



ASTI-FM 03-11  
REV 0/2 APR 2018

**DOST-ASTI Bids and Awards Committee  
Invitation to Bid (Public Bidding)**

ITB No:	19-07-2538	Date:	July-09-2019
PR No:	GAA-19-02-7290	Date:	February-14-2019
Source of Funds:	GAA		
Total ABC:	Php 1,771,500.00		
Time, Date & Venue of Pre-bid Conference:	July 25, 2019, 1:30 PM at DOST-ASTI		
Time and Date of Submission of Bids:	August 06, 2019, 12:00 PM		
Time, Date & Venue of Opening Bids:	August 06, 2019, 1:30 PM at DOST-ASTI		
Date of availability of Complete Set of Documents:	July 17, 2019		
Deadline of Potential Bidder's Clarifications:	July 27, 2019		
Deadline of ASTI's Supplemental Bid Bulletin:	July 30, 2019		
Delivery Schedule:			

The Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), hereby invites all interested bidders to submit their bids for the item(s) listed below. Guidelines regarding the format, eligibility, technical and financial documents needed are described in the Instruction to Bidders of the Philippine Bidding Documents

Bidding will be conducted through open competitive bidding procedures using a non discretionary "pass/fail" criterion as specified in the 2016 R-IRR of RA 9184.

A complete set of Bidding Documents may be purchased by interested bidders upon payment of a fee for the Bidding Documents. It is also downloadable for free of charge at DOST-ASTI's website - [www.asti.dost.gov.ph](http://www.asti.dost.gov.ph)

For further inquiries, contact ASTI's BAC Secretariat via email at [bac-sec@asti.dost.gov.ph](mailto:bac-sec@asti.dost.gov.ph). Interested bidders may also call the number - (632)-426-7423 and look for ASTI's BAC Secretariat.

Respectfully,  
  
**PEDRITO B. MANGAHAS**  
Chairperson, BAC-1

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<b>Controller Box Assembly with ASTI-Developed Datalogger</b> 3 lots charged to DOST RO IX 2 lots charged to DOST MIMAROPA 6 lots charged to LGU-Tabaco 1 lot charged to LGU-Roxas 2 lots charged to LGU-Malalag 1 lot charged to LGU-Tiwi 1 lot charged to Apayao  I. Enclosure - Body color: Gray - Overall dimensions: H 14.13", W 12.26", D 6.13" - Complies with NEMA Type 1,2,3,4,4X,12 and 13, IEC 529,IP66 - Molded fiberglass polyester enclosure with matching cover - Stainless steel draw type "snap latch" door fastener	16	lot	40000.00	640,000.00

- Door fasteners include a provision for padlocking
  - Door is supported with a continuous stainless steel hinge
  - Captive oil resistant gasket
  - Threaded brass inserts for mounting feet to the rear of the enclosure
  - Stainless steel mounting brackets and hardware for mounting to the rear enclosure
  - Operating temperatures between 130C and -40C
  - End-user will provide a technical drawing for the customized hole upon request
  - Threaded brass inserts for mounting feet to the rear of the enclosure
  - Stainless steel mounting brackets and hardware for mounting to the rear enclosure
  - Operating temperatures between 130C and -40C
- Note: End user will provide a technical drawing for the customized hole.
- II. Back Plate for Controller Box
- Material: Aluminum Sheet, 2.5 mm
  - Refer to attached drawing for full specifications
  - Complete with stainless fasteners (Hex bolts, washers, screws, nuts)
- III. Lead Acid Battery
- Valve Regulated Lead-Acid Battery (Heavy Duty)
  - Voltage: 12V
  - Capacity: 17 AH
  - Dimension 180x77x168 (LxWxH)
  - Excellent cycling capability
  - Very high energy density
  - High rate discharge capability
  - Lowest self discharge rate
  - Approved for shipping as non-hazardous, non-spillable
  - Operates in any position
  - Low internal resistance
  - With at least 6 months warranty
  - Manufacturer of the battery must have the ISO / TS16949 certification
- IV. Solar Charge Controller Regulator
- Wire size #16 AWG
  - ABS plastic case: Epoxy encapsulated
  - Weight: 3 oz (0.09 kg)
  - Dimensions: 2.5" x 2.0" x 1.4"/63.5 x 50.8 x 35.56 mm
  - Rated Solar Input: 4.5 Amps
  - Max. Input (5min.): 5.5 Amps
  - System Voltage: 12V
  - Max. Solar Voltage: 30V
  - Regulation Voltage: 14.1V
  - Accuracy: 60 mV
  - Self-consumption: 6 mA
  - Temp. Compensation: -28 mV/ degree Celsius
  - Reverse Current Leakage: <10 micro Amps
  - Operating Temperature: -40 to 85 degree Celsius

#### V. Electronic PCB Assembly

- ASTI designed Interconnect board
- The end user will provide the bill of material, a gerber file for the PCB design, and instruction assembly.

- Supplier should provide samples of at least three (3) units before production

##### V.1. ASTI Designed Trigger Switch Board (for Warning Stations)

- includes board fabrication and component assembly
- includes component sourcing based on Bill of Materials (BOM)
- gerber and BOM files are available upon request

##### PCB:

- Dimension: 145mm x 90mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Green
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2 (Top Electrical and Bottom Electrical layer)

##### V.2. ASTI Designed HYDROMET Interconnect Board (for ARG, WLMS and Tandem)

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- must pass based on testing procedure submitted

##### PCB:

- Dimension: 70mm x 40mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Blue
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

#### VI. Protective Vent/Gore

- Screw-in Type
- M12x1.5 with nut
- Water entry pressure: > 0.3 bar / 30 sec
- Typical airflow(dp = 70 mbar): 2500 ml / min
- Membrane characteristic: Hydrophobic
- Backing material: ePTFE / Polyester (PET)
- Housing material: Polyamide (PA6)
- Color of housing material: Pale Gray
- ORing material: Silicone 60 Shore A
- Wrench size: 16mm
- Overall Length: 15.55mm

#### VII. Cable Assemblies

- A. one(1) pc arQ Data Interface
- B. one(1) pc arQ Power Interface
- C. one(1) set Alarm Stages Interface(For Warning Stations)
- D. one(1) pc Solar Panel Interface
- E. one(1) set Battery Connectors
- F. one(1) set Grounding Kit (For Warning Stations)
- G. one(1) set of sensor data interface (for ARG,WLMS, TANDEM)

Note: End user will provide a technical drawing and specifications on sub-items A to F.

### VIII. Datalogger Clip Holders

- Must be ASTI-designed complete with screws and nuts

### IX. Sticker

- glossy finished
- fade proof and weather proof
- design to be provided upon request

### X. ASTI-designed Data Logger

- must be provided by ASTI-licensed fabricator/distributor

A. Overall design will be provided by ASTI (available upon signing of Non-Disclosure Agreement)

### B. Circuit boards

#### 1. GDAT Main Board (Qty: 1 pc)

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- must pass based on testing procedure submitted

##### 1.1. PCB

- Dimension: 82.22mm x 64.2mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Black
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

#### 2. GSM Module (Qty: 1 pc)

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- quantity:
- must pass based on testing procedure submitted

##### 2.1. PCB

- Dimension: 37mm x 50mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Blue
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

#### 3. Power Board 1 and 2 (Qty: 1 pair)

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- must pass based on testing procedure submitted

##### 3.1. PCB

- Dimension: 24.4mm x 64.2mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Green
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

##### Qty breakdown:

- 1 pair = 1 pc of Power Board 1 and 2

#### 4. Pressure Module Board

##### Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request

- must pass based on testing procedure submitted  
PCB:

- Dimension: 20.32mm x 20.32mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Blue
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

C. Enclosure (Qty: 1 pc)

- fabrication of customized casing for the datalogger based on drawing design
- includes fabrication of saddle clamps and lock bars based on drawing design
- includes industrial design for the tooling
- materials: weatherproof and UV-resistant
- ingress protection: IP67

D. Assembly and Testing

- includes all assembly and integration of boards, enclosure/mechanical fixtures, solar panels and sensors
- includes functional testing and must pass based on end-user's testing procedure (generate individual test report from test

XII. 30 W Solar Panel

- Type: Mono-crystalline Solar Module

A. Electrical Specs.

- Peak Power : at least 25 W
- Cell Efficiency : 14.02 % (min)
- Max. power voltage (Vmp) : 17.56 V (min)
- Max. power current (Imp) : 1.42 A (min)
- V (open circuit) : 21.16 V
- I (short circuit) : 1.64 A
- Max system voltage: 600 V

B. Mechanical system specs.

- Dimensions: 450x541x25 mm
- Weight: 2.9 kg ( 6.19 lbs.)
- No. of cells: 36 in series (4x9)
- Construction: High transmission low-iron tempered glass,EVA,TPT
- Frame: Anodized Aluminium

C. Module warranty:

- 25-yr limited warranty of 80% power output
- 10-yr limited warranty of 90% power output
- 5-yr limited warranty of materials and workmanship
- Manufacturer of the module must have the necessary ISO certification

XIII. Configuration

- 7 units with ARG Configuration
- 2 units with TANDEM Configuration
- 4 units with WLMS configuration
- 2 units with Alerting Station Configuration
- 1 unit with Agromet Configuration

Notes:

- Items 1 to 10 will be assembled according to the end user's drawing.
- At least 1 year warranty for parts and services
- Assembled units shall be delivered to ASTI

	<ul style="list-style-type: none"> <li>- End-user shall request for a demonstration of one working unit with the winning bidder before actual delivery/production of the remaining items</li> <li>- Items must be compatible with ASTI-arQ Datalogger</li> <li>- Price inclusive of government fees, taxes and duties</li> <li>- Delivery: 45 days upon receipt of NTP</li> </ul>				
2	<p><b>Rain Gauge</b></p> <p>3 units charged to DOST RO IX  1 unit charged to DOST MIMAROPA  2 units charged to LGU-Tabaco  1 unit charged to LGU-Roxas  1 unit charged to LGU-Malalag  1 unit charged to LGU-Tiwi</p> <p>A. General Specifications</p> <ul style="list-style-type: none"> <li>- Sensor Type: Self-emptying tipping bucket, patented single spoon</li> <li>- Spoon Material: Polyoxymethylene (POM) engineering thermoplastic</li> <li>- Housing Material: STYROSUN, UV radiation, heat and frost resistant, moulded modified high-impact polystyrene</li> <li>- Dimensions: Orifice: 31 in2 (200 cm2), Inside Diameter: 6.3" (159.6 mm), Outside Diameter: 6.5" (165mm)</li> <li>- Splash room height including bottom: 6.7 inch (170mm)</li> <li>- Weight: 342g to 418g</li> </ul> <p>B. Output Interface</p> <ul style="list-style-type: none"> <li>- Normally Closed and Normally Open magnetic switches</li> <li>- 4 connections / 2 outlets</li> <li>- 2 reed switches</li> <li>- Resolution per tip: 0.5 mm</li> <li>- designed to meet the guidelines of the World Meteorological Organization</li> <li>- with single adjustment screw for easy calibration</li> </ul> <p>C. Accessories</p> <ol style="list-style-type: none"> <li>1. One(1) unit customized cabling <ul style="list-style-type: none"> <li>- customized 0.6 meter round cable pre-wired to rain collector with waterproof 2/3-pin M8/M10 connector termination</li> </ul> </li> <li>2. One(1) unit mating connector assembly for the cable above <ul style="list-style-type: none"> <li>with the ff. specs: <ul style="list-style-type: none"> <li>- panel mount, rear entry (to be placed on panel with 3-4mm wall thickness)</li> <li>- with soldered 8cm hook-up wires(#22AWG), multi-colored, stripped and tinned</li> <li>- waterproof, IP67</li> </ul> </li> </ul> </li> <li>3. One(1) pc bull's-eye bubble level (preferably built-in)</li> </ol> <p>D. Miscellaneous</p>	9	unit	8000.00	72,000.00

	<ul style="list-style-type: none"> <li>- At least 2 years warranty for parts and services</li> <li>- Must be compatible with ASTI-ARQ datalogger</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>- End-user may request for a demonstration with the winning bidder before the actual delivery</li> <li>- Winning bidder must provide two (2) samples of connectors of actual unit for approval by the end-user prior to delivery. If approved by end-user, one (1) sample will be retained as reference for the units to be delivered.</li> <li>- At least 2 years warranty for parts and services</li> <li>- Must be delivered to ASTI</li> <li>- Must be compatible to ASTI-ARQ datalogger</li> <li>- Delivery: Thirty (30) days upon issuance of NTP</li> <li>- Price is inclusive of government duties and taxes and other fees.</li> </ul>				
3	<p><b>Ultrasonic Sensor</b></p> <ul style="list-style-type: none"> <li>1 unit charged to DOST RO IX</li> <li>1 unit charged to DOST MIMAROPA</li> <li>2 units charged to LGU-Tabaco</li> <li>1 unit charged to LGU-Roxas</li> <li>1 unit charged to LGU-Malalag</li> </ul> <p>A. General</p> <ol style="list-style-type: none"> <li>1. Optimum Range: at least 30.5 cm - 10 mtr. (12 in. - 33 ft.)</li> <li>2. Max Range: atleast 15.2 meters (50 feet)</li> <li>3. Case Material: at least 303 stainless steel</li> <li>4. Temperature: -40 to 70 C (-40 to 158 F)</li> <li>5. Configuration: Stored in non-volatile memory</li> <li>6. Humidity: 0 to 100% operating</li> <li>7. Transducer: Ruggedized piezoelectric</li> <li>8. Compensation: Temperature compensated</li> <li>9. Protection: NEMA-4X, NEMA-6P, IP68</li> <li>10. Resolution: Digital: 0.0135 in. (0.3438 mm);</li> <li>11. Repeatability: Nominal 0.2% of range @ constant temp.</li> <li>12. Update Rate: 200 ms, adjustable; affected by filter selections</li> <li>13. RS-232, RS-485: Modbus protocol, 9600-115200 baud (selectable), 8 data bits, 1 stop, no parity</li> <li>14. SYNC feature: Permits up to at least 32 sensors to operate in close proximity without interaction</li> </ol> <p>B. Target Performance</p> <ol style="list-style-type: none"> <li>1. Objects: Detects flat or curved objects. Surface must reflect ultrasound back to sensor.</li> <li>2. Max. Distance: Affected by size, shape, orientation of target (sound level reflected back to sensor)</li> <li>3. Orientation: Flat surfaces should be oriented perpendicular to sensor output beam</li> <li>4. Optical: Unaffected by target color, transparency or other optical characteristics</li> </ol> <p>C. Customization</p> <p>Connections: Cable connection Wire Description Power Brown 10-30 VDC @ 70 mA nominal (sensitivity reduced below 15 VDC)</p>	6	unit	51750.00	310,500.00

	<p>Ground Blue Power and interface common  Voltage Output Violet Unconnected  Current Loop Output Green Unconnected  Current Loop Output Orange Unconnected  Switch #1 Output Black Unconnected  Switch #2 Output White Unconnected  RS-232 out / RS-485- Gray Serial data connection(depends on model - see model selection)  RS-232 in / RS-485+ Yellow Serial data connection(depends on model - see model selection)  D. Communication  Interface: RS-232  Accessories:  1. Customized shielded 2.5 meters cable, 4-pin waterproof M12 connector termination  2. Mating connector assembly for the cable above with the ff. specs:  3. panel mount, rear entry (to be placed on panel with 4mm wall thickness)  4. with soldered 180mm hook-up wires(power, ground, TX and RX), multi-colored  5. Waterproof, IP67  E. Maintenance:  1. Supplier should provide quote for factory recalibration  2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services  F. Notes:  1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery.  2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) before the actual delivery.  3. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.  4. Supplied with comprehensive, traceable, calibration certificates  5. At least 2 years warranty of parts and services  6. Must be delivered to ASTI  7. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter  G. Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
4	<p><b>Mechanical Mountings for ARG</b>  2 lots charged to DOST RO IX  1 lot charged to DOST MIMAROPA  2 lots charged to LGU-Tabaco  1 lot charged to LGU-Malalag  1 lot charged to LGU-Tiwi</p> <p>I. Solar Panel Holder and Bracket  A. General Specifications  - Material: Stainless Steel</p>	7	lot	10000.00	70,000.00



- refer to attached drawing for full specifications
- complete with stainless fasteners(u-bolts, washers, screws, nuts)
- detailed manufacturing drawing with BOM must be submitted by supplier and approved by end-user before production
- supplier must provide at least one(1) prototype design based on approved BOM
- at least 1 year warranty
- supplier should provide support under warranty period

B. Packaging

- all metal parts and fasteners must be properly assembled according to end-user's drawing
- complete assembled parts must be properly packed

II. Enclosure Box Bracket

A. General specifications

- Material: 1.5in x 1.5in Stainless Steel Angle Bar
- refer to attached drawing for full specifications
- complete with stainless fasteners (u-bolts, washers, screws, nuts)

B. Other requirements

- detailed manufacturing drawing with BOM will be submitted by end-user upon signing of a NDA.
- production
- supplier must provide at least one (1) prototype design based on approved BOM and prototype must be approved by end-user before mass production
- at least 1 year warranty
- supplier should provide support under warranty period

C. Packaging

- all metal parts and fasteners must be properly assembled according to end-user's drawing
- complete assembled parts must be properly packed

III. Rain Gauge Bracket

A. General Specifications

- refer to attached drawing
- material: anodized aluminum, 2.25 thick (min)
- complete with stainless fasteners(U-bolts, saddle clamps, hex bolts, washers, screws, nuts)

B. Other requirements

- detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA
- supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production
- at least 1 year warranty
- supplier should provide support under warranty period

C. Packaging

- all aluminum parts and fasteners (excluding U-bolts and clamps) must be properly assembled according to end-user's drawing
- each set must be properly packed and delivered according to:

A. Rain bracket set

B. U-bolt and saddle clamp set

	Notes: - Prices inclusive of government fees, taxes and duties - Delivery: 45 days upon receipt of NTP				
5	<p><b>Mechanical Mountings for WLMS</b></p> <p>1 lot charged to DOST MIMAROPA 2 lots charged to LGU-Tabaco 1 lot charged to LGU-Malalag</p> <p>1. General Station Mountings I. Solar Panel Holder and Bracket A. General Specifications - Material: Stainless Steel - refer to attached drawing for full specifications - complete with stainless fasteners(u-bolts, washers, screws, nuts) - detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA - supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production - at least 1 year warranty - supplier should provide support under warranty period B. Packaging - all metal parts and fasteners must be properly assembled according to end-user's drawing - complete assembled parts must be properly packed II. Enclosure Box Bracket A. General specifications - Material: 1.5in x 1.5in Stainless Steel Angle Bar - refer to attached drawing for full specifications - complete with stainless fasteners (u-bolts, washers, screws, nuts) B. Other requirements - detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA - supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production - at least 1 year warranty - supplier should provide support under warranty period C. Packaging - all metal parts and fasteners must be properly assembled according to end-user's drawing - complete assembled parts must be properly packed</p> <p>2. WLMS Mountings I. Water Level Sensor Housing and Bracket - housing material: anodized aluminum - bracket material: stainless steel with powder coating, thickness: 3mm - includes with the ff. stainless fasteners (individually packed in clear plastic per set) - 2 set of 5/16 inches (D) x 3 inches (H) hex bolts each with nuts, flat and lock washer - fabricated according to drawing ( available upon</p>	4	lot	10000.00	40,000.00

	<p>request)</p> <ul style="list-style-type: none"> <li>- sample and detailed drawing with BOM must be submitted and must be approved before production</li> <li>- properly packed with label and boxed with corrugated carton</li> </ul> <p>II. Crossarm</p> <ul style="list-style-type: none"> <li>- material: hot-dipped galvanized, painted</li> <li>- to be fabricated according to drawing (available upon request)</li> <li>- all galvanization treatment must be class A</li> <li>- includes square clamps, brace clamps and z-channels</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>- Prices inclusive of government fees, taxes and duties</li> <li>- Delivery: 45 days upon receipt of NTP</li> </ul>				
6	<p><b>Mechanical Mountings for Tandem</b>  1 lot charged to DOST RO IX</p> <p>1. General Station Mountings</p> <p>I. Solar Panel Holder and Bracket</p> <p>A. General Specifications</p> <ul style="list-style-type: none"> <li>- Material: Stainless Steel</li> <li>- refer to attached drawing for full specifications</li> <li>- complete with stainless fasteners(u-bolts, washers, screws, nuts)</li> <li>- detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA</li> <li>- supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production</li> <li>- at least 1 year warranty</li> <li>- supplier should provide support under warranty period</li> </ul> <p>B. Packaging</p> <ul style="list-style-type: none"> <li>- all metal parts and fasteners must be properly assembled according to end-user's drawing</li> <li>- complete assembled parts must be properly packed</li> </ul> <p>II. Enclosure Box Bracket</p> <p>A. General specifications</p> <ul style="list-style-type: none"> <li>- Material: 1.5in x 1.5in Stainless Steel Angle Bar</li> <li>- refer to attached drawing for full specifications</li> <li>- complete with stainless fasteners (u-bolts, washers, screws, nuts)</li> </ul> <p>B. Other requirements</p> <ul style="list-style-type: none"> <li>- detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA</li> <li>- supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production</li> <li>- at least 1 year warranty</li> <li>- supplier should provide support under warranty period</li> </ul> <p>C. Packaging</p> <ul style="list-style-type: none"> <li>- all metal parts and fasteners must be properly assembled according to end-user's drawing</li> <li>- complete assembled parts must be properly packed</li> </ul> <p>2. Tandem Mountings</p> <p>I. Water Level Sensor Housing and Bracket</p>	1	lot	10000.00	10,000.00

	<ul style="list-style-type: none"> <li>- housing material: anodized aluminum</li> <li>- bracket material: stainless steel with powder coating, thickness: 3mm</li> <li>- includes with the ff. stainless fasteners (individually packed in clear plastic per set)</li> <li>- 2 set of 5/16 inches (D) x 3 inches (H) hex bolts each with nuts, flat and lock washer</li> <li>- fabricated according to drawing ( available upon request)</li> <li>- sample and detailed drawing with BOM must be submitted and must be approved before production</li> <li>- properly packed with label and boxed with corrugated carton</li> </ul> <p>II. Crossarm</p> <ul style="list-style-type: none"> <li>- material: hot-dipped galvanized, painted</li> <li>- to be fabricated according to drawing (available upon request)</li> <li>- all galvanization treatment must be class A</li> <li>- includes square clamps, brace clamps and z-channels</li> </ul> <p>III. Rain Gauge Bracket</p> <p>A. General Specifications</p> <ul style="list-style-type: none"> <li>- refer to attached drawing</li> <li>- material: anodized aluminum, 2.25 thick (min)</li> <li>- complete with stainless fasteners(U-bolts, saddle clamps, hex bolts, washers, screws, nuts)</li> </ul> <p>B. Other requirements</p> <ul style="list-style-type: none"> <li>- detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA</li> <li>- supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production</li> <li>- at least 1 year warranty</li> <li>- supplier should provide support under warranty period</li> </ul> <p>C. Packaging</p> <ul style="list-style-type: none"> <li>- all aluminum parts and fasteners (excluding U-bolts and clamps) must be properly assembled according to end-user's drawing</li> <li>- each set must be properly packed and delivered according to:</li> </ul> <p>A. Rain bracket set B. U-bolt and saddle clamp set</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>- Prices inclusive of government fees, taxes and duties</li> <li>- Delivery: 45 days upon receipt of NTP</li> </ul>				
7	<p><b>Mechanical Mountings for Alerting Station</b> 2 lots charged to LGU-Tabaco</p> <p>1. General Station Mountings I. Solar Panel Holder and Bracket A. General Specifications</p> <ul style="list-style-type: none"> <li>- Material: Stainless Steel</li> <li>- refer to attached drawing for full specifications</li> <li>- complete with stainless fasteners(u-bolts, washers,</li> </ul>	2	lot	10000.00	20,000.00

	<p>screws, nuts)</p> <ul style="list-style-type: none"> <li>- detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA</li> <li>- supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production</li> <li>- at least 1 year warranty</li> <li>- supplier should provide support under warranty period</li> </ul> <p>B. Packaging</p> <ul style="list-style-type: none"> <li>- all metal parts and fasteners must be properly assembled according to end-user's drawing</li> <li>- complete assembled parts must be properly packed</li> </ul> <p>II. Enclosure Box Bracket</p> <p>A. General specifications</p> <ul style="list-style-type: none"> <li>- Material: 1.5in x 1.5in Stainless Steel Angle Bar</li> <li>- refer to attached drawing for full specifications</li> <li>- complete with stainless fasteners (u-bolts, washers, screws, nuts)</li> </ul> <p>B. Other requirements</p> <ul style="list-style-type: none"> <li>- detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA</li> <li>- supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production</li> <li>- at least 1 year warranty</li> <li>- supplier should provide support under warranty period</li> </ul> <p>C. Packaging</p> <ul style="list-style-type: none"> <li>- all metal parts and fasteners must be properly assembled according to end-user's drawing</li> <li>- complete assembled parts must be properly packed</li> </ul> <p>2. Alerting Station Mountings</p> <p>I. Beacon Cage</p> <ul style="list-style-type: none"> <li>- Material: Stainless Steel Rod, 1/8"</li> <li>- complete with stainless fasteners(hex bolts, washers, screws, nuts)</li> <li>- refer to attached drawing</li> </ul> <p>II. Beacon Cage base</p> <ul style="list-style-type: none"> <li>- 1.2mm S.S. Sheet (304)</li> <li>- 2mm S.S. Sheet (304)</li> <li>- refer to attached drawing for full specifications</li> </ul> <p>III. Electronic Siren Holder</p> <p>GENERAL:</p> <ul style="list-style-type: none"> <li>- Material: Stainless Steel</li> <li>- refer to attached drawing for full specifications</li> <li>- complete with stainless fasteners(Hex bolts, washers, screws, nuts)</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>- Prices inclusive of government fees, taxes and duties</li> <li>- Delivery: 45 days upon receipt of NTP</li> </ul>				
8	<p><b>Alerting Siren</b> 6 units charged to LGU-Tabaco</p> <p>A. Features</p> <ul style="list-style-type: none"> <li>- This alerting-siren enables the recording of any type of content such as voice or music that can be played back at CD quality output at SPL to 112dB(A) at 1</li> </ul>	6	unit	16000.00	96,000.00 /

metre. This content can be reproduced repeatedly, alternating with or without one of the built-in 45 alarm tones. The alarm tone notification has an output of up to 126dB(A) at 1 metre. For multiple unit installations the recording process is only required once to create a master unit which can then be used to program all other units on the system, guaranteeing synchronisation during playback, using the supplied 'Synch' cable.

**B. Specifications**

- Voice content output: 111dB(A) @ 1 metre (min)
- Music content output: 112dB(A) @ 1 metre (min)
- Alarm tone output: 126dB(A) @ 1 metre (min)
- No. of alarm tones: 45 (UKOOA/PFEER compliant)
- No. of messages: 4 (30 seconds each) (min)
- Volume controls: Independent controls for user recorded content and built-in alarm tones
- Effective range: 300m @ 1KHz (min)
- Voltages DC: 12-30Vdc
- Ingress protection: Type 4 / 4X / 3R / 13, IP66
- Rating: Continuous
- Housing material: UL94V0 & 5VA FR ABS
- Housing colour: RAL3000 Red or RAL7038 Red
- Fixings: Stainless Steel
- Cable entries: 2 x M20 clearance gland entries
- Terminals: 0.5 to 2.5mm<sup>2</sup>
- Operating temp: -25° to +55°C
- Storage temp: -40° to +70°C
- Relative humidity: 90% at 20°C
- Weight : DC: 2.10kg
- At least 2 years of warranty

**Notes:**

- End-user may request for a demonstration with the winning bidder before the actual delivery.
- Winning bidder must provide two (2) samples of connectors of actual unit for approval by the end-user prior to delivery. If approved by end-user, one (1) sample will be retained as reference for the units to be delivered.
- Must be delivered to ASTI
- Must be compatible to ASTI-ARQ datalogger
- Delivery: Thirty (45) days upon issuance of NTP
- Price is inclusive of government duties and taxes and other fees.

9	<p><b>Beacon</b> 2 units charged to LGU-Tabaco</p> <ul style="list-style-type: none"> <li>- Bright LED Beacon with low power consumption</li> <li>- Multi-Voltage: 12VDC / 24VDC</li> <li>- Current Rating (maximum) : 230mA / 110mA</li> <li>- Flash Rate (per Minute) : 65</li> <li>- Flash Pattern : 6 burst per flash</li> <li>- Diameter : 147mm</li> <li>- Length / Height :160mm</li> <li>- IP Rating : IP65</li> <li>- Colour : Red</li> <li>- Operating Temp : -20°C to + 50°C</li> <li>- At least one year warranty</li> </ul>	2	1 unit	9000.00	18,000.00
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	<p>Notes:</p> <ul style="list-style-type: none"> <li>- End-user may request for a demonstration with the winning bidder before the actual delivery.</li> <li>- Winning bidder must provide two (2) samples of connectors of actual unit for approval by the end-user prior to delivery. If approved by end-user, one (1) sample will be retained as reference for the units to be delivered.</li> <li>- Must be delivered to ASTI</li> <li>- Must be compatible to ASTI-ARQ datalogger</li> <li>- Delivery: Thirty (45) days upon issuance of NTP</li> <li>- Price is inclusive of government duties and taxes and other fees.</li> </ul>				
10	<p><b>Multiparameter Weather Sensor</b> Charged to Apayao</p> <p>A. TECHNICAL DATA</p> <ol style="list-style-type: none"> <li>1. All- in-one weather sensor with integrated electronic compass</li> <li>2. Measures: wind speed, wind direction, air pressure, temperature, relative humidity, solar radiation</li> <li>3. Dimensions: <ul style="list-style-type: none"> <li>- Diameter: approx. 150 mm</li> <li>- Height: approx 332 mm</li> <li>- Weight: 1.35kg to 1.65kg</li> </ul> </li> <li>4. Temperature <ul style="list-style-type: none"> <li>- Principle: NTC</li> <li>- Measuring range: -50 to 60 ° C</li> <li>- Accuracy: if temperature is -20°C to +50°C, accuracy must be ±0.2 ° otherwise ±0.5 ° C (&gt; -30 ° C)</li> </ul> </li> <li>5. Relative humidity <ul style="list-style-type: none"> <li>- Principle: Capacitive</li> <li>- Measuring range: 0 to 100 % RH</li> <li>- Accuracy: ±2 % RH</li> </ul> </li> <li>6. Air pressure <ul style="list-style-type: none"> <li>- Principle: MEMS Capacitive</li> <li>- Measuring range: 300 to 1200 hPa</li> <li>- Accuracy: ±0.5 hPa (0 to + 40 ° C)</li> </ul> </li> <li>7. Wind direction <ul style="list-style-type: none"> <li>- Principle: Ultrasonic</li> <li>- Measuring range: 0 to 359.9 ° C</li> <li>- Accuracy: 1.0m/s</li> </ul> </li> <li>8. Wind speed <ul style="list-style-type: none"> <li>- Principle: Ultrasonic</li> <li>- Measuring range: 0 to 60 m/s</li> <li>- Accuracy: ±0.3 m/s or ±3 %(0 to 35 m/s) RMS of reading, whichever is greater ±5 % (&gt; 35 m/s) RMS</li> </ul> </li> <li>9. Radiation <ul style="list-style-type: none"> <li>- Response Time (95%): &lt;18s</li> <li>- Non-stability (change/year): &lt;1%</li> <li>- Non-linearity (0 to 1,000 W/m2): &lt;1%</li> </ul> </li> </ol>	1	unit	225000.00	225,000.00

- Directional error (at 80° with 1,000W/m2): <20W/m2
- Temperature dependence of sensitivity: <5% (-10 to +40°C)
- Tilt error (at 1,000W/m2): <1%
- Spectral range (50% points): 300 to 2,800nm
- Maximum irradiance : 1,400W/m2
- General Information
- Heating: 20 VA at 24 VDC
- Protection type housing: IP66
- Interface: SD1-12
- Operating Power Consumption: 24VDC +/-10%
- Operating humidity range: 0 to 100 %
- Op. temperature range: -50 to 60 °C

B. Accessories:

1. Customized 2 meters shielded cable terminated both sides with waterproof M12, 8pin, female plug connector
2. Matching male connector (receptacle) with pre-soldered multi-colored wires, 180mm in length, receptacle must be waterproof, panel rear entry and front fastened, max mounting cutout should not be more than 12mm in diameter.

Wire specs:

- AWG - 26-20
- Voltage Rating - 30V (at max)
- Current Rating: 2A (at max)

C. Maintenance:

1. Supplier should provide quote for factory recalibration
2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services

D. Notes:

1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery.
2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.
3. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered and as part of the full delivery.
4. Supplied with comprehensive, traceable, calibration certificates
5. Supplier must provide product brochures
6. At least 2 years warranty of parts and services
7. Must be delivered to ASTI
8. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter

E. Others:

1. Delivery: Thirty (30) days upon issuance of NTP
2. Price is inclusive of government duties and taxes and other fees.



	3. Payment upon full delivery				
11	<p><b>Soil Moisture and Temperature Sensor</b> Charged to Apayao</p> <p>A. General</p> <ol style="list-style-type: none"> <li>Three-probe sensor</li> <li>Measures the following soil parameters: <ul style="list-style-type: none"> <li>- moisture</li> <li>- temperature</li> <li>- electric conductivity</li> </ul> </li> <li>Dielectric measurement frequency(70MHz)</li> <li>Volumetric Water Content (VWC): Using Topp equation: <math>\pm 0.03 \text{m}^3/\text{m}^3</math> (<math>\pm 3\%</math> VWC) typical in mineral soils that have solution electrical conductivity <math>&lt; 10 \text{dS/m}</math> Using medium specific calibration, <math>\pm 0.01 - 0.02 \text{m}^3/\text{m}^3</math> (<math>\pm 1-2\%</math> VWC) in any porous medium Temperature: <math>\pm 1^\circ \text{C}</math></li> <li>Resolution VWC: <math>0.0008 \text{m}^3/\text{m}^3</math> (0.08% VWC) from 0 to 50% VWC 0.25% VWC (rockwool) Temperature: <math>0.1^\circ \text{C}</math></li> <li>Range EC: <math>0-23 \text{dS/m}</math> (bulk) Temperature: <math>-40-50^\circ \text{C}</math> Dimensions: <math>10 \times 3.2 \times 0.7 \text{cm}</math> Cable: 5m, customized cabling with waterproof connector, 3-pin Measurement: 150 ms</li> <li>Time Power: 3.6-15 VDC, 0.3mA quiescent, 10mA during 150ms measurement Output: SDI-12</li> </ol> <p>B. Maintenance:</p> <ol style="list-style-type: none"> <li>Supplier should provide quote for factory recalibration</li> <li>Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services</li> </ol> <p>C. Notes:</p> <ol style="list-style-type: none"> <li>End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</li> <li>LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</li> <li>Supplied with comprehensive, traceable, calibration certificates</li> <li>Supplier must provide product brochures</li> <li>At least 2 years warranty of parts and services</li> <li>Must be delivered to ASTI</li> <li>Must be compatible to ASTI-ARQ datalogger connectors and firmware 3.0 and latter</li> </ol>	2	unit	20000.00	40,000.00

	<p>D. Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>				
12	<p><b>Sunshine Duration Sensor</b> Charged to Apayao</p> <p>A. General: Measures solar radiation through a high quality glass tube No moving parts uses 3 photo-diodes with specially designed diffusers operates from 12 VDC power and has two levels of built-in heating to dissipate rain, snow and frost Specification Spectral range: 400 to 1100 nm Operating temperature range: -40 to +70 °C Sunshine signal: 1 ±0.1 V (direct radiation &gt; 120 W/m<sup>2</sup>) Accuracy: &gt; 90% (monthly sunshine hours) Accuracy : &gt; 90% (direct signal for clear sky) Analogue output signal : 1 mV/Wm<sup>2</sup> Non-stability: &lt; 2 % change per year Temperature dependence: &lt; 0.1 %/ °C Response time: &lt; 1 m s Power supply: 12 VDC</p> <p>B. Accessories: 1. Shielded 3meters M8 cable, connectors on both ends 2. Mating connector assembly for the cable above with the ff. specs: - panel mount, rear entry (to be placed on panel with 3mm wall thickness) - with soldered hook-up wires, multi-colored(same colors as for the cable) - waterproof, IP67 **supplier must provide detailed mechanical drawing and datasheet of the connectors for approval by the end-user prior to production 3. Must include drying Two(2) pcs Drying Cartridges good for three(3) years 4. Detailed Operation and Installation Manual</p> <p>C. Maintenance: - Supplier should provide quote for factory recalibration - Supplier should provide provision for 24-hour response time and Thirty(30) calendar days turn around time for repair services</p> <p>D. Notes: 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</p>	1	unit	165000.00	165,000.00

	<p>2. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered and as part of the full delivery.</p> <p>3. Supplied with comprehensive, traceable, calibration certificates</p> <p>4. At least 2 years warranty of parts and services</p> <p>5. Must be delivered to ASTI</p> <p>6. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter</p> <p>E. Others:</p> <p>1. Delivery: Thirty (30) days upon issuance of NTP</p> <p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>						
13	<p><b>Mechanical Mountings for Agromet</b> Charged to Apayao</p> <p>1. General Station Mountings I. Solar Panel Holder and Bracket A. General Specifications - Material: Stainless Steel - refer to attached drawing for full specifications - complete with stainless fasteners(u-bolts, washers, screws, nuts) - detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA - supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production - at least 1 year warranty - supplier should provide support under warranty period B. Packaging - all metal parts and fasteners must be properly assembled according to end-user's drawing - complete assembled parts must be properly packed II. Enclosure Box Bracket A. General specifications - Material: 1.5in x 1.5in Stainless Steel Angle Bar - refer to attached drawing for full specifications - complete with stainless fasteners (u-bolts, washers, screws, nuts) B. Other requirements - detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA - supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production - at least 1 year warranty - supplier should provide support under warranty period C. Packaging - all metal parts and fasteners must be properly assembled according to end-user's drawing - complete assembled parts must be properly packed</p>	1	lot	10000,00		10,000.00	

	<p>2. Agromet Mountings</p> <p>I. Crossarm</p> <ul style="list-style-type: none"> <li>- material: hot-dipped galvanized, painted</li> <li>- to be fabricated according to drawing (available upon request)</li> <li>- all galvanization treatment must be class A</li> <li>- includes square clamps, brace clamps and z-channels</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>- Prices inclusive of government fees, taxes and duties</li> <li>- Delivery: 45 days upon receipt of NTP</li> </ul>				
14	<p><b>Rain Gauge</b></p> <p>Type: Tipping Bucket Rain Gauge with syphon mechanism</p> <p>Receiver: 200 mm +/- 0.3 diameter heavy duty cast aluminium, Powder coated or gold plated</p> <p>Bucket capacity: 0.2mm of rainfall per tip</p> <p>Maximum intensity: 700 mm / hr.</p> <p>Calibration accuracy: 0-250mm/hr - +/-2%</p> <p>250-500mm/hr - +/-3%</p> <p>Humidity: 0 to 100 %</p> <p>Temperature: - 20 to +70°C</p> <p>Contact system: dual reed switches potted in soft silicon rubber with varistor protection.</p> <ul style="list-style-type: none"> <li>- Max Capacity: 24 Volts (0.5 amp max.)</li> <li>- Resistance: Initial contact resistance 0.1 OHMS</li> <li>- M.T.B.F: 108 to 109 Operations</li> </ul> <p>Syphon: 0.4 mm (12 ml) capacity of rainfall - made from brass with a non hydroscopic outer case; can be dismantled for routine cleaning and servicing</p> <p>Bucket: injection moulded non hydro-scopic plastic ABS UV stabilised balanced ±0.05 gms for 0.2mm, 0.5mm and 0.01</p> <p>Base: injection moulded non-hydroscopic ABS plastic UV stabilised.</p> <p>Level: bulls eye level fitted to base.</p> <p>Mounting holes: three 10 mm diameter mounting holes with 117 mm p.c.d.</p> <p>cast in feet attached to outside diameter of base.</p> <p>Drain fittings: to attach 12 mm inside diameter tubing, to catch rainfall after passing through buckets.</p> <p>Pivots: two stainless spring steel rolling bearings, clamped at 90 degrees to bucket stainless spring steel axle.</p> <p>Insect covers: stainless steel mesh on all openings to prevent insects and ants entering gauge.</p> <p>Outer enclosure: keyed to enable the release of the outer enclosure without the need for the removal of the three securing screws.</p> <p>Height / Weight: 330mm / 2 kg</p> <p>Dimensions: 4 kg 0.03m<sup>3</sup></p> <p>Accessories:</p> <ol style="list-style-type: none"> <li>1. Customized 2-wire, at least 3m cable terminated with waterproof M8 connector</li> <li>2. Matching connector (receptacle) with pre-soldered</li> </ol>	1	unit	45000.00	45,000.00

	<p>wires, 180mm in length, receptacle must be waterproof,  panel rear entry and front fastened, max mounting cutout should not be more than 12mm in diameter.  * Mechanical/manufacturing drawings must be approved by end-user before production  Notes:  At least 1 year warranty  Prices are inclusive of government fees, taxes and duties  Delivery: 45 days upon receipt of NTP</p>				
15	<p><b>Mechanical Mountings</b>  Charged to LGU-Roxas</p> <p>1. General Station Mountings  I. Solar Panel Holder and Bracket  A. General Specifications  - Material: Stainless Steel  - refer to attached drawing for full specifications  - complete with stainless fasteners(u-bolts, washers, screws, nuts)  - detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA  - supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production  - at least 1 year warranty  - supplier should provide support under warranty period  B. Packaging  - all metal parts and fasteners must be properly assembled according to end-user's drawing  - complete assembled parts must be properly packed  II. Enclosure Box Bracket  A. General specifications  - Material: 1.5in x 1.5in Stainless Steel Angle Bar  - refer to attached drawing for full specifications  - complete with stainless fasteners (u-bolts, washers, screws, nuts)  B. Other requirements  - detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA  - supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production  - at least 1 year warranty  - supplier should provide support under warranty period  C. Packaging  - all metal parts and fasteners must be properly assembled according to end-user's drawing  - complete assembled parts must be properly packed</p> <p>2. Tandem Mountings  I. Water Level Sensor Housing and Bracket  - housing material: anodized aluminum  - bracket material: stainless steel with powder coating, thickness:  3mm  - includes with the ff. stainless fasteners (individually</p>	1	lot	10000.00	10,000.00

packed in clear plastic per set)

- 2 set of 5/16 inches (D) x 3 inches (H) hex bolts each with nuts, flat and lock washer
- fabricated according to drawing ( available upon request)
- sample and detailed drawing with BOM must be submitted and must be approved before production
- properly packed with label and boxed with corrugated carton

II. Crossarm

- material: hot-dipped galvanized, painted
- to be fabricated according to drawing (available upon request)
- all galvanization treatment must be class A
- includes square clamps, brace clamps and z-channels

III. Rain Gauge Bracket

A. General Specifications

- refer to attached drawing
- material: anodized aluminum, 2.25 thick (min)
- complete with stainless fasteners(U-bolts, saddle clamps, hex bolts, washers, screws, nuts)

B. Other requirements

- detailed manufacturing drawing with BOM will be submitted by the end-user upon signing of an NDA
- supplier must provide at least one prototype design based on approved BOM and prototype must be approved by the end-user before mass production
- at least 1 year warranty
- supplier should provide support under warranty period

C. Packaging

- all aluminum parts and fasteners (excluding U-bolts and clamps) must be properly assembled according to end-user's drawing
- each set must be properly packed and delivered according to:

A. Rain bracket set  
B. U-bolt and saddle clamp set

Notes:

- Prices inclusive of government fees, taxes and duties
- Delivery: 45 days upon receipt of NTP

**TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):**

**Php 1,771,500.00**

**RESERVATION CLAUSE**

The Advanced Science and Technology Institute reserves the right to accept or reject any proposal, to annul the bidding process, and to reject all proposals at any time prior to contract award, without thereby incurring any liability to the affected proponent or proponents.

### Procurement Timelines - Goods

This is the earliest possible time.

BETA VERSION 2.0

Select date to begin with: 07/17/2019

Compute/Reset to Earliest Possible Time

Start Over

Procurement Stage	Start Date	End Date	Add days
Advertisement :	07/17/2019	07/24/2019	
Pre-bid Conference : Conduct? <input checked="" type="radio"/> Yes <input type="radio"/> No	07/25/2019	07/25/2019	<input type="button" value="Update"/>
Submission of Bids :	08/06/2019	08/06/2019	<input type="button" value="Update"/>
Bid Evaluation :	08/07/2019	08/07/2019	<input type="button" value="Update"/>
Post-qualification :	08/08/2019	08/08/2019	<input type="button" value="Update"/>
Issuance of Notice of Award :	08/09/2019	08/09/2019	<input type="button" value="Update"/>
Contract Preparation and Signing :	08/10/2019	08/10/2019	<input type="button" value="Update"/>
Approval by Higher Authority : Necessary? <input checked="" type="radio"/> Yes <input type="radio"/> No	08/11/2019	08/11/2019	<input type="button" value="Update"/>
Issuance of Notice to Proceed :	08/12/2019	08/12/2019	<input type="button" value="Update"/>

→ Wednesday

Compute for the Latest Allowable Time

User's Guide

Found errors? Tell us.

Clarification - 27 July 2019  
Bid Bulletin - 30 July 2019