

**Government Of Meghalaya
Office of the Chief Engineer, PHE.,
Meghalaya, Shillong.**



Detailed Bid Notice for :
Supply, Installation, Testing and Commissioning of
Network-Switches at
Office of the Chief Engineer, PHE.,
Meghalaya, Shillong.

**Government of Meghalaya
Office of the Chief Engineer, PHE.,
Meghalaya, Shillong.**

NAME OF WORK : NOTICE INVITING BID FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF NETWORK-SWITCHES AT THE OFFICE OF THE CHIEF ENGINEER, PHE, MEGHALAYA, SHILLONG.

APPROXIMATE: - 1 (ONE) Unit

QUANTITY:-

RATE TO BE QUOTED: - _____

NAME OF CONTRACTOR: - _____

ADDRESS FOR COMMUNICATION: - _____

REGISTRATION NUMBER: - _____

SIGNATURE OF THE CONTRACTOR: - _____

Tender Fee `1000/-

Government of Meghalaya
Office of the Chief Engineer, PHE.,
Meghalaya :: Shillong
Email: cephe.meghalaya@gmail.com

SHORT QUOTATION NOTICE

Sealed quotation affixing non-refundable court fees stamp worth ` 1000/- (Rupees one thousand) only purchased in Meghalaya is hereby invited from class I registered supplier of PHE Department for the under mentioned works and shall be received by the Undersigned up to 3.00 P.M. on 08-04-2022.

Detailed Bid Specification and other terms and conditions may be obtained from the office of the Undersigned on any working days up to 07-04-2022 on payment of ` 1000/-.

Sl. No.	Name of Work	Office
1.	Supply, Installation, Testing and Commissioning of Network Switches along with other ancillary works for PHE Administrative Complex.	The Office of the Chief Engineer, PHE., Meghalaya, Shillong

Critical Dates of Bid:

Sl. No.	Particulars	Date	Time
1	Date & Time of On line Publication/Download of Bid	03-04-2022	1500Hrs.
2	Bid Submission Start Date & Time	03-04-2022	1500Hrs.
3	Bid Submission Close Date & Time	20-04-2022	1500Hrs.
4	Opening of Technical Bids and Financial Bids	21-04-2022	1500Hrs.

Sd/-
Chief Engineer, PHE.,
Meghalaya, Shillong.

No. CE/PHE/MC-28/2017-18/35
Copy to:-

Dated Shillong, the 30th March 2022

1. The Director of Information and Public Relation, Meghalaya, Shillong for information and necessary action. The Notice for Invitation to Bid may be got published on one issue of 2 (Two) leading National Daily and 3 (Three) leading Local Daily preferably in 1 (One) English, 1 (One) Khasi & 1 (One) Garo Daily. 4 Copies of the Notice for Invitation to Bid are enclosed herewith.
2. The Director of Printing & Stationery, Meghalaya, Shillong for favour of information with a request to arrange publication of the same in the next issue of the Meghalay Gazette.
3. The State Informatics Officer, NIC for information with a request for hoisting the Quotation in the Meghalaya website.
4. All the Addl. Chief Engineers, PHE for publicity.
5. All the Superintending Engineers, (PHE) for publicity.
6. All the Executive Engineers (PHE) for publicity.
7. Notice Board.

Sd/-
Chief Engineer, PHE.,
Meghalaya, Shillong.

Government of Meghalaya
Office of the Chief Engineer, PHE.,
Meghalaya :: Shillong
 Email: cephe.meghalaya@gmail.com

NAME OF WORK : NOTICE INVITING BID FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF NETWORK-SWITCHES AT THE OFFICE OF THE CHIEF ENGINEER, PHE, MEGHALAYA, SHILLONG.

APPROXIMATE QUANTITY : 1 (ONE) Unit

1. TECHNICAL SPECIFICATION (SCHEDULE OF REQUIREMENT):

(A) SUPPLY (Active Component) Core Link

Sl. No.	Equipment	Unit	Qty.
1.	CISCO-L3A-C9200L-24P-4G-E-with 3 years warranty	Nos.	1

(B) SUPPLY (Passive Component) (FIBER) Core Link

Sl. No.	Equipment	Unit	Qty.
1.	Hewlett Packard Enterprise Aruba 2930F 24G PoE+ 4SFP+ Switch with 5 years warranty	Nos.	2

(C) SUPPLY (Hardware Component) Core Link

Sl. No.	Equipment	Unit	Qty.
1.	Numeric 2 KVA Online UPS with Inbuilt Battery - 720 VAH	Nos.	1

(D) SUPPLY (Active Component) For LAN

Sl. No.	Equipment	Unit	Qty.
1.	Hewlett Packard Enterprise Aruba 2930F 24G PoE+ 4SFP+ Switch with 5 years warranty	Nos.	5
2.	Hewlett Packard Enterprise Aruba AP- 303 (RW) Unified Wireless Access Point	Nos.	1
3.	Cisco-SFPT-GLC-LH-SMD with 3 years warranty	Nos.	3

(E) SUPPLY (Passive Component) (UTP) For LAN

Sl. No.	Equipment	Unit	Qty.
1.	12U Rack	Nos.	5
2.	Wire Manager (CAT6A)	Nos.	5
3.	24 Port, Cat 6 Jack Panel (Loaded with UTP I/O)		5
4.	Cat 6 Cable (305mtr per box)	Box	5
5.	I/O Box (Single SMB)	Nos.	89
6.	UTP Patch Cord-1 mtr (CAT 6)	Mtr.	89
7.	UTP Patch Cord -3 mtr (CAT 6)	Mtr.	89
8.	Supply of 25*25 MM PVC Duct	Mtr.	600
9.	Supply of 25 MM PVC Conduit Pipe	Mtr.	200
10.	Labels for Jackpanel/ face Plate/Patch Cords (set of 100)	Set	2

(F) INSTALLATION (Passive Component) (UTP) For LAN

Sl. No.	Equipment	Unit	Qty.
1.	Installation of 12U Rack	Nos.	5
2.	Installation & Termination of UTP cables on Patch Panel CAT6 with wire manager	Nos.	89
3.	Installation of 25*25 MM PVC Duct	Mtr.	600
4.	Installation of 25 MM PVC Conduit	Mtr.	200
5.	In-Building Laying CAT6 UTP Cable (per mtr.)	Nos.	1525
6.	Installation& Termination of Information outlets (including termination of CAT6 Cable on 10)	Nos.	89
7.	Testing, Certification & Documentation of Cat6 nodes (Penta scanner report & documentation)	Node	89

Note:

- Vendor should strictly stick to the **Technical Specification** given above.
- Vendor must install the equipment according to layout diagram (see technical specification)
- Vendor has to provide rack mounting kit and other required accessories for the installation.
- Vendor should have authorization from OEM to participate in the bid.
- OEM authorization letter should be attached to ensure timely delivery and support
- Delivery Time: Including Supply, Installation, Testing and Commissioning within 28days.

1. BIDDER FEE & EARNEST MONEY DEPOSIT DETAILS

a) **The Tender Document must reach** the following address on or before 3pm of 20th April, 2022 along with the non- refundable tender fee of ₹1000/- (Rupees One Thousand only) in the form of DD payable to **The Chief Engineer, PHE, Meghalaya, Shillong.**

Address:
The Chief Engineer,
PHE, Meghalaya, Lower Lachumiere
Shillong-793001.

- b) Earnest Money Deposit of Rs. 31,000/- (Rupees Thirty One Thousand only) is to be submitted in the shape of Demand Draft in favour of the “Chief Engineer PHE, Meghalaya” payable at Shillong. Earnest Money will be refundable after expiry of the contract period in case of successful bidder. Tenders received without E.M.D. will be summarily rejected. The unsuccessful bidders will be informed and their EMDs will be returned within 30 days of awarding of contract.
- c) The successful bidders will have to submit a Performance guarantee equivalent to 2% of the contract value before signing of agreement. EMD of successful bidder will be returned after submission of Performance guarantee.
- d) The Bid security (EMD) will be forfeited on account of one or more of the following reasons:
- i) The Bidder withdraws his bid during the period of bid validity.
 - ii) In case of a successful bidder, the selected bidder fails to sign the agreement in time and furnish performance security.

2. AVAILABILITY OF BID

The bid document can be downloaded from <https://megphed.gov.in/index.htm>.

3. ELIGIBILITY CRITERIA

Other Important Documents:

Other Important Documents viz. Firm in Corporation Certificate, PAN details, GST details are to be provided.

STATUTORY DOCUMENTS:

- a) The Bidder should give self-declaration certificate for acceptance of all terms & conditions of bid documents. A duly completed certificate to this effect is to be submitted as per the Annexure-I.
- b) The firm should not be neither black listed by any Central / State Government / Public Undertaking / Institute nor is any criminal case registered / pending against the firm or its owner / partners anywhere in India. A duly completed certificate to this effect is to be submitted as per Annexure-II.
- c) The company should have experience of executing similar type of work during the last 7 years from the date of publication this bid. The details of the same along with supporting document are to be submitted as per the Annexure-III.
- d) The bidder should be OEM/OEM Authorized Distributors / Authorized Dealers /Authorized Channel Partners for the bid items having authorization for sales and after sales support. Authorization letter from OEM is required to participate in this bid.
- e) The item will carry at least minimum three years onsite warranty for all the items from the date of successful installation. (Bidder has to submit a letter from OEM in this regard).
- f) Bidder has to submit authorization letter from OEM to participate in the bid and ensuring timely delivery of the items and support.

4. TECHNICAL CRITERIA:

- a) Bidders should comply to the minimum specification of the bidder items in all respect. The detailed format is attached at Annexure-IV. The bidder is to complete the same in all respect and submit accordingly with brochures of all items mentioning detailed specifications of the product.
- b) Queries / Clarifications (if any) with respect to Technical Specification of items may be addressed: the Office of the Chief Engineer, PHE, Meghalaya, Shillong. Tel: 0364-2225119, Email: cephe.meghalaya@gmail.com

5. FINANCIAL BID DETAILS

Financial bid i.e. Bill Of Quantities given with bid to be submitted after filling all relevant information. The priced Bill Of Quantities should be furnished along with the bid failing which the offer is liable for rejection. Kindly quote your offer on FOR **The Office of the Chief Engineer, PHE, Meghalaya, Shillong** (exclusive of all applicable taxes and inclusive of all other charges).

Vendor should quote prices in Bill Of Quantities only, offers indicating rates any where else shall be liable for rejection.

6. TIME SCHEDULE

Sl. No.	Particular	Date	Time
1	Date & Time of On line Publication/Download of Bid	03-04-2022	1500Hrs.
2	Bid Submission Start Date & Time	03-04-2022	1500Hrs.
3	Bid Submission Close Date & Time	20-04-2022	1500Hrs.
4	Opening of Technical Bids and Financial Bids	21-04-2022	1500Hrs.

7. BID VALIDITY PERIOD

The bid will remain valid for 90 days from the date of opening as prescribed by the Office of the Chief Engineer, PHE, Meghalaya, Shillong. A bid valid for a shorter period shall be rejected, being non-responsive.

8. BID SUBMISSION

Instruction to Bidder

- a. Bidder should be a reputed firm / dealer having minimum of two years experience in the field of setting up IT/Electronics/ Electrical services.
- b. Vendor should submit its PAN, and Tax/VAT/Regis. No's, List of past and present clients to be attached.
- c. For after sales services the agency shall be available at all times and communication by Tele/E-Mail/Fax to agency shall be acknowledged immediately on the same day.
- d. Minimum experience in the line: 02 Years.
- e. Non Tribal Bidders must produce Trading License.
- f. Bidders are requested to study compatibility and understand the existing set-up prior to bidding.

9. BID OPENING

- i) Technical Bids and Financial Bids will be opened on 21.04.2022 at 1500Hrs.
- ii) Bids should be summarily rejected if original EMD & bidder fee are not submitted within stipulated date / time.

10. BID EVALUATION

Based on results of the Technical evaluation the Office of the Chief Engineer, PHE Meghalaya Shillong evaluates the Commercial Bid of those Bidders who qualify in the Technical evaluation. **The Commercial Bid with the over all lowest price will be the highest evaluated bid.**

11. PAYMENT TERMS

- a) 75% payment will be made after supplying and installation of the materials and the remaining 25% will be made after successful commissioning and trial run for six months.
- b) **No advance payment will be made in any case.** Bills in Triplicate should be sent and the payment shall be released generally within 30 days, only after it is ensured that the items /quality of the items supplied are to the entire satisfaction of the Office of the Chief Engineer, PHE Meghalaya Shillong and completed the entire work within the stipulated delivery schedule. If any item is found defective, or not of the desired quality etc., the same should be replaced by the firm(s) immediately for which no extra payment shall be made.

- c) **No part payment will be made against the part supply.** In case of the undelivered items till due date of supply and installation, the penalty of 2% of the cost of undelivered item will be imposed and deducted from the bill of the item supplied or recovered from the security deposit.

12. WARRANTY OF QUALITY AND QUANTITY

- a. The awardees shall give minimum three years onsite warranty for all the all items from the date of successful installation.
- b. The awardee shall give warranty that all items are as per specification(s), conforming to the specified design and there are no defects in the process of manufacturing, packaging, transportation and delivery.
- c. Upon receipt of notice from the Office of the Chief Engineer, PHE Meghalaya Shillong for defective material, the firm shall **within 15 days** of receipt of the notice, replace the defective material, free of cost at the destination. The firm shall take over the defective material at the time of their replacement. No claim what so ever shall lie on the Office of the Chief Engineer, PHE Meghalaya Shillong for the replaced goods thereafter. If the firm fails to replace the defective goods within a reasonable period, the Office of the Chief Engineer, PHE Meghalaya Shillong may proceed to take such remedial actions as may be necessary, at the company's risk and expense.

13. PENALTY CLAUSE

As Time is the essence of an order, the date of delivery should be strictly adhered to, otherwise the delivery in full or in part may not be accepted and penalty for late delivery & Installation will be imposed @ 0.5% (Half Percent) per week subject to a maximum of 10% of the total value of supply order.

14. PERFORMANCE SECURITY DETAILS

- a. Performance Security will be refunded to the supplier, after it duly performs and completes the contract/ warranty period in all respect.
- b. Performance Security will be forfeited if the firm fails to perform/abide by any of the terms or conditions of the contract.
- c. In case, the firm fails to execute the order successfully, within specified delivery period, the same goods/items will be procured from open market and the difference of cost, if any, will be recovered from Performance Security or from pending bill(s) of the defaulting firm or from both in case the recoverable amount exceeds the amount of Performance Security.
- d. In case of non-receipt of Security Deposit within the stipulated time, EMD will be converted in to Security Deposit and the balance amount will be recovered from the bill submitted for the payment.

15. DELIVERY SCHEDULE

The successful bidder should execute the order i.e. supply, installation, testing and commissioning of the ordered items at the Office of the Chief Engineer, PHE Meghalaya Shillong within **20 days** from issue of the purchase order. In case of any damage found, the item(s) should be replaced **within 15 days** at the Office of the Chief Engineer, PHE Meghalaya Shillong. The bidder has to make own arrangement for unloading of the items.

16. TERMS AND CONDITIONS

Termination for Insolvency

- a) The Office of the Chief Engineer, PHE Meghalaya Shillong may at any time terminate the Contract by giving a written notice to the awarding firm, without compensation to the firm, if the firm becomes bankrupt or otherwise insolvent as declared by the competent Court, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the department.
- b) The courts of Meghalaya alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out of this purchase. It is specifically agreed that no court outside and other than Meghalaya Court shall have jurisdiction in the matter.

17. FORCE MAJEURE

- i. Should any force majeure circumstances arise, each of the contracting parties be excused for the non-fulfillment or for the delayed fulfillment of any of its contractual obligations, if the affected party within 15 days of its occurrence in forms in a written form the other party.
- ii. Force Majeure shall mean fire, flood, natural disaster or other acts such as war, turmoil, sabotage, explosions, epidemics, quarantine restriction, strikes, and lockouts i.e. beyond the control of either party.

18. ARBITRATION

In the event of any dispute or difference arising under this supply, the Office of the Chief Engineer, PHE Meghalaya Shillong or his nominee is the arbitrator and the decision of the arbitration will be binding on both parties.

19. OTHER CONDITIONS

- a) The bidder has to provide the relevant & readable documents only as indicated in the bid documents. In case of any irrelevant or non-readable documents, the bid may be rejected.
- b) The Office of the Chief Engineer, PHE Meghalaya Shillong reserves the right to accept or reject any or all the bids in part or in full or may cancel the bid, without assigning any reason thereof.
- c) The Office of the Chief Engineer, PHE Meghalaya Shillong reserves the right to relax / amend / withdraw any of the terms and conditions contained in the Bid Document without assigning any reason thereof. Any inquiry after submission of the quotation will not be entertained.
- d) The Office of the Chief Engineer, PHE Meghalaya Shillong reserves the right to modify/change/delete/add any further terms and conditions prior to issue of purchase order.
- e) The Office of the Chief Engineer, PHE Meghalaya Shillong reserves the right to increase the quantities prior to issue of purchase order.
- f) In case the bidders/successful bidder(s) are found in breach of any condition(s) at any stage of the Bid, Earnest Money/Performance Security shall be forfeited.
- g) False declaration/ documents will be in breach of the Code of Integrity under Rule 175(1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.
- h) Conditional bids will not be considered in any case.
- i) In case of doubt in material, the expenditure on testing of equipment will be borne by the bidder.
- j) The Office of the Chief Engineer, PHE Meghalaya Shillong reserves the right to increase/ decrease the order quantity at any period of times.
- k) The Office of the Chief Engineer, PHE Meghalaya Shillong shall not be responsible for any transaction delay i.e. non-receipt of the EMD & Quotation Fee amount.

Undertaking

To

The Chief Engineer, PHE.,
Meghalaya, Shillong

Sub : Notice Inviting Supply, Installation, testing and commissioning of Network-Switches.

Sir,

I/ we here by submit our rate for Supply, Installation, testing and commissioning of Network-Switches along with other required documents.

I/ We enclosed herewith the following in favor of the Chief Engineer, PHE, Meghalaya, Shillong towards EMD & Tender Fee.

Particular	Amount	Transaction No. & Date	Bank Name	Supporting Documents are to be attached Along with the Annexure-I
Tender Fee (Including Tax)				
EMD	2% of quoted Cost			

I / We hereby reconfirm and declare that I / We have carefully read, understood & complying the above referred tender document including instructions, terms & conditions, scope of work, schedule of quantities and all the contents stated therein. I/We also confirm that the rates quoted by me /us are inclusive of all taxes, duties etc, applicable as on date.

I /we have gone through all terms and conditions of the tender document before submitting the same.

Date :

Authorized Signatory

Place :

Name

Designation :

Contact No.

CERTIFICATE

(TO BE PROVIDED ON LETTER HEAD OF THE FIRM)

I hereby certify that the above firm neither blacklisted by any Central/ State Government/ Public Undertaking/ Institute nor is any criminal case registered / pending against the firm or its owner /partners any where in India.

I also certify that the above information is true and correct in any every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm blacklisted.

Date :

Authorised Signatory

Name :

Place :

Designation :

Contact No. :

Annexure – III

Work Order Details:

Sl. No.	Evaluation Criteria	Name of the Client	Order No. & Date	Amount
1.	List of Purchase Order / Work Order where the similar type of Work executed by you during last 7 years from the date of publication of tender			

Note: Supporting documents (purchase order/work order issued by the clients) are to be attached along with the Annexure-III.

Date:

Authorized Signatory

Name :

Place:

Designation :

Contact No. :

Technical /Financial Bid

A) SUPPLY (Active Component) Core Link

Sl. No.	Equipment	Unit	Qty.	Warranty	Complied Yes/No	Rate Quoted
1.	CISCO-L3A-C9200L-24P-4G-E-with 3 years warranty	Nos.	1	03 Year Onsite Warranty on all the items		

B) SUPPLY (Passive Component) (FIBER) Core Link

Sl. No.	Equipment	Unit	Qty.	Warranty	Complied Yes/No	Rate Quoted
1.	Hewlett Packard Enterprise Aruba 2930F 24G PoE+ 4SFP+ Switch with 5 years warranty	Nos.	2	03Year Onsite Warranty on all the items		

(C) SUPPLY (Hardware Component) Core Link

Sl. No.	Equipment	Unit	Qty.	Warranty	Complied Yes/No	Rate Quoted
1.	Numeric 2 KVA Online UPS with Inbuilt Battery - 720 VAH	Nos.	1	03Year Onsite Warranty on all the items		

(D) SUPPLY (Active Component) For LAN

Sl. No.	Equipment	Unit	Qty.	Warranty	Complied Yes/No	Rate Quoted
1.	Hewlett Packard Enterprise Aruba 2930F 24G PoE+ 4SFP+ Switch with 5 years warranty	Nos.	5	03Year Onsite Warranty on all the items		
2.	Hewlett Packard Enterprise Aruba AP- 303 (RW) Unified Wireless Access Point	Nos.	1			
3.	Cisco-SFPT-GLC-LH-SMD with 3 years warranty	Nos.	3			

(E) SUPPLY (Passive Component) (UTP) For LAN

Sl. No.	Equipment	Unit	Qty.	Warranty	Complied Yes/No	Rate Quoted
1.	12U Rack	Nos.	5			
2.	Wire Manager (CAT6A)	Nos.	5	03Year Onsite Warranty on all the items		
3.	24 Port, Cat 6 Jack Panel (Loaded with UTP I/O)		5			
4.	Cat 6 Cable (305mtr per box)	Box	5			
5.	I/O Box (Single SMB)	Nos.	89			
6.	UTP Patch Cord-1 mtr (CAT 6)	Mtr.	89			
7.	UTP Patch Cord -3 mtr (CAT 6)	Mtr.	89			
8.	Supply of 25*25 MM PVC Duct	Mtr.	600			
9.	Supply of 25 MM PVC Conduit Pipe	Mtr.	200			
10.	Labels for Jack panel/ face Plate/Patch Cords (set of 100)	Set	2			

(F) INSTALLATION (Passive Component) (UTP) For LAN

Sl. No.	Equipment	Unit	Qty.	Warranty	Complied Yes/No	Rate Quoted
1.	Installation of 12U Rack	Nos.	5	03Year Onsite Warranty on all the items		
2.	Installation & Termination of UTP cables on Patch Panel CAT6 with wire manager	Nos.	89			
3.	Installation of 25*25 MM PVC Duct	Mtr.	600			
4.	Installation of 25 MM PVC Conduit	Mtr.	200			
5.	In-Building Laying CAT6 UTP Cable (per mtr.)	Nos.	1525			
6.	Installation& Termination of Information outlets (including termination of CAT6 Cable on 10)	Nos.	89			
7.	Testing, Certification & Documentation of Cat6 nodes (Penta scanner report & documentation)	Node	89			

Note:

- Vendor has to provide rack mounting kit and other required accessories for the installation.
- Vendor should have authorization from OEM to participate in the bid.
- OEM authorization letter should be attached to ensure timely delivery and support.
- Delivery Time : Including SITC within 20days.
- Detailed brochures of the above mentioned items, if any, to be attached with Annexure-IV

Date :

Place

Authorized Signatory:

Name :

Designation :

Contact No. :

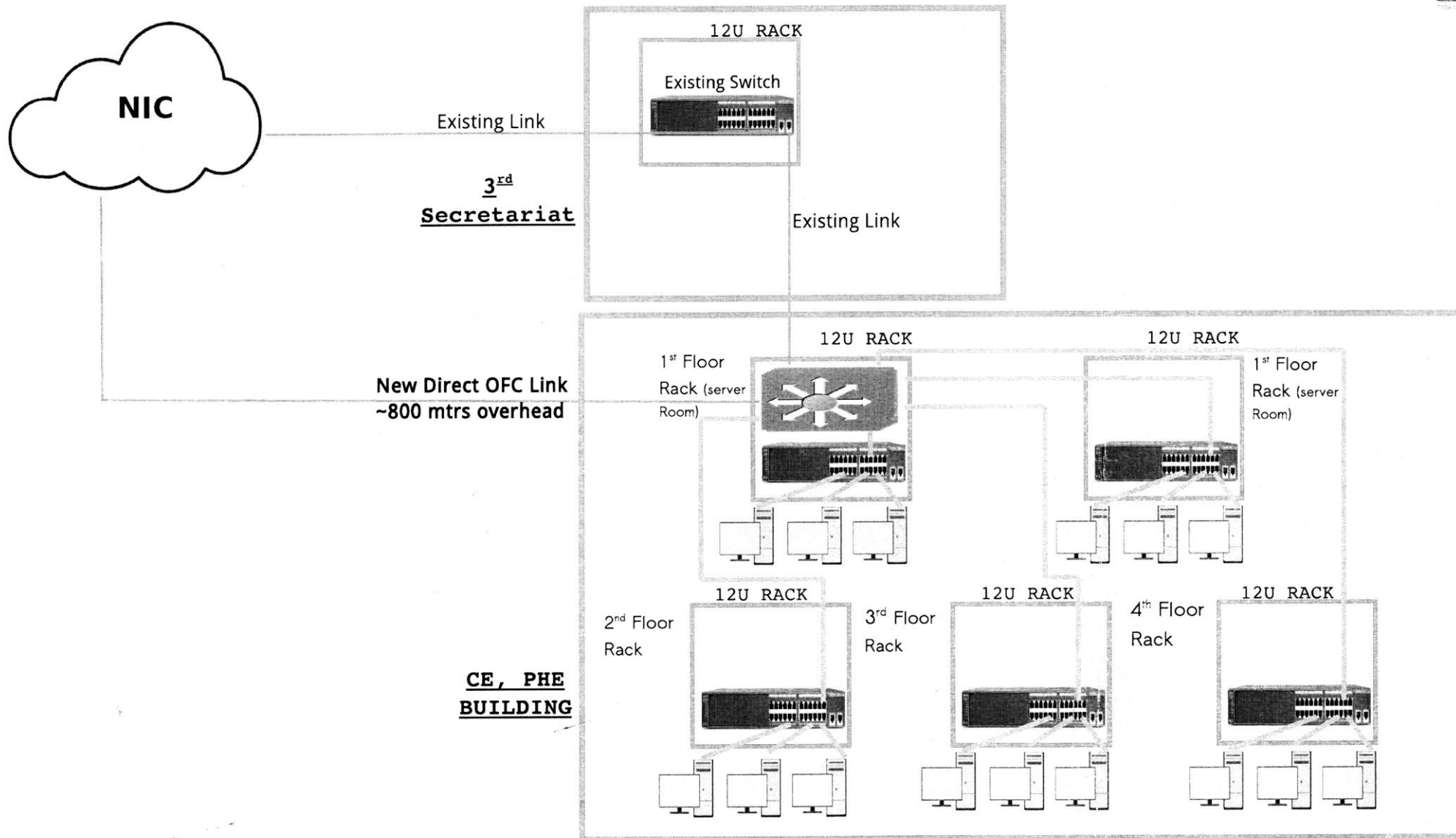
Name of the Party		
Date of in corporation/ Establishment		
PAN Number		
GST Registration Number		
Bank Details	Account Number	
	IFS Code	
	Bank Name	
	Branch Name	
Office Address for Postal Communication		
Authorized Signatory Details	Name	
	Designation	
	Email	
	Phone	
Details of Contact other than Authorized Signatory	Name	
	Designation	
	Email	
	Phone	

COMPANY DETAILS :





Signature and Seal of the Bidder : Name in Block Letter :

Designation :**Contact No. :****Date :**

BACKBONE LAYOUT AT THE OFFICE OF THE CHIEF ENGINEER, PUBLIC HEALTH DEPARTMENT

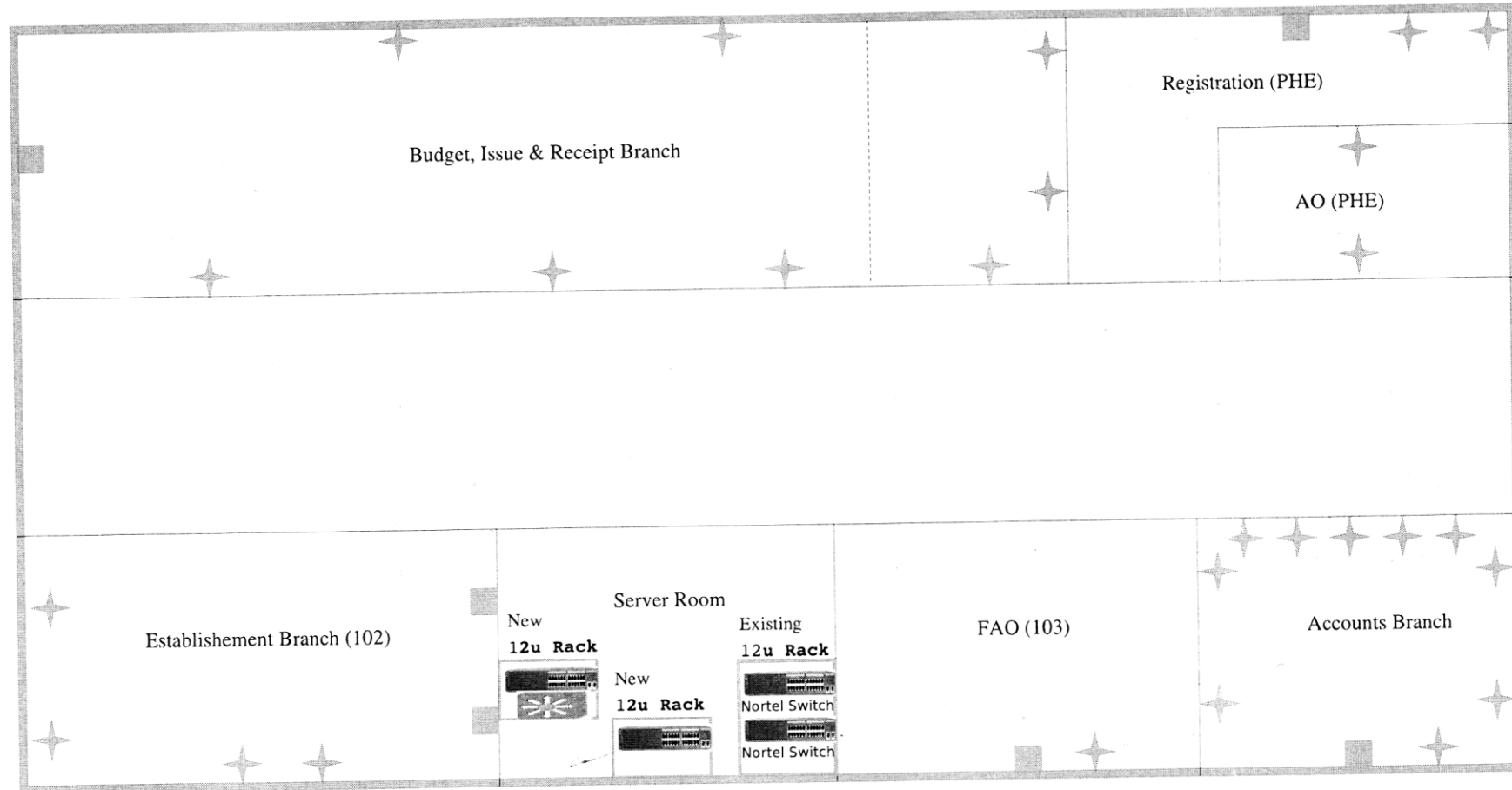


LEGEND

-  - L3 Switch
-  - L2 Switch
-  - Optical Fibre Cable
-  - Unshielded Twisted Pair Cable

Total No. of L3 24 Port Switch	- 1
Total No. of L2 24 Port Switch	- 5
Total No. of 12u Racks	- 5
Total No. of I/O Nodes	- 89

LOCAL AREA NETWORK LAYOUT AT THE OFFICE OF THE CHIEF ENGINEER, PHE DEPARTMENT



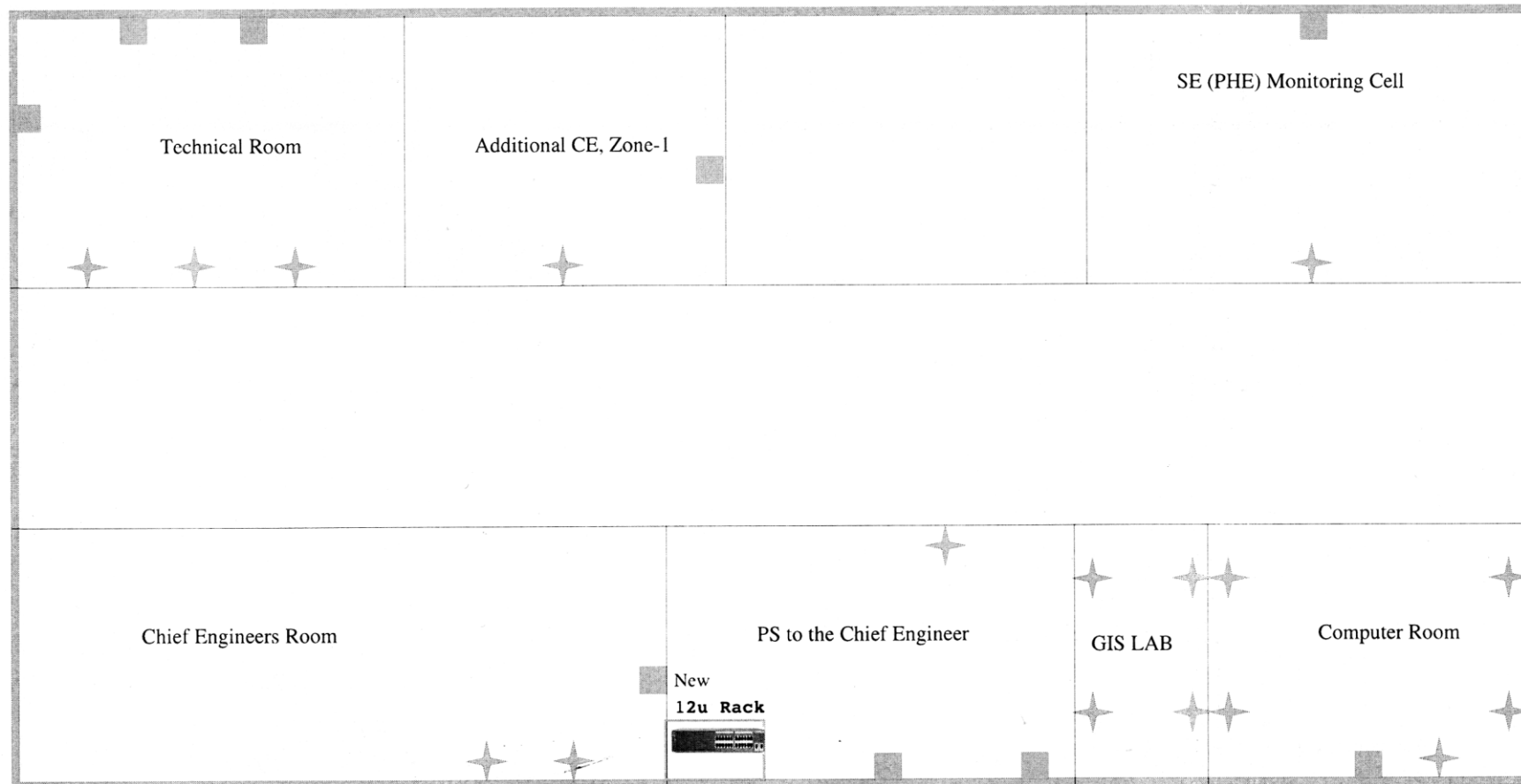
INDEX

- - Existing I/O Box
- ★ - New I/O Box

1st Floor

No. of L2 24 Port Switch	-	1
No. of Existing I/O Boxes	-	6
No. of New I/O Boxes	-	27

LOCAL AREA NETWORK LAYOUT AT THE OFFICE OF THE CHIEF ENGINEER, PHE DEPARTMENT

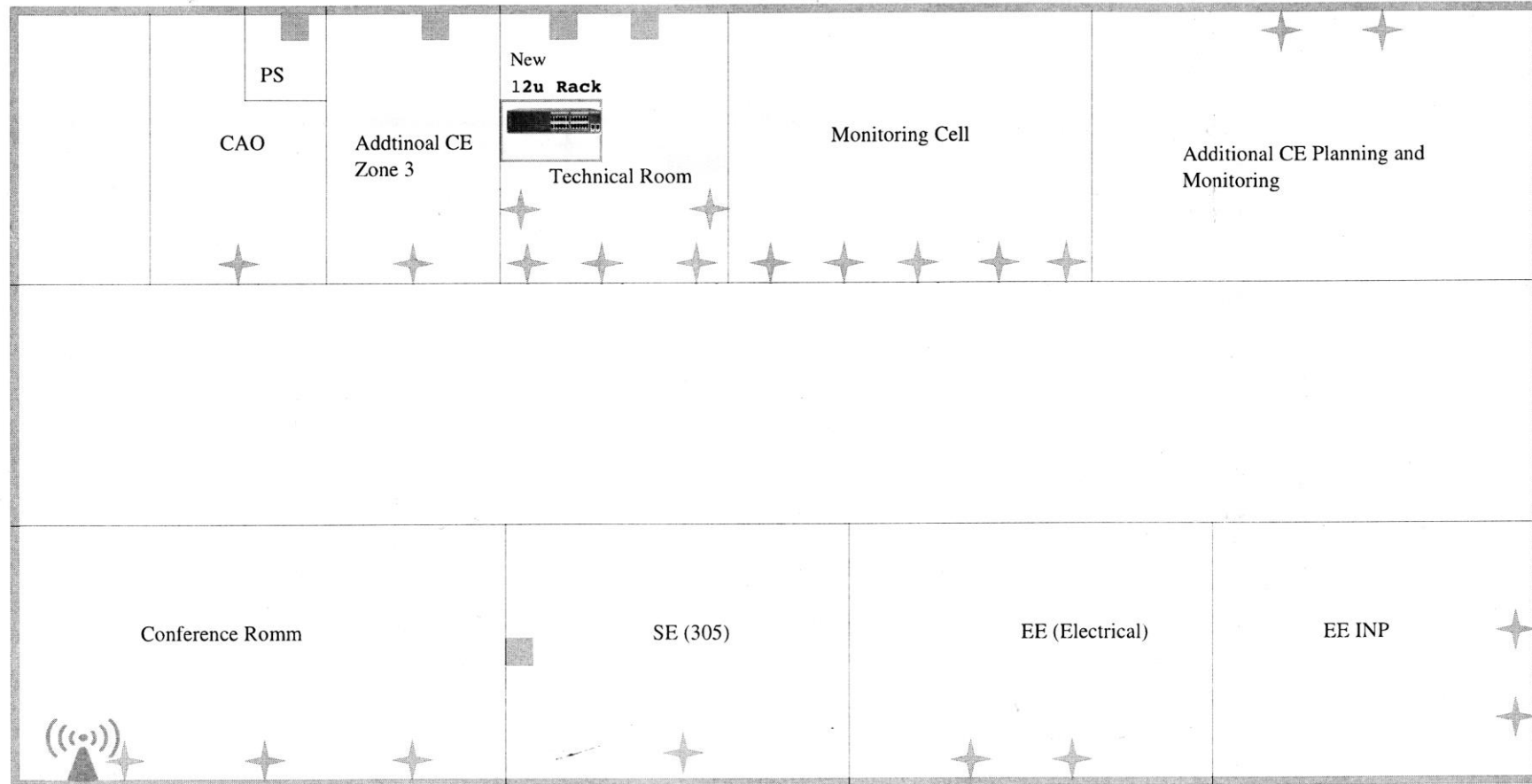


INDEX	
■	- Existing I/O Box
★	- New I/O Box




2nd Floor

No. of L2 24 Port Switch	-	1
No. of Existing I/O Boxes	-	9
No. of New I/O Boxes	-	17

LOCAL AREA NETWORK LAYOUT AT THE OFFICE OF THE CHIEF ENGINEER, PHE DEPARTMENT



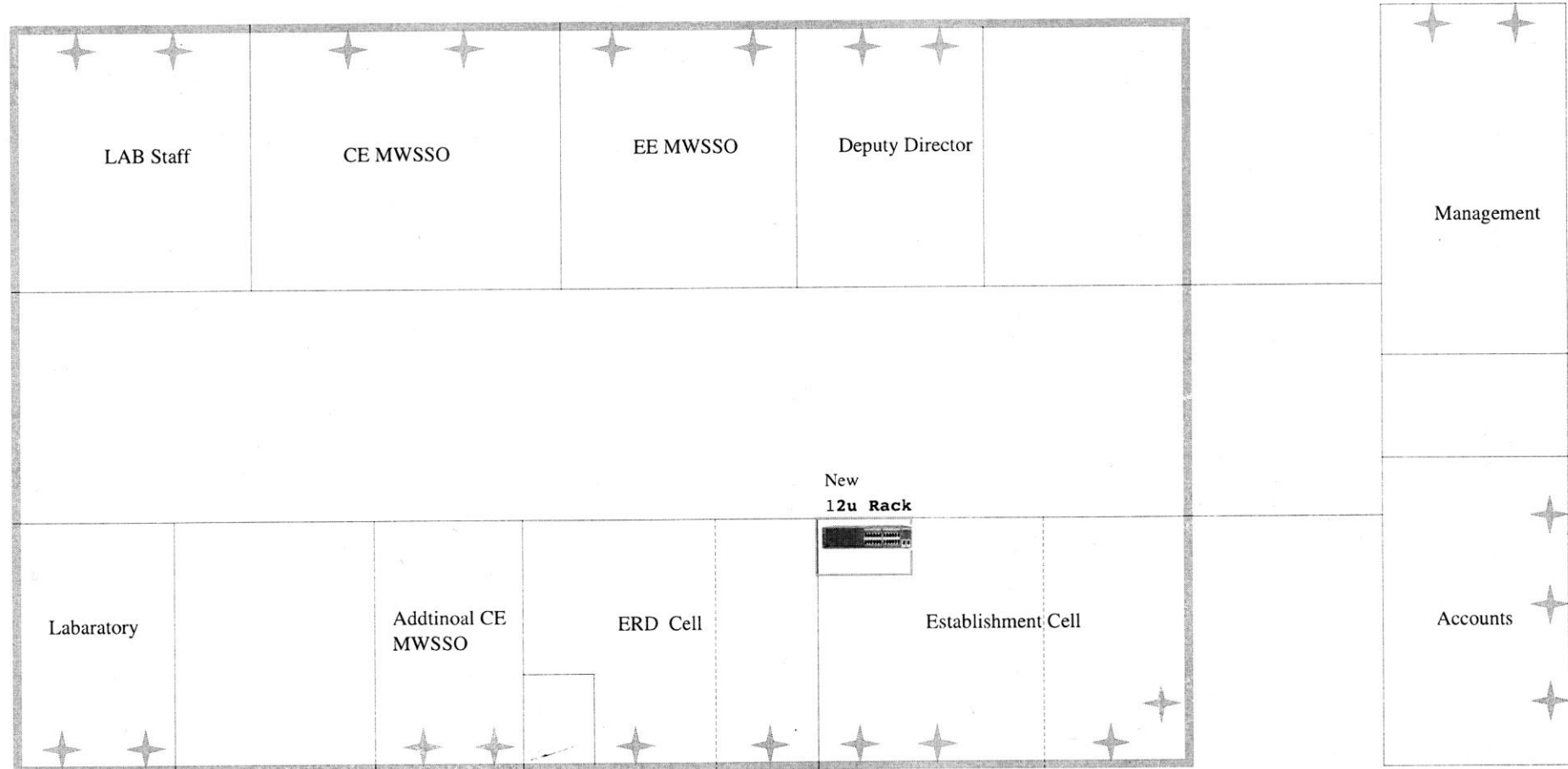
INDEX

-  - Existing I/O Box
-  - New I/O Box
-  - Access Point

3rd Floor

No. of L2 24 Port Switch	-	1
No. of Existing I/O Boxes	-	5
No. of New I/O Boxes	-	22

LOCAL AREA NETWORK LAYOUT AT THE OFFICE OF THE CHIEF ENGINEER, PHE DEPARTMENT



INDEX

- - Existing I/O Box
- ★ - New I/O Box

4th Floor

No. of L2 24 Port Switch	-	1
No. of Existing I/O Boxes	-	Nil
No. of New I/O Boxes	-	23