



# नगर कार्यपालिकाको कार्यालय

## Office of the Municipal Executive

(Google Plus Code: C8RJ+C6 Neulapur)

सैनवार, बर्दिया  
Sainawar, Bardiya

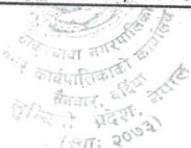
लुम्बिनी प्रदेश, नेपाल  
Lumbini Province, Nepal

प. स.: ०८२/०८३

मिति: २०८२/०९/२३

च. नं.:

ने.सं ११४६ प्वहेलागा: ४, बुधबार



ठाकुरबाबा नगरपालिका नगरकार्यपालिकाको कार्यालयमा नेटवर्किङ्गका लागि दररेट पेश गर्ने सम्बन्धमा  
(प्रथम पटक सूचना प्रकाशित मिति: २०८२/०९/२३ गते)

प्रस्तुत विषयमा यस ठाकुरबाबा नगरपालिका नगरकार्यपालिकाको कार्यालयमा नेटवर्किङ्गसँग सम्बन्धित कार्यहरू गर्नुपर्ने हुँदा मिति २०८२/०९/३० गतेसम्म (७ दिन भित्रमा) आफुले केकति दर रेटमा पत्रसाथ संलग्न स्पेशिफिकेसन बमोजिम सामाग्रिहरू सहितको जडान कार्य गर्न सकिन्छ सो को दररेट उल्लेख एवम् प्रमाणित गरि स्पेशिफिकेसनमा समेत ब्राण्डको नाम र मोडल नंम्बर उल्लेख गरि पेश गर्नुहुन अनुरोध छ।

८१८१  
८०८२/०९/२३

नोट: दररेट केबल Project Cost Estimation मा प्रयोग गरिने छ।

रामहरि रिजाल  
प्रमुख प्रशासकिय अधिकृत

**Thakurbaba Municipality**  
**Office of the Municipal Executive**

Sainawar, Bardia  
Lumbini province

**Networking devices and connection's rate**

S.N.	Particular	Unit	Quantity	Rate	Amount	Amount in Words	Remarks
1	Security Gateway Router/Firewall	Nos	1				
2	Managed PoE Switch	Nos	<b>2</b>				
3	Indoor Wall Mounted Access Point	Nos	15				
4	Indoor Ceiling Mounted Access Point	Nos	2				
5	Outdoor Long Range Access Point	Nos	1				
6	6U Network Rack	Nos	1				
7	UTP CAT6 Cable With Pure Copper	Box	1				
8	Listic ≥ 50mm	Nos	30				
9	Clipping items and other Misc.	Set	1				
10	Installation cost (Listic, Wiring and Power Socket, Cable clipping)	Set	1				
<b>Total</b>							
<b>VAT 13%</b>							
<b>Grand Total</b>							
<b>Grand Total in Words:</b>							

Firm Name:

Firm Address:

Name of Representative:

Signature:

Date:

Contact Number:

Firm Stamp:



  
**रामहरि रिमाल**  
**प्रमुख प्रशासकीय अधिकृत**

# 1. PROJECT OVERVIEW

The Thakurbaba Municipality intends to procure and deploy an **integrated wired and wireless networking solution** that shall:

- Integrate existing IP-based CCTV network
- Provide **secure wired and wireless connectivity**
- Support **VLAN-based network segmentation**
- Support **dual-ISP internet connectivity with load balancing**
- Be scalable, manageable, and suitable for municipal operations

## 2. SCOPE OF WORK

The successful bidder shall be responsible for the **supply, installation, configuration, testing, commissioning, documentation, and support** of an **integrated networking solution**, for **Thakurbaba Municipality**, in accordance with the approved design, technical specifications, and prevailing standards.

The scope of work shall include, but not be limited to, the following:

### 1. LAN / WAN Networking and Structured Cabling

- Design and deployment of a secure and scalable **LAN/WAN network**.
- Supply and installation of **structured cabling system (Cat-6 or better)** including accessories.
- Testing and certification of all network points to ensure compliance with relevant standards.
- Fiber connection from ISP device → Firewall/Gateway → Managed PoE Switch

### 2. Routing and Firewall System (Dual ISP)

- Supply, installation, and configuration of an **enterprise-grade firewall system**.
- Configuration of **dual Internet Service Providers (ISPs)** with **load balancing and automatic failover**.
- Implementation of firewall security policies, network address translation (NAT), and basic threat protection.

### 3. Wireless Network Setup

- Deployment and configuration of **indoor wall-mounted wireless access points**.
- Deployment and configuration of **indoor ceiling-mounted wireless access points** for high-density areas.
- Deployment and configuration of **outdoor long-range wireless access point(s)**.
- Configuration of multiple SSIDs, security settings, and performance optimization.

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#### 4. Integration with Existing CCTV Network

- Integration of the proposed network with the **existing IP-based CCTV system**.
- Segregation of CCTV traffic using **dedicated VLAN(s)\***
- Ensuring uninterrupted operation and secure isolation of CCTV services.

#### 5. VLAN Design, Configuration, Documentation, and Training

- Design and implementation of **VLAN-based network segmentation** as required.
- Configuration of VLANs across firewall, switches, and wireless access points.
- Preparation and submission of **as-built network documentation**, including logical and physical diagrams.
- **Basic operational training** to designated municipal IT persons.

#### 6. Warranty, Support, and Maintenance

- Provision of **minimum one (1) year comprehensive warranty** for all supplied equipment and services.
- Provision of **local technical support** during the warranty period is must.
- Rectification of defects and configuration issues during the warranty period in accordance with agreed service response time.

#### General Conditions

- All equipment supplied shall be **brand new and unused**.
- The bidder shall comply with the **Public Procurement Act, 2063** and **Public Procurement Regulation, 2064** of Nepal.
- Any work not explicitly mentioned but required for successful completion of the project shall be deemed to be included within the scope of work.

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### 3. TECHNICAL SPECIFICATIONS

❖ The Bidder must mention the Brand Name, Model Number and should provide the datasheet of the product.

#### 3.1 ENTERPRISE NEXT-GENERATION FIREWALL

SN	Parameter	Technical Requirement
1	Brand Name	
2	Model Number	
3	Device Type	Enterprise-grade Next-Generation Firewall/Gateway
4	Condition	Brand new, unused
5	Firewall Throughput	$\geq 10 \text{ Gbps}$
6	NGFW Throughput	$\geq 1 \text{ Gbps}$
7	Threat Protection Throughput	$\geq 1 \text{ Gbps}$
8	WAN Interfaces	Minimum $2 \times \text{Gigabit Ethernet}$
9	LAN Interfaces	Minimum $4 \times \text{Gigabit Ethernet}$
10	SFP Ports	Minimum $2 \times 1\text{G SFP}$
11	VPN	IPSec & SSL VPN supported
12	Dual ISP	<b>Mandatory – Load balancing &amp; failover</b>
13	VLAN	IEEE 802.1Q VLAN support
14	Routing	Static, OSPF, BGP
15	Security Features	IPSec, Antivirus, Web Filtering, App Control
16	Management	Web GUI & CLI
17	HA Capability	Active-Passive or Active-Active
18	Warranty	Minimum 1 year with local support

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### 3.2 MANAGED POE SWITCH

SN	Parameter	Technical Requirement
1	<b>Brand Name</b>	
2	<b>Model Number</b>	
3	Switch Type	Layer-2+/Layer-3 Managed PoE Switch
4	Ethernet Ports	Minimum <b>24 × Gigabit Ethernet</b>
5	PoE Standard	IEEE 802.3 af/at or equivalent
6	PoE Power Budget	<b>≥ 370 W</b>
7	Uplink Ports	Minimum <b>4 × SFP/SFP+</b>
8	VLAN	IEEE 802.1Q or Equivalent
9	QoS	Supported
10	IGMP Snooping	Supported
11	Security	Port security, storm control
12	Management	Web GUI, CLI, SNMP
13	Rack Mount	Mandatory
14	Power	220–240V AC
15	Warranty	Minimum <b>1 year</b>

### 3.3 INDOOR WALL-MOUNTED ACCESS POINT

Quantity: 15 to 20 (as required)

SN	Parameter	Technical Requirement
1	<b>Brand Name</b>	
2	<b>Model Number</b>	
3	AP Type	Indoor wall-mount wireless access point
4	Wi-Fi Standard	IEEE 802.11ac Wave 2 or higher
5	Frequency Bands	Dual-band (2.4 GHz & 5 GHz)
6	MIMO	<b>2×2 MU-MIMO</b>
7	Max Data Rate	<b>≥ 1.2 Gbps aggregate or equivalent</b>
8	Ethernet Ports	Minimum <b>2 × Gigabit Ethernet</b>
9	PoE	IEEE 802.3af
9	VLAN	Supported
10	Security	WPA2/WPA3
10	SSIDs	Minimum 5 or equivalent
11	Mounting	Wall-mounted
12	Management	Centralized/cloud/local controller
13	Warranty	Minimum <b>1 year</b>

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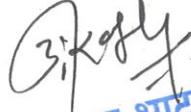
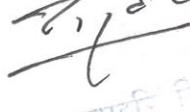
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### 3.4 INDOOR CEILING-MOUNTED ACCESS POINT

SN	Parameter	Minimum Technical Requirement
1	<b>Brand Name</b>	
2	<b>Model Number</b>	
1	AP Type	Indoor ceiling-mount enterprise AP
2	Wi-Fi Standard	IEEE 802.11ax (Wi-Fi 6)
3	MIMO	4x4 MU-MIMO
4	Max Throughput	$\geq 3 \text{ Gbps}$
5	PoE	IEEE 802.3at
6	Concurrent Clients	$\geq 250 \text{ clients or equivalent}$
7	VLAN	Supported
8	Security	WPA2/WPA3 Enterprise
9	SSIDs	$\geq 5$ or equivalent
10	Mounting	Ceiling
11	Management	Centralized/Cloud
12	Warranty	Minimum 1 year

### 3.5 OUTDOOR LONG-RANGE ACCESS POINT

SN	Parameter	Minimum Technical Requirement
1	<b>Brand Name</b>	
2	<b>Model Number</b>	
1	AP Type	Outdoor long-range wireless AP
2	Wi-Fi Standard	IEEE 802.11ac/ax
3	Coverage	$\geq 200 \text{ meters outdoor range}$
4	Antenna	High-gain internal or external
5	Weather Rating	IP67 or better
6	PoE	IEEE 802.3at
7	VLAN	Supported
8	Security	WPA2/WPA3
9	Mounting	Pole/wall mount
10	Operating Temp	$-20^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
11	Warranty	Minimum 1 year

  
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### 3.6 6U Rack

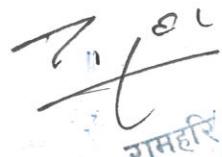
SN	Parameter	Minimum Technical Requirement
1	Rack Height	6U
2	Ventilation	The rack shall have <b>proper ventilation slots</b> .
3	Front Door	Lock System
4	Mounting Type	Wall-mounted
5	Material	High-quality steel
6	Load Capacity	Minimum 25 kg
7	Cooling	Provision for <b>minimum two cooling fans</b> . At least one cooling fan should be attached.
8	Finish	Anti-rust, corrosion-resistant powder coating

### 3.7 CAT6 Cable

SN	Description	Specification
1	Cable Category	Category 6 (CAT6)
2	Cable Type	Unshielded Twisted Pair (UTP)
3	Number of Pairs	4 twisted pairs
4	Data Rate Support	Minimum 1 Gbps (1000Base-T)
5	Conductor Material	Solid bare copper
6	Identification & marking	Cable shall be <b>meter-marked at 1-meter intervals</b> .
7	Insulation Material	High Density Polyethylene (HDPE)

## 4. VLAN & NETWORK DESIGN REQUIREMENTS

VLAN	Purpose
VLAN-A	Administration
VLAN-B	CCTV*
VLAN-C	Staff Wi-Fi
VLAN-D	Guest Wi-Fi
VLAN-E	Network Management



  
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## 5. INSTALLATION, CONFIGURATION & DOCUMENTATION

The bidder shall provide:

- Physical installation
- VLAN & firewall configuration
- Dual ISP load balancing
- Wireless SSID configuration
- As-built network diagrams
- IP addressing plan
- Proper administrator training

## 6. WARRANTY & SUPPORT

Item	Requirement
Warranty	Minimum 1 year
Support	Authorized local support
SLA	Response within 24 hours
Firmware Updates	Included

## 7. TECHNICAL COMPLIANCE STATEMENT

- ❖ Bidders shall submit official manufacturer datasheets clearly demonstrating compliance with all specifications. Any deviation from mandatory requirements shall result in **technical disqualification**.

The bidder **must conduct a mandatory site visit** prior to bid submission to access the existing IP-CCTV system, networking plan, layout etc.

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राज्य विद्युत विभाग  
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सैनवार, वर्द्दी, नवी मुंबई  
दृष्टिवाचा प्रविधि अधिकृत  
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