

## **PRICE SCHEDULE**

### **Instructions**

**Bidders MUST complete the Table below in the format provided**

**Table 6: Price schedule for CCTV Spare Part List**

<b>No</b>	<b>Spare part item</b>	<b>Unit of measure</b>	<b>Unit price</b>
1.	CAT 6A cable (indoor)	Roll	
2.	CAT 6A cable (outdoor)	Roll	
3.	1000 base X 8 core fibre optic	Per m	
4.	SFP fibre module (multi-mode)- Cisco	pc	
5.	Fiber Patchcords 3M LC To SC OM3 MM	Pc	
6.	24 Port Fiber Trays loaded with Adaptors inclusive of installations	pc	
7.	48 Port Fiber Trays loaded with Adaptors inclusive of installations	pc	
8.	24 Port CAT 6A Patch panel	pc	
9.	48 Port CAT 6A Patch panel	pc	
10.	1M CAT 6A Patch cords	pc	
11.	3M CAT 6A Patch cords	pc	
12.	RJ 45 Connectors CAT 6A	pc	
13.	Cisco Switch – 48 Gigaport POE with 4 uplink Gigaport with SFP fibre module (multi-mode)- Cisco	pc	
14.	Cisco Switch – 24 Gigaport POE with 4 uplink Gigaport with SFP fibre module (multi-mode)- Cisco	pc	
15.	6 MP IP IR Dome POE Camera	Pc	
16.	6 MP IP IR Bullet POE Camera	Pc	
17.	4 MP IR Day/Night Outdoor IP POE PTZ Cameras	pc	
18.	6 MP IP IR Fish Eye (360°) Camera	pc	
19.	42U cabinet complete with cable management accessories, power distribution unit, ventilation fans	pc	
20.	Network Video Recorder (NVR)	pc	
21.	Hot- Swappable Disk- NVR 2TB	pc	
22.	Hot- Swappable Disk- NVR 4TB	pc	
23.	Hot- Swappable Disk- NVR 10TB	pc	
24.	Internal HDD (250 GB SSD)	pc	
25.	Client Workstation	pc	
26.	APC UPS rack Mountable 3.0 KVA	pc	
27.	APC UPS rack Mountable 1.5 KVA	pc	
28.	Sony 55” LCD Monitor	pc	
29.	Camera License	Per Camera	
30.	32mm heavy gauge Pvc conduits, couplers, saddles, screws, tangit and accessories (per meter)	PC	
31.	25mm heavy gauge Pvc conduits, couplers, saddles, screws, tangit and accessories (per meter)	PC	
32.	Pvc 2 x 2 trunking with accessories per meter	PC	
33.	25mm Flexible conduit (50 meters)	Roll	
34.	32mm Flexible Conduit( 50metres)	Roll	
35.	HDMI Cable	Meter	
36.	24U cabinet	PC	
37.	6 MP IP IR Wireless camera	PC	
38.	180 degrees fisheye IP IR camera	PC	
<b>Total Costs inclusive of all the applicable taxes (Kshs.)</b>			

**Table 7: Price Schedule For Racks, Containment And Communication Services**

No	Item	Description	Unit price
1.	<b>1.5KVA UPS rack mount</b>	<p><b>Model and Technology:</b> Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)</p> <p>Output Power Capacity:- 865 Watts / 1500 VA</p> <p>Max Configurable Power :-865 Watts / 1500 VA</p> <p>Nominal Output Voltage :-220/230/240VAC programmable1 phase + N</p> <p>Output Voltage Distortion :-Less than 5% at full load</p> <p>Output Frequency (sync to mains) :-47 – 53 Hz for 50 Hz nominal,57– 63 Hz for 60 Hz nominal</p> <p>Topology:-Line interactive</p> <p>Waveform Type:-Stepped approximation to a Sine wave</p> <p>Output Connections:-Four (4) IEC 320 C13, Two (2) IEC jumpers</p> <p>Nominal Input Voltage:-100V to 240V</p> <p>Input Frequency:-50/60 Hz +/- 3 Hz (auto sensing)</p> <p>Input Connections:-IEC-320 C14</p> <p>Battery Type:-Maintenance free sealed lead-acid with suspended electrolyte, leak proof</p> <p>Input voltage range for main operations:-1 phase 230VAC+ Neutral +earth</p> <p>Input voltage adjustable range for mains operation:-175 – 297V</p> <p>Typical recharge time:8 hour(s)</p> <p>Typical Backup Time at Half Load:-20.9 minutes (432.5 Watts)</p> <p>Typical Backup Time at Full Load:-7.6 minutes (865 Watts)</p> <p>Interface Ports:-DB-9 RS-232, 10/100 base-T</p> <p>Control panel LED status display with:-</p> <ul style="list-style-type: none"> <li>• On Line</li> <li>• On Battery</li> <li>• Replace Battery and Overload indicators</li> </ul> <p>Audible Alarm :-Alarm when on battery : distinctive low battery alarm : configurable delays</p> <p>Surge energy rating:-445 Joules</p> <p>Filtering :-</p> <ul style="list-style-type: none"> <li>• Full time multi-pole noise filtering</li> <li>• 5% IEEE surge let-through</li> <li>• zero clamping response time</li> <li>• meets UL 1449</li> </ul> <p>Data Line filtering:-RJ-45 modem/Fax/DSL/10-100 Base-T protection</p> <p>Standard Warranty:-2 years repair or replace</p>	
2	<b>6 MP IP IR Dome Indoor Camera with Digital Zoom</b>	<p><b>Model and Technology:</b> Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)</p> <p>Image Sensor:- 1/1.8” Progressive Scan CMOS</p> <p>Min. Illumination: Color: 0.1 lux at F2.0 (30 IRE, 2400 K); B/W: 0 lux at F2.0 (IR LED on)</p> <p>Shutter: 1/5-1/2000sec (manual mode); 1/5-1/10000sec (auto mode)</p> <p>Slow shutter support</p> <p>Lens: Varifocal</p>	

<b>180 degrees fisheye IP IR camera</b>	Focusing: Auto		
	Auto Iris: Yes		
	Day & Night: IR cut filter with auto switch		
	Wide Dynamic Range: Basic WDR (120 dB)		
	Compression Standard		
	Video Compression: H.265+/H.264+/H.264/MJPEG		
	H.264 code profile: Baseline Profile / Main Profile / High Profile		
	Video bit rate: 28Kbps - 6Mbps (per stream)		
	Audio Compression:G.711/G.722.1/G.726/MP2L2		
	Audio bit rate:64Kbps(G.711) / 16Kbps(G.722.1) / 16Kbps(G.726) / 32- 128Kbps(MP2L2)		
	<b>Image</b>		
	Max. Image Resolution: six megapixels (2921 x 2184)		
	Multiple video streaming (3 streams)		
	Image Enhancement: BLC/3D DNR/ROI/Defog		
	Image Settings:Saturation, brightness, contrast adjustable through cli ent software or web browser		
	Supports distortion correction		
	Supports target cropping		
	Day Night/Switch: Auto/Schedule/Triggered by Alarm In		
	<b>Network</b>		
	Network Storage: NAS (Support NFS,SMB/CIFS), ANR		
	Alarm Trigger:Motion detection, tampering alarm, network disconne ct , IP address conflict, storage exception		
	Protocols:TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, D NS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SN MP, IGMP, 802.1X, QoS, IPv6, Bonjour		
	General Function: User Authentication, Watermark, IP address filtering		
	System Compatibility: ONVIF (Profile S, Profile G),ISAPI		
	<b>Interface</b>		
	Communication interface: 100M/1000M Ethernet port, 1 RS- 485 interface		
	Audio:1-ch 3.5 mm audio in (Mic in/Line in)/out interface		
	Alarm: 1 input, 1 output (up to DC24V 1A or AC110V 500mA )		
	On-board storage: Built- in Micro SD/SDHC/SDXC slot, up to 128 GB		
	<b>General Features</b>		
	<b>Model and Technology:</b>		
	Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)		
Operating conditions: -30 °C ~ 60 °C (-22 °F ~ 140 °F) Humidity 95% or less (non-condensing)			
Power Supply: PoE (802.3af)			
Impact Protection: IK10			
IR range: Up to 30m			
Image Sensor:- 6MP 1/1.8" Progressive Scan CMOS			
Signal System:- PAL/NTSC			
Min. Illumination:-Color: 0.1 lux at F2.8 (30 IRE, 2400 K); B/W: 0 lux at F2.8 (IR LED on)			

		Lens:-1.65mm, F2.8 Angle of view: 180°(wall mount) Focusing: Auto Day & Night:- IR cut filter with auto switch Wide Dynamic Range:- True WDR at least 130dB Digital noise reduction:- 3D DNR Video Compression:- H.264+/H.264/MJPEG Audio Compression:- G.711/G.722.1/G.726/MP2L2 Triple Stream:- Yes Digital Zoom: 21x Max. Image Resolution:- 4096 x 2190 Image Settings:- Saturation, brightness, contrast adjustable through client software or web browser	
3.	<b>6MP IP IR Bullet Outdoor Camera with Digital Zoom</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years (bidder must specify brand, model and series) Motorized zoom lens with P-Iris technology Independent with Main Stream and Sub Stream Image Sensor: 1/1.8" Progressive Scan CMOS Min. Illumination: Color: 0.1 lux at F1.4 (30 IRE, 2400 K); B/W: 0 lux at F1.4 (IR LED on) Shutter Time: 1/5-1/2000sec (manual mode); 1/5-1/10000sec (auto mode) Slow Shutter: Yes Fixed Lens: 2.8 - 9 mm @ F1.4, angle of view: 94.5°-30.5° Auto Iris: DC drive Focusing: Auto Angle Adjustment: Pan: 0°-355°, Tilt: 0° ~ 75°, Rotation: 0°-355° Digital Noise Reduction: DNR WDR: Basic WDR (74 dB) Day/Night: IR cut filter with auto switch Video Compression: H.264, MPEG4, MJPEG Bit Rate: 32 Kbps ~ 16 Mbps Audio Compression: G.711/G.726/MP2L2 Audio Bit Rate: 64Kbps(G.711) / 16Kbps(G.726) / 32-128Kbps(MP2L2) Max. Image Resolution: six megapixels (2921 x 2184) Frame Rate: 30fps Day/Night Switch Auto/Schedule/Triggered by alarm in Analytics and Alarm Trigger: Cross line detection, Intrusion detection, Scene change detection, Defocus detection, audio exception detection, Motion detection, Face detection, Dynamic analysis, Tampering alarm, Network disconnect, IP address conflict Protocols: TCP/IP, ICMP, HTTP, HTTPS, DHCP, DNS, RTP, RTSP, RTCP, NTP, SMTP, IGMP, IPv6 Security: User authentication, watermark, IP address filtering, anonymous access System Compatibility: ONVIF (Profile S, Profile G), PSIA, CGI, ISAPI Onboard Storage: Built in Micro SD slot, up to (128GB) Power Supply: PoE (802.3af)	

		IR Range: Approx. 30m	
		Impact Protection: IK10	
		Protection Level Weatherproof (IP68), Vandal proof metal casing (IK10)	
		Warranty: 2 Years	
4.	<b>6 MP IP IR Fish Eye (360°) Camera</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Image Sensor: 1/1.8" Progressive Scan CMOS	
		16x digital zoom	
		Digital WDR	
		25 ft (8 m) IR distance, depending on scene reflectance	
		Built-in cyber security hardware chipset	
		Excellent low light performance with down to 0 lux BW (with IR LEDs on)	
		Up to triple stream support	
		1.7 mm, F2.0, or 1.98 mm F2.8 fixed fisheye lenses	
		Onboard camera storage up to 128 GB microSD card (not included)	
		Rugged outdoor housing with IP67 ingress protection rating and IK10 impact resistance rating	
		ONVIF profile S and G compliant	
		Global language support with 15 languages for all QIGs, Web GUI, and online help	
5.	<b>4MP IP PTZ Outdoor Camera with Digital Zoom</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Image Sensor 1/3.2 "HD CMOS sensor	
		Full HD: 2048 x 1536 / 25fps/30fps	
		Min.Illumination:F1.5, 50IRE, AGC On: Color: 0.002 lux, B/W : 0.0002 lux, 0 lux with IR	
		White Balance: Auto/ATW/Indoor/Outdoor/Daylight lamp/Sodium lamp	
		WDR:120dB	
		Shutter Time: 50Hz: 1~1/30,000s; 60Hz: 1~1/30,000s	
		Alarm Trigger: Motion detection, tampering alarm, HDD full, HDD error, net work disconnected, IP address conflicted, illegal login	
		True Day & Night: ICR	
		Privacy Masking: 24 privacy masks programmable; optional multiple colors and mosaics	
		Auto Focus: Auto	
		30x Optical zoom (4.3~129mm), 16x Digital zoom	
		3D positioning	
		Weather Proof IP66 and IK10 Vandal Proof	
		ROI: Support 1 fixed region for main stream and sub stream separately	
		<b>Pan &amp; Tilt</b>	
		Pan Range: 360°endless	
		Pan Speed: Pan Manual Speed: 0.1°~160°/s, Pan Preset Speed: 240°/s	
		Tilt Range: -20°~90°(Auto Flip)	

		<p>Tilt Speed: Tilt Manual Speed: 0.1°~120°/s, Tilt Preset Speed: 200°/s</p> <p>Proportional Zoom: Rotation speed can be adjusted automatically according to zoom multiples</p> <p>Number of Preset: 300</p> <p>Patrols:8 patrols, up to 32 presets per patrol</p> <p>Pattern: 4 patterns, with the recording time not less than 10 minutes per pattern</p> <p>Supports power loss recovery</p> <p>Park Action: Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan</p> <p>PTZ Position Display: ON/OFF</p> <p>Supports Freeze Frame</p> <p><b>Infrared</b></p> <p>IR irradiation distance:120M</p> <p>IR irradiation angle: Adjustable by Zoom</p> <p>Warranty: 2 Year</p>	
6.	<b>Network Video Recorder</b>	<p>Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)</p> <p><b>Server Software(Recording)</b></p> <p>Video Standards: PAL, or NTSC standards, HD-SDI and IP</p> <p>Video Resolution: QCIF, CIF, 2CIF, DCIF, D1, 720p,1080p, MP</p> <p>Live view / Playback resolution 12 MP/8 MP/6 MP/5 MP/4 MP/3 MP/1080p/UXGA/720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF</p> <p>IP and HD rates: High image rate streams supported, camera dependent</p> <p>Zoom: Unlimited zoom by mouse wheel</p> <p>Record Type: Continuous, schedule, motion, alarm, event and digital input trigger</p> <p>Record Tracks: 3 independents tracks assignable to different HDDs with different settings</p> <p>Overwrite Modes: Configurable auto deletion and overwrite function by time or disk allocation</p> <p>Operating System: Embedded Linux platform</p> <p>The VMS will have the following licensed features embedded, analytics should be on server and camera side:-</p> <ul style="list-style-type: none"> <li>• Object counting</li> <li>• Target cropping scheme</li> <li>• Object entering/leaving</li> <li>• Facial recognition</li> <li>• Smart search with Thumbnails</li> <li>• Region entering/leaving</li> <li>• Object identification</li> <li>• Forensic search</li> <li>• Automatic Number Plate Recognition</li> </ul> <p><b>Client Software</b></p> <p>Remote Users: 2 to unlimited concurrent licensed users</p> <p>Operating System: Microsoft Windows Server</p> <p>Mobile client: Support for Android, iOS devices and licensed</p> <p>Find and Display: Instantaneous and simultaneous display of live and recorded images</p>	

	Video Display: User configurable by image size, aspect ratio and position	
	<b>Licensed Features(one off license)</b>	
	De-warping for any 360 degree cameras: Provides customizable linear views of live and archived images and the ability to recall a total old of view and follow subjects as if tracking with a PTZ camera, creating ad hoc video clips around the occurred events	
	Multiple Interactive Maps: Configurable map screen for finding and interacting with cameras and devices	
	Virtual Matrix: Ability to display video from multiple cameras from different recorders on monitor walls	
	VMS should support Video Wall functionality to control multiple large monitors from single Client workstation	
	HTTP proxy server: Allows remote management of cameras and other equipment that is isolated on the local surveillance network	
	The Operating system, the VMS and the database (enterprise versions) will have a one off license	
	The client software with unlimited concurrent users (remote and mobile)	
	Automatic plate number recognition for unlimited number of cameras	
	Face recognition for unlimited cameras	
	<b>Camera Support</b>	
	Compression formats: H.264, H.264+, H.265, MPEG-4, M-JPEG, JPEG2000, and MxPEG	
	Camera Model: Should work on an open platform i.e. support any IP camera model provided it has ONVIF feature.	
	PTZ devices: Full 3 axis control(PAN, TILT & ZOOM) using a 3-axis mouse or joystick controller	
	PTZ Mode: Preset and Tour	
	IP Camera setup: Drop down menu	
	IP camera discovery: Automatic for ONVIF cameras	
	IP camera web browser setup: Direct access	
	Camera and tracks: Multiple recording profiles	
	<b>Security and Redundancy</b>	
	Password profile: Multiple protection levels	
	Camera and displays: Accessible on a per user basis	
	Digital watermarking : Image authentication with real time checking	
	Encryption: Up to 4096 bit encryption	
	Remote Administration: Remote control via TCP/IP network including restart and rebooting	
	<b>Events and Alarms</b>	
	Advanced events: Shows a real time stream of incoming events and alarms on the main window	
	Event Detection: Any third party events and alarms, video loss, darkening, motion within image, camera movement, camera tamper, alarm input, login succeeded, login denied, faulty warning.	
	Event notification: Via client viewer, email or TCP/IP message	
	Events Actions: Record on alarm, text overlay, boost recording rate, trigger output, spot monitor and PTZ camera on preset	
	<b>Failover</b>	
	NVR and VMS Suite should support complete failover of both management server and recording server.	
	Database server should support mirroring for immediate high availability if primary database server fails	



		Failover should occur instantaneously under 1 minute without any user disruption	
		<b>Hardware</b>	
		Processor: Intel® Xeon® E5-2620v3 (10 core, 2.3 GHz, 40MB, 105W)	
		Memory: 64 Gb	
		Storage:	
		<ul style="list-style-type: none"> <li>• 32TB,</li> <li>• 120 GB SSD boot drive for rapid start-up),</li> <li>• Cache (MB)5 64</li> <li>• Performance Class 5400 RPM Class</li> <li>• Load/unload cycles 300,000</li> <li>• Safe and secure surveillance Hard Drives</li> </ul>	
		Raid Level: 0,1,5,6 –Optional	
		Incoming bandwidth : 320 Mbps, or 200 Mbps (when RAID is enabled)	
		Outgoing bandwidth :256 Mbps, or 200 Mbps (when RAID is enabled)	
		IP video input Up to 12MP resolution	
		Recording resolution : 12MP/8 MP/6 MP/5 MP/4 MP/3 MP/1080p/UXGA/720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF	
		Network: 2 x 1GigE ports –upgradable	
		Speed -1000 Mbps	
		Remote connection : 128	
		The server will be configured in the existing Local Area Network (LAN) and the cameras will be on their own network(Behind the NVR)	
		Time Sync(NTP): Automatically synchronized to other compatible recorders	
		Privacy Mask: Configurable mask to avoid viewing sensitive areas within a camera view.	
		Time Zone: Regional setting available	
		Languages: Multiple languages support	
		Recorder per location: 1-255	
		Distributed locations: 1 to unlimited	
		Monitoring: Full system monitoring including SMART disk health monitoring	
		Power: Input Voltage 240V ac , 50Hz	
		1+1 redundant power supply unit	
		Watchdog function: Auto-reboot of system in case of system failure	
		Warranty: 2/2/2 - Server Warranty includes two years of parts, three years of labor, and three years of onsite support coverage.	
7.	<b>HDMI Cable</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		sRGB	
		YCbCr 4:2:2/4:4:4	
		8 channel LPCM, 192 kHz, 24-bit audio capability	
		Blu-ray Disc and HD DVD video and audio at full resolution	
		Consumer Electronic Control (CEC)	
		DVD-Audio support	
		Super Audio CD (DSD) support	
		Deep color	
		xvYCC	
		Auto lip-sync	
		Dolby TrueHD bitstream capable	
		DTS-HD Master Audio bitstream capable	



		Updated list of CEC commands	
		3D over HDMI	
		Ethernet channel	
		Audio return channel (ARC)	
		4K resolution support at 30 fps	
8.	<b>CAT 6A cable (Outdoor)</b>	Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		<b>Conductor Metal: Solid Bare Copper</b>	
		<b>Shield: Aluminum Polyester Foil</b>	
		<b>Color Code: Black</b>	
		<b>Conductor Diameter: 0.560mm Nominal, 23 AWG</b>	
		<b>Insulation Diameter: 1.14 Nominal, Insulation Material: HD-PE</b>	
		<b>Drain Wire: 26 AWG</b>	
		<b>Jacket Material: Double sheath, PVC Inner Sheath, UV PVC Outer Sheath</b>	
		<b>Cable Diameter: 8.6mm Nominal</b>	
		<b>Warranty: 1 Year</b>	
9.	<b>SSD 250 GB (Supply, Install and Configure)</b>	Mature internationally recognized brand, in existence for at least 2 years(bidder must specify brand, model and series)	
		Form factor: 2.5" drive available in both 7.0mm (64GB & 128GB only) & 9.5mm (256GB) to fit more systems	
		<b>Interface: SATA Rev. 3.0 (6Gb/s) – with backwards compatibility to SATA Rev. 2.0.</b>	
		<b>Warranty: 3-year warranty, free technical support</b>	
10.	<b>Hot-Swappable Disk- NVR 10TB (Supply, Install and Configure)</b>	Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Capacity- 10 TB	
		<b>Features: Time-Limited Error Recovery (TLER), IntelliSeek, IntelliPower, Advanced Format technology, All Frame, surveillance system compatible, S.M.A.R.T.</b>	
		<b>Interface: SATA 6Gb/s</b>	
		<b>Buffer Size: 64 MB</b>	
		<b>Internal Data Rate: 150 MBps</b>	
		<b>Drive Transfer Rate: 600 MBps (external)</b>	
		<b>Speed: 5400 RPM</b>	
		<b>Warranty: 3 Year</b>	
11.	<b>Hot-Swappable Disk- NVR 4TB (Supply, Install and Configure)</b>	Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Capacity- 4 TB	
		<b>Features: Time-Limited Error Recovery (TLER), IntelliSeek, IntelliPower, Advanced Format technology, All Frame, surveillance system compatible, S.M.A.R.T.</b>	
		<b>Interface: SATA 6Gb/s</b>	
		<b>Buffer Size: 64 MB</b>	
		<b>Internal Data Rate: 150 MBps</b>	
		<b>Drive Transfer Rate: 600 MBps (external)</b>	
		<b>Speed: 5400 RPM</b>	
		<b>Warranty: 3 Year</b>	
12.	<b>Hot-Swappable Disk- NVR 2TB (Supply,</b>	Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Capacity- 2 TB	
		<b>Features: Time-Limited Error Recovery (TLER),</b>	

	<b>Install and Configure)</b>	<b><i>IntelliSeek, IntelliPower, Advanced Format technology, All Frame, surveillance system compatible, S.M.A.R.T.</i></b> <b><i>Interface: SATA 6Gb/s</i></b> <b><i>Buffer Size: 64 MB</i></b> <b><i>Internal Data Rate: 150 MBps</i></b> <b><i>Drive Transfer Rate: 600 MBps (external)</i></b> <b><i>Speed: 5400 RPM</i></b> <b><i>Warranty: 3 Year</i></b>	
13.	<b>Gigabit Ethernet 1000Base-SX SFP Optical Interface</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series) <hr/> Transceiver model number:- SFP-1GE-SX Rate:- 1000 Mbps Optical interface:- Multimode Transceiver type:- SFP Maximum distance:- 50/125 MMF cable: 1640 ft/500 m Transmitter wavelength:- 770 through 860 nm Average launch power:- -9.5 through 0 dBm Average receive power:- -17 through 0 dBm Receiver saturation:- 0 dBm Receiver sensitivity:- -17 dBm	
14.	<b>Fiber Patch cords 3M LC To SC OM3 MM</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series) Fiber Type:- 62.5/125 - OM1 Cable Type :- Multimode Cable Length (m.): - 3 Color:- Orange Network Speed:- 1Gbps Connections:- Connector A SC DUPLEX (MALE), Connector B ST DUPLEX (MALE)	
15.	<b>Graphic card (NVDA)</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series) Intended Operating System: Windows 7, Windows Vista, Windows XP Memory Interface: DDR3-1066DDR2-800 DirectX 10 Support: Yes Graphics Cores: 16 Core/Shader Clocks: 450/1100 MHz Texture Fill Rate: 3.6 Billion/second Max. Anti-Aliasing (AA) Sample Rate: 16x RAMDACs: 300MHz Max. High-Dynamic Range (HDR) Precision: 128-bit Max. Analog Resolution: 2048 x 1536 Max Digital Resolution: 2560 x 1600 NVIDIA PureVideo® HD: Yes With Full HD decode (1080i/p) Display options: HDMI, dual-link DVI, DP and VGA PCI-Express 2.0: 20 lanes 1 x16 Audio: HDA (Azalia)	

		Form Factor: UDIMM	
		Total Capacity: 8GB	
		Specs: DDR3 PC3-12800 • CL=11 • Unbuffered • ECC • DDR3-1600 • 1.35V • 1024Meg x 72 •	
		Speed: 1600 MT/S	
		Voltage: 1.35V	
		DIMM Type: Unbuffered	
		Bullet Features: Increases system performance	
		Size: 91x28 mm	
16.	<b>55" LED HDTV</b>	Model and Technology : Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Max. Resolution :3840×2160	
		Input signal : HDMI / USB/VGA /RF / AV_IN / VIDEO_OUT /AUDIO_OUT / RJ45 / DIGITAL AUDIO_OUT	
		USB - support: Video/Audio/Image	
		Audio/Video Inputs : Stereo Audio L/R RCA	
		Intelligent energy management: Must have the ability measure the intensity of light in the room and automatically adjusts the TV brightness.	
		Operating voltage : 100V-240VAC 60/50Hz	
		Image processing : 3D+3D	
		Audio Power output : 8W+8W	
17.	<b>Cisco Switch – 48 Gigaport POE with 4 uplink Gigaport</b>	Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Enterprise standalone, High-density, High performance, Gigabit Ethernet switch. Layer 2 switching and layer 3 routing must be supported.	
		The switch <b>MUST</b> provide a seamless integration with the existing KRA network	
		48 Ethernet 1000 Mb ports, 4 - SFP transceiver-based Gigabit Ethernet ports	
		Must support Advanced Layer 3 switching (IPv4 and IPv6) features, advanced quality of service (QoS), rate limiting, Access Control Lists (ACLs) and Enhanced Interior Gateway Routing Protocol (EIGRP) and OSPF	
		IEEE 802.1Q, 802.1p, 802.3x	
		Ethernet: IEEE 802.3, 1000BaseT, and 1000BaseFL	
		Fast Ethernet: IEEE 802.3u, 1000BaseTX, 1000BaseFX	
		Gigabit Ethernet: IEEE 802.3z.	
		Compatible with different vendors Network equipment e.g. 3com, Nortel, Cisco.	
		Compliant with IEEE SNMP standards. Capable of monitoring the Network up to Node Level. Management by a well-known and developed propriety OS.	
		Spanning Tree Protocol Technology	
		Support for Spanning Tree Protocol Technology	
		Compliant with IEEE 802.1Q standards- should support VLANs/Network Segmentation	
		Port Level Security e.g. Port Filtering, Access Control Lists, Policy based routing etc. Management by a recognized propriety operating system	
		Auto negotiating on all ports automatically selects half- or full-duplex transmission mode to optimize bandwidth.	
		Per-port broadcast, multicast, and unicast storm control prevents faulty end stations from degrading overall systems performance	
		The proposed switch should not have reached <b>End Of Life</b>	
		The proposed switch should allow Minimum 3 years on Parts, Labour and software support.	

		In addition, the equipment <b><i>MUST</i></b> include the manufacturer's premier technical support services that include: (i) Accelerated hardware replacement options, (ii) Operating system updates, (iii) Access to Manufacturer's technical assistance team, (iv) Online troubleshooting / support tools and proactive problem diagnosis services.	
18.	<b>3KVA UPS</b>	<p>Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)</p> <p>Output Power Capacity : 865 Watts / 1500 VA</p> <p>Max Configurable Power : 865 Watts / 1500 VA</p> <p>Nominal Output Voltage : 220/230/240VAC programmable 1 phase + N</p> <p>Output Voltage Distortion : Less than 5% at full load</p> <p>Output Frequency (sync to mains) : 47 - 53 Hz for 50 Hz nominal, 57 - 63 Hz for 60 Hz nominal</p> <p>Topology: Line interactive</p> <p>Waveform Type: Stepped approximation to a Sine wave</p> <p>Output Connections: Four (4) IEC 320 C13, Two (2) IEC jumpers</p> <p>Nominal Input Voltage: 100V to 240V</p> <p>Input Frequency: 50/60 Hz +/- 3 Hz (auto sensing)</p> <p>Input Connections IEC-320 C14</p> <p>Battery Type: Maintenance free sealed lead-acid with suspended electrolyte, leak proof</p> <p>Input voltage range for main operations: 1 phase 230VAC+ Neutral +earth</p> <p>Input voltage adjustable range for mains operation: 175 - 297V</p> <p>Typical recharge time:8 hour(s)</p> <p>Typical Backup Time at Half Load: 20.9 minutes (432.5 Watts)</p> <p>Typical Backup Time at Full Load: 7.6 minutes (865 Watts)</p> <p>Interface Ports:DB-9 RS-232, 10/100 base-T</p> <p>Control panel : LED status display with On Line : On Battery : Replace Battery and Overload indicators</p> <p>Audible Alarm : Alarm when on battery : distinctive low battery alarm : configurable delays</p> <p>Surge energy rating: 445 Joules</p> <p>Filtering : Full time multi-pole noise filtering : 5% IEEE surge let-through : zero clamping response time : meets UL 1449</p> <p>Data Line filtering: RJ-45 modem/Fax/DSL/10-100 Base-T protection</p> <p>Standard Warranty: 2 years repair or replace</p> <p>Accessories: Power cords (at least 1.83M), CD with software, Documentation CD, Rack Mounting brackets, Smart UPS signaling RS-232 cable, USB cable, User Manual</p>	
19.	<b>Proximity Card Reader</b>	<p>Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)</p> <p>Dynamic support of multiple credential technologies including iCLASS Seos®, iCLASS SE, standard iCLASS®, UHF, MIFARE®, MIFARE DESFire®, Mobile enabled</p>	
20.	<b>CAT 6A, Shielded RJ45 Modular Plugs</b>	<p>Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)</p> <p>Housing: Polycarbonate, UL94V-0</p> <p>Color: Transparent</p> <p>Contact Blade: Copper Alloy</p> <p>Conductor: Stranded &amp; Solid Wire, 22 - 26 AWG (Plug Can Be</p>	

		Used For Wire OD's Of Under 1.5 mm & Cable Out Jacket OD Should Be Under 8.0 mm)	
		Gold Plating: 50μ"	
		Shielded Shell: Copper Alloy	
21.	<b>3M CAT 6A Patch cords</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Boot: Elastomer	
		Translucent Conductor : BC - Bare Copper	
		Front Connection: Blades Phosphor Bronze with 50u inch Gold over Nickel Plating	
		Inner Jacket: PVC - Polyvinyl Chloride	
		Insulation: PO - Polyolefin	
		Outer Jacket: PVC - Polyvinyl Chloride	
		Total Number of Pairs: 4	
		Conductor Size: 24 AWG	
		Overall Nominal Diameter: 0.265 in	
		Wiring Scheme: T568A/B-T568A/B	
		Length: 3M	
22.	<b>1M CAT 6A Patch cords</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Boot: Elastomer	
		Translucent Conductor : BC - Bare Copper	
		Front Connection: Blades Phosphor Bronze with 50u inch Gold over Nickel Plating	
		Inner Jacket: PVC - Polyvinyl Chloride	
		Insulation: PO - Polyolefin	
		Outer Jacket: PVC - Polyvinyl Chloride	
		Total Number of Pairs: 4	
		Conductor Size: 24 AWG	
		Overall Nominal Diameter: 0.265 in	
		Wiring Scheme: T568A/B-T568A/B	
		Length: 1M	
23.	<b>48 Port CAT 6A Patch panel</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Product Group: PATCH PANELS & KEYSTONE JACKS	
		TAA Compliant : Yes	
		Model Type: Patch Panels	
		Cable Type: Cat6/6a	
		Unit Carton UPC#: 037332120045	
		Color: Black	
		Connector A : 110-TYPE TERMINAL (X48)	
		Connector B: RJ45 (FEMALE) (X48)	
		Connector C : RJ45 (FEMALE) (X12)	
		Connector D : RJ45 (FEMALE) (X12)	
		Ports : 48	
24.	<b>24 Port CAT 6A Patch panel</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Product Group: PATCH PANELS & KEYSTONE JACKS	
		TAA Compliant : Yes	
		Model Type: Patch Panels	
		Cable Type: Cat6/6a	
		Unit Carton UPC#: 037332120045	
		Color: Black	
		Connector A : 110-TYPE TERMINAL (X48)	
		Connector B: RJ45 (FEMALE) (X48)	
		Connector C : RJ45 (FEMALE) (X12)	
		Connector D : RJ45 (FEMALE) (X12)	
		Ports : 24	

25.	<b>48 Port Fiber Trays loaded with Adaptors inclusive of installations</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Number of fibre cores: 48	
		Number of modules inserts: 24	
		Number of coupling/adaptors: 24	
		Width pigtails: Yes	
		Fibre Type: Multimode 50/125	
		Fibre Class: OM4	
		APC – Type: No	
		External Connection Type: LC-Duplex	
		Interior Connection Type: LC-Duplex	
		Colour: Black	
		RAL-Number: 9005	
		Number of rack units : 1	
26.	<b>24 Port Fiber Trays loaded with Adaptors inclusive of installations</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Number of fibre cores: 24	
		Number of modules inserts: 12	
		Number of coupling/adaptors: 12	
		Width pigtails: Yes	
		Fibre Type: Multimode 50/125	
		Fibre Class: OM4	
		APC – Type: No	
		External Connection Type: LC-Duplex	
		Interior Connection Type: LC-Duplex	
		Colour: Black	
		RAL-Number: 9005	
		Number of rack units : 1	
27.	<b>Hot-Swappable HDD-ACS (600GB)</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		Type : Hard Drive - Internal	
		Capacity : 600 GB	
		Form Factor : 2.5 SFF	
		Interface : SAS 6GB/S	
		Data Transfer Rate : 600 MBPS	
		Spindle Speed : 10000 RPM	
28.	<b>32mm heavy gauge Pvc conduits, couplers, saddles, screws, tangit and accessories</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
29	<b>25mm heavy gauge Pvc conduits, couplers, saddles, screws, tangit and accessories</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
30.	<b>Pvc 2 x 2 trunking with accessories</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
31.	<b>32mm Flexible Conduit</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
32.	<b>25mm</b>	Model and Technology: Mature internationally recognized	



	<b>Flexible conduit</b>	brand, in existence for at least 10 years(bidder must specify brand, model and series)	
33.	<b>CAT 6A cable (indoor)</b>	Model and Technology: Mature internationally recognized brand, in existence for at least 10 years(bidder must specify brand, model and series)	
		23 AWG Annealed bare solid copper, CAT-6 UTP Cable, Channel optimized to 350 Mhz	
		Meets EIA/TIA 568-B.2-1 Category 6 specifications, Passed UL 444 test and meets CM and CMR ratings	
		Worst Case Cable Skew : 45 nsec/100 meters	
		Characteristic Impedence : 100(+/- 3 ) Ohms 500MHz , Tested till 700 Mhz	
		Conductor Annealed copper wire Diameter 0.52 mm (nominal)	
		Insulation High Density polyethylene, Diameter 0.94 mm (nominal)	
<b>Total Costs inclusive of all the applicable taxes (Kshs.)</b>			

**TABLE 8: SUMMARY OF PRICE SCHEDULE FOR THE ANNUAL MAINTENANCE SERVICE FOR KRA CCTV SYSTEM IN OSBPS (LUNGALUNGA, TAVETA, ISEBANIA, BUSIA AND MALABA) FOR A PERIOD OF THREE (3) YEARS**

No	EQUIPMENT DESCRIPTION	QTY	Rate Per Service/ Unit (KES)	
			Rate Per Service/ Unit (KES)	Total Per Service (KES)
a)	Spare parts and annual Maintenance for KRA CCTV System in OSBPS (Lungalunga, Taveta, Isebania, Busia And Malaba)(cost A + cost B carried from Table 6 and Table 7)	1		
b)	Support and Maintenance for KRA CCTV System in OSBPS (Lungalunga, Taveta, Isebania, Busia And Malaba) – year 2	1		
c)	Support and Maintenance for KRA CCTV System in OSBPS (Lungalunga, Taveta, Isebania, Busia And Malaba) – year 3	1		
16% VAT				
<b>Grand Total (Year a +Year b + Year c) To be carried to the form of tender. (The grand total MUST include all the applicable taxes).</b>				

**NOTE:**

**And a Further provision for Framework contract at the indicated unit rates for additional items as listed below on a need basis up to a maximum spent of Five (5) Million**

No.	Spare part item	Unit of measure	Unit price
1.	CAT 6A cable (indoor)	Roll	
2.	CAT 6A cable (outdoor)	Roll	
3.	1000 base X 8 core fibre optic	Per m	
4.	SFP fibre module (multi-mode)- Cisco	pc	
5.	Fiber Patchcords 3M LC To SC OM3 MM	Pc	
6.	24 Port Fiber Trays loaded with Adaptors inclusive of installations	pc	
7.	48 Port Fiber Trays loaded with Adaptors inclusive of installations	pc	
8.	24 Port CAT 6A Patch panel	pc	
9.	48 Port CAT 6A Patch panel	pc	
10.	1M CAT 6A Patch cords	pc	



11.	3M CAT 6A Patch cords	pc	
12.	RJ 45 Connectors CAT 6A	pc	
13.	Cisco Switch – 48 Gigaport POE with 4 uplink Gigaport with SFP fibre module (multi-mode)- Cisco	pc	
14.	Cisco Switch – 24 Gigaport POE with 4 uplink Gigaport with SFP fibre module (multi-mode)- Cisco	pc	
15.	6 MP IP IR Dome POE Camera	Pc	
16.	6 MP IP IR Bullet POE Camera	Pc	
17.	4 MP IR Day/Night Outdoor IP POE PTZ Cameras	pc	
18.	6 MP IP IR Fish Eye (360°) Camera	pc	
19.	42U cabinet complete with cable management accessories, power distribution unit, ventilation fans	pc	
20.	Network Video Recorder (NVR)	pc	
21.	Hot- Swappable Disk- NVR 2TB	pc	
22.	Hot- Swappable Disk- NVR 4TB	pc	
23.	Hot- Swappable Disk- NVR 10TB	pc	
24.	Internal HDD (250 GB SSD)	pc	
25.	Client Workstation	pc	
26.	APC UPS rack Mountable 3.0 KVA	pc	
27.	APC UPS rack Mountable 1.5 KVA	pc	
28.	Sony 55” LCD Monitor	pc	
29.	Camera License	Per Camera	
30.	32mm heavy gauge Pvc conduits, couplers, saddles, screws, tangit and accessories (per meter)	PC	
31.	25mm heavy gauge Pvc conduits, couplers, saddles, screws, tangit and accessories (per meter)	PC	
32.	Pvc 2 x 2 trunking with accessories per meter	PC	
33.	25mm Flexible conduit (50 meters)	Roll	
34.	32mm Flexible Conduit( 50metres)	Roll	
35.	HDMI Cable	Meter	
36.	24U cabinet	PC	
37.	6 MP IP IR Wireless camera	PC	
38.	180 degrees fisheye IP IR camera	PC	
<b>Total Costs inclusive of all the applicable taxes (Kshs.)</b>			

**N/B:**

1. Prices MUST be in Kenya Shillings.
2. All prices quoted must be inclusive all applicable taxes in Kenya.
3. Affix Company Stamp and sign on each page page.
4. Year 1 of the contract shall be under warranty.