TERMS OF REFERENCE
REGION X - EL SALVADOR CITY
ENHANCED ICT INFRASTRUCTURE IN-BUILDING SOLUTION PROJECT

I.   RATIONALE

The Department of Education (DepEd) Division Office serves as the hub for collaboration and communication among its stakeholders including administrators, division heads, school principals and teachers. It is an arm of DepEd which supports the implementation of the programs and projects for the Basic Education sector. Therefore, its role in the provision of services to support the delivery of Basic Education is crucial. We must ensure that all personnel directly and indirectly involved in the delivery of Basic Education is supported with the appropriate technological environment to ensure efficient and effective service.

The Division of El Salvador City is implementing a phase-by-phase development of its ICT Infrastructure to support the role that the Division is playing in the Department of Education. In its third phase of implementation, there are remaining systems that are not yet implemented which will be included in this project.

Considering this, a risk assessment was conducted, and it was determined that the installation of the following is necessary:

1. Setup server which can serve as domain controller and create active directory to create users, build security groups and set access rights per user in the network in compliance to network standards.
2. Enhance the existing IP Telephone System to support the various sections of the Division Office.
3. Setup display equipment in the conference room and Library Hub to facilitate the conduct of meetings and presentations needed to facilitate the implementation of different programs and projects in the Division of El Salvador City.
4. Procure tools needed to maintain the ICT Infrastructure of the Division and facilitate the installation of various equipment and components needed to implement a relevant technological environment.
5. Setup Uninterrupted Supply to protect various equipment connected and ensure longevity of the appliances.
6. Setup Biometric System using Facial Recognition technology to lessen contact of personnel from each other. And its software must be able to print using the prescribed CSC Format. Connect the system in the network.

7. Upgrade the existing network setup to accommodate more devices in the network. Repair the LAN connection of 2 existing Access Point and add ethernet connection to the Dental Office.
8. Procure laptops to be used by the personnel in the Division of El Salvador City to support the day-to-day transactions.
9. Procure printers to be used by the personnel in the Division of El Salvador City to support the day-to-day transactions.

This project aims to equip the Division Office of El Salvador City with the necessary ICT infrastructure to maintain efficient and effective network connectivity, supporting the various activities of educators in the division. The goal is to provide a secure and reliable platform for communication and collaboration among all stakeholders.

II. OBJECTIVES

General objective:
● To upgrade and modernize the existing network infrastructure of the Department of Education – Division of El Salvador City to provide a secure and reliable platform for communication and collaboration among all stakeholders, support online interactions, and efficiently support the various activities of educators in the schools and others.
● To implement support systems that will improve overall ICT infrastructure reliability and mitigate possible downtime of connectivity.

III. QUALIFICATION REQUIREMENTS

A. The prospective bidder shall be involved in System Integration and shall have at least 10 years' experience in undertaking similar project. Must attached proof.
B. To guarantee the responsiveness of the winning bidder for after-sales support, the bidder/participant shall preferably have a local partner in Cagayan de Oro City or nearest city and shall provide names and contact details of the persons responsible.
C. All bidding participants should provide the implementation/project organizational structure of their project implementation team including roles, necessary information, and among others which usually consists of key management personnel like project manager, network designers, laborer, data cablers, installers, among others.
D. Technicians or installers should be Industry-Certified Professionals or Network Cabling-Certified Installer from any Cabling System Manufacturer for Copper and Fiber Solutions and shall present necessary proof thereof.
E. Actual site inspections and assessment by interested participants can be allowed during pre-bid conference and prior to dropping and opening of bids.
F. Certification that the prospective bidder has conducted site survey to ensure correctness of distance and placement of equipment.
G. Must have Employees at least one (ECE) Electronic Communications Engineer and (REE) Registered Electrical Engineer.
H. The Prospective bidder must ensure that they have trained personnel on the devices included in the project to ensure that transfer of knowledge and configuration will be smooth and successful.
I. Other documentary requirements to be submitted by the bidder:

1) Certification of After Sales Support for the Network equipment indicating the Support should include online, telephone support, on-call, on-site and replacement if the hardware that is defective is under warranty.
2) Brochures or Technical Data Sheet or equivalent document for the following:
   a) Active Networking Devices
   b) Category 6 UTP
   c) Other Equipment included in the Bill of Materials
3) Items/equipment showing compliance with the required Technical Specifications:
   a) Active Networking Devices
   b) Category 6 UTP
   c) Other Equipment included in the Bill of Materials
4) Proposed design, configuration, and specification of offered design, systems and technology shall show compliance, compatibility, and best fit to the desired systems subject for evaluation of the procuring entity.

The Prospective bidder shall complete the delivery and installation of work within sixty (45) calendar days from date of receipt or Notice to Proceed.

The completion schedule provided shall be considered extended under the following:

A. Delays caused by force majeure events.
B. Delays caused by special cases and events beyond the control of the contractor, subject for evaluation and approval by DepEd – El Salvador City Division Office.
C. In all cases, the period or number of days of extension shall be agreed upon with the DepEd – El Salvador City Division Office in writing.
D. Claims for time extension of the contract period due to force majeure shall be subject to approval by the DepEd – El Salvador City Division Office.

The prospective bidder shall guarantee that the entire structured cabling and networks are free from all defective workmanship and materials, and will remain so for the period of:
1. Minimum Two (2) Year Warranty on Active Components with the exception of the server which should come with at least 3 years warranty.
2. Minimum One (1) Year Warranty on Workmanship

DepEd – El Salvador City Division Office shall not be responsible for lack of materials and equipment to be supplied by the winning Bidder. It shall be the sole responsibility of the winning bidder to assess and re-assess on the Materials to be supplied to the Agency and shall be DepEd – El Salvador City Division Office's property.

IV. DUTIES AND RESPONSIBILITIES OF THE PROSPECTIVE BIDDER

A. **Scope of Work and Activities**

The prospective bidder shall furnish all equipment, labor, materials, tools, and perform all operations necessary to complete the supply, delivery, installation, testing and commissioning of **All Goods and Services indicated in the Bill of Materials included in the Procurement of Network Infrastructure or Rehabilitation of Existing Network Infrastructure In-Building Solution** of DEPED EL SALVADOR CITY DIVISION OFFICE. The prospective bidder must provide demonstration and training for IT Personnel. The Prospective bidder shall provide warranty service within the warranty period. Provision

of upgrades and patches to be installed must be free of charge during the warranty period. Bidder shall be responsible for all the cost related to the warranty period for hardware products.

C. Installation

1) Supply, deliver and install the required components as specified in the Terms and Reference of the project.
2) Winning bidder in close coordination with DEPED – EL SALVADOR CITY DIVISION OFFICE project manager is given the flexibility on their technical design on how the cable will route along ramps, walls, ceilings, and beams for practicality.
3) All installations of cables, peripherals, accessories, or electrical wires are expected to be neat, clean, or concealed using metal, aluminum, or plastic molding or concealer.
4) Whenever necessary, winning bidder may use metal post or metal pole enough to carry weight of the cables and its tensions. Post/Pole vertical clearance should be high enough not to be disturbed by possible highest passing vehicle especially those encompassing/crossing public streets or road right of way.

D. Post-Installation

1) Restore damages to property caused by excavation, installation, maintenance and/or removal of cabling equipment and other procedures conducted by the prospective bidder to accomplish the project.
2) Conduct free training for IT personnel of DEPED – EL SALVADOR CITY DIVISION OFFICE on the basic maintenance and operational requirements of structured cabling and the equipment.
3) Provide at least one (1) copy of the technical manual/documentation (English) in printed hard copy and electronic (soft copy) formats. The documents include Cabling and equipment installation, operation, configuration, and testing.
4) Render support services to DEPED – EL SALVADOR CITY DIVISION OFFICE within the warranty period as follow:

    i. Technical support will be provided through phone calls or email within regular working hours from Monday to Friday, 8:00AM to 5:00PM
    ii. Supplier must be able to respond 2 hours onsite when critical issue arises.
    iii. Supplier must have a local office in Cagayan de Oro City.
    iv. If the supplied equipment is found defective and need to be pulled out, the prospective bidder shall provide replacement with the same or higher specifications.
    v. Rectify and or/replace any part that fail to pass any test/inspection or make alteration necessary to meet the specification.
    vi. Responsible and accountable for any damage caused solely by the Prospective bidder or its agent to the DEPED – EL SALVADOR CITY DIVISION OFFICE Building as a direct result of the installation maintenance, and removal of any cabling components and devices.

V. DUTIES AND RESPONSIBILITIES OF DEPED – Division of El Salvador City

A. Assist prospective bidders during the conduct of Site Survey.
B. Grant the Prospective bidder authorized representative access to its premises and facilities located therein to perform its obligations, provided that such representative

shall be accompanied by the duly assigned DEPED – EL SALVADOR CITY DIVISION OFFICE personnel.

C. Reject any unit or any part thereof that fail to pass any test and/or inspection or do not conform to specifications.

D. Pay the Prospective bidder in accordance with condition set in the Payment Scheme.

E. Issue a Certification of Inspection and Acceptance upon determination by the Division IT Officer and Inspectorate Team that the delivered and installed equipment and components are usable and in good working condition.

VI. BILL OF MATERIALS & TECHNICAL SPECIFICATIONS

Please refer to "Annex B" for the complete Bill of Materials.

Agency Endorsement:

We, the undersigned, have reviewed and endorsed the proposal for the project as described above.

PREPARED BY:

SHERRIE R. DUNGOG
Information and Technology Officer - I
Signature Over Printed Name and Date

APPROVED BY:

RANDOLPH B. TORTOLA
Schools Division Superintendent
Signature Over Printed Name and Date

Annexes:

Annex A: Summary of Ports
Annex B: Bill of Materials and Specification

ANNEX A: SUMMARY OF PORTS

BUILDING	OFFICE	DATA	AP	IP PHONE
DIAMOND	Doc Nurus	1		
	COA			1
	ICT			1
RUBY BUILDING	ADAS		1	
	BUDGET		1	

ANNEX B: BILL OF MATERIALS AND SPECIFICATION

NO	ITEM	DETAILS	UNIT	QTY
1	SERVER	Processor: Intel Xeon E-2234 4C/8T (3.60GHz) Processor | Memory: 16GB DDR4-2666 ECC UDIMM or higher | Storage: 600gb HDD 10k RPM | Graphics: ASPEED AST2500 BMC (2D Controller) | NOTE: 4 x DIMM slots | Network Controller: Dual 1GbE LAN with IntelÂ® I210 | Storage Controller: 4-port 9341-4i 12Gb/s SAS RAID Card (MegaRAID SAS 9341-4i) HW RAID 0/1/10/5/50 | Internal Storage: 4 x 3.5 hot-swappable bays + 1 x 2.5 | Fixed Internal bay | Power Supply: 300W Fixed Power Supply Management: IPMI2.0, KVM with dedicated LAN | I/O Ports: Front: 2 x USB 3.2 Gen1 | Rear: 2 x USB 3.2 Gen 1, 2 x USB 2.0, 1 x COM port, 1 x VGA Port, 1 x RJ45 Dedicated IPMI LAN, 2 x RJ45 Ethernet LAN ports | Others: Sliding Rail Kit | Dimension: (D x W x H) 711 x 482.6 x 44.4 (mm) | Hard Drive - (Slot 1: 512 GB SSD Slot 2-4: 2 TB HDD or Higher)	UNIT	1
2	SERVER MANAGEMENT CONSOLE	Windows 11 | AMD Ryzen 7 5800HX (8 Cores, 16 Threads) | 16GB DDR4 3200Mhz |1TB SSD |RTX 3070 8GB |15.6" FHD IPS 300Hz	UNIT	1
3	Uninterrupted Power Supply (UPS)	Uninterrupted Power Supply | 3000VA | 2700W | Input: C20, Outputs: (8) C13, (l) C19, Rack, 2U | Battery type: Sealed, lead-acid | Battery replacement: Hot-swappable internal batteries and extended battery modules (EBMs) | Battery quantity: 6 | Battery management: ABM & Temperature compensated charging method (user selectable), Automatic battery test, Deep discharge protection, Automatic recognition of external battery units) | Battery rating: 12 V / 9 Ah | Extended battery capability: Yes | Input connection: C20 | Input nominal voltage: 230V default (200/208/220/230/240/250V) | Nominal frequency: 50/60 Hz | Input power factor: >.99 | Input cord length: 1.8m | Input voltage range: 200-276 Vac without derating (up to 140-276 Vac with derating) | Input frequency range: 40-70 Hz| Receptacle: (8) C13, (1) C19 | Voltage: 230V | Wattage:2700 W | Output power factor: 0.9 | Output voltage range: 200/208/220/230/240 V +/- 2% | Output waveform: Sine wave | Output nominal voltage: 230V default (200/208/220/230/240V)| Voltage distortion output (linear load) - max: 3 | Feed type: 1 | Topology: Online/Double-conversion | VA rating:3000 VA | Communication: USB port (HID compliant), Serial port (RS232), Mini-terminal block for remote power off, Mini-terminal block for output relay, Dry contacts (2 outputs, 1 input, optocoupler, DB9) | User interface: Multilingual graphical LCD display | Potential free switch contact: Yes | Expansion slots: One slot for optional communication card | Package contents: UPS, Input cable, (2) IEC-IEC output cables, USB cable, Serial cable, (2) brackets for 19' mounting, (2) Rack-mounting kit, Safety instructions, Quickstart guide | Phase (output): 1 | Internal bypass: Yes | Auto shutdown function: Yes | Color: Black | Efficiency: 92 | Rack mounting kit: Yes | Phase (input): 1 |	UNIT	1
4	External Battery Module	External Battery Module for UPS specified with 2000VA/3000VA that works with the UPS specified in Item 3.	UNIT	1

5	FACIAL BIOMETRIC	Facial Recognition Biometric | Face Capacity 1,500.00 | Card Capacity 2,000.00 | Record Capacity 100,000.00 | Display 2.8-inch TFT Screen | Communication TCP/IP, USB-Host, Wi-Fi (Optional) | Standard Functions SMS, DST, Schedule-bell, Self-Service | Query, Automatic Status Switch, T9, Input, Photo ID, Camera, Multi-verification, RS232 Printer (Optional Cable)| Interface for Access Control 3rd Party Electric Lock, Exit Button, Alarm | Optional Functions ID / MF Card, Work Code, ADMS | Power Supply DC 12V 1.5A |Dimension 109x165.5x33.2 mm (Length*Width*Thickness) Net Weight 264g | Connect the Biometric in the network | The software of the biometric must be configured or setup to print the attendance following the CSC Form 48 format	Package	2
6	TOOLS	Graphical wire map, length, cable ID, & distance to fault | Micro scanner cable tester, punch down tool, tone generator & probe | Tests all common media types including RJ11, RJ45, & Coax | Locates virtually any cable w/ digital tone & analog toning | Verifies media services: 10/100/1000 Ethernet, POTS, & PoE | Inclusion of the Kit: (Electrician's Snips, Heavy Duty Wire Strippers, Wire and Cable Strippers, Punch Down Tools) | Test connectors: Shielded 8-pin modular jack accepts 8-pin modular (RJ45) and 4-pin modular (RJ11) plugs. MicroScanner2: F-connector for coaxial cable | Power:Battery type: 2 AA (NEDA 15A, IEC LR6) alkaline batteries, Battery life: 20 hours of typical use, Other compatible battery types: 2 AA photo lithium, NIMH, NICAD | Dimensions and weight (with batteries installed and wiremap adapter attached): 3 in x 6.4in x 1.4 in (7.6 cm x 16.3 cm x 3.6 cm) MicroScanner2: 10.6 oz (300 g) MicroScanner PoE: 10.6 oz (300 g) | Display:Monochrome LCD with backlight | Cable test:Measures length, verifies wiremap, identifies remote ID locators, and detects Ethernet ports. MicroScanner PoE also shows HIGH Ω when the resistance of the cable is more than 12.5 Ω. Displays results on one screen | Tone:Generates Intellitone™ and normal analog toning signals | PoE: MicroScanner2: Solicits and detects the presence of 802.3af compatible PoE (Power over Ethernet) devices MicroScanner PoE: Solicits and detects the presence of 802.3af, at, bt, and UPOE (Cisco's Universal Power over Ethernet) compatible PoE devices | Cable types tested: Twisted pair: UTP, FTP, SSTP Coaxial (MicroScanner2): 75 Ω, 50 Ω, 93 Ω | Length test: Range: 460 m (1500 ft),Resolution: 0.3 m (1 ft), Typical accuracy: ± 4% or 0.6 m (2 ft) whichever is greater. NVP uncertainty is an additional error, Calibration: User-settable NVP for twisted pair and coax (MicroScanner2). Can determine actual NVP with known length of cable | Wiremap test : Detects single-wire faults, shorts, miswires, split pairs, and up to seven far-end adapter IDs. The wiremap is drawn with proportional length to visually indicate the approximate location of faults | Ethernet port detection : MicroScanner2: Detects the advertised speed of 802.3 Ethernet ports with speeds of 10 Mbps, 100 Mbps, and 1 Gbps. MicroScanner PoE: Detects the advertised speed of 802.3 Ethernet ports with speeds of 10 Mbps, 100 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. | Tone generator: Generates four tones compatible with typical analog probes. SmartTone™ feature gives positive identification of cables in bundles when using an IntelliTone or an analog probe. | The micro scanner	Package	1

		cable tester, punch down tool, tone generator & probe, electrician snips, heavy duty wire strippers, wire and cable strippers, flashlight and userguide are all placed in one rugged bag with specific compartments for each tool included in the kit.		
7	TOOLS	Pass-Thru Modular Crimper | On-tool wiring guide helps to minimize wiring errors eliminating rework and wasted materials | 2000+ cuts from durable heat-treated blades | Rubber grips for added comfort | Trims flush to end face of connector to eliminate uninteded contact between conductors | Heavy-duty metal frame for durability | Full-cycle rachet mechanism ensures complete connector termination | Cable parameters: 28-22 AWG flat or round; solid or stranded telephone and data | Include Pass-Thru Modular Data Plug, RJ45 CAT6, Gold Plated, Pass Through Connectors 50-pack which easily passes through connector to visually ensure wires are in the correct order for secure connection with hole 1.05 mm max |	Package	1
8	Ladder	22 ft Ladder |Velocity with Ratchet Levelers | Material: Aluminum | Lightweight with wheels | 300 lbs Weight Rating | Multi-position ladder converts to A-frame, extension, trestle-and-plank, 90-degree and staircase with ease | Wide-flared Ratchet leg levelers adjust to reach uneven terrain in seconds | Rock Lock adjusters quickly alter your ladder into different configurations | Tip & Glide wheels for easy transport from job to job | Type IA ladder is rated to hold 300 lbs.	UNIT	1
9	Ladder	Industrial Folding Step Ladder | 150kg Load | 5 steps | Rubber Handle | Contact of the step to the ground is firm	UNIT	1
10	Laptop	Windows 11 Home, Intel Core i3-1215U, 8 GB DDR4, 512GB NVMe SSD, 1 TB HDD, 15.6" Full HD 1920x1080, Intel UHD Graphics for 11th Gen Intel Processors, Microsoft Office 365, bag	UNIT	15
11	Printer	Printer Type: Print, Scan, Copy, Fax with ADF | Print Method: On-demand inkjet (Piezoelectric) | Printer Language: ESC/P-R, ESC/P Raster | Nozzle Configuration: 180 x 1 nozzles Black, 59 x 1 nozzles per Colour (Cyan, Magenta, Yellow) | Maximum Resolution: 5760 x 1440 dpi | Automatic 2-sided Printing: No | Photo Default - 10 x 15 cm / 4 x 6 " *1: Approx. 69 sec per photo (Border) / 90 sec per photo (Borderless)*2 Draft, A4 (Black / Colour): Up to 33 ppm / 15 ppm*2 | ISO 24734, A4 Simplex (Black / Colour):Up to 10 ipm / 5.0 ipm*2 | First Page Out Time from Ready Mode (Black / Colour): Approx. 10 sec / 16 sec*2 | Scan Speed (Flatbed / ADF (Simplex)): 200dpi, Black: 12 sec / Up to 4.5 ipm 200dpi, Colour: 29 sec / Up to 4.5 ipm | ADF Specifications: Support Paper | Thickness: 64 – 95 g/m2 Paper | Capacity: 30 pages (A4), 10 pages (Legal)|	UNIT	2
12	Steel Cabinet	STEEL CABINET : 12U cabinet | 3 shelves |L x W x H (49cm x 52.5cm x 67cm) | 2 directional wheels at the bottom + 2 universal wheels | With Doors and Drawers Mobile Cabinet (With Wheels) | (Aluminum edging, aluminum alloy edging, Amplifier, Mixer, Microphones (Wired and Wireless), Cables, chargers, Glass Cover with Lock, Holes at the back for the cables to get through	Package	1

13	Television	Screen Size: 55" | Display Technology: LED | Display Type: 4K | Display Resolution: 3840 x 2160pixels | Refresh Rate: 60Hz | HDR: HDR10 | Aspect Ration: 16:9 | OS: Google TV | HDMI: 3 | USB: 2.0 | LAN (Ethernet): Yes | 2 years warranty | HDMI: (x3) HDMI1.4, HDMI2.0, HDMI2.1 | USB 2.0: x1 USB3.0 | Ethernet Connection: yes x1 | Composite Video Input (s): yes (AV in ADAPTER) | RF Connection Input(s): yes | Digital Audio Output (s): SPDIF (Optical) | Audio Out: Yes (Headphone) | Headphone Out: Yes | Wifi: 2.4GHz/5GHz dual-band Wi-Fi 802.11 b/g/n 2T2R | Video Search: Youtube, Netflix, BrowseHere, Prime Video, Disney+ Mobile to TV - Mirroring, DLNA: Google Chromecast, Wireless Display | Include wall mount kit	UNIT	1
	Television	Screen Size: 50" | Slim Design TV | 4K QLED | HDR10+, Dolby Vision - | Dolby Atmos | Google TV | H2GB DDR + 16 GB Flash | Wi-Fi 5, Dual Band (2.4G + 5G) | Bluetooth 5.0 | Display Resolution: 3840 x 2160 | Screen Format: 16:9, 4:3, Cinerama, 14:9 zoom, 16:9 zoom, 16:9 zoom up | Picture Mode: Dynamic, Standard, Smart HDR, Sport, Movie (Game, PC)| HDMI: (x3) HDMI1.4, HDMI2.0, HDMI2.1 | USB 2.0: x1 USB3.0 | Ethernet Connection: yes x1 | Composite Video Input (s): yes (AV in ADAPTER) | Wifi: 2.4GHz/5GHz dual-band Wi-Fi 802.11 b/g/n 2T2R | Include wall mount kit	UNIT	1
14	IP Phone	2 Lines, 2 SIP Accounts, PoE | It should have the same feature as the existing IP Phones for interoperability concerns.	UNIT	2
15	HDMI Splitter	HDMI Splitter 1 in 8 Out HDTV 1.4 Ultra High Definition 1080p 4K 30Hz | Black Aluminum Alloy - AFM | Built-in signal amplifier , with 24AWG HDMI cable, can achieve 15m front end 15m long distance stable transmission | ~30m long Distance transmission	UNIT	1
16	HDMI Cable	HDMI Fiber Optic Cable (4K) 20m | 8K Ultra HD | 8K - 60 Hz | 4K - 120 Hz | 3D - Ultra High Speed | It comes with 3 Hook-and-loop fastener that can be wrapped around the cable for management and safekeeping | Preferred Color: Black	UNIT	1
17	HDMI Cable	Ultra Clarity Cables Flat HDMI Cable 35 ft - High Speed HDMI Cord | Supports 4K Video 3D 2160p | HDMI Latest Standard - CL3 Rated | Preferred Color: Black | Include Hook-and-loop fastener for cable management and safekeeping.	UNIT	2
18	HDMI Cable	HDMI Cable (4k) 5m | 4K - 60 Hz | Preferred Color Black Include Hook-and-loop fastener for cable management and safekeeping.	UNIT	1
19	Cable Manager	150pcs Cable Ties Value Pack | Replace Zip Ties with Reusable Straps, Reduce Waste | For Wire Management and Cord Organizer | 8 x 1/2" Thin Pre-Cut Design, Black and Gray	Package	1

20	GSM Gateway VoIP Phone	**GSM Gateway VoIP Phone and Device** Number of Ports: 2 GMS Frequency: 850/900/1800/1900 MHz WCDMA Frequency: 850/1900 MHz, 850/2100 MHz, 900/2100 MHz Protocol: SIP, IAX2 Transport: UDP, TCP, TLS, SRTP LAN: At least 1 10/100 Mbps Ethernet Interface Network: DHCP, DDNS, Firewall, OpenVPN, Static IP, QoS, Static Route, VLAN **Key Features:** 1 Stage/2 Stage Dial | Call Back | Call Duration Limitation | Call Status Display | Carrier Selection: Auto/Manual | Firmware upgrade by HTTP/TFTP | GSM/CDMA/UMTS Ports Group Manage | Incoming /Outgoing Routing rules | Network Attack Alert | Open API for SMS and USSD |PIN Modify Send Bulk SMS | SIP Peer Mode: Support | SIP server for IP phones: Support | SMS Center | System Logs | VoIP Trunk Group | Block List | Balance Alarm | Call Detail Record (CDR) | Call Progress Tone Generation | Call Transfer | Caller ID/CLIR | Configure backup/restore | Gain Adjustment | Hotline | IP Blocklist | NTP | Packet Capture | Real Open API Protocol (Based on Asterisk) | Session Timer | SIP Response Code Switch | SIP Trunk: Support | SMS Sending and Receiving | USSD | Web based configuration	UNIT	1
21	Miscellaneous	Installation, Configuration, Transfer of Knowledge, Cabling materials, cable organizers, wall brackets, , delivery and labor	Package	1
TOTAL : 1,502,000.00				