BharatiyaVidya Bhavan's
Sardar Patel College of Engineering
(A Government Aided Autonomous Institute)
Munshi Nagar, Andheri (West), Mumbai – 400058

INVITATION FOR TENDER

Sealed Tenders for **WiFi** network for SPCE Hostel are invited by the Principal, Sardar Patel College of Engineering, and Andheri (W). Mumbai 400 058.

1. The vendors need to submit most competitive quotation for the items as per specifications given at Annexure I.
2. The quotation should be sent in sealed envelope for commercial price bid addressed to the Principal, Sardar Patel College of Engineering. The sealed cover should be marked **"QUOTATION FOR WiFi NETWORK SPCE HOSTEL "**
3. All duties and other levies payable by supplier under this quotation shall be included in the unit price and applicable taxes shall be quoted separately for all items.
4. Quotation shall remain valid for a period not less than 30 days after the last date of quotation submission.
5. Evaluation of Quotation: - The purchaser will evaluate and compare the quotation determined to substantially responsive i.e. which are properly signed and confirm to the terms and conditions, and specifications.
6. Payment shall be made 100% within 15 days after satisfactory receipt/installation/demonstration of the material.
7. This office also reserves the right to reject any quotation without assigning any reason.
8. Sealed quotation to be submitted at the address mentioned below: BVB's Sardar Patel College of Engineering, J.P. Road, Bhavans Campus, Munshi Nagar, Andheri (W). Mumbai 400 058.

Sealed quotation will be reach to **Storekeeper Office Room No 48 Ground Floor**, on or before **13th June 2024 up to 2.00 pm**

Date:-04/06/2024

Principal
Sardar Patel College of Engineering
Andheri (W), Mumbai – 400 058

Annexure I

Wi-Fi Network Requirements

1. **Comprehensive Coverage:** Ensure Wi-Fi coverage spans the entire hostel, including study rooms, all rooms, and even corners to eliminate dead zones (Floor Layout require to generate the Heatmap of the Wireless Coverage across the Campus).

2. **Multiple SSIDs:** Support multiple SSIDs to segregate network access for different purposes or user groups, enhancing security and network management (Per Radio upto 8 SSID Supported by WAP , but for optimal performance its recommended to Broadcast maximum 4 SSID).

3. **Authentication:** Implement user authentication mechanisms such as WPA2-Enterprise or 802.1X to ensure secure access control and protect the network from unauthorized users (Existing AD & Radius server setup should be available to integrate the 802.1X Authentication on System. MDM Solution is required In case of mobile devices authentication with 802.1X Protocol).

4. **End user authentication:** Ensure that clients connecting to the SSID must undergo authentication through Active Directory (AD) or internal user management system within the Wi-Fi network infrastructure for seamless user authentication

5. **Guest User Login:** Provide a separate authentication mechanism for guest users, allowing them limited access to the network resources while maintaining security and privacy for the main network users.

6. **Cloud-Based Controller:** Utilize a cloud-based controller for seamless management and remote troubleshooting of the Wi-Fi network. This enables administrators to monitor and configure the network from anywhere with internet access, improving efficiency and reducing downtime.

7. **Email Notifications:** Enable email notifications to alert administrators in real-time if access points experience downtime or issues, ensuring prompt response and resolution to maintain network availability.

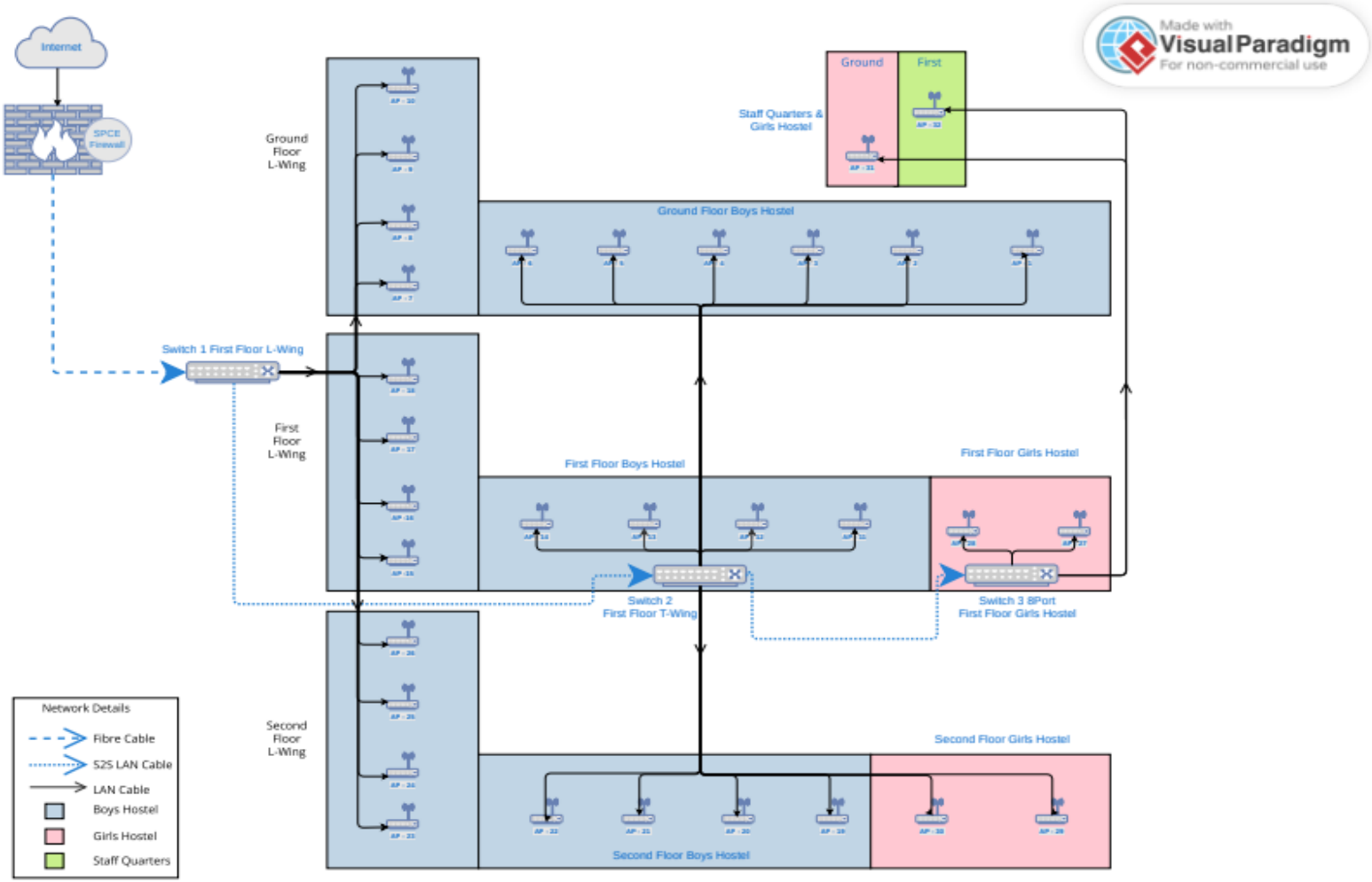
8. **Annual Maintenance Contract (AMC):** Annual maintenance contract from the vendor to ensure ongoing support, maintenance, and updates for the Wi-Fi network. This includes regular inspections, firmware updates, and technical assistance to keep the network operating optimally throughout its lifecycle.

Details of location and distribution of Access point for setting up Wi-Fi

Location	Floor	Description	No. of Rooms	Minimum Required AP's Count in Passage (No. +/- 10%)*
Main Building - Boys hostel	**Ground Floor**	**Boys**	39	7+5=12
	First Floor	**Boys**	30	4+5=09
	Second Floor	**Boys**	32	5+5=10
Main Building - Girls Hostel	**First Floor**	**Girls**	7	2
	Second Floor	**Girls**	9	2
Staff Quarters Building	**Ground Floor**	**Girls**	5	1
	First Floor	**Staff+Girls**	5	1
Total			**127**	**≈37**

*** The actual quantity of Access Points (APs) needed may differ for different OEMs. It is expected that all the APs together should provide Wi-Fi coverage to all the rooms, passages and other circulation areas in the Hostel Premises during the entire warranty period. Vendor should provide the throughput measure at the time of installation and the throughput should remain the same throughout the warranty period.**

Suggested Network Diagram*



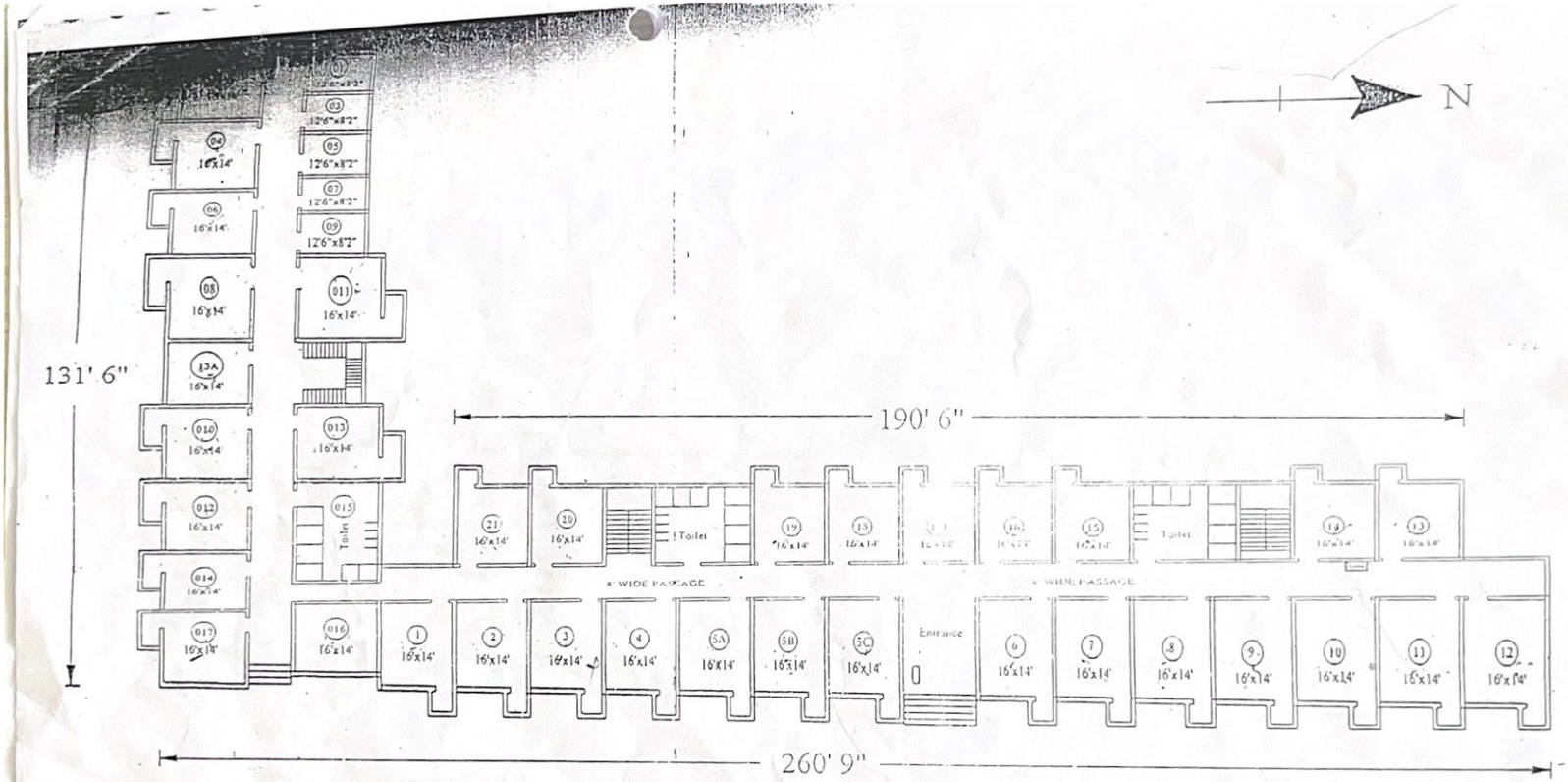
*** The actual placement of the APs may differ as per the AP coverage. The vendor has to ensure the placement of APs in such a way that all the rooms, passages and other circulation areas receive the sufficient signal strength as per the heat map provided.**

Technical Specifications

Requirement	Controller based WiFi access points need to cover entire SPCE Hostel building and should be scalable upto 100 access points
Access Points Specifications	
Type	Wall / Ceiling Mounting AP
Stream	Dual-Band 2.4 GHz and 5.0 GHz
Tx/Rx Power	23 dBm (2.4 GHz) / 26 dBm (5 GHz)
Multimedia	Support for Wifi Multimedia (WMM) for Quality of Service (QoS)
Wi-Fi CERTIFIED™	IEEE 802.11a/b/g/n/ac/ax
Integrated Antenna	Yes
Ethernet ports	At least 1 x 10/100/1000 Mbps port supports PoE, 1 x console port
Maximum throughput	Up to 1800 Mbps
Security	WPA/WPA2/WPA3, MAC Address Control, SSID Broadcast Disable, Internal radius server.
Management	Web(http), SSL
Certification	CE, FCC, MTCTE (From Day 1)
Power mechanism to AP	Support for PoE (Power over Ethernet) switches and AC/DC power adapters
Controller Specifications	
Managed	All APs should be managed centrally by Wi-Fi controller with single configuration point
Seamless Mobility	User should be able to move from one AP to another AP without any disconnection
Authentication	Wireless system must support 802.1x authentication or Captive portal authentication.
Idle timeout	System must support Idle timeout for inactive users, and it should automatic log out users after particular timeout if they are inactive
Intelligent load balancing	Wi-fi System should be able to load-balance users.
Band Steering	Controller should monitor the usage of 2.4 GHz and 5GHz band and automatic switch the clients to lesser used available frequency automatically
Airtime Fairness	The system should ensure equal airtime for all associated clients
DHCP Server	The Wireless system should support internal DHCP server

	minimum.
SSID	Supports minimum of 8 SSIDs
Passive network	
Laying CAT6 cable (material + labour charges) from existing network switches to the proposed access point locations is in the scope of the vendor. The CAT6 cable used should be of D-Link or Com-Scope brand.	
The vendor may quote cable laying charges (material + labour) per meter and also indicate the total cost for the entire length of the cable laying.	
Other	
Lisences	From day 1 WiFi controller should have 37 perpetual AP licenses and it should be scalable at least 100 Aps The license of Aps should not be subject to renewal.
No. of Access points	~37 +/- 10% such that this number is sufficient to cover the entire SPCE Hostel building with minimum signal strength of 26 dBm at any point in the entire premises. Access points in addition to above would be in scope of the vendor.
Warranty	Hardware warranty for 5 years with support on NBD
Scope of work	
End to end termination, Switch Installation, Patch Panel Installation, Numbering For Patch Cord (Panel side), End to End Numbering & Testing, Cable Pulling, Conduit Pipe Fitting, flexible Pipe Fitting, HDPE Pipe installation, Stickering & Documentation, Fluke Testing-Cat6, etc.	
OEM	
OEM Should be from the below five brands, **D-Link, Quantum, HPE Aruba, Cisco, Netgear.**	
PARTNER QUALIFICATION	
Document	Data Sheet and MAF (Manufacturer Authorization Form)
Experience	The partner must have installed WiFi with a minimum of 25 APs in at least 3 organizations in the last 5 years.
Experience - Wireless	The Partner must have experience in implementing Wireless solutions across verticals and diverse environments including high density, high coverage etc.
Certifications	The Partner must have certified engineer with at least a Professional level certification from the OEM.
Support	The Partner must have a dedicated support team with remote and onsite support availability at SPCE Hostel Campus

Pre-deployment Documentation	Partner consultant must provide Proposed Design and Architecture presentations with best practice approaches.
	Partner consultant must provide a Heat Map.
Post-deployment Documentation	Partner team must provide detailed implementation document with training to SPCE team
Post-deployment survey	Partner must provide Post-deployment site-survey report with vendor agnostic tool for signoff
Partner Support	Every 6 month the partner should provide the heat map of the throughput of the devices installed for the Wi-Fi network audit (Self Audit)



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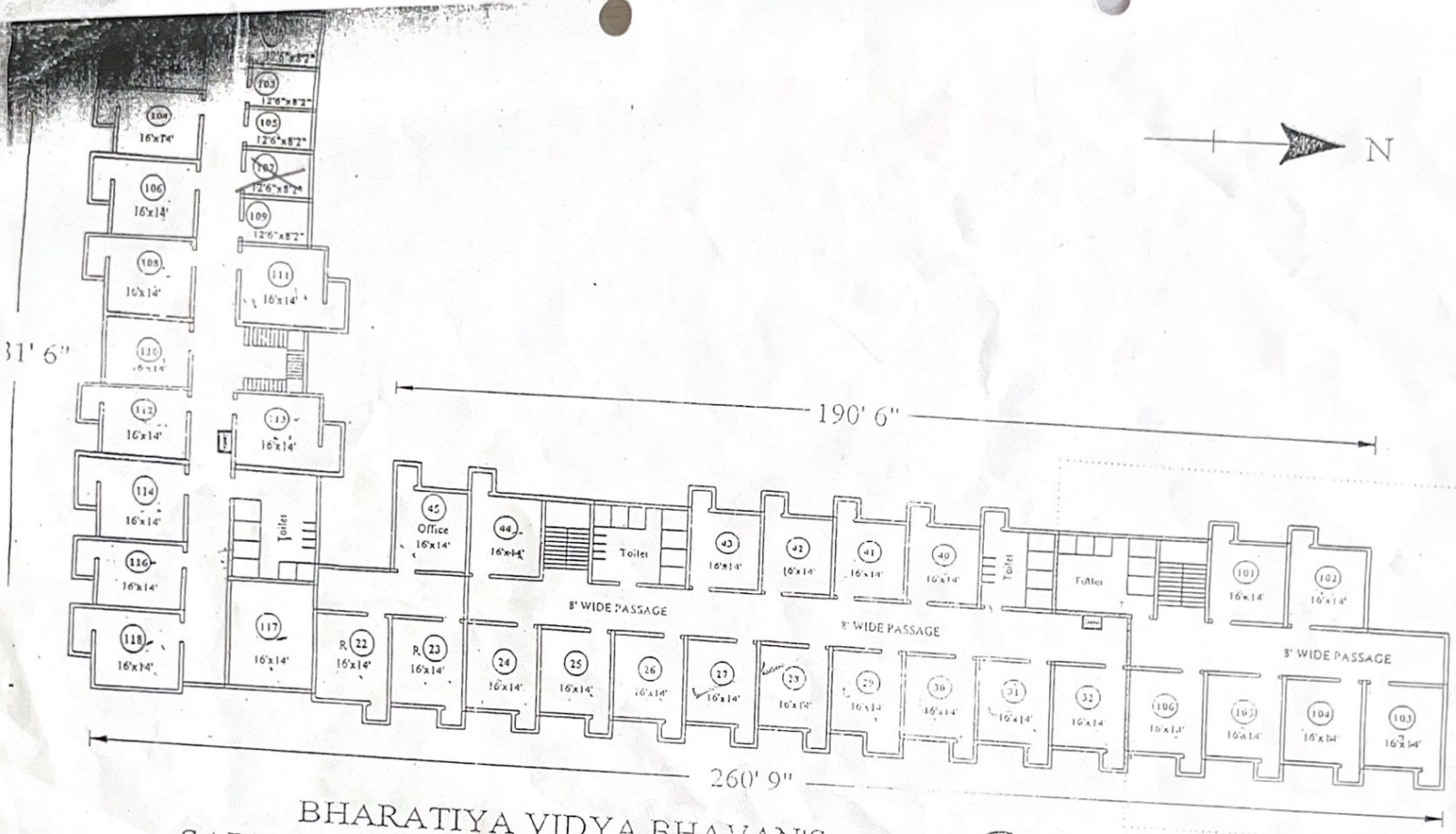
SARDAR PATEL COLLEGE OF ENGINEERING

(Government Aided-Autonomous Institute)

MUNSHI NAGAR, ANDHERI WEST,

MUMBAI - 400058

Title: SPCE HOSTEL - Ground Floor



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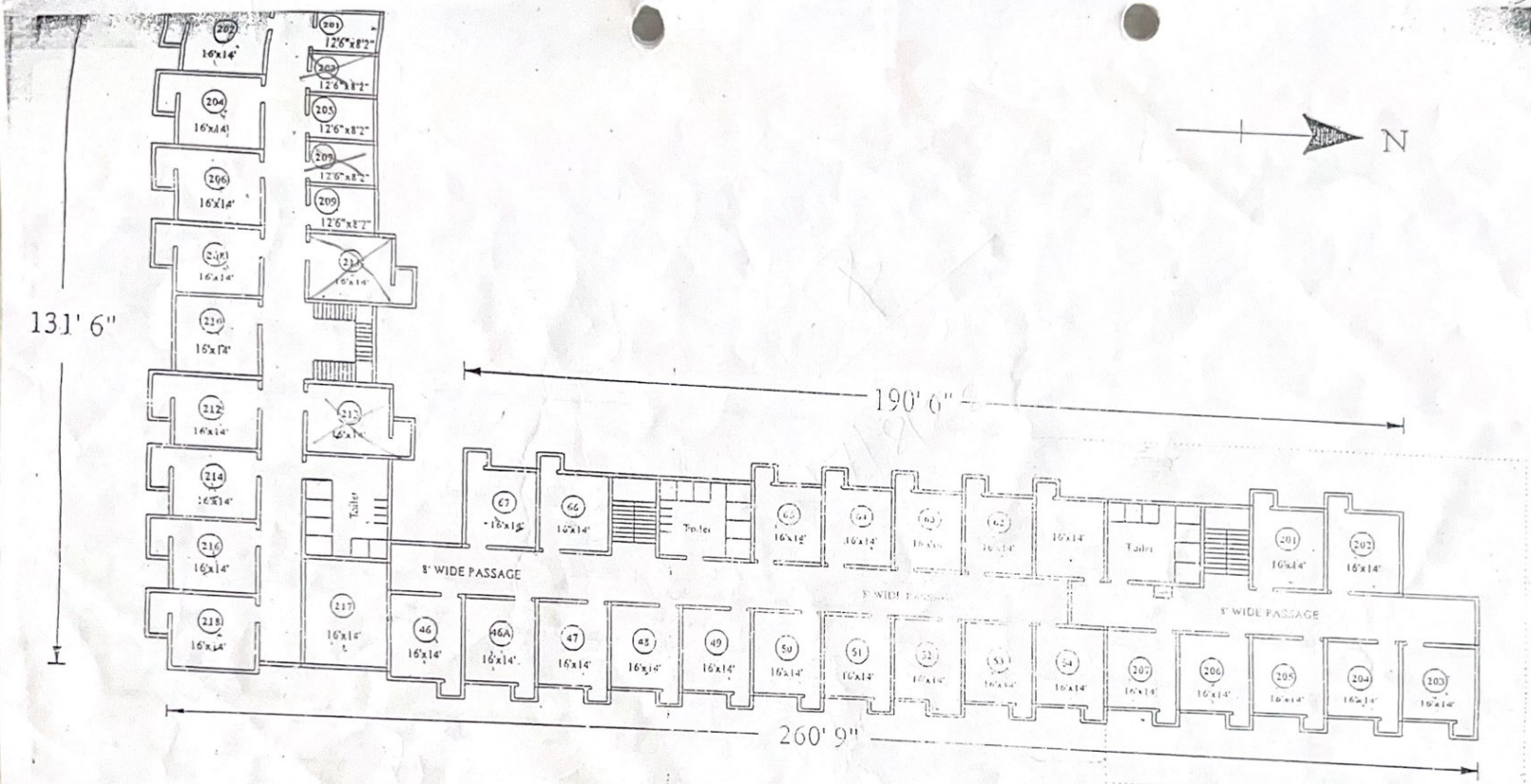
Title: SPCE HOSTEL - First Floor

GIRLS HOSTEL



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Title: SPCE HOSTEL - Second Floor

GIRLS HOSTEL