bid together with the copy of the proposed consortium Agreement. iii. In case of Consortium, all partners of the consortium shall be liable jointly and severally for the execution of the contract in accordance to the contract terms and a statement to this effect shall be included in the letter of intent.
3.	The Bidder shall use only SPV modules manufactured in India	Necessary undertaking letter shall be submitted from the module manufacturer.
4.	Bidder shall have installation experience in installation of Solar PV Plants of 1Kwp & above and shall have installed at least 10% of the quantity tendered (Power plants installed minimum period of 3 months prior to the date of bid submission will only be considered) & these systems shall be working satisfactorily (Lanterns are not allowed).	Copy of Work Orders and performance certificate for satisfactory function of those SPV systems obtained from the end user if system cost was paid by the end user or from the Government agency.
5.	Various components of the SPV system shall conform to the MNRE standards as per the Technical Specification	Copy of test certificates/test reports for each component from NABL accredited test centers shall be submitted.
6.	Bidder(s) shall not be currently blacklisted by any of the State or Central Government or organizations of the State/Central Government or Union Territories of India as on date of submission of tender.	Necessary Undertaking letter shall be furnished.
7.	The bidder shall undertake for product take back and recycling.	Necessary undertaking letter shall be submitted.

General conditions

Tender should be submitted in prescribed forms which can be downloaded from the KAU Website www.kau.edu/tenders under the “Related documents” section.

1. Sealed cover containing tender should be super scribed by **“installation and commissioning of Solar Power unit at Hi-Tech Research & Training Unit, Instructional Farm, Vellanikkara, Kerala Agricultural university”** and should be addressed to The Professor and Head, Instructional Farm, Vellanikkara, Kerala Agricultural University.
2. Late and incomplete tenders and tender without EMD, tender fee and agreement will not be accepted.
3. Cost of tender forms has to be remitted by way of DD in favour of the Professor and Head, Instructional Farm, Vellanikkara, Kerala Agricultural University payable at **S.B.T Ollukkara Branch.**
4. The completed tender along with 1% of the quoted amount as EMD in the form of a separate demand draft as indicated above drawn in favour of the Professor and Head, Instructional Farm, Vellanikkara. and an agreement in Kerala Stamp paper worth Rs.100/- should be submitted on or before 3.30 P.M on 26-10-.2016. The format of the agreement is available in the KAU website.
5. Withdrawal of the tender after its acceptance or failure to construct the structures in time or not according to the specifications will entail cancellation of the tender.
6. All the building materials and labour required for construction of structures should be borne by the bidder.
7. The bidder should attend the maintenance/repairs of the structure for a period of one year after handed over of the system.
8. The bidder to whom work tender has been awarded should deposit a security amount of 5% of the cost as demand draft/FD in favour of The Professor and Head, Instructional Farm, Vellanikkara., Kerala Agricultural University payable at S.B.T Ollukkara Branch and an agreement in Kerala stamp paper worth Rs.100/-. The format of the agreement is available in the KAU website. The security will be released only after completing the construction of structures satisfactory during the warranty period.
9. The bidder should give the detailed specifications of the components of each structure.
10. The bidder should provide one year free maintenance for the structure after the construction.
11. All consumable and spares required for the repair of the structures during the warranty period has to be borne by the bidder
12. The final approved cost for the construction of structures will be released only after satisfactory commissioning of the system. No advance payment will be entertained. Tax of any nature will be levied from the quoted amount. All the rates quoted should be including tax.
13. Construction of structures should be completed within four months from the date of confirmed work order.
14. The prof. and Head reserves right to remove the defaulted name from the list of suppliers permanently or for a specific period.
15. Any deviation from the tender should be made in a tabular form in the tender.
16. The cost of the item, tax and other charges should be separately stated
17. The undersigned reserves the right to accept / reject any /all tenders without assigning any reason. All other rules and conditions for tenders prevailing in KAU will be applicable to this tender also.

18. Prices quoted should be valid up to 31-01-2017.
19. If any Bhand/harthal/strike/any unexpected holidays occurs on the date of opening the tender, the tender will be opened at the same time on next working day.

The Professor and Head, Instructional Farm, Vellanikkara