



**REPUBLIC OF KENYA**

**MINISTRY OF ICT, INNOVATION AND YOUTH AFFAIRS  
STATE DEPARTMENT OF ICT & INNOVATION**

**P. O. BOX 30025-00100  
NAIROBI**

**ADDENDUM FOR  
TENDER NO: MOICT/SDICT/ONT/007/2021-2022**

**TENDER FOR SUPPLY, INSTALLATION AND COMMISSIONING OF  
NETWORK INFRASTRUCTURE  
AT MAKUENI HOSPITAL, MAKUENI COUNTY**

**ISSUE DATE: 23<sup>RD</sup> AUGUST, 2021**

**TENDER CLOSING DATE: 8<sup>TH</sup> SEPTEMBER, 2021 AT 10.00 A.M**

## 1.0 INTRODUCTION

The Client (Ministry of ICT, Innovation and Youth Affairs, State Department of Ict & Innovation) organized a Pre-Tender Site Survey on 19<sup>th</sup> August 2021. The was to give the Bidders an opportunity to familiarize with the ground requirements, understand the Tender drawings and identify the omission, adjustments to be considered to ensure installed solution meets the expectation of the intended work. Having gone through the site survey the following issues were raised and addressed as follows:

## 2.0 ISSUES AND CLARIFICATIONS

No.	ISSUES THAT CAME UP	CLARIFICATION
1.	The following service points/blocks were not included in the Tender Document namely; <ul style="list-style-type: none"> <li>a) Psychiatric Block,</li> <li>b) Physiotherapy,</li> <li>c) Isolation Ward</li> <li>d) Oncology</li> <li>e) Laboratory</li> <li>f) County drugs store</li> <li>g) Emergency and accident unit</li> <li>h) Hospital Maintenance</li> <li>i) Renal Dialysis</li> <li>j) ENT/Billing</li> <li>k) MCH</li> <li>l) Sub County Hospital</li> </ul>	The Bill of Materials, Price Schedule and network design drawings has been amended to reflect the requirements accordingly as specified in section 3.0 and section 4.0 of this Addendum.
2.	There is an existing extreme X24 switch and the server room. To integrate, an sfp single mode and pig tail (10M) are required	The Bill of Materials and Price Schedule has been amended to reflect the requirements accordingly as specified in section 3.0 and section 4.0 of this Addendum.
3	Specifications for Self-Cooling Cabinet in the tender Document were not clear.	The Specifications for Self-cooling Cabinet has been amended as per the section 2.1 of this addendum

## 2.1 SELF-COOLING CABINET WITH A POWER SOLUTION

The bidder shall provide a self-cooling cabinet that will include power system, Main Distribution Frame (MDF), Optical Distribution Frame (ODF), battery, environment monitoring and temperature control modules.

No	Technical Specifications	Compliance (Yes/No)	REFERENCE INFORMATION TO SUPPORT COMPLIANCE (Highlighted in the bid document)
<b>Requirements</b>			
1.	The solution shall provide efficient power consumption		
2.	It shall easily be deployed in rugged outdoor environments with a temperature range from 41°C to 53°C including high humidity		
3.	Power to the cabinet shall be switched off from within the cabinet. Proper power socket cables to be supplied with the cabinets. The bidder shall be		

	required to provide a 6- Way <b>Power Distribution board</b>		
4.	It shall meet IP55 protection ratings, allowing for installation in adverse conditions such as close to salt water		
5.	Its door shall be installed with air conditioner		
6.	It shall support remote monitoring and alarms for easier Operations and Maintenance (O&M)		
7.	It shall monitor environmental and power parameters		
8.	The cabinet shall have at least 48V LED lamps with a protective circuit breaker		
9.	The cabinet shall have an AC Distribution Unit with an input Voltage range of 220VAC-240VAC		
10.	The cabinet shall have DC Distribution Unit with an output voltage range between 42-58VDC		
11.	The cooling system shall consist of air conditioners with a cooling capacity of at least 800W, forced air exhaust, heat exchanger and thermoelectric conditioner		
12.	It shall have automatic microclimate control system, security and fire alarms which can engage locally or remote control		
13.	It shall have advanced heat dissipation system to reduce power consumption and noise		
14.	The cabinet should be made of Galvanized steel		
15.	It shall have a fire extinguisher system		
16.	The cabinet shall be at least 38U 19 “ mounting racks, which can install 4pcs lead-acid batteries and telecommunication equipment		
17.	The cabinet shall have four 100AH each with 12VDC Lead-acid battery		
18.	The cabinet shall have Temperature sensor, door sensor, water sensor, smoke sensor among others		
19.	The cable inlets should be at the bottom of the cabinet		
20.	Doors should be equipped with a locking system		
21.	It should have a 2year Warranty		

### 3.0 PRICE SCHEDULE

#### Bill of Quantities/Schedule of Rates

Below is the amended proposed bill of quantities for guidance.

#### 1. Makueni Hospital

NO.	Description	Unit of Measurement	Qty	Unit Cost	Total Cost
1.	F/UTP Category 6A Outlets Module (Data points)	No	604		
2.	Flash Mount Faceplates – F/UTP Category 6A Double	No	302		

3.	F/UTP Category 6A Wall UTP-RJ45Patch cord (1M)	No	652		
4.	F/UTP Category 6A Wall UTP-RJ45Patch cord (3M)	No	604		
5.	F/UTP Category 6A Wall UTP-RJ45Patch cord (5M)	No	20		
6.	F/UTP Category 6A 24 PATCH PANEL 1 U568A/B	No	28		
7.	Cable managers 2U	No	28		
8.	Galvanized Metallic Trunking 150mm x50mm & accessories for installing 604 Data Points and access points	Lot	Lot		
9.	F/UTP Category 6A Pure Copper Ethernet Cable for installing 604 Data Points and access points	Lot	Lot		
10.	Fiber Patch Panel (at least 8 core)	No	16		
11.	24 core OFC Patch Panel	No	4		
12.	Fiber Cable 8 Core plus Ducts to interlink all the cabinets/switches	lot	Lot		
13.	Fiber Patch Cord 1M	No	43		
14.	1G SFP transceivers	No	44		
15.	18U Network Cabinet with a 4Way Horizontal Mount Power Distribution Unit (PDU)	No	21		
16.	38U Self-Cooling, maintenance free Network Cabinet with Horizontal Mount Power Distribution Unit (PDU)	No	1		
17.	Rack mountable UPS- 1.5 KVA	No	21		
18.	Decommissioning of Old Cables	Lot	Lot		
19.	Distribution/Aggregation Switch	No	1		
20.	48 Port POE+ Switch with Stacking Modules	No	7		
21.	24 Port POE+ Switch with Stacking Modules	No	14		
22.	Wireless Access Point	No	48		
23.	Wireless Controller	No	1		
24.	Civil Works-Pulling, Termination, Labelling, Documentation and Testing of Horizontal and Backbone Cabling,	Lot	Lot		
25.	Installation of Active Devices, IP Schemes and Configuration.	Lot	Lot		
26.	Testing, Training and Handover	Lot	Lot		
27.	Provision of Project Implementation Committee transport services as specified in Section V no 17	Round Trip	5		
28.	Annual SLA Support for one Year	Year	1		
29.	SFP – single mode	No	2		
30.	Fiber Optic Pig tail -10M	No	2		
	<b>TOTAL</b>				

Name of Tenderer: \_\_\_\_\_

\_\_\_\_\_ Date \_\_\_\_\_

Authorized Signature of Tenderer:

#### 4.0 BILL OF MATERIALS

**NOTE:** The bill of materials is just an estimate; the bidder is required to carry out a survey in order to get actual material required and provision for them in the quote. The client is not liable for any omission.

**The Bill of Materials:**

## 1. Makueni Hospital

NO.	Description	Unit of Measurement	Qty
1.	F/UTP Category 6A Outlets Module (Data points)	No	604
2.	Flash Mount Faceplates – F/UTP Category 6A Double	No	302
3.	F/UTP Category 6A Wall UTP-RJ45Patch cord (1M)	No	652
4.	F/UTP Category 6A Wall UTP-RJ45Patch cord (3M)	No	604
5.	F/UTP Category 6A Wall UTP-RJ45Patch cord (5M)	No	20
6.	F/UTP Category 6A 24 PATCH PANEL 1 U568A/B	No	28
7.	Cable managers 2U	No	28
8.	Galvanized Metallic Trunking 150mm x50mm & accessories for installing 604 Data Points and access points	Lot	Lot
9.	F/UTP Category 6A Pure Copper Ethernet Cable for installing 604 Data Points and access points	Lot	Lot
10.	Fiber Patch Panel (at least 8 core)	No	16
11.	24 core OFC Patch Panel	No	4
12.	Fiber Cable 8 Core plus Ducts to interlink all the cabinets/switches	lot	Lot
13.	Fiber Patch Cord 1M	No	43
14.	1G SFP transceivers	No	44
15.	18U Network Cabinet with a 4Way Horizontal Mount Power Distribution Unit (PDU)	No	21
16.	38U Self-Cooling, maintenance free Network Cabinet with Horizontal Mount Power Distribution Unit (PDU)	No	1
17.	Rack mountable UPS- 1.5 KVA	No	21
18.	Decommissioning of Old Cables	Lot	Lot
19.	Distribution/Aggregation Switch	No	1
20.	48 Port POE+ Switch with Stacking Modules	No	7
21.	24 Port POE+ Switch with Stacking Modules	No	14
22.	Wireless Access Point	No	48
23.	Wireless Controller	No	1
24.	Civil Works-Pulling, Termination, Labelling, Documentation and Testing of Horizontal and Backbone Cabling,	Lot	Lot
25.	Installation of Active Devices, IP Schemes and Configuration.	Lot	Lot
26.	Testing, Training and Handover	Lot	Lot
27.	Provision of Project Implementation Committee transport services as specified in Section V no 17	Round Trip	5
28.	Annual SLA Support for one Year	Year	1
29.	SFP – single mode	No	2
30.	Fiber Optic Pig tail -10M	No	2
	<b>TOTAL</b>		

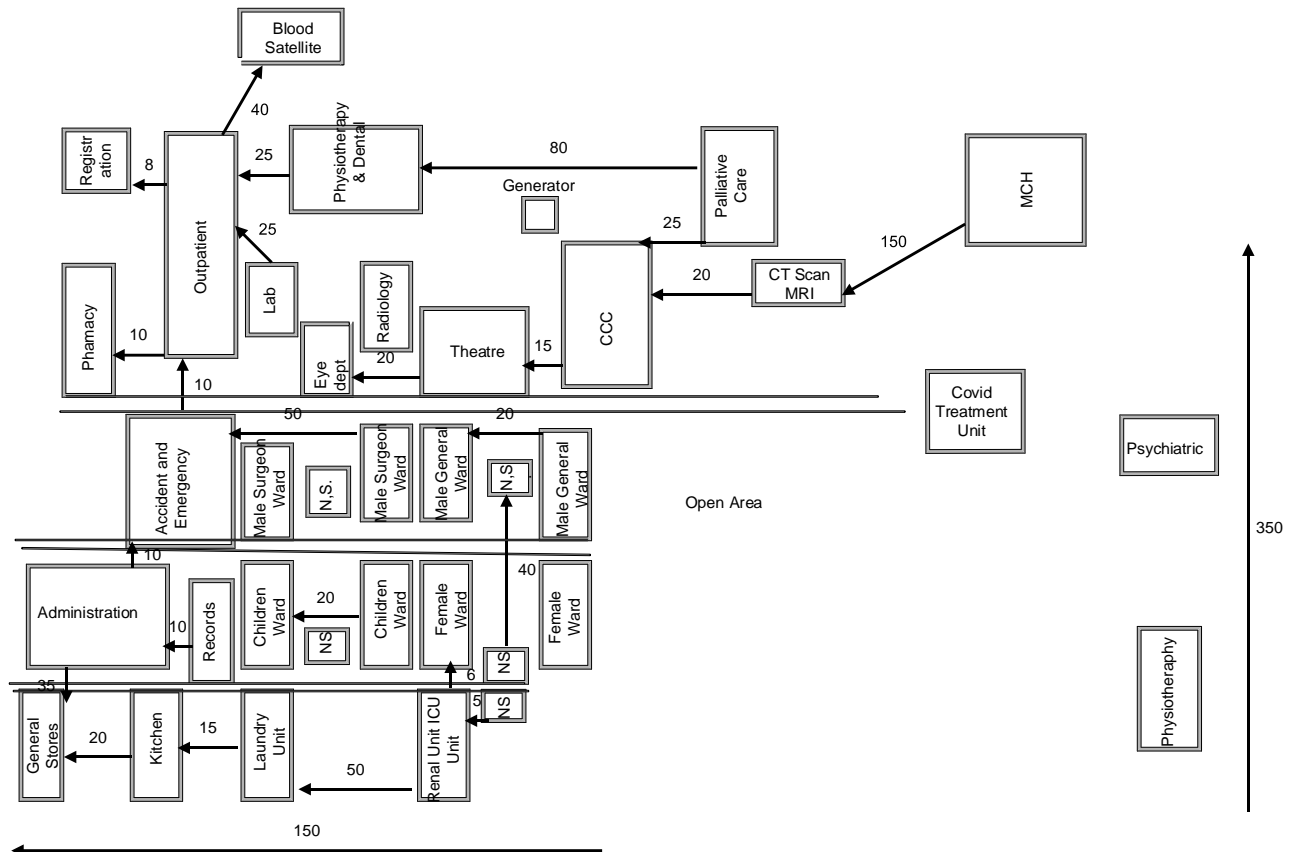
## 5.0 HOSPITAL BLOCKS WITH PROPOSED NETWORK DATAPOINTS

**NOTE:** The network drawing and position of datapoints has been amended as indicated below but is just proposal the final position will be determined during sign off of network design before implementation. The bidder is required to carry out a survey in order to get actual length and material required and provision for them in the quote. The client is not liable for any omission. The drawings are not to scale.

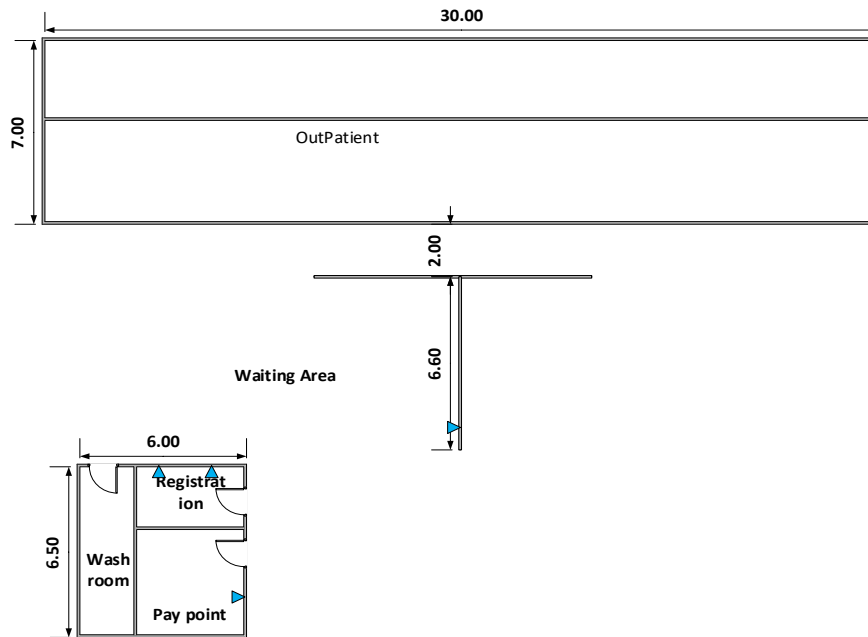
### 5.1 Hospital Blocks Overview

MAKUENI LEVEL IV HOSPITAL  
M.A.N  
Proposed Network Layout

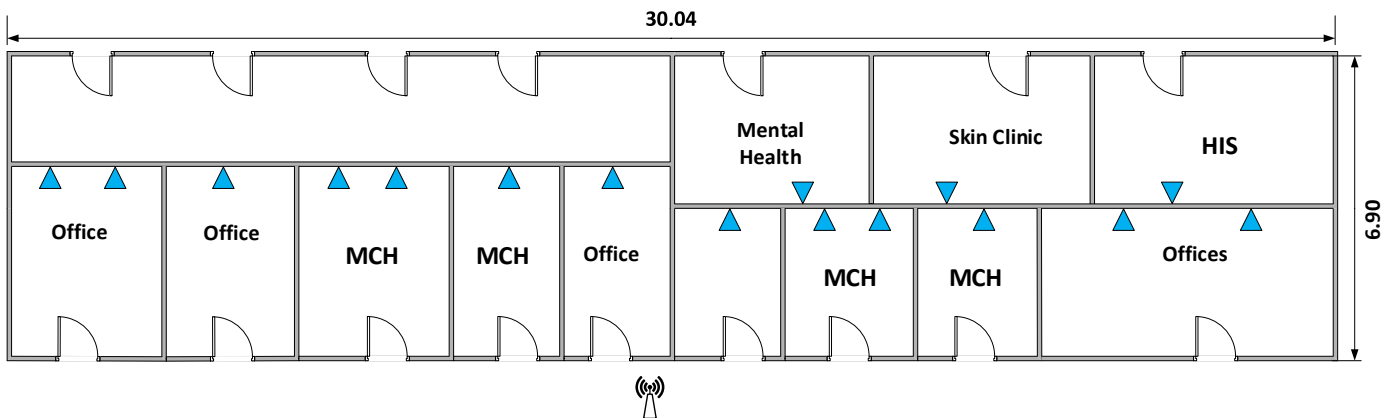
600



MAKUENI REFFERAL HOSPITAL  
 Registration Block  
 Proposed Network Layout



MAKUENI REFFERAL HOSPITAL  
 OutPatient Block  
 Proposed Network Layout



KEY



Wall



Double Data Point



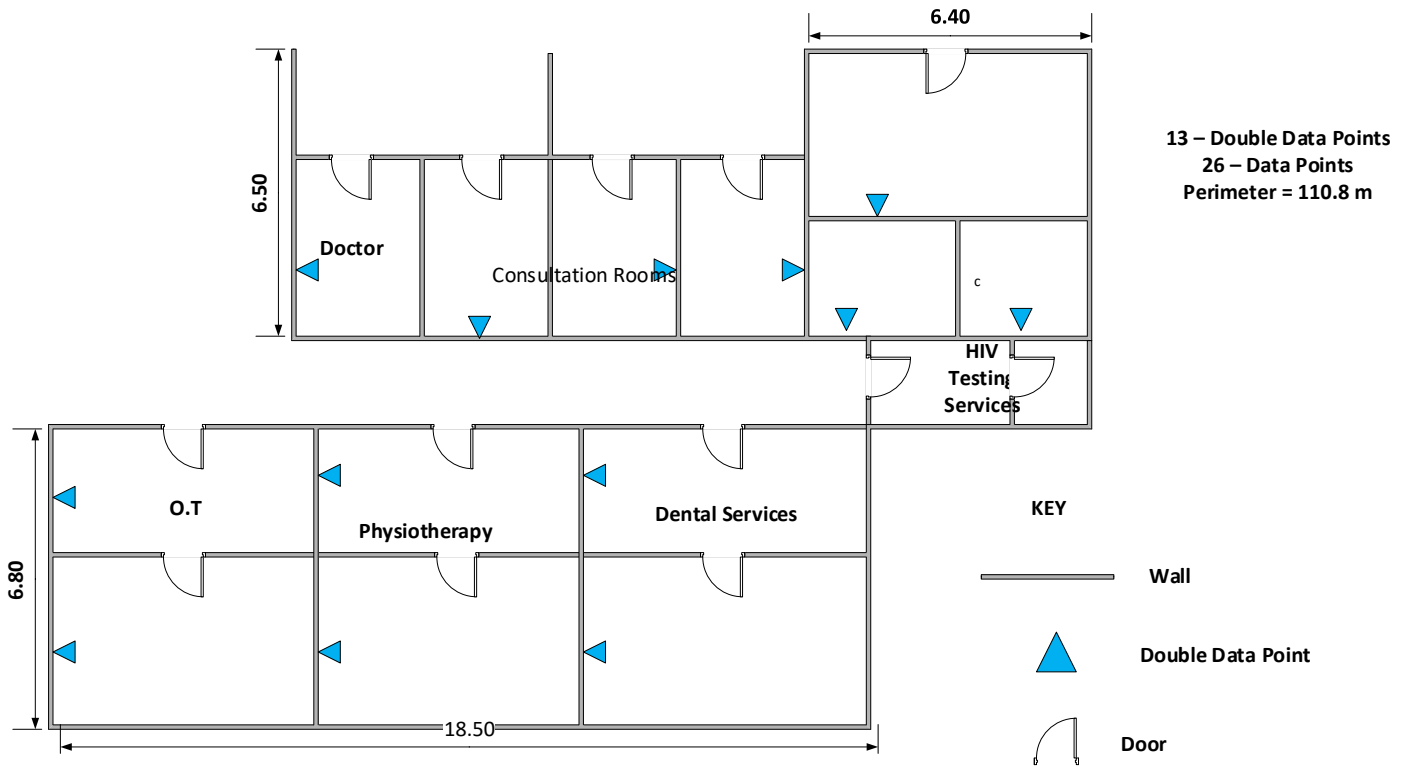
Door

16 – Double Data Points

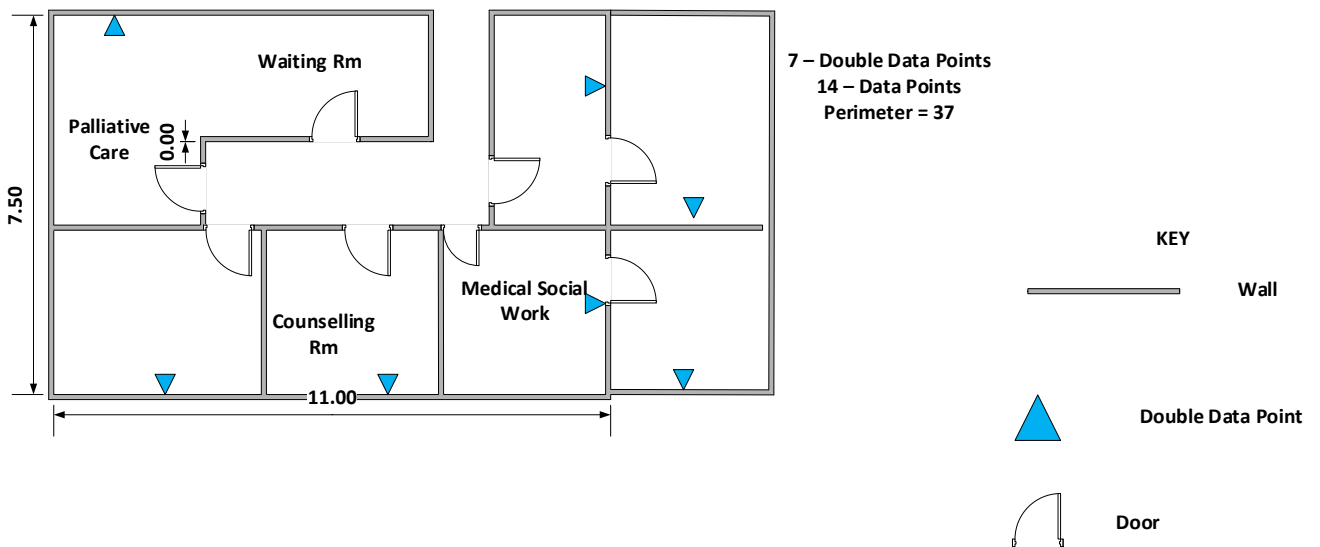
32 – Data Points

Perimeter = 73.88

MAKUENI REFFERAL HOSPITAL  
 Physiotherapy and Dental Services Blocks  
 Proposed Network Layout

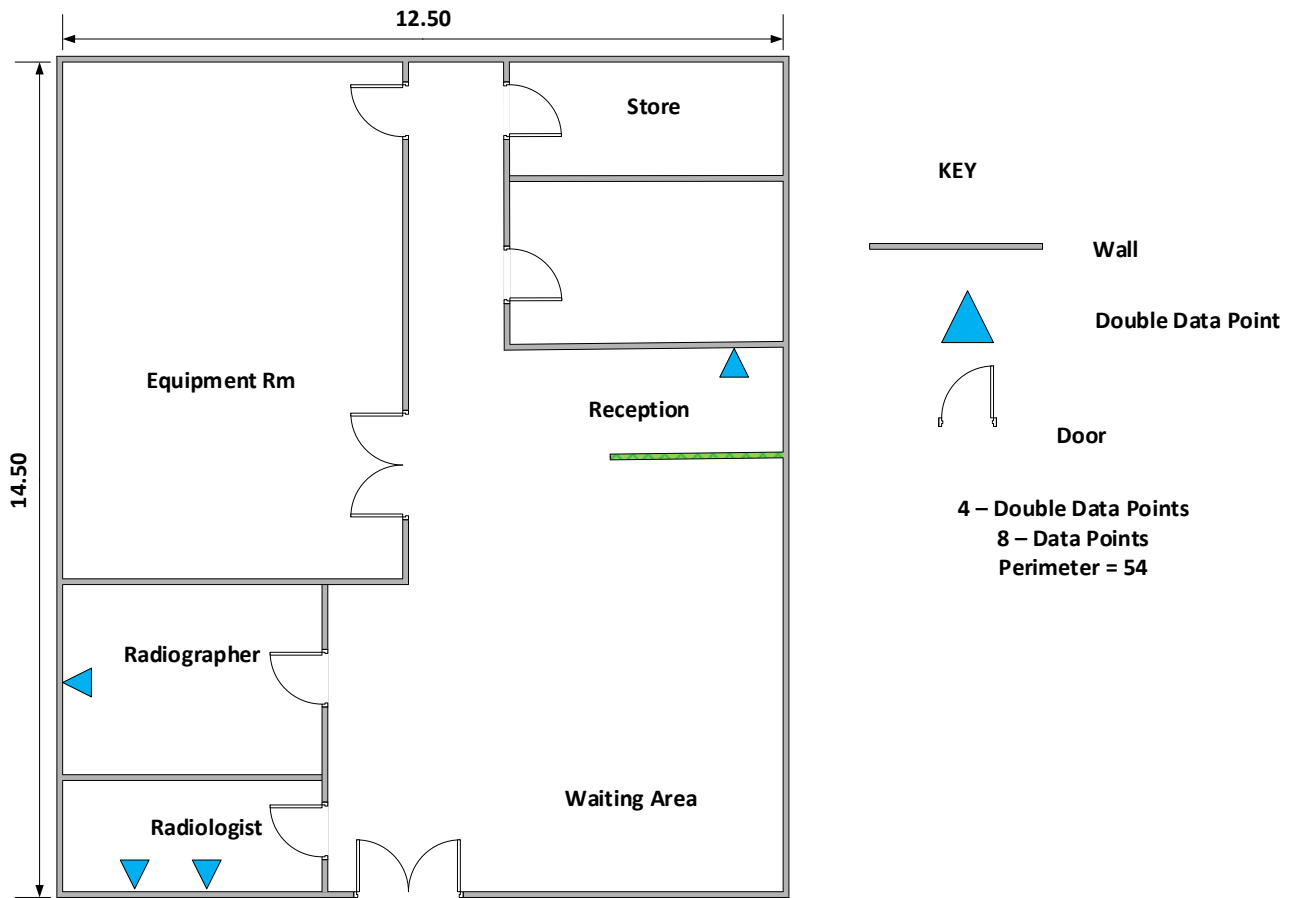


MAKUENI REFFERAL HOSPITAL  
 Palliative Care Centre and Counselling Block  
 Proposed Network Layout





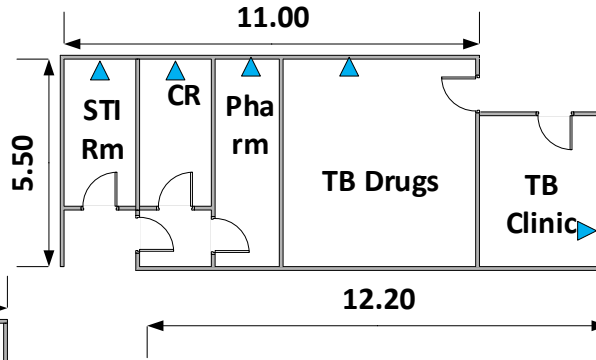
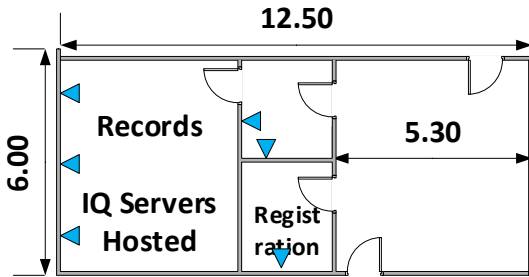
MAKUENI REFFERAL HOSPITAL  
CT Scan Centre Block  
Proposed Network Layout



**MAKUENI REFFERAL HOSPITAL**  
**Comprehensive Care Centre Block**  
**Proposed Network Layout**

**Existing LAN Devices**

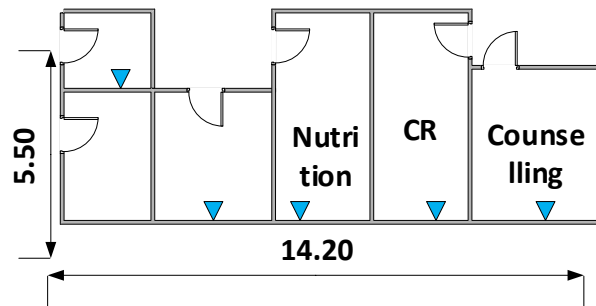
- Cisco – SF110-24P
- Used Ports- 24/24
- D-Link – DES-1210-28P
- Used Ports – 5/28



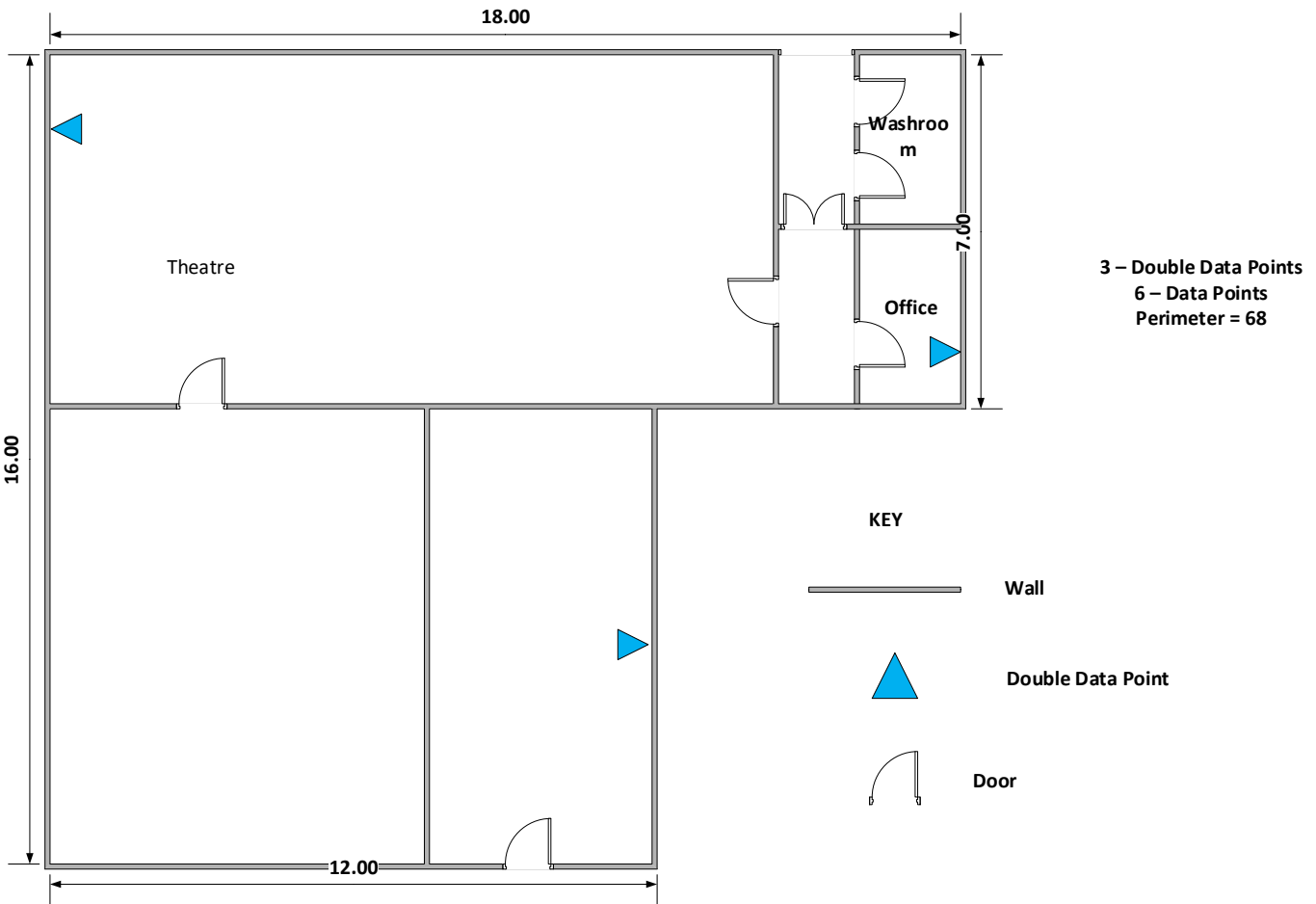
**16 – Double Data Points**

**32 – Data Points**

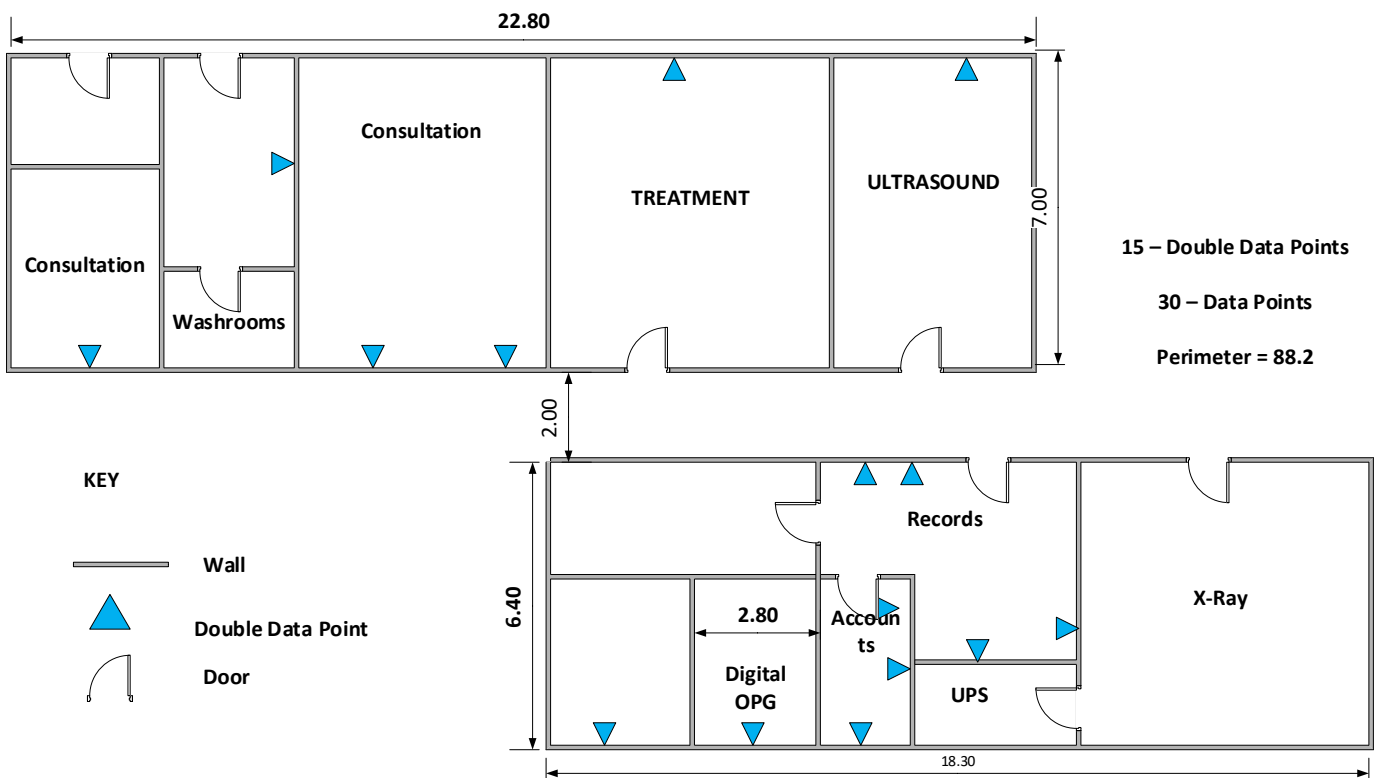
**Perimeter = 90**



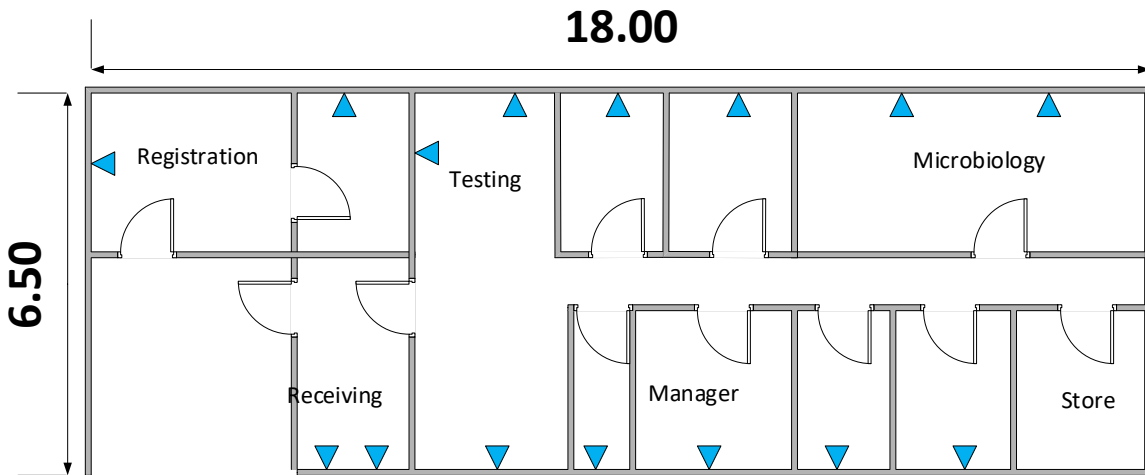
MAKUENI REFERRAL HOSPITAL  
Theatre Block  
Proposed Network Layout



MAKUENI REFERRAL HOSPITAL  
Eye Clinic and Radiology Blocks  
Proposed Network Layout



MAKUENI REFERRAL HOSPITAL  
 Laboratory Block  
 Proposed Network Layout



15 – Double Data Points

30 – Data Points

Perimeter = 49

KEY



Wall

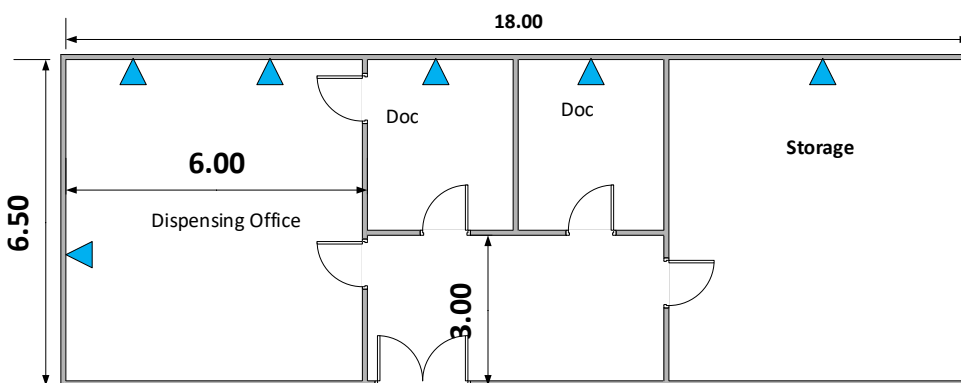


Double Data Point



Door

MAKUENI REFERRAL HOSPITAL  
 Pharmacy Block  
 Proposed Network Layout



5 – Double Data Points

10 – Data Points

Perimeter = 49

KEY



Wall

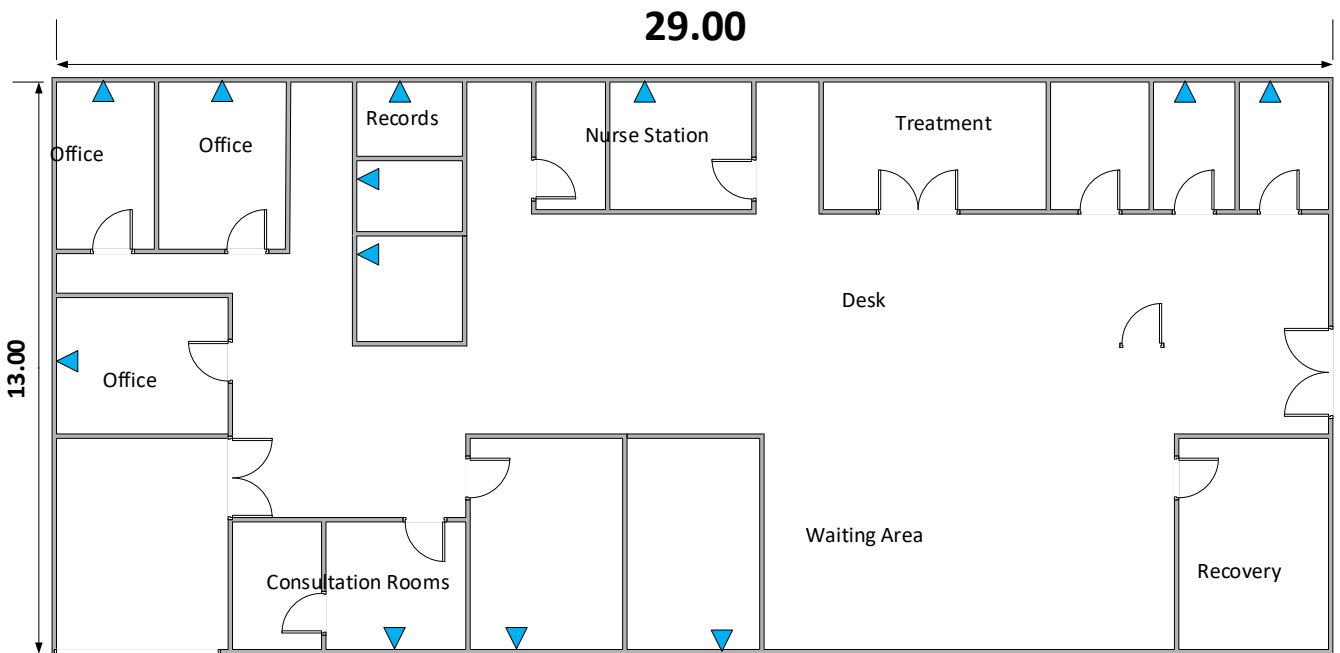


Double Data Point



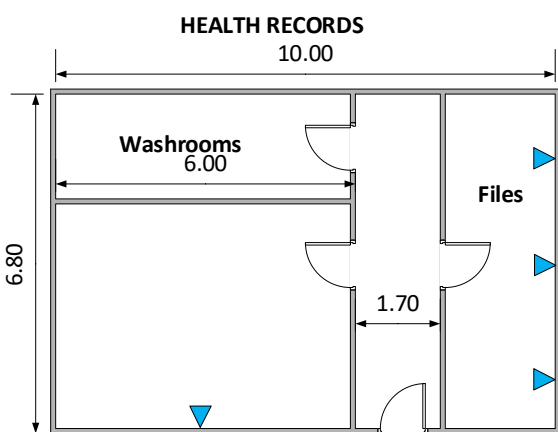
Door

MAKUENI REFFERAL HOSPITAL  
Emergency & Accident Block  
Proposed Network Layout

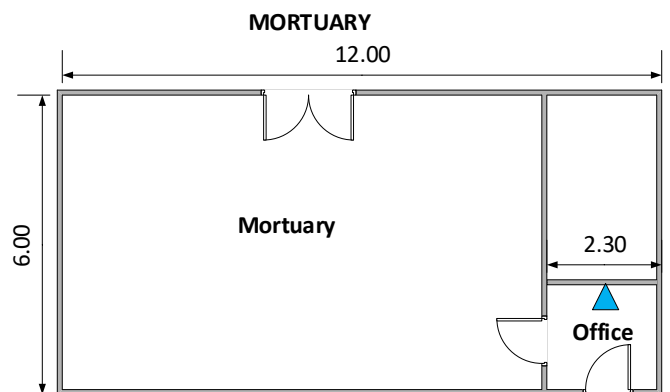


**12 – Double Data Points**  
**24 – Data Points**  
**Perimeter = 84**




MAKUENI REFFERAL HOSPITAL  
Health Records and Mortuary Blocks  
Proposed Network Layout



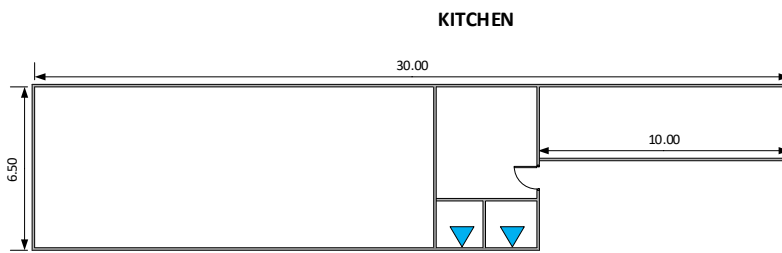
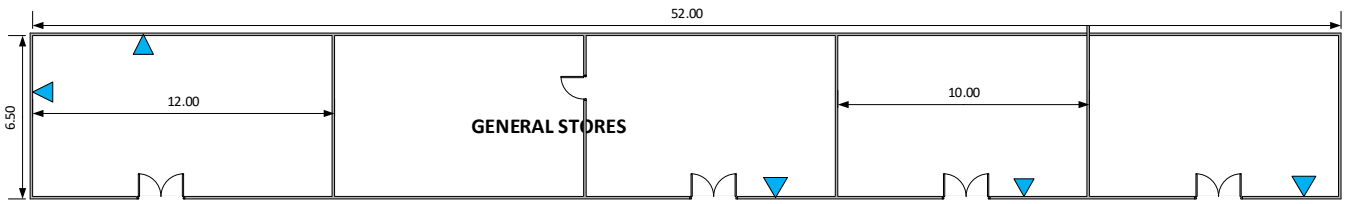
**5 – Double Data Points**  
**10 – Data Points**  
**Perimeter (HR) = 33.60**  
**Perimeter (M) = 36**



**KEY**

-  Wall
-  Double Data Point
-  Door

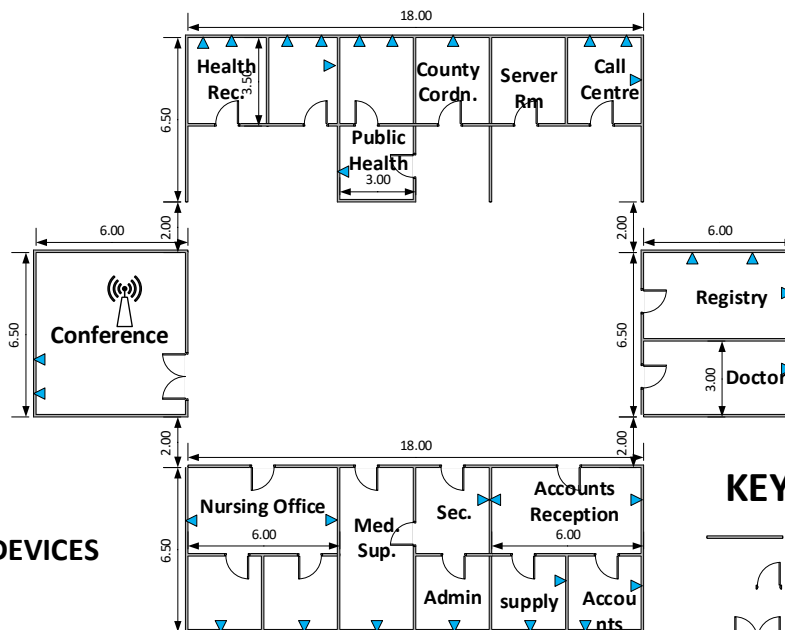
MAKUENI REFFERAL HOSPITAL  
General Stores & Kitchen  
Proposed Network Layout



**KEY**

- Wall
- ⤵ Single Door
- ⤵ Double Door
- ▲ Double Data Point
- 7 – Double Data Point
- 14 – Data Points
  
- Perimeter (GS) = 117
- Perimeter (KITCHEN) = 73

MAKUENI REFFERAL HOSPITAL  
Administration Block  
Proposed Network Layout



29 – Double Data Point  
58 – Data Points  
Perimeter = 108

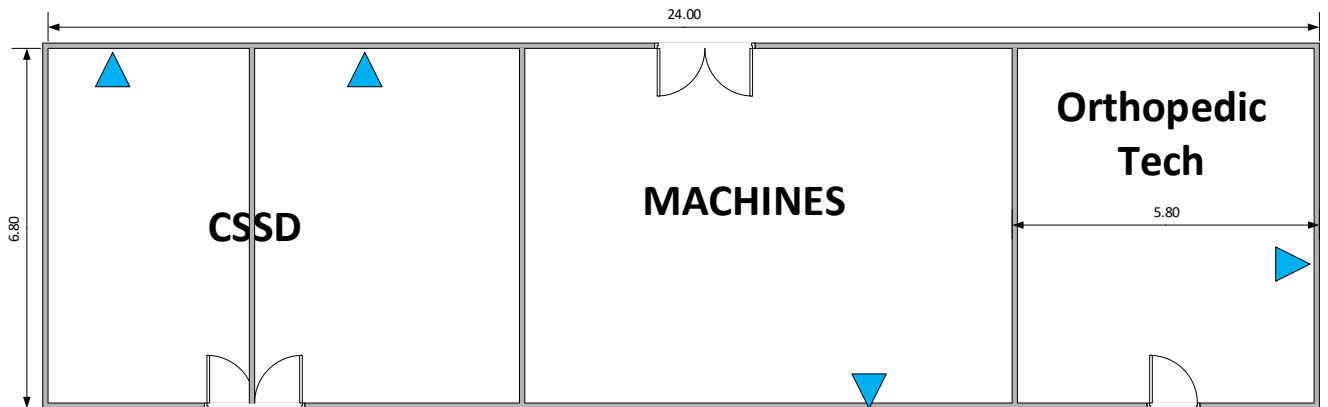
**KEY**

- Wall
- ⤵ Single Door
- ⤵ Double Door
- ▲ Double Data Point
- 📶 Wireless Access Point





**EXISTING NETWORK DEVICES**

- 12u
- 42u
- Trunking Not metallic
- Catalyst 3750 POE-24
- DES-1210-28P
- Air Con
- Backup

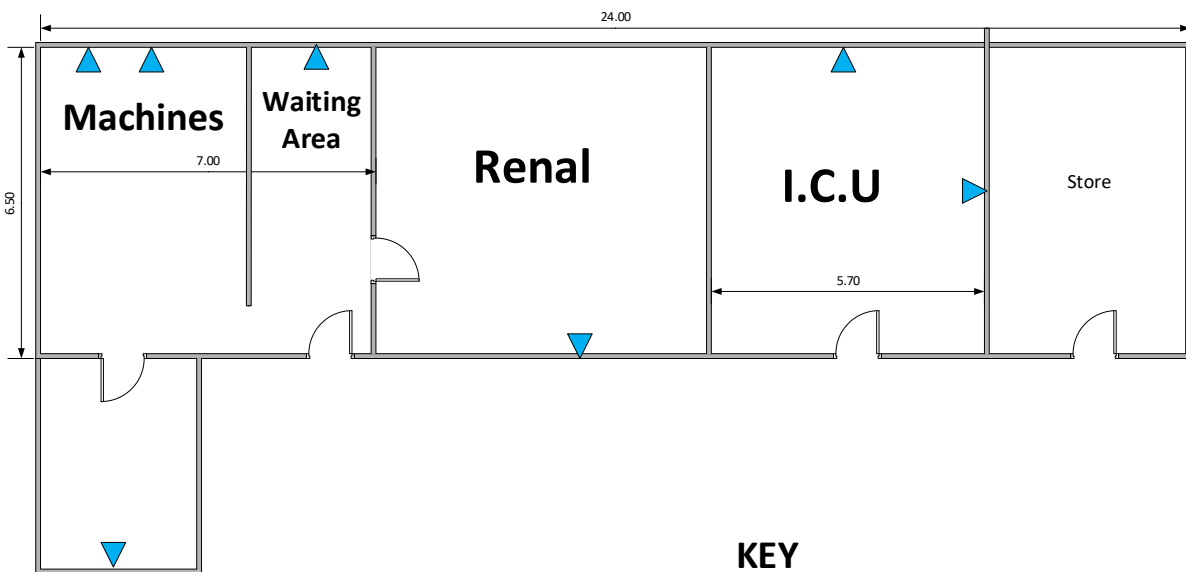
MAKUENI REFFERAL HOSPITAL  
 CSSD Block  
 Proposed Network Layout






**KEY**

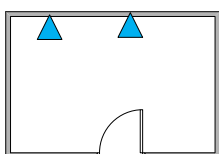
-  Wall
  -  Single Door
  -  Double Door
  -  Double Data Point
- 4 – Double Data Point  
 8 – Data Points  
 Perimeter = 61.6

MAKUENI REFFERAL HOSPITAL  
 Renal Dialysis and ICU Block  
 Proposed Network Layout

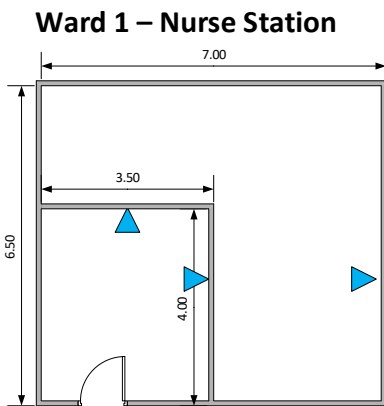
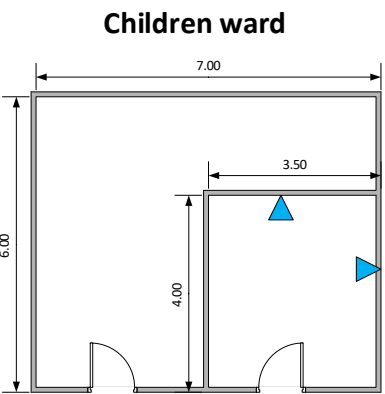
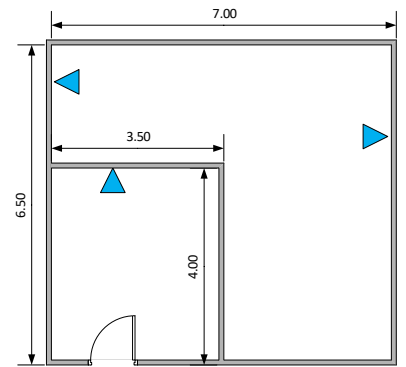
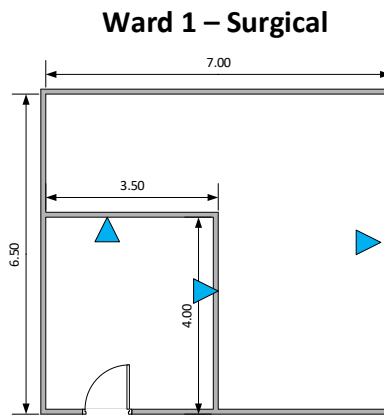
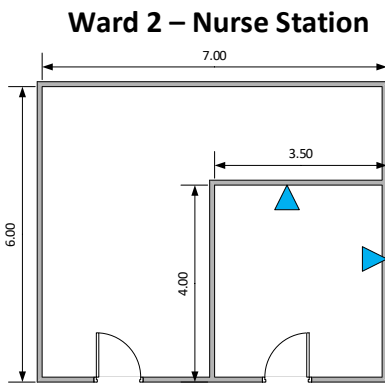


**KEY**




-  Wall
  -  Single Door
  -  Double Data Point
- 9 – Double Data Point  
 18 – Data Points  
 Perimeter = 91



MAKUENI REFFERAL HOSPITAL  
Nurse Station Blocks  
Proposed Network Layout



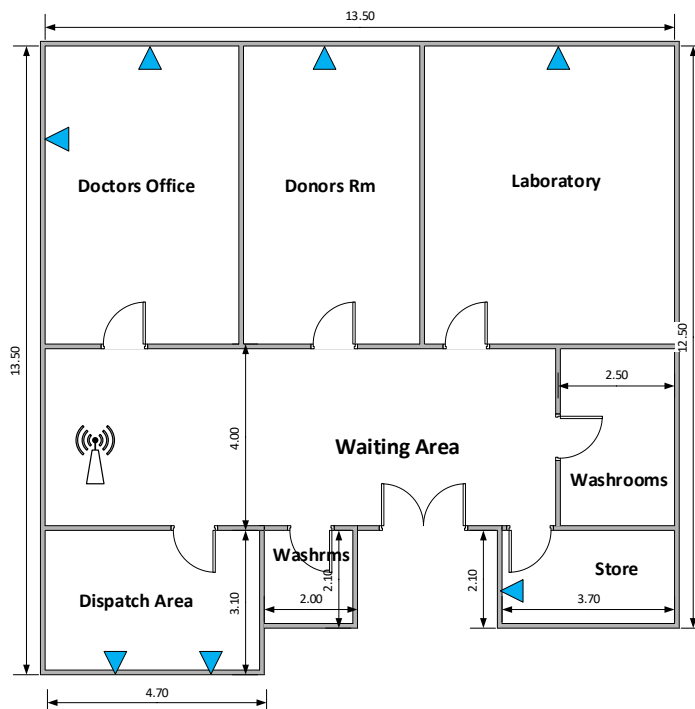
**KEY**

-  Wall
-  Single Door
-  Double Data Point





13 – Double Data Point  
26 – Data Points

Perimeter of Each Ward = 26

MAKUENI REFFERAL HOSPITAL  
KNBTS-Blood Satellite  
Proposed Network Layout



**KEY**

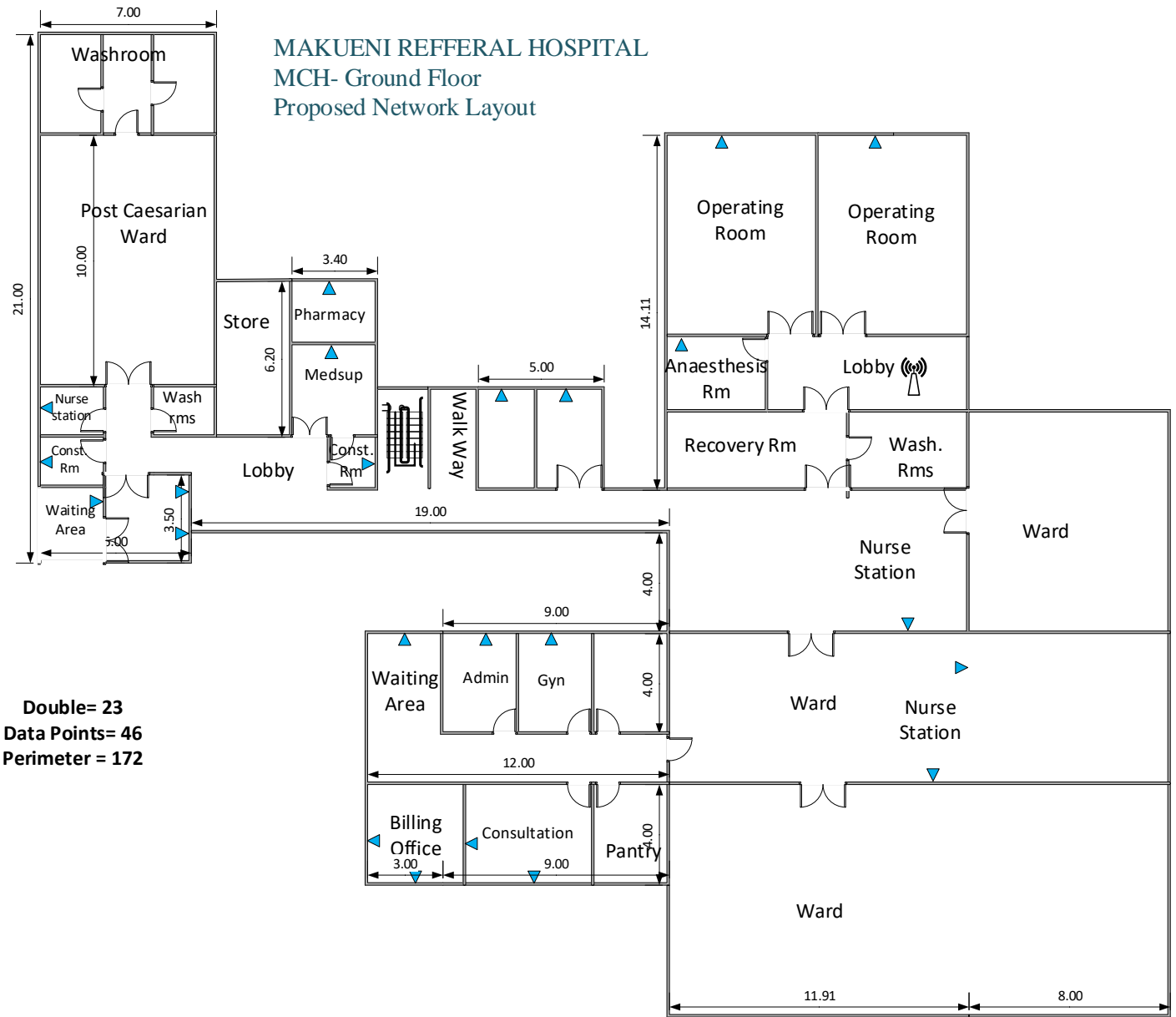
-  Wall
-  Single Door
-  Double Data Point
-  Wireless Access Point

7 – Double Data Point  
14 – Data Points

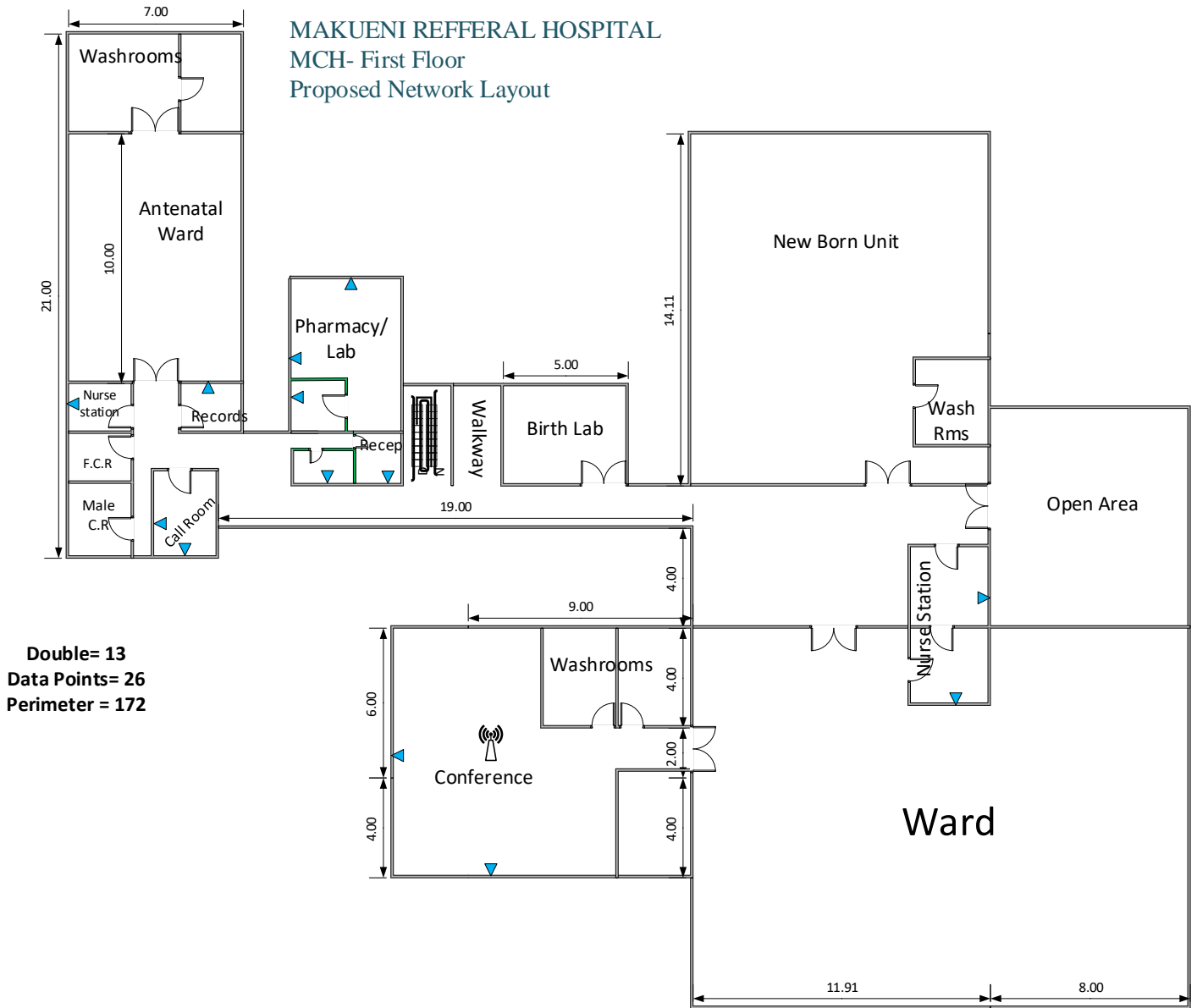
Perimeter of Each Ward = 42.5



MAKUENI REFFERAL HOSPITAL  
MCH- Ground Floor  
Proposed Network Layout

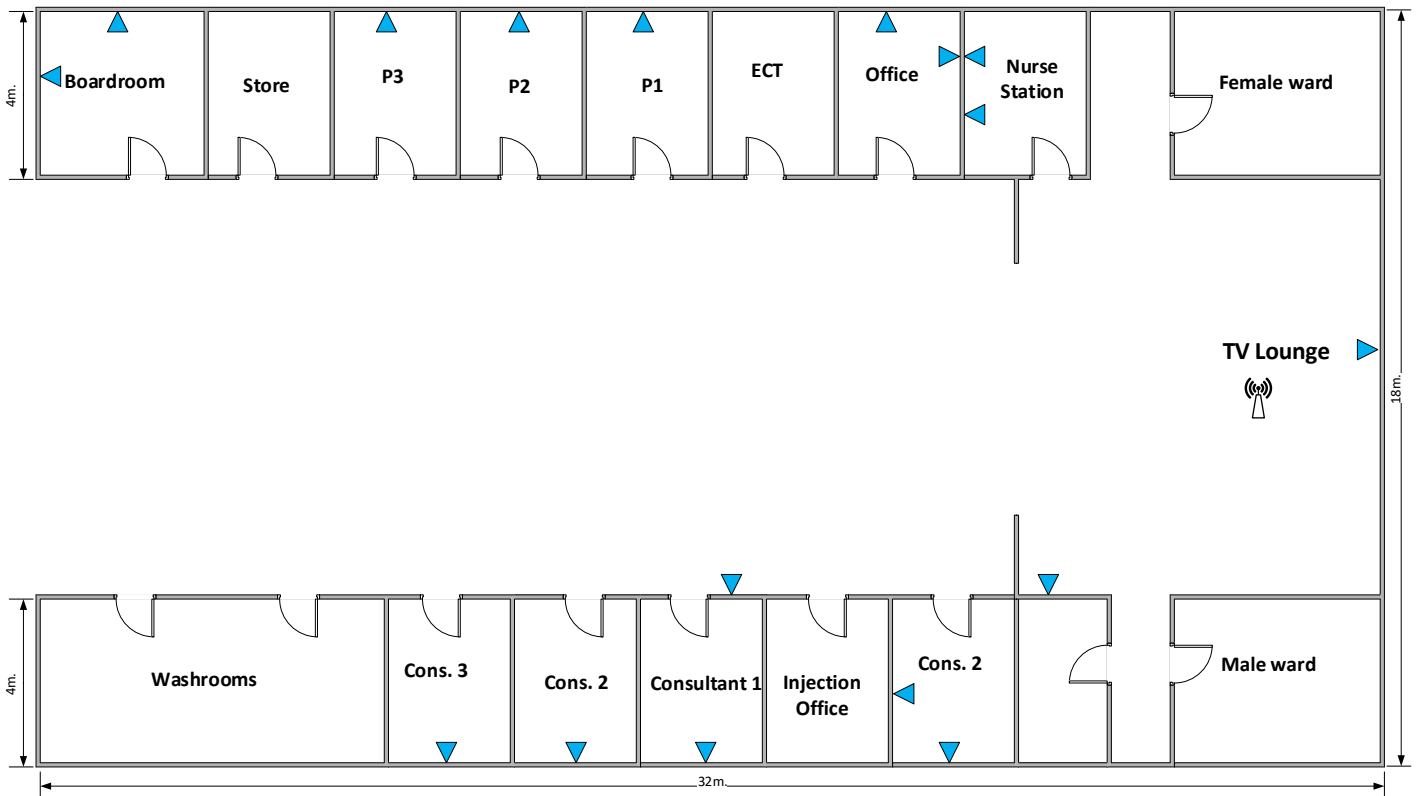


MAKUENI REFFERAL HOSPITAL  
MCH- First Floor  
Proposed Network Layout



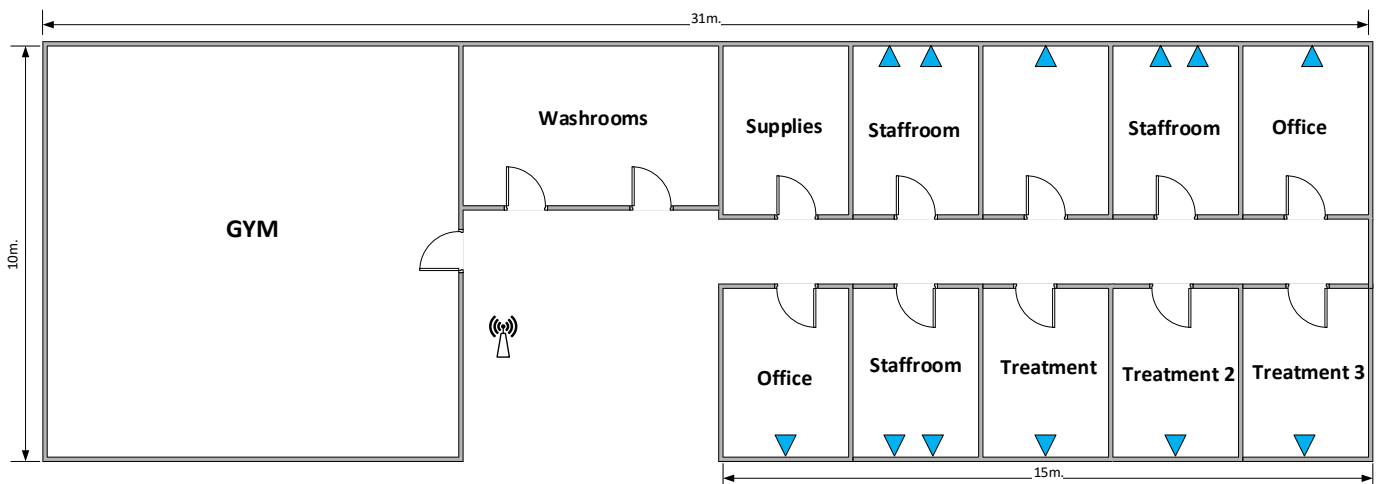
MAKUENI REFFERAL HOSPITAL  
 Psychiatric Block  
 Proposed Network Layout

17 – Double Data Points  
 34 – Data Points  
 Access Points – 1  
 Perimeter = 100



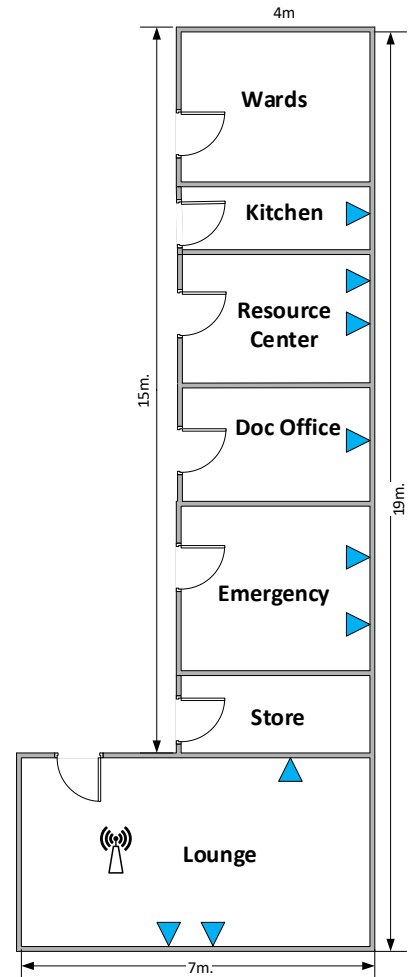
MAKUENI REFFERAL HOSPITAL  
 Physiotherapy Block  
 Proposed Network Layout

12 – Double Data Points  
 24 – Data Points  
 Access Points – 1  
 Perimeter = 82

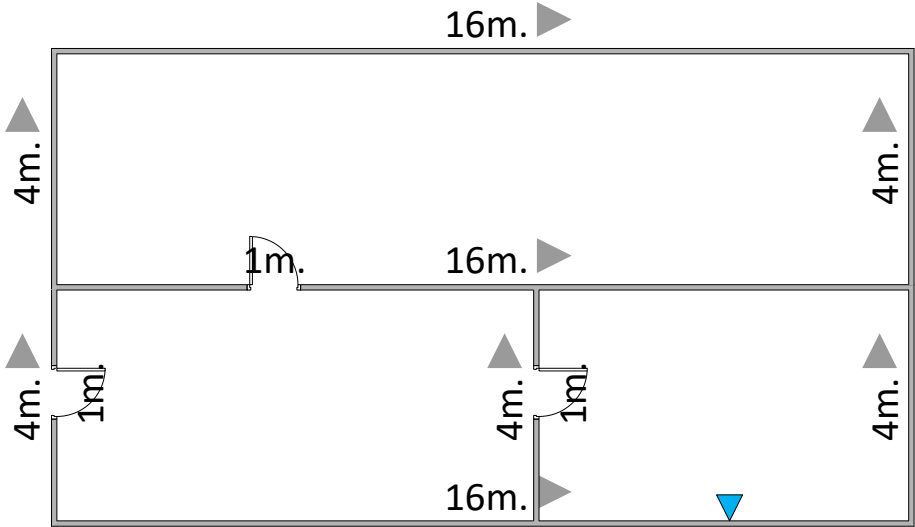


MAKUENI REFFERAL HOSPITAL  
Covid Treatment Unit Block  
Proposed Network Layout

9 – Double Data Points  
18 – Data Points  
Perimeter =52.6

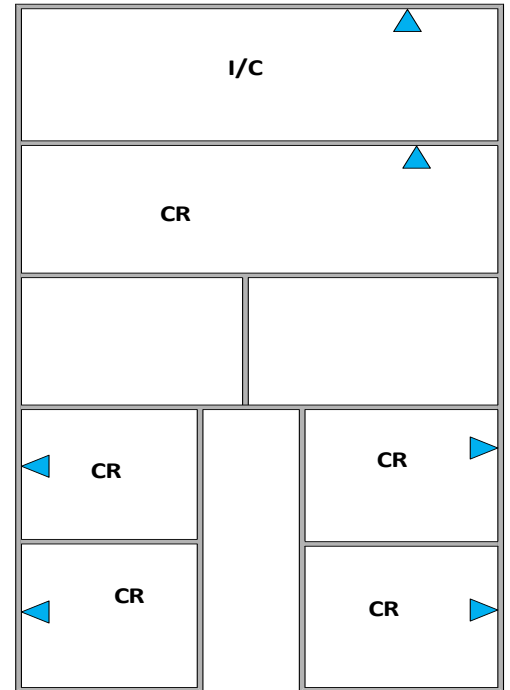


MAKUENI REFFERAL HOSPITAL  
County Drug Store Block  
Proposed Network Layout



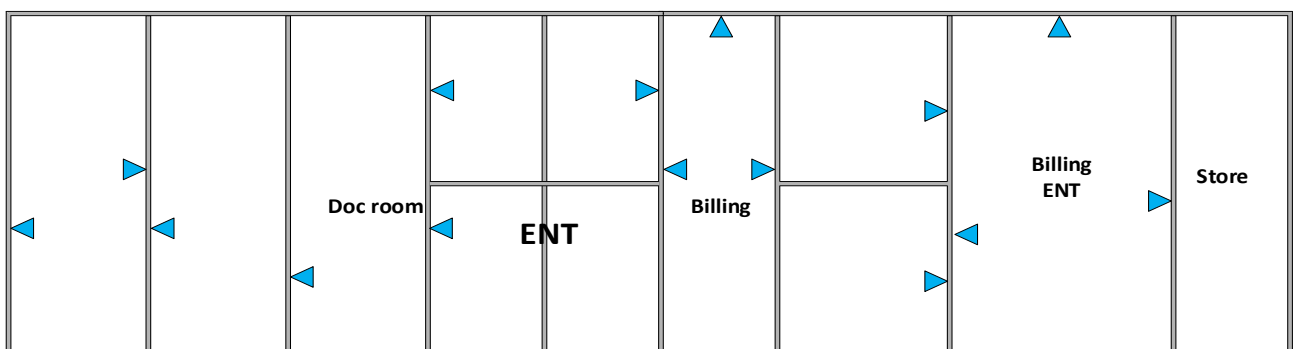
**1 – Double Data Points**  
**2 – Data Points**  
**Perimeter =48m**

MAKUENI REFFERAL HOSPITAL  
 Oncology Block  
 Proposed Network Layout



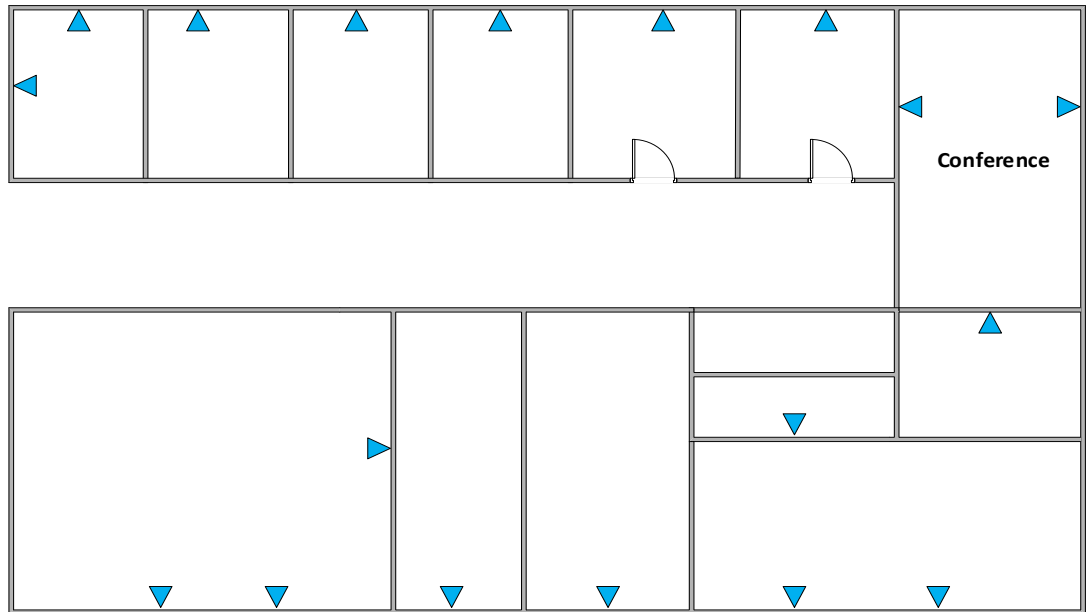
6 – Double Data Points  
 12 – Data Points

MAKUENI REFFERAL HOSPITAL  
 ENT/ Billing Block  
 Proposed Network Layout



15 – Double Data Points  
 30 – Data Points

MAKUENI REFFERAL HOSPITAL  
Sub-County Offices Block  
Proposed Network Layout



**18 – Double Data Points**  
**36 – Data Points**