



Republic of the Philippines
 NATIONAL POLICE COMMISSION
PHILIPPINE NATIONAL POLICE, SPECIAL ACTION FORCE
BIDS AND AWARDS COMMITTEE
 Camp Bagong Diwa, Bicutan, Taguig City



July 11, 2022

SUPPLEMENTAL/BID BULLETIN No. 2022-01

This Supplemental/Bid Bulletin No. 2022-01 is being issued to clarify, modify and/or amend the items contained in the Bid Documents for the bidding of the Supply and Delivery of ICT Equipment for PNP Special Action Force Command Control and Communication (C3) Center at Camp Bagong Diwa, Bicutan, Taguig City.

I. TERM OF REFERENCE

FROM	
XXX	
VI. DETAILED TECHNICAL REQUIREMENT	
ITEM/DESCRIPTION	TECHNICAL SPECIFICATION
Desktop Computers (Must conform with the PNP MC No. 2020-086)	FORM TYPE: Manufacturer's standard <div style="text-align: right;">-same-</div>
	PROCESSOR: 8-core, 3.0 GHz <div style="text-align: right;">-same-</div>
	MEMORY: At least 16 GB <div style="text-align: right;">MEMORY: At least 32 GB</div>
	MONITOR: 22-inch screen size, LED <div style="text-align: right;">-same-</div>
	KEYBOARD / MOUSE: USB keyboard and USB optical mouse <div style="text-align: right;">-same-</div>
	SOFTWARE Latest licensed Operating System Latest licensed Anti-Virus Software (3 years) Latest office Application (Perpetual) <div style="text-align: right;">-same-</div>
	HARD DISK: At least 2 TB <div style="text-align: right;">-same-</div>
	NETWORKING (CONNECTIVITY) On-board Gigabit Ethernet controller Gigabit PCI Network Interface Card WIFI 802.11 ac/ax Bluetooth 4.2 or latest technology <div style="text-align: right;">-same-</div>
	VIDEO CONTROLLER (GRAPHICS): Video card 4 GB <div style="text-align: right;">-same-</div>

	SOUND CONTROLLER: Sound card or on-board sound controller with speaker	-same-
	PORTS/INTERFACES/ STANDARD I/O PORTS <ul style="list-style-type: none"> • At least 4 USB ports • VGA, DVI or HDMI • Latest optical drive • Mic/Headphone combination or separate port 	-same-
	POWER SUPPLY WATTAGE: Minimum of 500 Watts	-same-
	ACCESSORIES <ul style="list-style-type: none"> • 2 TB External Drive • Appropriate Cables for monitors • CD installer/driver • Manual 	-same-
	Other Peripherals <ul style="list-style-type: none"> • 650 VA Uninterruptible Power Supply (UPS) • 720 Web Camera 	Other Peripherals <ul style="list-style-type: none"> • 650 VA Uninterruptible Power Supply (UPS) • 1920 x 1080 @ 60 fps HD Web Camera
		ADDITIONAL REQUIREMENTS <ul style="list-style-type: none"> • Warranty (Parts and Service): At least two (2) years • Brand: At least five (5) years on the market
Multi-Purpose Printer (Must conform with the NAPOLCOM Resolution No. 2016-493)	Type: Inkjet with integrated tank	-same-
	Functions: Print, Scan and copy	-same-
	Ink Colors: Black, Cyan, Yellow and Magenta	-same-
	Ink Capacity (pages yield): <ul style="list-style-type: none"> • Black – 4000 • Colored – 5000 	-same-
	Interface: USB	-same-
	Network Connectivity: Wired and Wireless	-same-
	With Resetting Capability: Manufacturer's standard	-same-
	Printing Resolution in Dots Per Inch (DPI): 4800 x 1200	-same-

	Print Speed in Image per Minute (IPM): <ul style="list-style-type: none"> • Monochrome – 8.8 • Colored – 4.5 	-same-
	Scan Capability: Monochrome and Colored	-same-
	Scanning Resolution (DPI): 600 x 1200	-same-
	Copying Speed (IPM): <ul style="list-style-type: none"> • Monochrome – 2.5 • Colored – 2.5 	-same-
	Accessories: Compatible Software/s and Appropriate Cables	-same-
		Additional Requirements: <ul style="list-style-type: none"> • Brand new • Brand must be at least five (5) years on the market
Workstation Tables		<ul style="list-style-type: none"> • Materials: Formica Laminated Plywood • With Cable management tray • Outlet and USB port ready • H=0.72m, L=0.75m, W=1.0m, T=0.02m
Workstation Chairs		<ul style="list-style-type: none"> • Backrest Ergonomic Mesh Chair with padded seat • Metal chrome base • Color black fabric
TV MONITORING		
Smart Television 55" (Must conform with the NAPOLCOM Resolution No. 2015-012 as amended by NAPOLCOM Resolution No. 2018-587)	SCREEN SIZE: 55"	-same-
	NATIVE RESOLUTION: 1920 x 1080	-same-
	AUDIO: Surround Sound	-same-
	PC INTERFACE: High Definition Multi-Media Interface (HDMI)	-same-
	POWER: 110-240V AC, 50/60 Hz	-same-
	ACCESSORIES <ul style="list-style-type: none"> • Remote Control batteries included • Power cable • Manual 	-same-

		ADDITIONAL REQUIREMENTS <ul style="list-style-type: none"> • Warranty (Parts And Service): At least two (2) years • Brand new • Brand at least five (5) years on the market
VIDEO WALL SYSTEM		
LCD Video Wall Display (Indoor)		PANEL <ul style="list-style-type: none"> • Panel Technology: In-Plane Switching (IPS) • Resolution: FHD (1920x1080) • Screen size: 55" • Screen Type: Full High Definition (FHD) / Liquid Crystal Display (LCD) • Brightness: At 800 cd/m² • Orientation: Portrait/Landscape • Contrast: At least 1,400:1 • Dynamic CR: 500,000:1 • Viewing Angle (HxV): 178 degrees x 178 degrees • Color Depth: 10 bit or better • Operation: 24/7 • Life Span: 100,000 hours or longer
		CONNECTIVITY <ul style="list-style-type: none"> • Input: HDMI, DP, DVI-D, Audio, USB 2.0 Type A • Output: DP, Audio • External Control: RS232C In / Out, RJ45 • In / Out, IR In
		MECHANICAL SPECIFICATION: <ul style="list-style-type: none"> • Bezel width: 0.9mm or better • Bezel Color: Manufacturer's standard • Weight: Manufacturer's standard • Handle: Yes
		POWER: <ul style="list-style-type: none"> • Power Supply: AC 100 – 240 VAC ~ 50/60 Hz • Power type: Built-in power

		<p>ACCESSORIES</p> <ul style="list-style-type: none"> • Cable: DP and HDMI cable as appropriate • Wall Mount: Pop-out wall mount bracket <p>Warranty (Parts and Service): At least two (2) years</p>
<p>Video Wall Matrix Controller</p>		<p>SLOT: 4 input, 4 output</p>
		<p>INPUT/OUTPUT SIGNAL</p> <ul style="list-style-type: none"> • Input Type: DP, HDMI, DVI, VGA, CVBS, SDI, IP-Video, Fiber • Input/Output Channel: 1080 up to 320 channel , 4K up to 80 channel
		<p>IMAGE PROCESSING</p> <ul style="list-style-type: none"> • Display Mode: Roaming, overlay, zoom in/out, multi-windowing, scene switch, PIP, full screen and combination screen • Maximum Input: Up to 4K @ 60 Hz • Hot Swappable: Support • Power Supply Configuration: N+1 redundant power supply
		<p>CONTROL FUNCTION</p> <ul style="list-style-type: none"> • Control Structure: Software/ Hardware • Control Method: RS232/ Network/ Keypad and compatible with third party control system
		<p>STABILITY</p> <p>Continuity: 365 days, 7x24 hours operation</p>
		<p>WORKING ENVIRONMENT</p> <ul style="list-style-type: none"> • Operating Temperature: -15°C to 60°C • Operating Humidity: 10 to 90% without condensation

		WARRANTY (PARTS AND SERVICE): At least two (2) years
VIDEO CONFERENCING SYSTEM		
Video Conferencing Camera		<ul style="list-style-type: none"> • Ultra-HD Imaging System Supports: <ul style="list-style-type: none"> ○ 4K, 1440 p, 1080 p, 900 p, 720 p, and SD at 30fps ○ 1080 p, 720 p at 30 fps and 60 fps • Smooth motorized pan, tilt and zoom <ul style="list-style-type: none"> ○ Pan: up to $\pm 90^\circ$ ○ Tilt: at least $+45^\circ / -45^\circ$ • At least 15x HD zoom • Field of View <ul style="list-style-type: none"> ○ Diagonal: 90° ○ Horizontal: at least 75° ○ Vertical: at least 45° • Autofocus • At least 3 camera presets • Video mute/unmute LED indicator • Standard tripod thread
Microphone Pod with Mount		<ul style="list-style-type: none"> • Pickup range: At least 4m diameter • Four omnidirectional microphones forming eight acoustic beams • AEC (Acoustic Echo Cancellation) • VAD (Voice Activity Detector) • Sensitivity: $>-27\text{ dB } \pm 1\text{ dB @ } 1\text{ Pa}$ • Microphone data rate: 48 kHz • Frequency response: 90 Hz – 16 kHz • Background noise suppression • Mute button with LED status indicator • Captive 12-pin cable at least 2.5 m

		<ul style="list-style-type: none"> • Daisy chain at least 5 Microphone Pods
Speaker		<ul style="list-style-type: none"> • Speaker volume: At least 95 dB SPL @1 W, 100 dB SPL @7.5 W, both +/- dB at ½ meter • Sensitivity: 95+/-2 dB SPL at ½ meter • Speaker sampling rate: 48kHz • High-performance 76 mm driver • Mini XLR cable connects to Display Hub for both signal and power
Display Hub		<ul style="list-style-type: none"> • With the following ports: <ul style="list-style-type: none"> ○ Two (2) x HDMI Type A ○ At least two (2) USB ports ○ RJ45 ○ Two (2) x Mini XLR ○ Power input
Audio Hub		<ul style="list-style-type: none"> • Active Speaker Detection: Connects at least 5 Microphone Pods • With the following ports: <ul style="list-style-type: none"> ○ Two (2) x HDMI Type A ○ At least two (2) USB ports ○ RJ45 ○ Power input
Remote Control		<ul style="list-style-type: none"> • RF remote control (line of sight not required) • Batteries (included)

<p>Cable / Power / Accessories</p>		<p>Cable / Power:</p> <ul style="list-style-type: none"> • Camera to Display Hub: at least 2 m USB 3.0 or better • Conference Room Computer to Display or Audio Hub: at least 2 m USB 3.0 or better • Display Hub to Audio Hub: Manufacturer's Standard • Display Hub to Speaker: at least 2.5 m Mini XLR • Conference Room Computer to Displays: at least 2m HDMI • Power Outlets to Power Supplies: at least 1m • Power Supplies to Audio Hub/ Display Hub: at least 1.5m <p>Accessories:</p> <ul style="list-style-type: none"> • Mounting Kit - Mounting Kit with cable retainers and mounting brackets for camera, speakers, and hubs • Microphone Hub - Connects at least three (3) Microphone Pods
<p>11-Seater Conference Table</p>		<ul style="list-style-type: none"> • Materials: Formica Laminated Plywood • 11-Seater • With Cable management tray • Outlet and USB port ready • U-Shaped • H=0.70m, L=4.49m, W=1.87m, T=0.01m
<p>5-Seater Chairman's Table</p>		<ul style="list-style-type: none"> • Materials: Formica Laminated Plywood • 5-Seater • With Cable management tray • Outlet and USB port ready • Curved shaped • H=0.70m, L=3.5m, W=0.97m, T=0.10m

High-Back Conference Chairs		<ul style="list-style-type: none"> • High-back Ergonomic Mesh Chair • Executive Chair • 360° swivel • Chrome black base
AUDIO SYSTEM		
Central/Main Unit		<ul style="list-style-type: none"> • Connects to at least 30 goose neck microphones • Recording output
Delegate Interface Unit		<ul style="list-style-type: none"> • Voice activated automatic switching • Talk key on-off switching
Chairman Microphone Unit		<ul style="list-style-type: none"> • Priority buttons • Mic On/Off Buttons • Built-in Speaker • Volume Control • LED Red Speech indicator (Ring Type) • Goose neck: 360mm-460mm, color black
Delegate Microphone Unit		<ul style="list-style-type: none"> • Mic On/Off Buttons • Built-in Speaker • Volume Control • LED Red Speech indicator (Ring Type) • Goose neck: 360mm-460mm, color black
Wireless Microphone		<ul style="list-style-type: none"> • Frequency Range: 542-572 MHz • Digital • Operating Range: At least 250ft • Channel Selection : Auto/Manual • Microphone Type: Dynamic • Battery type: 2 x AA • Power On/Off Buttons • Display: LED
Audio Mixer		<ul style="list-style-type: none"> • 16 channels • Microphone preamps • Switchable Phantom Power & PAD Switch • One-knob Compressors • EQ and High-pass Filters • AUX / Effect Sends / Group • LED level metering • Built-in Digital Effects • Metal Chassis • Phantom power: +48 V • Output Channels: STEREO OUT: 2 • MONITOR OUT: 1 • PHONES: 1 • AUX SEND: 4 • GROUP OUT: 4 • Bus: Stereo: 1, GROUP, AUX: 4 • PAD: 26 dB (Mono)

		<ul style="list-style-type: none"> • HPF: 80 Hz, 12 dB/oct (Mono) • EQ HIGH: Gain: +15 dB/-15 dB, Frequency: 10 kHz shelving • EQ MID: Gain: +15 dB/-15 dB, Frequency: 2.5kHz peaking • EQ LOW: Gain: +15 dB/-15 dB, Frequency: 100 Hz shelving • PEAK LED: LED turns on when post EQ signal reaches 3 dB below clipping
USB External Sound Card		<ul style="list-style-type: none"> • Interface Type: USB, 3.5 audio • Double hole insertion, no conflict for 2 cables • 1.5M 2 Male PL mono plug to 1 Male 3.5mm stereo plug cable audio connector wire
Sound Equalizer		<ul style="list-style-type: none"> • 31-band graphic or better
Acoustic Speaker		<ul style="list-style-type: none"> • Type 2-way indoor-outdoor speaker • Appropriate wall mount speaker bracket • Cone Woofer: 6 inch • Dome Tweeter: 1.5 inch • Dual Impedance: 8 Ohm • Power Handling: 150 Watts • Weight: Not more than 3.5kg per speaker
CCTV SYSTEM		
Full HD PTZ Network Camera (Must conform with the NAPOLCOM Resolution No. 2015-021)	Camera Type: Dome/Bullet/Box	Camera Type: Full HD PTZ Dome Type Network Camera
	Image Sensor: 1/2" maximum to 1/3" minimum CMOS Sensor	-same-
	Signal System: NTSC	-same-
	Illumination: <ul style="list-style-type: none"> • Color: 0.1-1.0 lux • B&W: 0-0.5 lux 	-same-
	Image Frame Rate: 30fps	-same-
	Angle of View: 62.8° minimum	-same-
	Effective Pixel: 2MP	Effective Pixel: Full HD 1080p
	Image Compression: H.264	Image Compression: Support H.265+
	Audio Compression: G.726	Audio Compression: Support G.711/G.726

	IR Visibility: 20 meters minimum	-same-
	Network Protocol: Manufacturer's Standard	Network Protocol: Support at least TCP/IP, HTTP, HTTPS, FTP, SNMP, ICMP
	Operating System: Manufacturer's Standard	-same-
	Operating Temperature: 0°C to 55°C	-same-
	Lens Type: Manufacturer's Standard	-same-
	Protection Rating: IP66	Protection Rating: IP66 or better
	Optical Zoom: 18x minimum	-same-
	Digital Zoom: 10x minimum	-same-
	FEATURES: <ul style="list-style-type: none"> • Tamper resistance on video, time stamp • Wide Dynamic Range (WDR) • Support 32GB SD/SDHC Card • With PTZ auto tracking • Any certificates of ISO9001, IS)4001, RoHS, FCC/GS/CE, ISO 4892-2 	-same-
	Warranty: At least one (1) year on parts and service	Warranty: At least two (2) year on parts and service
Network Video Recorder (NVR) Stand Alone Type (Must conform with the NAPOLCOM Resolution No. 2015-021)	Number of Channel: 16 Channels	-same-
	Video Compression: H.264	Video Compression: Support H.265+
	Supported Resolution: Manufacturer' Standard	Supported Resolution: Up to 4K (3840 x 2160)
	HDD Capacity: 4TB	HDD Capacity: Up to 8TB capacity of each HDD
	USB Port: 2 minimum	-same-
	Protocol Support: Manufacturer' Standard	Network Protocol: Support at least TCP/IP, HTTP, HTTPS, FTP, SNNP, ICMP
	Power Supply: 220V AC, 60Hz (± 5%)	-same-
	Weight: Not more than 4 kgs	-same-
	Feature: Must have CE/FCC Certificate	-same-
	Warranty: At least one (1) year on parts and service	-same-

		Additional Requirement: With Power Over Ethernet (POE) interface
8TB Hard Disk Drive (HDD) FOR CCTV		INTERFACE: SATA 6Gbps
		CAPACITY: 8TB
		CAMERA SUPPORTED: Up to 64
		TRANSFER RATE: At least 210MB/s
		CACHE: At least 256MB
		MTBF: At least 1,000,000 hr
		WARRANTY (PARTS AND SERVICE): At least two (2) years
COMMUNICATION NETWORK		
Network Switch (Must conform with the NAPOLCOM Resolution No. 2013-320)	Category: Branded and latest Model	<ul style="list-style-type: none"> • Category: Branded, Brand New and latest model • Form Type: Rack-mountable • Management Features: Manufacturer's Standard • Software: Manufacturer's Standard • Memory: At least 1GB • Storage: At least 1GB • Supports the following: <ul style="list-style-type: none"> ○ IEEE 802.1ab Link Layer Discovery Protocol (LLDP) ○ IEEE 802.1ae Media Access Control Security (MACsec) ○ IEEE 802.1d Spanning Tree Protocol (STP) ○ IEEE 802.1p Priority ○ IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) ○ IEEE 802.1q VLANs ○ IEEE 802.3 10BASE-T ○ IEEE 802.3u 100BASE-TX
	Form Type: Rack Mountable or other form type	
	Standard: <ul style="list-style-type: none"> ○ IEEE 802.3 Type – 10 Base-T ○ IEEE 802.3u Type – 100 Base-TX ○ IEEE 802.3ab Type – 10 00 Base-T ○ IEEE 802.3x Flow Control or latest standard protocol and features 	
	Protocol Support: Ipv4 and Ipv6 Support or better	
	Number of Ports: Minimum of 8 auto-sensing and auto-switching ports or higher; and dual-personality ports for 10/100/1000 or mini-GBIC connectivity or better (Optional)	

	<p>Memory, Processor, and Storage</p> <ul style="list-style-type: none"> ○ Process speed: 1GHz or better (Optional for small-scale type switch) ○ Memory: 512MB or higher (Optional for small-scale type switch) ○ Storage: 250 GB Sata or higher (Optional for some standard switches) <p>Management Features: Management Software – Web-based and/or Client-based (Optional for unmanaged switch)</p> <p>IP Telephony: VoIP Protocol: H.323, SIP or better (Optional)</p> <p>Power Over Ethernet (POE): PoE Support (Optional)</p> <p>Power Requirements: 110-240 AC (Auto-volt)</p> <p>Service</p> <ul style="list-style-type: none"> ○ Installation setup ○ Connection/cascade with existing switches, if available <p>Accessories</p> <ul style="list-style-type: none"> ● Software driver ● Manual ● Power cable ● Fiber Patch Cord (optional) <p>Warranty: At least 3 years service warranty to include software/system update, and on-site support</p> <p>Training: At least five (5) persons</p>	<p>IEEE 802.3ab 1000BASE-T</p> <ul style="list-style-type: none"> ○ IEEE 802.3z 1000BASE-X ○ IEEE 802.3x Flow Control ○ IEEE 802.3af Power over Ethernet ○ IEEE 802.3at PoE+ ○ IEEE 802.3ad Link Aggregation Control Protocol (LACP) ○ SNMPv1, v2, v3 ○ RMON I and II ○ QoS ○ ACL ○ IPV6 Routing ○ Stacking ○ High Availability ○ Redundant Power Supply <ul style="list-style-type: none"> ● Layer 3 managed switch ● Minimum of 24 x 10/100/1000BASE-T ports (full PoE+) ● Uplink Ports: at least 4 x 10G ● Switching Capacity: At least 128Gbps ● Forwarding Rate: At least 90Mpps ● VLANs Supported: At least 4000 ● MAC Addresses: At least 10,000 ● Ipv4 routing entries: At least 2,000 ● Ipv6 routing entries: At least 1,000 ● Installation set-up: Configuration and Setup if necessary ● Accessories <ul style="list-style-type: none"> ○ Software Driver (if necessary) ○ Manual ○ Power Cable ○ Fiber Patch Cord ● At least three (3) years warranty on parts and service ● Brand should be at least five (5) years on the market
<p>Wireless Access Point (Must conform with the</p>	<p>Wireless Technology: IEEE 802.11 b/g and/or latest</p>	<p>Wireless Technology: IEEE 802.11 b/g/n/ac/ax</p>

NAPOLCOM Resolution No. 2009-656)	Frequency Spectrum: 2.4 GHz or as defined by latest wireless technology	-same-
	Transmission Speed: 54 Mbps or higher	Transmission Speed: At least 1 Gbps
	Device Management: Web-based management software with optional SNMP	-same-
	<ul style="list-style-type: none"> ○ Wireless Distribution System: ○ AP Client ○ PtP Bridge ○ PtMP Bridge; and/or ○ Repeater ○ Wireless Encryption Protocol (WEP) ○ Wi-Fi protected Access 2 (WPA2) ○ MAC Address Access Control (WPA-TKIP/WPA-AES); and/or ○ Other latest wireless security standards ○ At least one (1) 10/100 Base TX LAN or ○ At least one (1) 10/100/1000 Base-T LAN ○ Indoors: 400 meters or better ○ Outdoors: 400 meters or better ○ Orthogonal Frequency Division Multiplexing (OFDM); ○ Complementary Code Keying (CCK) ○ Phase Shift Keying (PSK) variations; and/or ○ Other latest wireless modulation standards 	<ul style="list-style-type: none"> ● Wireless Security <ul style="list-style-type: none"> ○ Wireless Encryption Protocol (WEP) ○ WiFi Protected Access 2 (WPA 2) ○ WiFi Protected Access 3 (WPA 3) ○ MAC Address Access Control (WPA-TKIP/WPA-AES); and/or ○ Other latest wireless security standards ● At least one (1) 10/100/1000 Base-T LAN ● Wireless Signal Range: Manufacturer's Standard ● Modulation Technology <ul style="list-style-type: none"> ○ Orthogonal Frequency-Division Multiple Access (OFDMA) or ○ Other latest wireless modulation standards
	Antenna Type: Dipole or better external antenna	Antenna Type: Manufacturer's Standard
	LEDs: Power, LAN Activity and other indicators	-same-
	Power Input: External Power Supply Direct Current (DC)	Power Input: External Power Supply Direct Current (DC) or Power over Ethernet (PoE)
	Accessories: <ul style="list-style-type: none"> ● AC to DC Adaptor ● UTP Patch Cord ● CD Installer/Driver/ Manual 	-same-
	Warranty: At least one (1) year on parts and services	Warranty: At least two (2) years warranty on parts and service
		Additional Requirement <ul style="list-style-type: none"> ● Brand new ● Brand should be at least five

		(5) years on the market
Firewall (Must conform with the NAPOLCOM Resolution No. 2012-256)	Category: Latest Model	
	Form Factor: Rack-mounted	
	Firewall Throughput: 400 Mbps minimum	
	VPN Throughput: 100 Mbps minimum	
	Concurrent Connections: 100,000 minimum	
	Interfaces/Ports: <ul style="list-style-type: none"> • One (1) Rj-45 10/100 auto-sensing and Auto-switching Ethernet WAN Port • Two (2) Rj-45 10/100/1000 auto-sensing and Auto-switching Ethernet LAN Ports • Minimum of one (1) x USB or higher; and • Other latest connectivity 	
	Software: Management Software	
	Security Features: <ul style="list-style-type: none"> • Stateful Packet Inspection Firewall • Web/Content Filtering • Block TCP/UDP packet floods • DoS attack protection • Port/service blocking • Hardware DMZ port • Other latest firewall security features 	
	VPN Features: VPN Support (SSL, PPTP, IPSEC) – Server and/or Client setup	
	Encryption: DES, Triple DES, AES	
	Authentication: Latest Standard	
	Input Power: AC 120/230 V	
	Accessories: <ul style="list-style-type: none"> • Power Cord • Drivers and Manuals 	

	<p>Warranty: At least two (2) years' service warranty to include softwares/system update, and on-site support</p>	
	<p>Training: Minimum of five (5) personnel</p>	
	<p>Condition: Must pass the PNP Test and Evaluation</p>	
<p>ENTERPRISE SERVER</p> <p>(Must conform with the NAPOLCOM Resolution No. 2016-648)</p>	<ul style="list-style-type: none"> • Processor: 8 core, 2.2 GHz • Type: Rack/Blade type • Motherboard: Compatible with processor • Memory: 32GB DIMM (RAM) • Controller: RAID 0,1 • Hard Disk: 2 units 1 TB (hot swap/hot plug functionality) • I/O Expansion Slot: Industry Standard interface port, 3 slots • Power: 2 or more power supplies, hot plug/hot swap • Software: Secured open source/proprietary or OEM with stacked licenses • Features: Supports Simple Network Management Protocol (SNMP) • Accessories: Installer, Drivers, manuals, keyboard 	
<p>OTHER ICT EQUIPMENT AND ACCESSORIES</p>		
<p>42U Server Rack</p>		<ul style="list-style-type: none"> • W=800mm, D=1000mm, H=42U, High density Network rack black color • Locking removable side panels, front door: Curved perforated, rear door: double perforated split doors • 4 mounting profile with "U" marks printed • Top cover with cable entry, easy installation & uninstallation, closed bottom with cable entry • Earth grounding/cage nuts included, caster wheel, levelling feet • 10-way Vertical PDU <ul style="list-style-type: none"> ○ 220V and 10 ports universal socket and safety switch 1U 1.5 m² power cord is 2 meter 19", 15A ○ Must have at least two (2) years warranty

<p>8-Bay Network Attached Storage (NAS)</p> <p>(Must conform with the NAPOLCOM Resolution No. 2012-314)</p>	Category: Latest model	<ul style="list-style-type: none"> • Drive Bay: 8 • Supports Hot Swappable Drives • CPU Frequency: Quad-core 2.0 GHz or better • Compatible drive: 3.5" SATA HDD, 2.5" SATA HDD, 2.5" SSD or better • AES-NI Hardware encryption engine integrated • Management Software • Supports 10Gbe network interface cards • System fan • HDMI output • Network: Gigabit Ethernet or better • Rack mounted • Operating Temperature: 0^o – 40^o C • Storage Temperature: - 20^oC to 60^oC • Input Voltage Power: 120V to 240V AC • Software and cables included • Branded and brand new • Warranty on parts and service: At least two (2) years
	Device Type: NAS server	
	Host Connectivity: Gigabit Ethernet	
	Enclosure Type: Rack-mountable or other form factor type	
	Processor: 2 GHz minimum	
	Memory: 1GB MB minimum	
	Total Storage Capacity: 4TB serial ATA minimum capacity	
	Storage RAID Level: RAID 6 minimum	
	Hard Drive Type: SATA minimum	
	Storage Device Bay: 4 minimum	
	HD Capacity per Bay: Hot-swap 1TB minimum	
	HD Spindle Speed: 7200 rpm minimum	
	Network Data Link Protocol: Ethernet Fast Ethernet Gigabit Ethernet	
	Interface: 1 Autosensing Ethernet/Fast Ethernet/Giga Ethernet, RJ-45 or better and 2 USB or higher	
	Software: Management Software	
Power Source: AC 120/230 V, (50/60Hz)		
Accessories: Cables included Software included: 2xnetwork cable - 3m and 2xpower cable or higher Drivers and Management Software		
Training: At least 5 persons		
Warranty: 1 year warranty and onsite service		
Condition: Must pass the PNP Test and Evaluation		
8TB NAS Hard Disk Drive	INTERFACE: SATA 6Gbps	

(HDD)		CAPACITY: 8TB
		TRANSFER RATE: At least 210MB/s
		CACHE: At least 256MB
		MTBF: At least 1,000,000 hr
		WARRANTY (PARTS AND SERVICE): At least two (2) years
Body Worn Camera (Must conform with the NAPOLCOM Resolution No. 2017-369)	Camera <ul style="list-style-type: none"> • Display: 2 inches, colored • Photo: 16 Megapixel • Field of View: 110^o • Frame rate: 30 frames per second • Video Resolution: 720p minimum • Video Format: WAV, MP4, MOV or AVI • Night Vision: Capable up to 10 meters • Audio: Built-in 	
	Other Features <ul style="list-style-type: none"> • GPS: Built-in • Wireless Transmission for real time monitoring: Built-in, Wi-Fi, 3G and 4G Capable • Storage: 32 Gigabytes, scalable to 128 gigabytes • Battery life: 8 hours continuous operation • Ingress Protection: IP67 • Shock/Impact Resistance: 2 meters • Date and time stamping • One touch easy activation • Pre and Post recorder • Password Protected/Security Features/Encryption • Capable to be Integrated to the command Center 	

	<p>Accessories</p> <ul style="list-style-type: none"> • Extra rechargeable battery or appropriate power bank • Appropriate dock and cables for charging and data transmission • Appropriate stable mounting clip for body worn 	
	<p>Must pass the Test and Evaluation: PNP MC 2018-023</p>	
		<p>Additional Requirement: With compatible Body Camera Docking Station at least 8TB and/or appropriate software/s for SAF C3 integration</p>
<p>Unmanned Aerial Vehicle</p>		<ul style="list-style-type: none"> • Launch/take-off type: Vertical take-off and landing • Payload capacity: Based on manufacturer's product brand • Camera: 20MP or higher • Flying altitude: Not less than 500m • Flying time/battery operating time: At least 30 minutes • Communication and control: Not less than 5 km range • Flight mode: Manual and auto-pilot • Dimension: Based on manufacturer's product brand brochure specification as offered • Ground Control Systems and Accessories: Based on manufacturer's product brand brochure specification as offered • Miscellaneous: Users handbook/manual in English; and specifications for packing, handling, transportation, and storage. • Other Requirements: Wi-Fi transmission capable and infrared sensing system • Accessories: <ul style="list-style-type: none"> ○ One (1) spare battery and charger ○ Power Cable ○ RC Cable (Lighting Connector) ○ RC Cable (Standard Micro USB connector) ○ RC Cable (USB Type-C)

		<ul style="list-style-type: none"> connector) <ul style="list-style-type: none"> ○ Gimbal Cover ○ MicroSD Card (At least 16GB) ○ Micro USB Cable ● Visual Video Controller: Manufacturer's Standard ● Certification: Bidder/Supplier must submit the ISO Certifications of the product manufacturer
<p>Rugged Laptop Computer</p>		<ul style="list-style-type: none"> ● Regulatory and Environmental Compliance: MIL-STD-810G/H testing ● Processor: Core-i5, 1.7 GHz minimum ● Memory: 8 GB minimum ● Hard Disk: 1 TB HDD minimum ● Graphics: minimum 4GB VRAM ● On-board Controller: Sound controller, built-in speaker microphone ● Expansion Slot: SD card reader ● Display: <ul style="list-style-type: none"> ○ Type: Manufacturer's Standard ○ Screen Size: 13 inch minimum ● Resolution: 1920 x 1080 ● Camera: Built-in ● Connectivity: 802.11 ac/ax WiFi, Bluetooth and 4G LTE mobile broadband, integrated GPS ● USB Ports: At least two USB ports ● Interface: HDMI and audio jack ● Battery: 51 Whr Lithium Polymer or latest battery type/composition ● Power: Manufacturer's Standard ● Software: <ul style="list-style-type: none"> ○ Latest licensed Office Application (Perennial) ○ Latest licensed Operating System (Perennial) ○ Latest licensed Anti-Virus Software (minimum of two

		<p>(2) years)</p> <ul style="list-style-type: none"> • Accessories: <ul style="list-style-type: none"> ○ Charger and power cable ○ CD installer/driver/Manual ○ Laptop bag • Other Features: <ul style="list-style-type: none"> ○ Military grade rugged laptop ○ Brand new ○ Brand must be at least five (5) years in the market • Warranty (Parts and Service): At least two (2) years
<p>Large Format Multipurpose Printer</p>		<p>Functions: Print, Scan and copy</p>
		<p>Compatible Ink Type: Dye-based (C, M, Y); pigment-based (mK)</p>
		<p>Number of Print Cartridges: 4 (CYMK)</p>
		<p>Ink Colors: Matte Black (mK), Cyan (C), Yellow (Y) and Magenta (M)</p>
		<p>Printing Resolution: 2400 x 1200 Optimized DPI</p>
		<p>Print Speed: Line drawing (economode, A1 plain paper) 25 sec/page; 82 prints per hour</p>
		<p>Paper Size: 210 to 914-mm wide sheets; 279 to 914-mm rolls</p>
		<p>Handling: Sheet feed, roll feed, input tray, media bin and automatic horizontal cutter</p>
		<p>Scan Resolution: 600 DPI minimum</p>
		<p>Scan Speed: Minimum of 3.81/sec (color, 200 dpi); 11.43cm/sec (grayscale, 200 dpi)</p>
		<p>Scan Format: JPEG, PDF, TIFF</p>
		<p>Interface: USB</p>
		<p>Network Connectivity: Wired and Wireless</p>
		<p>Memory: 1GB minimum</p>
	<p>With Resetting Capability: Manufacturer's standard</p>	
	<p>Accessories: Compatible Software/s and Appropriate Cables</p>	

		<p>Additional Requirements:</p> <ul style="list-style-type: none"> ○ Brand new ○ Brand must be at least five (5) years on the market
<p>Door Access Control</p>		<ul style="list-style-type: none"> • Electric Bolt for Fully Frameless Glass Door • Resettable emergency door release that is used with an access control system • Emergency Key Switch (Main Door) • Door Release Button w/ Back Box • UPS Access Control Power Supply 12V, 3A with Back-up Battery • Multi-DIO design controllers with Web based integrated, which are designed to connect industrial equipment to be accessible and manageable via intranet or Internet by an integrating RTOS (Real Time Operating System) and TCP/ IP protocol stack capability. Both are a ready solution and may use a media converter • Capable of IP camera integration • Application to home/building automation (integration of FACP and other Alarm) • At least two (2) Access Card Readers: One (1) for main entrance and one (1) for server room • At least 50 Access Cards • At least two (2) years warranty on parts and service
<p>10 KVA Uninterruptible Power Supply (UPS)</p>		<ul style="list-style-type: none"> • Voltage Rating: 10KVA • Input AC Parameters <ul style="list-style-type: none"> ○ Operating Frequency, Nom: 50 or 60 Hz ○ Factory Default Voltage: 230 VAC ○ Operating Voltage Range Without Battery Operation: 176 to 288 VAC (100 to 176 VAC with power derating) ○ Maximum Allowable Voltage: 288 VAC ○ Input Frequency Without Battery Operation: 40 to 70 Hz

		<ul style="list-style-type: none"> • Output AC Parameters <ul style="list-style-type: none"> ○ AC-AC Efficiency: 90% ○ User-configurable Voltage: 200/208/220/230/240 VAC ○ Factory Default Voltage: 230 VAC ○ Frequency: 50 Hz or 60 Hz, Nominal ○ Waveform: Pure Sinewave ○ Output Power Connection: Output terminal block ○ Main Mode Overload: >150% minimum 200 ms, 125 – 150% for 60 seconds; 105 – 125% for 5 minutes; ≤ 105% continuous • At least two (2) years warranty on parts and service • Brand should be at least five (5) years on the market • System features: <ul style="list-style-type: none"> ○ Unity Power Factor (PF=1.0) ensures the connection of more loads and IT equipment ○ Operates at full power up to 40°C (up to 50°C with derating) ○ Integrated solution that combines electronics and batteries in a single part number ○ Easy to read gravity sensing graphical color display ○ Programmable sockets help to extend runtime for the most critical loads and smart disconnection of the less critical ones ○ Efficiency in on-line double conversion mode up to 95%
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<p>Automatic Transfer Switch for 100KVA Generator</p>		<ul style="list-style-type: none"> • Shall meet the design and testing requirements of the latest applicable NEMA and/or ANSI or IEEE or IEC standards • Automatically transfer the load to the standby 100KVA generator in the event of a utility supply failure and return the load back to the normal utility supply upon restoration of normal utility power. • Can be mechanically and electrically interlocked to prevent the utility and generator power supplies from being interconnected • With LED indicator for switch position • With appropriate circuit breaker, insulation, wires and battery. • Installation and operating instructions manual
<p>1HP Split Type ACU (Must conform with the PNP MC NO. 2020-079)</p>	<ul style="list-style-type: none"> ○ System: Evaporator and Condenser ○ Cooling Capacity: 9,200 BTU/h (9,706.51kJ/h) ○ Energy Efficiency: Ratio (EER): 12.50kJ/hr-W ○ Maximum sound level: 40dB ○ Power Supply: Philippine standard ○ Phase: Single phase (1ϕ) ○ Frequency: Philippine standard 	
<p>Structured Cabling System</p>		<ul style="list-style-type: none"> • Cable Manager – the Horizontal Cable Management shall be mounted above and below each patch panel: <ul style="list-style-type: none"> ○ Have 1, 2 or 4 rack mount space (RMS) versions available. ○ Be available in both 4" or 6" Deep Versions ○ Have a cover to conceal Equipment Patch Cords ○ Have finger radius holes that allow for quick opening and closing of doors at a single point • Copper Cable – all Category 6 (CAT6) UTP cable shall conform to the following minimum performance standards: <ul style="list-style-type: none"> ○ Provides significant headroom above all TIA and ISO/IEC CAT6 transmission performance specifications ○ Have a round cable CMR jacket with a nominal cable outside diameter (OD) up to 0.25inches ○ Have a construction comprised of 4-pairs of 23 AWG solid bare copper conductors ○ Utilize a center isolation member to maintain pair geometry for optimal performance ○ Have a rip cord installed under the jacket for jacket removal ○ Have reverse sequential measurement markings on jacket

- **Patch Panel** – all termination panels shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements:
 - Be made of flame retardant thermoplastic available in 24-port configurations
 - Exceed CAT6 connecting hardware specifications for all pair combinations up to 250 MHz
 - Allow termination with a standard termination tool
 - Be backwards compatible to allow lower performing categories of cables or connecting hardware to operate to their full capacity
 - Support industry standards for T568A or T568B wiring options on each individual outlet
 - Display category performance markings on front of panel

- **Information Outlet (IO)** – all CAT6 information outlets (IO) designed for termination of 4-pair balanced twisted-pair CAT6 copper cables must possess the following characteristics at the minimum:
 - Exceed CAT6 connecting hardware performance specifications
 - Allow termination with a standard tool
 - ⊖ Be backwards compatible to allow lower performing categories of cables or connecting hardware
 - Support industry standards for T568A or T568B wiring options on each individual outlet
 - Can be installed from either front or rear of faceplate
 - Have colored icons provided for port identification
 - Be UL listed

- **Faceplate**
 - Offers pressure-release designation label covers which eliminate the need for a probe-pic or screwdriver when installing faceplate labels
 - Includes pressure-release designation label covers for quick, tool-less removal
 - Flexible mounting tab on outlets allows installation from front or rear of faceplate
 - Horizontal faceplates include designation label(s), clear label covers, and color-matching screw covers
 - Must be available in 1,2,3,4 ports configuration

- **Patch Cords** – All CAT6 patch cords shall conform to the following minimum performance standards:
 - High performance CAT6 cable for optimal flexibility and transmission performance
 - Be backwards compatible with lower performing categories
 - Be equipped with identical modular 8-position plugs on both ends, wired straight through with standards compliant wiring
 - Utilize patented metallic isolator shields pairs inside plug for optimum performance and a 360° crimp for providing excellent plug-to-cable strain relief without causing pair deformation

	<ul style="list-style-type: none"> ○ Obtain the required performance without use of printed circuit board components ○ Incorporate internal stranded cordage isolator within a round, flame-retardant jacket to provide extended flex life and maintain ideal pair geometry ○ Have a boot that features an ultra slim design for high density applications and snag free operation. ○ Use modular plugs which exceed FCC CFR 47 part 68 subpart F and IEC 60603-7 specifications, have contact materials of copper alloy with contact plating of 50 micro inches gold or equivalent ○ Be available in standard lengths with custom lengths available upon request ○ Offer multiple cable colors (with ultra slim boots for high density applications) in standard colors of for proper circuit identification <ul style="list-style-type: none"> ● Roughing-ins <ul style="list-style-type: none"> ○ Includes all PVC conduits and all other necessary accessories
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VI. DETAILED TECHNICAL REQUIREMENT

ITEM/DESCRIPTION	TECHNICAL SPECIFICATION
<p>Desktop Computers (Must conform with the PNP MC No. 2020-086)</p>	FORM TYPE: Manufacturer's standard
	PROCESSOR: 8-core, 3.0 GHz
	MEMORY: At least 32 GB
	MONITOR: 22-inch screen size, LED
	KEYBOARD / MOUSE: USB keyboard and USB optical mouse
	SOFTWARE <ul style="list-style-type: none"> ● Latest licensed Operating System ● Latest licensed Anti-Virus Software (3 years) ● Latest office Application (Perpetual)
	HARD DISK: At least 2 TB
	NETWORKING (CONNECTIVITY) <ul style="list-style-type: none"> ● On-board Gigabit Ethernet controller ● Gigabit PCI Network Interface Card ● WIFI 802.11 ac/ax ● Bluetooth 4.2 or latest technology
	VIDEO CONTROLLER (GRAPHICS): Video card 4 GB
	SOUND CONTROLLER: Sound card or on-board sound controller with speaker

	<p>PORTS/INTERFACES/ STANDARD I/O PORTS</p> <ul style="list-style-type: none"> • At least 4 USB ports • VGA, DVI or HDMI • Latest optical drive • Mic/Headphone combination or separate port <p>POWER SUPPLY WATTAGE: Minimum of 500 Watts</p> <p>ACCESSORIES</p> <ul style="list-style-type: none"> • 2 TB External Drive • Appropriate Cables for monitors • CD installer/driver • Manual <p>Other Peripherals</p> <ul style="list-style-type: none"> • 650 VA Uninterruptible Power Supply (UPS) • 1920 x 1080 @ 60 fps HD Web Camera <p>ADDITIONAL REQUIREMENTS</p> <ul style="list-style-type: none"> • Warranty (Parts and Service): At least two (2) years • Brand: At least five (5) years on the market
<p>Multi-Purpose Printer (Must conform with the NAPOLCOM Resolution No. 2016-493)</p>	<p>Type: Inkjet with integrated tank</p> <p>Functions: Print, Scan and copy</p> <p>Ink Colors: Black, Cyan, Yellow and Magenta</p> <p>Ink Capacity (pages yield):</p> <ul style="list-style-type: none"> • Black – 4000 • Colored – 5000 <p>Interface: USB</p> <p>Network Connectivity: Wired and Wireless</p> <p>With Resetting Capability: Manufacturer’s standard</p> <p>Printing Resolution in Dots Per Inch (DPI): 4800 x 1200</p> <p>Print Speed in Image per Minute (IPM):</p> <ul style="list-style-type: none"> • Monochrome – 8.8 • Colored – 4.5 <p>Scan Capability: Monochrome and Colored</p> <p>Scanning Resolution (DPI): 600 x 1200</p> <p>Copying Speed (IPM):</p> <ul style="list-style-type: none"> • Monochrome – 2.5 • Colored – 2.5 <p>Accessories: Compatible Software/s and Appropriate Cables</p> <p>Additional Requirements:</p> <ul style="list-style-type: none"> • Brand new • Brand must be at least five (5) years on the market
<p>Workstation Tables</p>	<ul style="list-style-type: none"> • Materials: Formica Laminated Plywood • With Cable management tray • Outlet and USB port ready • H=0.72m, L=0.75m, W=1.0m, T=0.02m

Workstation Chairs	<ul style="list-style-type: none"> • Backrest Ergonomic Mesh Chair with padded seat • Metal chrome base • Color black fabric
TV MONITORING	
Smart Television 55" (Must conform with the NAPOLCOM Resolution No. 2015-012 as amended by NAPOLCOM Resolution No. 2018-587)	SCREEN SIZE: 55"
	NATIVE RESOLUTION: 1920 x 1080
	AUDIO: Surround Sound
	PC INTERFACE: High-Definition Multi-Media Interface (HDMI)
	POWER: 110-240V AC, 50/60 Hz
	ACCESSORIES <ul style="list-style-type: none"> • Remote Control batteries included • Power cable • Manual ADDITIONAL REQUIREMENTS <ul style="list-style-type: none"> • Warranty (Parts and Service): At least two (2) years • Brand new • Brand at least five (5) years on the market
VIDEO WALL SYSTEM	
LCD Video Wall Display (Indoor)	PANEL <ul style="list-style-type: none"> • Panel Technology: In-Plane Switching (IPS) • Resolution: FHD (1920x1080) • Screen size: 55" • Screen Type: Full High Definition (FHD) / Liquid Crystal Display (LCD) • Brightness: At 800 cd/m² • Orientation: Portrait/Landscape • Contrast: At least 1,400:1 • Dynamic CR: 500,000:1 • Viewing Angle (HxV): 178 degrees x 178 degrees • Color Depth: 10 bit or better • Operation: 24/7 • Life Span: 100,000 hours or longer
	CONNECTIVITY <ul style="list-style-type: none"> • Input: HDMI, DP, DVI-D, Audio, USB 2.0 Type A • Output: DP, Audio • External Control: RS232C In / Out, RJ45 In / Out, IR In
	MECHANICAL SPECIFICATION: <ul style="list-style-type: none"> • Bezel width: 0.9mm or better • Bezel Color: Manufacturer's standard • Weight: Manufacturer's standard • Handle: Yes
	POWER: <ul style="list-style-type: none"> • Power Supply: AC 100 – 240 VAC ~ 50/60 Hz • Power type: Built-in power

	<p>ACCESSORIES</p> <ul style="list-style-type: none"> • Cable: DP and HDMI cable as appropriate • Wall Mount: Pop-out wall mount bracket <p>Warranty (Parts and Service): At least two (2) years</p>
<p>Video Wall Matrix Controller</p>	<p>SLOT: 4 input, 4 output</p>
	<p>INPUT/OUTPUT SIGNAL</p> <ul style="list-style-type: none"> • Input Type: DP, HDMI, DVI, VGA, CVBS, SDI, IP-Video, Fiber • Input/Output Channel: 1080 up to 320 channel, 4K up to 80 channel
	<p>IMAGE PROCESSING</p> <ul style="list-style-type: none"> • Display Mode: Roaming, overlay, zoom in/out, multi-windowing, scene switch, PIP, full screen and combination screen • Maximum Input: Up to 4K @ 60 Hz • Hot Swappable: Support • Power Supply Configuration: N+1 redundant power supply
	<p>CONTROL FUNCTION</p> <ul style="list-style-type: none"> • Control Structure: Software/ Hardware • Control Method: RS232/ Network/ Keypad and compatible with third party control system
	<p>STABILITY Continuity: 365 days, 7x24 hours operation</p>
	<p>WORKING ENVIRONMENT</p> <ul style="list-style-type: none"> • Operating Temperature: -15°C to 60°C • Operating Humidity: 10 to 90% without condensation
	<p>WARRANTY (PARTS AND SERVICE): At least two (2) years</p>
<p>VIDEO CONFERENCING SYSTEM</p>	
<p>Video Conferencing Camera</p>	<ul style="list-style-type: none"> • Ultra-HD Imaging <p>System Supports:</p> <ul style="list-style-type: none"> ○ 4K, 1440 p, 1080 p, 900 p, 720 p, and SD at 30fps ○ 1080 p, 720 p at 30 fps and 60 fps <ul style="list-style-type: none"> • Smooth motorized pan, tilt and zoom ○ Pan: up to ±90° ○ Tilt: at least +45 / -45° <ul style="list-style-type: none"> • At least 15x HD zoom • Field of View ○ Diagonal: 90° ○ Horizontal: at least 75° ○ Vertical: at least 45° <ul style="list-style-type: none"> • Autofocus • At least 3 camera presets

	<ul style="list-style-type: none"> • Video mute/unmute LED indicator • Standard tripod thread
Microphone Pod with Mount	<ul style="list-style-type: none"> • Pickup range: At least 4m diameter • Four omnidirectional microphones forming eight acoustic beams • AEC (Acoustic Echo Cancellation) • VAD (Voice Activity Detector) • Sensitivity: >-27 dB +/-1 dB @ 1 Pa • Microphone data rate: 48 kHz • Frequency response: 90 Hz – 16 kHz • Background noise suppression • Mute button with LED status indicator • Captive 12-pin cable at least 2.5 m • Daisy chain at least 5 Microphone Pods
Speaker	<ul style="list-style-type: none"> • Speaker volume: At least 95 dB SPL @1 W, 100 dB SPL @7.5 W, both +/-2 dB at ½ meter • Sensitivity: 95+/-2 dB SPL at ½ meter • Speaker sampling rate: 48kHz • High-performance 76 mm driver • Mini XLR cable connects to Display Hub for both signal and power
Display Hub	<ul style="list-style-type: none"> • With the following ports: <ul style="list-style-type: none"> ○ Two (2) x HDMI Type A ○ At least two (2) USB ports ○ RJ45 ○ Two (2) x Mini XLR ○ Power input
Audio Hub	<ul style="list-style-type: none"> • Active Speaker Detection: Connects at least 5 Microphone Pods • With the following ports: <ul style="list-style-type: none"> ○ Two (2) x HDMI Type A ○ At least two (2) USB ports ○ RJ45 ○ Power input
Remote Control	<ul style="list-style-type: none"> • RF remote control (line of sight not required) • Batteries (included)
Cable / Power / Accessories	<p>Cable / Power:</p> <ul style="list-style-type: none"> • Camera to Display Hub: at least 2 m USB 3.0 or better • Conference Room Computer to Display or Audio Hub: at least 2 m USB 3.0 or better • Display Hub to Audio Hub: Manufacturer's Standard • Display Hub to Speaker: at least 2.5 m Mini XLR • Conference Room Computer to Displays: at least 2m HDMI • Power Outlets to Power Supplies: at least 1m • Power Supplies to Audio Hub/ Display Hub: at least 1.5m <p>Accessories:</p> <ul style="list-style-type: none"> • Mounting Kit - Mounting Kit with cable retainers and mounting brackets for camera, speakers, and hubs • Microphone Hub - Connects at least three (3) Microphone Pods

11-Seater Conference Table	<ul style="list-style-type: none"> • Materials: Formica Laminated Plywood • 11-Seater • With Cable management tray • Outlet and USB port ready • U-Shaped • H=0.70m, L=4.49m, W=1.87m, T=0.01m
5-Seater Chairman's Table	<ul style="list-style-type: none"> • Materials: Formica Laminated Plywood • 5-Seater • With Cable management tray • Outlet and USB port ready • Curved shaped • H=0.70m, L=3.5m, W=0.97m, T=0.10m
High-Back Conference Chairs	<ul style="list-style-type: none"> • High-back Ergonomic Mesh Chair • Executive Chair • 360^o swivel • Chrome black base
AUDIO SYSTEM	
Central/Main Unit	<ul style="list-style-type: none"> • Connects to at least 30 goose neck microphones • Recording output
Delegate Interface Unit	<ul style="list-style-type: none"> • Voice activated automatic switching • Talk key on-off switching
Chairman Microphone Unit	<ul style="list-style-type: none"> • Priority buttons • Mic On/Off Buttons • Built-in Speaker • Volume Control • LED Red Speech indicator (Ring Type) • Goose neck: 360mm-460mm, color black
Delegate Microphone Unit	<ul style="list-style-type: none"> • Mic On/Off Buttons • Built-in Speaker • Volume Control • LED Red Speech indicator (Ring Type) • Goose neck: 360mm-460mm, color black
Wireless Microphone	<ul style="list-style-type: none"> • Frequency Range: 542-572 MHz • Digital • Operating Range: At least 250ft • Channel Selection: Auto/Manual • Microphone Type: Dynamic • Battery type: 2 x AA • Power On/Off Buttons • Display: LED
Audio Mixer	<ul style="list-style-type: none"> • 16 channels • Microphone preamps • Switchable Phantom Power & PAD Switch • One-knob Compressors • EQ and High-pass Filters • AUX / Effect Sends / Group • LED level metering • Built-in Digital Effects • Metal Chassis • Phantom power: +48 V • Output Channels: STEREO OUT: 2 • MONITOR OUT: 1 • PHONES: 1 • AUX SEND: 4

	<ul style="list-style-type: none"> • GROUP OUT: 4 • Bus: Stereo: 1, GROUP, AUX: 4 • PAD: 26 dB (Mono) • HPF: 80 Hz, 12 dB/oct (Mono) • EQ HIGH: Gain: +15 dB/-15 dB, Frequency: 10 kHz shelving • EQ MID: Gain: +15 dB/-15 dB, Frequency: 2.5kHz peaking • EQ LOW: Gain: +15 dB/-15 dB, Frequency: 100 Hz shelving • PEAK LED: LED turns on when post EQ signal reaches 3 dB below clipping
USB External Sound Card	<ul style="list-style-type: none"> • Interface Type: USB, 3.5 audio • Double hole insertion, no conflict for 2 cables • 1.5M 2 Male PL mono plug to 1 Male 3.5mm stereo plug cable audio connector wire
Sound Equalizer	<ul style="list-style-type: none"> • 31-band graphic or better
Acoustic Speaker	<ul style="list-style-type: none"> • Type 2-way indoor-outdoor speaker • Appropriate wall mount speaker bracket • Cone Woofer: 6 inch • Dome Tweeter: 1.5 inch • Dual Impedance: 8 Ohm • Power Handling: 150 Watts • Weight: Not more than 3.5kg per speaker
CCTV SYSTEM	
Full HD PTZ Network Camera (Must conform with the NAPOLCOM Resolution No. 2015-021)	Camera Type: Full HD PTZ Dome Type Network Camera
	Image Sensor: 1/2" maximum to 1/3" minimum CMOS Sensor
	Signal System: NTSC
	Illumination:
	<ul style="list-style-type: none"> • Color: 0.1-1.0 lux • B&W: 0-0.5 lux
	Image Frame Rate: 30fps
	Angle of View: 62.8° minimum
	Effective Pixel: Full HD 1080p
	Image Compression: Support H.265+
	Audio Compression: Support G.711/G.726
	IR Visibility: 20 meters minimum
	Network Protocol: Support at least TCP/IP, HTTP, HTTPS, FTP, SNMP, ICMP
	Operating System: Manufacturer's Standard
	Operating Temperature: 0°C to 55°C
Lens Type: Manufacturer's Standard	
Protection Rating: IP66 or better	
Optical Zoom: 18x minimum	

	<p>Digital Zoom: 10x minimum</p> <p>FEATURES:</p> <ul style="list-style-type: none"> • Tamper resistance on video, time stamp • Wide Dynamic Range (WDR) • Support 32GB SD/SDHC Card • With PTZ auto tracking • Any certificates of ISO9001, IS)4001, RoHS, FCC/GS/CE, ISO 4892-2 <p>Warranty: At least two (2) year on parts and service</p>
<p>Network Video Recorder (NVR) Stand Alone Type</p> <p>(Must conform with the NAPOLCOM Resolution No. 2015-021)</p>	Number of Channel: 16 Channels
	Video Compression: Support H.265+
	Supported Resolution: Up to 4K (3840 x 2160)
	HDD Capacity: Up to 8TB capacity of each HDD
	USB Port: 2 minimum
	Network Protocol: Support at least TCP/IP, HTTP, HTTPS, FTP, SNNP, ICMP
	Power Supply: 220V AC, 60Hz (± 5%)
	Weight: Not more than 4 kgs
	Feature: Must have CE/FCC Certificate
	Warranty: At least one (1) year on parts and service
Additional Requirement: With Power Over Ethernet (POE) interface	
<p>8TB Hard Disk Drive (HDD) FOR CCTV</p>	INTERFACE: SATA 6Gbps
	CAPACITY: 8TB
	CAMERA SUPPORTED: Up to 64
	TRANSFER RATE: At least 210MB/s
	CACHE: At least 256MB
	MTBF: At least 1,000,000 hr
	WARRANTY (PARTS AND SERVICE): At least two (2) years
COMMUNICATION NETWORK	
<p>Network Switch</p> <p>(Must conform with the NAPOLCOM Resolution No. 2013-320)</p>	<ul style="list-style-type: none"> • Category: Branded, Brand New and latest model • Form Type: Rack-mountable • Management Features: Manufacturer's Standard • Software: Manufacturer's Standard • Memory: At least 1GB • Storage: At least 1GB • Supports the following:

	<ul style="list-style-type: none"> ○ IEEE 802.1ab Link Layer Discovery Protocol (LLDP) ○ IEEE 802.1ae Media Access Control Security (MACsec) ○ IEEE 802.1d Spanning Tree Protocol (STP) ○ IEEE 802.1p Priority ○ IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) ○ IEEE 802.1q VLANs ○ IEEE 802.3 10BASE-T ○ IEEE 802.3u 100BASE-TX ○ IEEE 802.3ab 1000BASE-T ○ IEEE 802.3z 1000BASE-X ○ IEEE 802.3x Flow Control ○ IEEE 802.3af Power over Ethernet ○ IEEE 802.3at PoE+ ○ IEEE 802.3ad Link Aggregation Control Protocol (LACP) ○ SNMPv1, v2, v3 ○ RMON I and II ○ QoS ○ ACL ○ IPV6 Routing ○ Stacking ○ High Availability ○ Redundant Power Supply <ul style="list-style-type: none"> ● Layer 3 managed switch ● Minimum of 24 x 10/100/1000BASE-T ports (full PoE+) ● Uplink Ports: at least 4 x 10G ● Switching Capacity: At least 128Gbps ● Forwarding Rate: At least 90Mpps ● VLANs Supported: At least 4000 ● MAC Addresses: At least 10,000 ● Ipv4 routing entries: At least 2,000 ● Ipv6 routing entries: At least 1,000 ● Installation set-up: Configuration and Setup if necessary ● IP Telephony: VoIP Protocol: H.323, SIP or better (optional) ● Power Over Ethernet (POE): POE Support ● Power Requirements: 110-240 AC 9A auto-volt) ● Accessories <ul style="list-style-type: none"> ○ Software Driver (if necessary) ○ Manual ○ Power Cable ○ Fiber Patch Cord ● Training: At least five (5) personnel ● At least three (3) years warranty on parts and service ● Brand should be at least five (5) years on the market
<p>Wireless Access Point (Must conform with the NAPOLCOM Resolution No. 2009-656)</p>	<p>Wireless Technology: IEEE 802.11 b/g/n/ac/ax</p> <p>Frequency Spectrum: 2.4 GHz or as defined by latest wireless technology</p> <p>Transmission Speed: At least 1 Gbps</p> <p>Device Management: Web-based management software with optional SNMP</p> <ul style="list-style-type: none"> ● Wireless Security

	<ul style="list-style-type: none"> ○ Wireless Encryption Protocol (WEP) ○ WiFi Protected Access 2 (WPA 2) ○ WiFi Protected Access 3 (WPA 3) ○ MAC Address Access Control (WPA-TKIP/WPA-AES); and/or ○ Other latest wireless security standards <ul style="list-style-type: none"> ● At least one (1) 10/100/1000 Base-T LAN ● Wireless Signal Range: Manufacturer's Standard ● Modulation Technology <ul style="list-style-type: none"> ○ Orthogonal Frequency-Division Multiple Access (OFDMA) or ○ Other latest wireless modulation standards <p>Antenna Type: Manufacturer's Standard</p> <p>LEDs: Power, LAN Activity and other indicators</p> <p>Power Input: External Power Supply Direct Current (DC) or Power over Ethernet (PoE)</p> <p>Accessories:</p> <ul style="list-style-type: none"> ● AC to DC Adaptor ● UTP Patch Cord ● CD Installer/Driver/ Manual <p>Warranty: At least two (2) years warranty on parts and service</p> <p>Additional Requirement</p> <ul style="list-style-type: none"> ● Brand new ● Brand should be at least five (5) years on the market
<p>Firewall (Must conform with the NAPOLCOM Resolution No. 2012-256)</p>	<p>Category: Latest Model</p> <p>Form Factor: Rack-mounted</p> <p>Firewall Throughput: 400 Mbps minimum</p> <p>VPN Throughput: 100 Mbps minimum</p> <p>Concurrent Connections: 100,000 minimum</p> <p>Interfaces/Ports:</p> <ul style="list-style-type: none"> ● One (1) Rj-45 10/100 auto-sensing and Auto-switching Ethernet WAN Port ● Two (2) Rj-45 10/100/1000 auto-sensing and Auto-switching Ethernet LAN Ports ● Minimum of one (1) x USB or higher; and ● Other latest connectivity <p>Software: Management Software</p> <p>Security Features:</p> <ul style="list-style-type: none"> ● Stateful Packet Inspection Firewall ● Web/Content Filtering ● Block TCP/UDP packet floods ● DoS attack protection ● Port/service blocking ● Hardware DMZ port

	<ul style="list-style-type: none"> Other latest firewall security features
	VPN Features: VPN Support (SSL, PPTP, IPSEC) – Server and/or Client setup
	Encryption: DES, Triple DES, AES
	Authentication: Latest Standard
	Input Power: AC 120/230 V
	Accessories: <ul style="list-style-type: none"> Power Cord Drivers and Manuals
	Warranty: At least two (2) years' service warranty to include softwares/system update, and on-site support
	Training: Minimum of five (5) personnel
	Condition: Must pass the PNP Test and Evaluation
ENTERPRISE SERVER (Must conform with the NAPOLCOM Resolution No. 2016-648)	<ul style="list-style-type: none"> Processor: 8 core, 2.2 GHz Type: Rack/Blade type Motherboard: Compatible with processor Memory: 32GB DIMM (RAM) Controller: RAID 0,1 Hard Disk: 2 units 1 TB (hot swap/hot plug functionality) I/O Expansion Slot: Industry Standard interface port, 3 slots Power: 2 or more power supplies, hot plug/hot swap Software: Secured open source/proprietary or OEM with stacked licenses Features: Supports Simple Network Management Protocol (SNMP) Accessories: Installer, Drivers, manuals, keyboard
OTHER ICT EQUIPMENT AND ACCESSORIES	
42U Server Rack	<ul style="list-style-type: none"> W=800mm, D=1000mm, H=42U, High density Network rack black color Locking removable side panels, front door: Curved perforated, rear door: double perforated split doors 4 mounting profile with "U" marks printed Top cover with cable entry, easy installation & uninstallation, closed bottom with cable entry Earth grounding/cage nuts included, caster wheel, levelling feet 10-way Vertical PDU <ul style="list-style-type: none"> 220V and 10 ports universal socket and safety switch 1U 1.5 m² power cord is 2 meter 19", 15A Must have at least two (2) years warranty
8-Bay Network Attached Storage (NAS) (Must conform with the	<ul style="list-style-type: none"> Drive Bay: 8 Supports Hot Swappable Drives CPU Frequency: Quad-core 2.0 GHz or better Compatible drive: 3.5" SATA HDD, 2.5" SATA HDD, 2.5" SSD or

<p>NAPOLCOM Resolution No. 2012-314)</p>	<p>better</p> <ul style="list-style-type: none"> • AES-NI Hardware encryption engine integrated • Management Software • Supports 10Gbe network interface cards • System fan • HDMI output • Network: Gigabit Ethernet or better • Rack mounted • Operating Temperature: 0⁰ – 40⁰ C • Storage Temperature: -20⁰C to 60⁰C • Input Voltage Power: 120V to 240V AC • Software and cables included • Branded and brand new <p>Category: Latest model</p> <p>Device Type: NAS server</p> <p>Host Connectivity: Gigabit Ethernet</p> <p>Enclosure Type: Rack-mountable or other form factor type</p> <p>Memory: 1GB MB minimum</p> <p>Total Storage Capacity: 4TB serial ATA minimum capacity</p> <p>Storage RAID Level: RAID 6 minimum</p> <p>HD Capacity per Bay: Hot-swap 1TB minimum</p> <p>HD Spindle Speed: 7200 rpm minimum</p> <p>Network Data Link Protocol: Ethernet , Fast Ethernet, Gigabit Ethernet</p> <p>Accessories: Cables included Software included: 2xnetwork cable - 3m and 2xpower cable or higher Drivers and Management Software</p> <p>Training: At least 5 persons</p> <p>Warranty: At least two (2) years</p> <p>Condition: Must pass the PNP Test and Evaluation</p>
<p>8TB NAS Hard Disk Drive (HDD)</p>	<p>INTERFACE: SATA 6Gbps</p> <p>CAPACITY: 8TB</p> <p>TRANSFER RATE: At least 210MB/s</p> <p>CACHE: At least 256MB</p> <p>MTBF: At least 1,000,000 hr</p> <p>WARRANTY (PARTS AND SERVICE): At least two (2) years</p>
<p>Body Worn Camera</p> <p>(Must conform with the NAPOLCOM Resolution No. 2017-369)</p>	<p>Camera</p> <ul style="list-style-type: none"> • Display: 2 inches, colored • Photo: 16 Megapixel • Field of View: 110⁰ • Frame rate: 30 frames per second • Video Resolution: 720p minimum • Video Format: WAV, MP4, MOV or AVI • Night Vision: Capable up to 10 meters

	<ul style="list-style-type: none"> • Audio: Built-in <p>Other Features</p> <ul style="list-style-type: none"> • GPS: Built-in • Wireless Transmission for real time monitoring: Built-in, Wi-Fi, 3G and 4G Capable • Storage: 32 Gigabytes, scalable to 128 gigabytes • Battery life: 8 hours continuous operation • Ingress Protection: IP67 • Shock/Impact Resistance: 2 meters • Date and time stamping • One touch easy activation • Pre and Post recorder • Password Protected/Security Features/Encryption • Capable to be Integrated to the command Center <p>Accessories</p> <ul style="list-style-type: none"> • Extra rechargeable battery or appropriate power bank • Appropriate dock and cables for charging and data transmission • Appropriate stable mounting clip for body worn <p>Must pass the Test and Evaluation: PNP MC 2018-023</p> <p>Additional Requirement: With compatible Body Camera Docking Station at least 8TB and/or appropriate software/s for SAF C3 integration</p>
<p>Unmanned Aerial Vehicle</p>	<ul style="list-style-type: none"> • Launch/take-off type: Vertical take-off and landing • Payload capacity: Based on manufacturer's product brand • Camera: 20MP or higher • Flying altitude: Not less than 500m • Flying time/battery operating time: At least 30 minutes • Communication and control: Not less than 5 km range • Flight mode: Manual and auto-pilot • Dimension: Based on manufacturer's product brand brochure specification as offered • Ground Control Systems and Accessories: Based on manufacturer's product brand brochure specification as offered • Miscellaneous: Users handbook/manual in English; and specifications for packing, handling, transportation, and storage. • Other Requirements: Wi-Fi transmission capable and infrared sensing system • Accessories: <ul style="list-style-type: none"> ○ One (1) spare battery and charger ○ Power Cable ○ RC Cable (Lighting Connector) ○ RC Cable (Standard Micro USB connector) ○ RC Cable (USB Type-C connector) ○ Gimbal Cover ○ MicroSD Card (At least 16GB) ○ Micro USB Cable • Visual Video Controller: Manufacturer's Standard • Certification: Bidder/Supplier must submit the ISO Certifications of the product manufacturer

<p>Rugged Laptop Computer</p>	<ul style="list-style-type: none"> • Regulatory and Environmental Compliance: MIL-STD-810G/H testing • Processor: Core-i5, 1.7 GHz minimum • Memory: 8 GB minimum • Hard Disk: 1 TB HDD minimum • Graphics: minimum 4GB VRAM • On-board Controller: Sound controller, built-in speaker microphone • Expansion Slot: SD card reader • Display: <ul style="list-style-type: none"> ○ Type: Manufacturer's Standard ○ Screen Size: 13 inch minimum • Resolution: 1920 x 1080 • Camera: Built-in • Connectivity: 802.11 ac/ax WiFi, Bluetooth and 4G LTE mobile broadband, integrated GPS • USB Ports: At least two USB ports • Interface: HDMI and audio jack • Battery: 51 Whr Lithium Polymer or latest battery type/composition • Power: Manufacturer's Standard • Software: <ul style="list-style-type: none"> ○ Latest licensed Office Application (Perennial) ○ Latest licensed Operating System (Perennial) ○ Latest licensed Anti-Virus Software (minimum of two (2) years) • Accessories: <ul style="list-style-type: none"> ○ Charger and power cable ○ CD installer/driver/ Manual ○ Laptop bag • Other Features: <ul style="list-style-type: none"> ○ Military grade rugged laptop ○ Brand new ○ Brand must be at least five (5) years in the market • Warranty (Parts and Service): At least two (2) years
<p>Large Format Multipurpose Printer</p>	<p>Functions: Print, Scan and copy</p> <p>Compatible Ink Type: Dye-based (C, M, Y); pigment-based (mK)</p> <p>Number of Print Cartridges: 4 (CYMK)</p> <p>Ink Colors: Matte Black (mK), Cyan (C), Yellow (Y) and Magenta (M)</p> <p>Printing Resolution: 2400 x 1200 Optimized DPI</p> <p>Print Speed: Line drawing (economode, A1 plain paper) 25 sec/page; 82 prints per hour</p> <p>Paper Size: 210 to 914-mm wide sheets; 279 to 914-mm rolls</p> <p>Handling: Sheet feed, roll feed, input tray, media bin and automatic horizontal cutter</p> <p>Scan Resolution: 600 DPI minimum</p>

	<p>Scan Speed: Minimum of 3.81/sec (color, 200 dpi); 11.43cm/sec (grayscale, 200 dpi)</p> <p>Scan Format: JPEG, PDF, TIFF</p> <p>Interface: USB</p> <p>Network Connectivity: Wired and Wireless</p> <p>Memory: 1GB minimum</p> <p>With Resetting Capability: Manufacturer's standard</p> <p>Accessories: Compatible Software/s and Appropriate Cables</p> <p>Additional Requirements:</p> <ul style="list-style-type: none"> • Brand new • Brand must be at least five (5) years on the market
<p>Door Access Control</p>	<ul style="list-style-type: none"> • Electric Bolt for Fully Frameless Glass Door • Resettable emergency door release that is used with an access control system • Emergency Key Switch (Main Door) • Door Release Button w/ Back Box • UPS Access Control Power Supply 12V, 3A with Back-up Battery • Capable to integrate with other device • Capable of IP camera integration • Application to home/building automation (integration of FACP and other Alarm) • At least two (2) Access Card Readers: One (1) for main entrance and one (1) for server room • At least 50 Access Cards • At least two (2) years warranty on parts and service
<p>10 KVA Uninterruptible Power Supply (UPS)</p>	<ul style="list-style-type: none"> • Voltage Rating: 10KVA • Input AC Parameters <ul style="list-style-type: none"> ○ Operating Frequency, Nom: 50 or 60 Hz ○ Factory Default Voltage: 230 VAC ○ Operating Voltage Range Without Battery Operation: 176 to 288 VAC (100 to 176 VAC with power derating) ○ Maximum Allowable Voltage: 288 VAC ○ Input Frequency Without Battery Operation: 40 to 70 Hz • Output AC Parameters <ul style="list-style-type: none"> ○ AC-AC Efficiency: 90% ○ User-configurable Voltage: 200/208/220/230/240 VAC ○ Factory Default Voltage: 230 VAC ○ Frequency: 50 Hz or 60 Hz, Nominal ○ Waveform: Pure Sinewave ○ Output Power Connection: Output terminal block ○ Main Mode Overload: >150% minimum 200 ms, 125 – 150% for 60 seconds; 105 – 125% for 5 minutes; ≤ 105% continuous • At least two (2) years warranty on parts and service • Brand should be at least five (5) years on the market • System features: <ul style="list-style-type: none"> ○ Unity Power Factor (PF=1.0) ensures the connection of more loads and IT equipment ○ Operates at full power up to 40°C (up to 50°C with derating) ○ Integrated solution that combines electronics and batteries in a single part number ○ Easy to read gravity sensing graphical color display ○ Programmable sockets help to extend runtime for the most critical loads and smart disconnection of the less critical ones ○ Efficiency in on-line double conversion mode up to 95%

<p>Automatic Transfer Switch for 100KVA Generator</p>	<ul style="list-style-type: none"> • Shall meet the design and testing requirements of the latest applicable NEMA and/or ANSI or IEEE or IEC standards • Automatically transfer the load to the standby 100KVA generator in the event of a utility supply failure and return the load back to the normal utility supply upon restoration of normal utility power. • Can be mechanically and electrically interlocked to prevent the utility and generator power supplies from being interconnected • With LED indicator for switch position • With appropriate circuit breaker, insulation, wires and battery. • Installation and operating instructions manual
<p>1HP Split Type ACU (Must conform with the PNP MC NO. 2020-079)</p>	<ul style="list-style-type: none"> ○ System: Evaporator and Condenser ○ Cooling Capacity: 9,200 BTU/h (9,706.51kJ/h) ○ Energy Efficiency: Ratio (EER): 12.50kJ/hr-W ○ Maximum sound level: 40dB ○ Power Supply: Philippine standard ○ Phase: Single phase (1ϕ) ○ Frequency: Philippine standard
<p>Structured Cabling System</p>	<ul style="list-style-type: none"> • Cable Manager – the Horizontal Cable Management shall be mounted above and below each patch panel: <ul style="list-style-type: none"> ○ Have 1, 2 or 4 rack mount space (RMS) versions available. ○ Be available in both 4" or 6" Deep Versions ○ Have a cover to conceal Equipment Patch Cords ○ Have finger radius holes that allow for quick opening and closing of doors at a single point • Copper Cable – all Category 6 (CAT6) UTP cable shall conform to the following minimum performance standards: <ul style="list-style-type: none"> ○ Provides significant headroom above all TIA and ISO/IEC CAT6 transmission performance specifications ○ Have a round cable CMR jacket with a nominal cable outside diameter (OD) up to 0.25inches ○ Have a construction comprised of 4-pairs of 23 AWG solid bare copper conductors ○ Utilize a center isolation member to maintain pair geometry for optimal performance ○ Have a rip cord installed under the jacket for jacket removal ○ Have reverse sequential measurement markings on jacket • Patch Panel – all termination panels shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements: <ul style="list-style-type: none"> ○ Be made of flame retardant thermoplastic available in 24-port configurations ○ Exceed CAT6 connecting hardware specifications for all pair combinations up to 250 MHz ○ Allow termination with a standard termination tool ○ Be backwards compatible to allow lower performing categories of cables or connecting hardware to operate to their full capacity ○ Support industry standards for T568A or T568B wiring options on each individual outlet ○ Display category performance markings on front of panel • Information Outlet (IO) – all CAT6 information outlets (IO) designed for termination of 4-pair balanced twisted-pair CAT6 copper cables must possess the following characteristics at the minimum:

	<ul style="list-style-type: none"> ○ Exceed CAT6 connecting hardware performance specifications ○ Allow termination with a standard tool ⊖ Be backwards compatible to allow lower performing categories of cables or connecting hardware ○ Support industry standards for T568A or T568B wiring options on each individual outlet ○ Can be installed from either front or rear of faceplate ○ Have colored icons provided for port identification ○ Be UL listed <ul style="list-style-type: none"> ● Faceplate <ul style="list-style-type: none"> ○ Offers pressure-release designation label covers which eliminate the need for a probe-pic or screwdriver when installing faceplate labels ○ Includes pressure-release designation label covers for quick, tool-less removal ○ Flexible mounting tab on outlets allows installation from front or rear of faceplate ○ Horizontal faceplates include designation label(s), clear label covers, and color-matching screw covers ○ Must be available in 1,2,3,4 ports configuration ● Patch Cords – All CAT6 patch cords shall conform to the following minimum performance standards: <ul style="list-style-type: none"> ○ High performance CAT6 cable for optimal flexibility and transmission performance ○ Be backwards compatible with lower performing categories ○ Be equipped with identical modular 8-position plugs on both ends, wired straight through with standards compliant wiring ○ Utilize patented metallic isolator shields pairs inside plug for optimum performance and a 360° crimp for providing excellent plug-to-cable strain relief without causing pair deformation ○ Obtain the required performance without use of printed circuit board components ○ Incorporate internal stranded cordage isolator within a round, flame-retardant jacket to provide extended flex life and maintain ideal pair geometry ○ Have a boot that features an ultra slim design for high density applications and snag free operation. ○ Use modular plugs which exceed FCC CFR 47 part 68 subpart F and IEC 60603-7 specifications, have contact materials of copper alloy with contact plating of 50 micro inches gold or equivalent ○ Be available in standard lengths with custom lengths available upon request ○ Offer multiple cable colors (with ultra slim boots for high density applications) in standard colors of for proper circuit identification ● Roughing-ins <ul style="list-style-type: none"> ● Includes all PVC conduits and all other necessary accessories
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This Supplemental/Bid Bulletin No. 2022-01 shall form part of the Bidding Documents of the said procurement. Any provisions in the Bidding Document inconsistent herewith are hereby amended, modified and superseded accordingly.

For guidance and information of all concerned.

Very truly yours,

A handwritten signature in black ink, appearing to be 'KJB Kraft', written over a light gray rectangular background.

KIRBY JOHN B KRAFT
Police Colonel
Chairman, BAC/ADD, SAF⁹