Republic of the Philippines
**BULACAN AGRICULTURAL STATE COLLEGE**
**Office of Bids and Awards Committee**
Pinaod, San Ildefonso, Bulacan, Philippines 3010

May 29, 2022

# Bid Bulletin No. 1

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| **Name of Project:** | **2022-04G: Upgrading of Five (5) Units of Greenhouses at BASC College of Agriculture Campus and One(1) Unit at DRT Campus to Automated Greenhouses (Lot 2:Equipment)** |
| **ABC: Php12,000,000.00** | |

This Bid Bulletin No. 1 is issued to modify or amend items in the Bidding Documents for the above cited project. This shall form an integral part of the said Bidding Documents. The changes in the technical description shall also apply to the Schedule of Requirements and Price Schedules found in the Bidding Documents

## *Section VII. Technical Specifications*

| Item | From | To |
|---|---|---|
| 1 | GROWING SYSTEM<br>Tables and Frames for Ornamentals 1.7m x 2.8m (12 units) with Micro Sprinkler System and irrigation system<br>w/ installation (detailed description) | GROWING SYSTEM<br>Tables and Frames for Ornamentals 1.7m x 2.8m (12 units) with Fogger System and irrigation system that will cover the 200m2 area of the Greenhouse<br>For the details of Table (see attached drawing) (Equivalent or Higher)<br>- Use 2"x2" Tubular Pipe (for vertical)<br>- Use 1"x2" Rectangular Tube (for horizontal)<br>- Hydroponic Downspout Channel 4ftx4-2" holes<br><br>Fogger System (Equivalent or Higher):<br>-Droplet size 55microns @4.0 bar<br>-range of flow rates for different precipitation rates<br>-Flow rate (l/h)<br>5.3, 7.0, 14.0, 21.0, 28.0<br>-high water distribution uniformity and coverage<br>-Chemical Resistant raw materials<br>-PE and PVC Connections<br>-Filtration requirements: 130microns (120 mesh)<br>-LPD (Leak Prevention device) High Pressure LPD and Medium Pressure LPD<br><br>w/ installation |
| 2 | GROWING SYSTEM<br>NFT System With Movable Benches For Leafy Vegetable<br>NFT SYSTEM for 200m2 Net Area Greenhouse<br>Capacity: 3,024 Plants at one setting | GROWING SYSTEM<br>NFT System With Movable Benches For Leafy Vegetable<br>NFT SYSTEM for 200m2 Net Area Greenhouse<br>Capacity: 3,024 Plants at one setting |

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| | Automatic Fertigation Controller EC-3 injectors, PH-1 injector<br>NFT Stand<br>w/ installation | Automatic Fertigation Controller EC-3 injectors, PH-1 injector<br>NFT Stand<br>For the details of Table (see attached drawing) (Equivalent or Higher)<br>- Use 2"x2" Tubular Pipe (for vertical)<br>- Use 1"x2" Rectangular Tube (for horizontal)<br>- Hydroponic Downspout Channel 4ftx4-2" holes<br><br>w/ installation |
| 3 | Climate Control System with Graphic Terminals / HMI (Human Machine Interface) and programmable logic controller (PLC)<br>The programmable logic controller (PLC) shall be an embedded I/O design, with I/O expansion capability.<br>Programmable Logic Controller System<br>A single chassis shall house CPU, memory, embedded I/O circuitry, communications, I/O expansion slot, and power supply.<br>Operate in an industrial environment with an ambient temperature of -20 °C to 65 °C (-4 °F to 149 °F) and with a relative humidity range of 5% to 95%, non-condensing.<br>designed to operate in a free airflow environment (convection cooling only, no fans or other air moving devices shall be required).<br>designed and tested to operate in high electrical noise environments.<br>The system shall support up to 5 front expansion modules (input/output, discrete or analog, communication, memory backup, trim pot) and 4 side expansion I/O modules (input/output, discrete or analog) for a total of up to 132 discrete I/O.<br>The plug-in and expansion modules shall be front accessible.<br>Isolation between all internal logic and external circuits.<br>visual indicator to display ON/OFF status.<br>All user wiring to I/O modules shall be through a heavy-duty terminal strip. Pressure-type screw terminals shall be used to provide fast, secure wire connections.<br>PLC CPU<br>Providing system timing and scheduling I/O updates<br>Controlling all I/O scanning and communications service.<br>Performing internal diagnostic checks and providing visual indication by illuminating a | No Changes |

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| | "green" indicator when no fault is detected and a "red" indicator when a fault is detected.<br><br>4.3-Inch HMI Terminal with 65K Colors, Touch Screen TFT with 4 function keypads.Serial,Ethernet & USB ports. 128 MB of Internal Storage and RAM (or higher)<br>8 ports Ethernet switch<br>Power Supply, 24-28v DC, 120w, 85-132v / 170-264V AC<br>Programing Software<br>Laptop (i7 12th gen, dedicated RTX 3060 videocard, 512gb SSD 1TB HDD, IPS 144hz Display)<br>With training w/ installation | |
| 4 | Temperature and Relative Humidity Probe<br>Supply voltage: 5 to 28vdc<br>Filter description: 0.2 µm Teflon membrane<br>Housing classification11/9/2021 ip65<br>RH Measuring range: 0 to 100% RH (non-condensing)<br>RH Typical Accuracy at -40° to 0°C<br>Air Temperature Sensing Element: 1000 ohm Platinum<br>Air Temperature Measuring range: -40° to +60°C<br>w/ training w/ installation | No Changes |
| 5 | Measurement Data Logger<br>Internal Memory: 30MB flash for data storage, 80MB flash for CPU drive / programs, 2MB flash<br>10/100 Ethernet RJ45 for LAN connection<br>RS-232C for connecting RS-232 modems or serial sensors<br>Battery Terminal Pair (-BAT+) for regulated 12V power input or rechargeable 12V VRLA for UPS mode<br>Charge Terminal Pair (-CHG+) for 16 to 32V from DC power converter or 12 or 24 V solar panel (10W)<br>One Switched 12V Terminal (SW12V) (VX1, VX2)<br>Two Pulse Counting Terminals (P_SW_P_LL)<br>Two Control Terminals (C1,C2)<br>Wireless Local Area Network (WLAN)<br>Supported Standards: EEE 802.11 b/g/n, IEEE 802.11/d/e/I, 802.1X, WEP,WPA/WPA2 Personal and Enterprise<br>with Training w/ installation | No Changes |
| 6 | Solar Radiation Sensor | No Changes |

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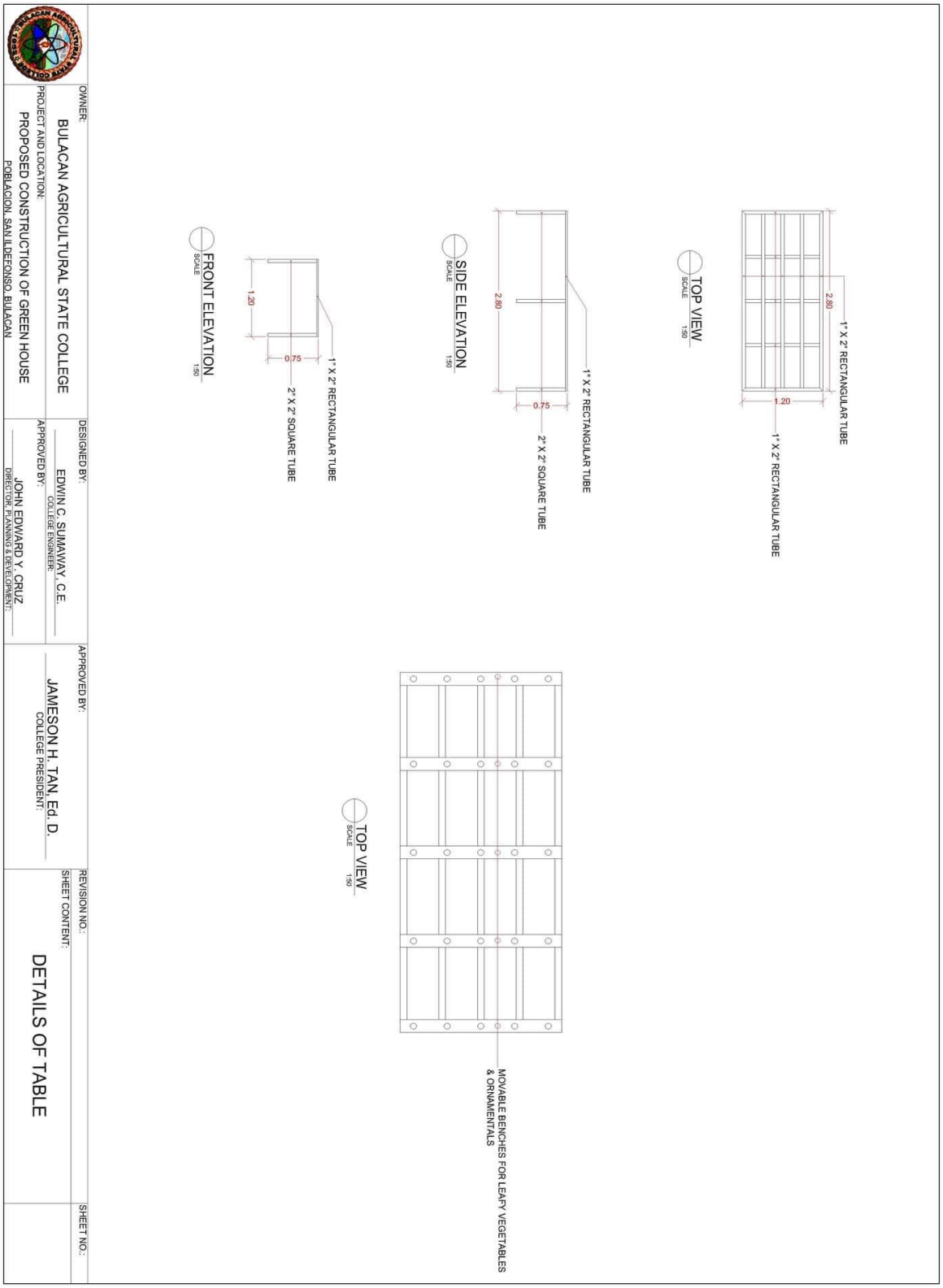
| | Silicon photovoltaic detector mounted in a cosine-corrected head<br>ISO Certification- Class C (second class)<br>Light Spectrum waveband 360 to 1120 nm (wavelengths where response is 10% of maximum)<br>Absolute Accuracy ±5% for daily total radiation<br>Spectral range 360 to 1120 nm<br>Temperature range -40° to +70°C<br>Sensitivity 0.2 mV/W/m2<br>Supplier shall provide manufacturer's authorization certificate<br>w/ training w/ installation | |
| 7 | SUPPLEMENTARY HORTICULTURE LIGHTS<br>voltage input range - 100~277VAC 50/60hz<br>photosynthetic photon flux density - 334.18 micro mol m2/s<br>Power Rating - 600W<br>Eff: 93.5% (Max)<br>Power factor: >/- 0.95<br>Water Proof - IP65<br>dimension -(L*W*H) 1206mm x 600mm *80mm | No Changes |
| 8 | CONTROL BOX<br>Power Cables<br>Motor Protection devices and spares<br>The supplier shall provide all required cables and connectors to interface with other control system equipment.<br>The supplier shall ensure that communication media, analog signals, and discrete I/O wiring are properly protected in accordance with manufacturer recommendations. | No Changes |
| 9 | Circulating fans w/ stainless frame 220V 1p,180W,400mm DIA w/ installation | No Changes |
| 10 | Exhaust fan 50" w/ installation | No Changes |
| 11 | Cooling pads 2m x 4m x 15cm w/ installation | No Changes |
| 12 | Fogger motor pump ½ HP w/ installation | No Changes |
| 13 | Control panel w/ back plane w/ installation | No Changes |
| 14 | 400W air circulator motor w/ installation | No Changes |


OWNER:
BULACAN AGRICULTURAL STATE COLLEGE
PROJECT AND LOCATION:
PROPOSED CONSTRUCTION OF GREEN HOUSE
POBLACION, SAN ILDEFONSO, BULACAN
DESIGNED BY:
EDWIN C. SUMAWAY, C.E.
COLLEGE ENGINEER
APPROVED BY:
JOHN EDWARD Y. CRUZ
DIRECTOR, PLANNING & DEVELOPMENT
APPROVED BY:
JAMESON H. TAN, Ed. D.
COLLEGE PRESIDENT
REVISION NO.:
SHEET CONTENT:
DETAILS OF TABLE
SHEET NO.:
TOP VIEW
SCALE 1:50
2.80
1.20
1" X 2" RECTANGULAR TUBE
1" X 2" RECTANGULAR TUBE
SIDE ELEVATION
SCALE 1:50
2.80
0.75
1" X 2" RECTANGULAR TUBE
2" X 2" SQUARE TUBE
FRONT ELEVATION
SCALE 1:50
1.20
0.75
1" X 2" RECTANGULAR TUBE
2" X 2" SQUARE TUBE
TOP VIEW
SCALE 1:50
MOVABLE BENCHES FOR LEAFY VEGETABLES & ORNAMENTALS

For the guidance and information of all concerned.

**RONALD REAGAN T. ALONZO, Ph.D.**
BAC Chairperson