

Annexure – II

Details of Requirement & Bid Submission Format

Kindly submit your proposal in your official letterheads.

Requirement & Quotation Table

Ser.no	Item Description	Qty	Amount Per Unit Inclusive of GST (₹)	Total Value Inclusive of GST (₹)
1.	CP Plus CP-UNC-DA21L3C-Q - 2MP Network IR Dome Camera - 30Mtr. <ul style="list-style-type: none">1/2.8" 2MP PS CMOS Image Sensor (0.9071 centimetres)Max. 2MP (1920 × 1080)@1–25/30fpsInterstream, H.265, H.264, H.264H, H.264B, MJPEGSupport Triple streamSupport Built-in Mic• 2.8mm Fixed LensDWDR, Day/Night (ICR), 3D NR, ROI, AWB, AGC, BLC, HLC, DigitalWatermarking, IR Range of 30 Mtr., PoE, IP67	100		
2.	CP Plus CP-UNC-DA41L3C-D-LQ- 4MP Dual Light Dome Camera - 30Mtr. <ul style="list-style-type: none">1/2.9" 4MP PS CMOS Image Sensor (0.8758 Centimeters)Max. 4MP (2688 × 1520)/ (2560 × 1440)@25/30 fpsInstastream, H.265, H.264, H.264H, H.264B, MJPEGSupport Triple streamSupport Built-in Mic3.6mm fixed LensWDR (120dB), Day/Night (ICR), 3D NR, ROI, AWB, AGC, BLC, HLC, Digital watermarkingIR Range of 30 Mtr., Warm Light Range of 30 Mtr., PoE, IP67	20		

3.	CP Plus CP-UNC-TA41L6C-Q - 4MP Network IR Bullet Camera - 60Mtr. <ul style="list-style-type: none"> • 1/2.8" 4MP PS CMOS Image Sensor (0.9071 centimeters) • Max. 4MP (2688 × 1520)@1-25/30fps/ (2560 × 1440)@1-25/30fps • Instastream, H.265, H.264, H.264H, H.264B, MJPEG • Support Triple stream • DWDR, Day/Night(ICR), 3D DNR, AWB, AGC, BLC, HLC • 6mm Fixed Lens • Support Built-in Mic, IR Range of 60 Mtr., IP67, PoE 	20		
4.	CP Plus CP-UNC-TT41L3-VM - 4MP IR AI Enforcement Camera <ul style="list-style-type: none"> • 1/1.8" 4MP starlight CMOS sensor (1.411 cm) • H.265 and H.264 dual codec. • Maximum Resolution: 2688 × 1520@25/30fps. • Built-in 10mm~50mm lens. • The maximum illumination distance is 30 Mtr. • IP67, IK10 rated. 	1		
5.	CP Plus CP-UNR-4K6128R16-EV2 128Ch Network Video Recorder <ul style="list-style-type: none"> • Up to 128 channel IP camera input • Up to 12Mp resolution preview and playback • Max 384Mbps incoming bandwidth • Support 16 SATA III ports, up to 10TB Each, 4 USB (2 USB3.0), 1 eSATA port • Support iSCSI and Mini SAS to expand storage space • 2 HDMI / 1 VGA simultaneous video output • Support multi-brand network cameras • Support RAID 0/1/5/10 • Redundant power supply module adopted • ONVIF Version 2.4 conformance • Mobile Software: iCMOB, gCMOB • CMS Software:KVMS Pro 	2		
6.	CP-UNC-TC81L5C-VMD-LQ - 8MP Dual Light Bullet Camera – 50 Mtr.	6		
7.	CP Plus Video Management Software			
	EVMS Base License	1		
	EVMS Per channel	50		

Networking Requirements

Ser. No	Description	Brand	Unit	Qty	Amount Per Unit Inclusive of GST (₹)	Total Value Inclusive of GST (₹)
1	Cat 6 cable	Molex	Boxes	24		
2	12 Core, Outdoor armoured Optic Fiber Cable	Molex	Mts	850		
3	12TB Surveillance Grade HDD	Seagate	Nos	10		
4	3/4" PVC Pipe 2mm	OEM	Nos	900		
5	1" PVC Pipe 2mm	OEM	Nos	500		
6	1.5" PVC Casing 2mm	OEM	Nos	150		
7	3/4" PVC Pipe accessories (Lbow,bend,T, nails, Screws,clamps, cable tie,Wooden plug, etc) As required	OEM	Lot	1		
8	1" Pvc pipe accessories (Lbow,bend,T, nails, Screws,clamps, cable tie,Wooden plug, etc) As required	OEM	Lot	1		
9	HDPE Pipe 2" with accessories	OEM	Mts	700		
10	1"Conduit Pipe with accessories	OEM	Nos	100		
11	Hensel Box 4*4	OEM	Nos	150		
12	8 Port PoE Switch	D-Link	Nos	4		
13	Cisco PoE Switch 10/100/1000, 24 Port web-managed	Cisco	Nos	12		
14	Cisco C9300-48P-A Switch + C9300-NM-4G – 48-Port Enterprise PoE+ Layer 3 Switch	Cisco	Nos	1		
15	OFC Media Converter dual Core, 1000 Mbps SC to SC	Netfox	Nos	10		
16	6U Rack Network with power manager kit	Netfox	Nos	4		
17	9U Rack Network with power manager kit	Netfox	Nos	4		
18	12 port OFC LIU Fully Loaded Kit Rack Mount	Netfox	Nos	6		
19	3mtrs OFC patch card dual core SC to SC	Netfox	Nos	12		
20	Cat6 3Mtrs Parch card	Molex	Nos	40		
21	Cat6 1.5Mtrs Parch card	Molex	Nos	40		
22	SC Pigtail	Molex	Nos	24		

23	3" Pole 12 Feet for Mounting Cameras, Painting with climbing steps	OEM	Nos	2		
24	POE Adapter 24V	TP Link	Nos	6		
25	Cat6 RJ45 Connectors	NT	Boxes	4		
26	Mild Steel 4U Outdoor Rack Outdoor rack with power manager	OEM	Nos	4		
Total						

Sr. No	Installation Charges	Unit	Qty	Amount Per Unit Inclusive of GST (₹)	Total Value Inclusive of GST (₹)
1	Laying of UTP Cat6 Cable	Mtrs	7500		
2	Pvc pipe/ casing Laying Charges	Mtrs	5000		
3	Camera Fixing Charges	No's	140		
4	Soft soil digging	Mtrs	750		
5	Hard soil digging	Mtrs	100		
6	OFC Laying	Mtrs	750		
7	LIU Kit fixing	Nos	6		
8	OFC Splicing	Nos	60		
9	HDPE pipe laying	Mtrs	600		
10	Rack fixing and dressing	No's	8		
11	Installation of Pole	No's	2		
12	Outdoor Rack fixing and dressing	No's	4		
13	Installation and Configuration of NVR and KVMS Combined Software View	No's	2		
14	System integration, testing, documentation training and Outstation charges				
15	Core Switch, Web-manageable switch & VLAN Networking Configuration Please refer to the attachment below.				
16	Plastering work shall be carried out by the contractor wherever damage occurs during the laying of PVC pipes or other associated works, and the surface shall be restored to its original condition.				
Total					

A separate **Work Order** shall be issued for the **installation charges**, in addition to the supply order, as per the approved terms and conditions.

Scope of Work for Successful Bidder

The successful bidder shall be responsible for:

1. Supply, installation and commissioning of CP Plus CCTV surveillance system.
2. Networking (laying of Cat6 cables, conduits, racks, switches).
3. Configuration of NVR and cameras for live viewing and recording.
4. Testing of all cameras, playback, and storage.
5. Configuration and installation of a Core Switch and Semi Manageable Switch with the VLAN.

Special Conditions:

Completion Certificate

The Work Completion Certificate shall be issued only after successful completion of all works in every respect, strictly as per the terms and conditions of the NIT, and to the entire satisfaction of LSL.

The quoted prices should be inclusive of all applicable taxes (including GST), duties, freight, insurance, installation, and any other charges up to delivery and installation at The Lawrence School, Lovedale. The quote validity must be for a period of 45 days.

Training

Upon completion of installation and commissioning, the Successful Bidder shall provide hands-on training to the concerned officials of LSL on the installed equipment. Training materials/manuals for the equipment shall also be provided.

Warranty Period

- All equipment, including active and passive components supplied under this NIT, shall carry a comprehensive warranty for a period of **three (3) years** from the date of installation and commissioning.
- During the warranty period, the Successful Bidder shall provide all relevant firmware, operating system updates, and security patches released by the OEM at no additional cost to LSL.

- The vendor shall act as the liaison on behalf of LSL with OEMs for repair or replacement of equipment and accessories covered under warranty.

Annual Maintenance

After expiry of the warranty period, the Annual Maintenance of the entire system shall be undertaken as per the terms and conditions stipulated in the tender, or any other conditions mutually agreed with LSL.

Security Deposit

The Successful Bidder shall deposit **10% of the total work order value** towards Security Deposit in the form of a Demand Draft or Bank Guarantee, drawn in favour of "**Headmaster, The Lawrence School, Lovedale**", payable at Lovedale.

The bidder shall also execute an agreement on stamp paper worth ₹200/- within seven (7) days from the date of receipt of the order.

The Security Deposit will be released within three (3) months after expiry of the warranty period, subject to satisfactory performance.

The following documents must be submitted by the vendor:

- Proof of registration as a firm/company under the Indian Companies Act or Partnership Act.
- Valid authorization certificate as a CP Plus Partner/Reseller or proof of experience as a CCTV System Integrator.
- Documentary evidence of a minimum of 5 years' experience in CCTV installation/networking projects.
- Copies of valid GST and PAN registration.
- Self-declaration/affidavit confirming that the firm is not blacklisted by any Government Department/PSU/Educational Institution.

All prospective vendors are required to conduct a site visit prior to submission of their quotation to obtain any necessary clarifications. Please note that once submitted, the quoted price shall be considered final and no revision will be permitted after the award of the contract.

Requirements for VLAN Implementation in Existing Network Setup

1. Objective

To implement VLANs in the existing school network setup to improve **network performance, security, manageability, and segregation of traffic** for different departments, staff, students, and services.

2. Existing Setup Overview

- **Network Devices:**
 - Core Switch (Layer 3 or Distribution switch if available)
 - Edge/Access Switches (Layer 2, managed/unmanaged – need assessment)
 - Wireless Access Points (centralized/decentralized management)
 - Firewalls / Routers
 - Servers (ERP, File Server, SmartClass content server, CCTV NVR, etc.)
 - IP Cameras (CP Plus, Hikvision, Dahua – integrated with NVR)
- **Users:**
 - Administration staff
 - Teaching staff
 - Students (junior and senior)
 - Guests/visitors (limited access Wi-Fi)
- **Challenges observed:**
 - Broadcast domain congestion (all devices in a flat network)
 - No logical separation of departments/services
 - Security risks due to lack of traffic isolation
 - Difficult to manage bandwidth and prioritize services

3. VLAN Requirement

3.1 VLAN Segmentation Plan

The following VLANs to be created (example – can be adjusted as per actual requirement):

VLAN ID	VLAN Name	Purpose/Users	Remarks
10	Admin	Administrative offices (Accounts, Admin, Principal)	High priority
20	Academic Staff	Teachers, resource PCs, staff Wi-Fi	Medium priority
30	Students Senior	Senior students (Grades 11–12) labs & Wi-Fi	Internet access only

VLAN ID	VLAN Name	Purpose/Users	Remarks
40	Students Junior	Junior students (Grades 1–8) labs & Wi-Fi	Internet restricted
50	Guest	Visitors Wi-Fi, temporary access	Internet only, isolated
60	Servers	Internal servers (ERP, file, web, content)	Restricted access
70	CCTV/Surveillance	NVRs + IP cameras	Isolated, access only from Security/Admin VLAN
80	VoIP/Telephony	IP phones/communication devices (if applicable)	QoS enabled
90	Management	Switch, firewall, AP controller management	Restricted, IT access only

3.2 Inter-VLAN Routing

- To be enabled on **Layer 3 core switch** or firewall/router.
- Access control lists (ACLs) to define **which VLANs can communicate with each other**.
- Example:
 - Admin VLAN (10) can access Servers VLAN (60).
 - Students VLANs (30, 40) cannot directly access Servers VLAN.
 - CCTV VLAN (70) isolated from student/staff VLANs.
 - Guest VLAN (50) Internet-only access, no LAN access.

3.3 Security Requirements

- ACLs and firewall rules for VLAN traffic control.
- Port security to prevent unauthorized devices.
- Separate SSIDs mapped to respective VLANs for Wi-Fi users.
- Surveillance VLAN (70) locked to only NVRs and security staff.
- Admin VLAN access protected with authentication.

3.4 Bandwidth & QoS

- Bandwidth allocation per VLAN using QoS (e.g., prioritize Admin, VoIP over Students).
- CCTV VLAN requires guaranteed bandwidth.
- Guest VLAN with limited bandwidth and time-based access.

3.5 Monitoring & Management

- Network Monitoring System (NMS) or SNMP-enabled switches.
- Centralized log management for VLAN activities.
- Alerts for unusual traffic between VLANs.

4. Deliverables from Vendor/System Integrator

1. VLAN design document (finalized plan with VLAN IDs, IP subnets, ACL rules).
2. Configuration of core switch, access switches, firewall, and APs.
3. Migration plan from flat network to VLAN setup (minimal downtime).
4. Testing & validation (inter-VLAN communication, Internet access, restrictions).
5. Documentation & network topology diagrams.
6. Training for in-house IT staff.

5. Future Scalability

- Provision for adding new VLANs for IoT devices, future smart-class setups.
- Support for expansion up to **500–1000 devices**.
- Cloud integration capability (if ERP or content servers move to cloud).