

HDH.MAKUNUDHOO HEALTH CENTER
SERVICES DRAWINGS
Client: Ministry of Health



RIYAN PRIVATE LIMITED
T: +9603315040 F: +9603310776
E: info@riyan.com.mv
W: www.riyan.com.mv
3rd floor, H. Azam, Aradheemagaj, Male'

TABLE OF CONTENTS

DRAWING No.	TITLE	REVISION No.	DATE	REMARKS
S E R V I C E S				
EL - 01 /03	GROUND FLOOR LIGHTING LAYOUT	---	---	---
EL - 02 /03	FIRST FLOOR LIGHTING LAYOUT	---	---	---
EL - 03 /03	TERRACE FLOOR LIGHTING LAYOUT	---	---	---
EP - 01 /03	GROUND FLOOR POWER LAYOUT	---	---	---
EP - 02 /03	FIRST FLOOR POWER LAYOUT	---	---	---
EP - 03 /03	TERRACE FLOOR POWER LAYOUT	---	---	---
ACV - 01 /06	GROUND FLOOR AC LAYOUT	---	---	---
ACV - 02 /06	FIRST FLOOR AC LAYOUT	---	---	---
ACV - 03 /06	TERRACE FLOOR AC LAYOUT	---	---	---
ACV - 04 /06	GROUND FLOOR VENTILATION LAYOUT	---	---	---
ACV - 05 /06	FIRST FLOOR VENTILATION LAYOUT	---	---	---
ACV - 06 /06	TERRACE FLOOR VENTILATION LAYOUT	---	---	---
PL - 01 /03	GROUND FLOOR PLUMBING LAYOUT	---	---	---
PL - 02 /03	FIRST FLOOR PLUMBING LAYOUT	---	---	---
PL - 03 /03	TERRACE FLOOR PLUMBING LAYOUT	---	---	---
DR - 01 /07	GROUND FLOOR DRAINAGE LAYOUT	---	---	---
DR - 02 /07	FIRST FLOOR DRAINAGE LAYOUT	---	---	---
DR - 03 /07	TERRACE FLOOR DRAINAGE LAYOUT	---	---	---
DR - 04 /07	GROUND FLOOR RAINWATER DRAINAGE LAYOUT	---	---	---
DR - 05 /07	FIRST FLOOR RAINWATER DRAINAGE LAYOUT	---	---	---
DR - 06 /07	TERRACE FLOOR RAINWATER DRAINAGE LAYOUT	---	---	---
DR - 07 /07	ROOF RAINWATER DRAINAGE LAYOUT	---	---	---
LP - 01 /02	GROUND FLOOR LIGHTING PROTECTION LAYOUT	---	---	---
LP - 02 /02	ROOF PLAN LIGHTING PROTECTION LAYOUT	---	---	---
FDP - 01 /04	GROUND FLOOR FDP LAYOUT	---	---	---
FDP - 02 /04	FIRST FLOOR FDP LAYOUT	---	---	---
FDP - 03 /04	TERRACE FLOOR FDP LAYOUT	---	---	---
FDP - 04 /04	RISER DIAGRAM	---	---	---
ICT - 01 /04	GROUND FLOOR INFORMATION & COMMUNICATION TECHNOLOGY / SECURITY LAYOUT	---	---	---
ICT - 02 /04	FIRST FLOOR INFORMATION & COMMUNICATION TECHNOLOGY / SECURITY LAYOUT	---	---	---
ICT - 03 /04	TERRACE FLOOR INFORMATION & COMMUNICATION TECHNOLOGY / SECURITY LAYOUT	---	---	---
ICT - 04 /04	AUXILIARY SYSTEM RISER DIAGRAM	---	---	---
S - 01 /09	SOLAR PANEL	---	---	---
S - 02 /09	SOLAR PANEL	---	---	---
S - 03 /09	SOLAR PANEL	---	---	---
S - 04 /09	SOLAR PANEL	---	---	---
S - 05 /09	SOLAR PANEL	---	---	---
S - 06 /09	SOLAR PANEL	---	---	---
S - 07 /09	SOLAR PANEL	---	---	---
S - 08 /09	SOLAR PANEL	---	---	---
S - 09 /09	SOLAR PANEL	---	---	---



LIGHTING LEGEND

- LED RECESSED LIGHT TYPE 1 (18W)
- LED STRIP COVER LIGHT IP65 (8W)
- LED RECESSED LIGHT TYPE 2 (12W)
- 600 X 600 LED SQUARE DIFFUSER WITH T5 FITTINGS (12W)
- LED RECESSED LIGHT TYPE 3 (12W)
- LED DOWN LIGHT (18W) - WEATHER PROOF
- FLEX. POWER OUTLET W/ COVER PLATE (EXHAUST FAN)
- CEILING FAN (52" - 54")
- LED OUTDOOR WALL LIGHT UP/DWN (8W) - WEATHER PROOF
- LED SPKE LIGHT (3W)
- OUTDOOR WALL LIGHT 12W - WEATHER PROOF
- LIGHTING SWITCH
- FAN SWITCH
- LIGHTING CABLE
- TROFFER DIFFUSER WITH T5 FITTING (28W)
- LED INDOOR WALL LIGHT UP/DWN (8W)

LIGHTING NOTES

- ALL LIGHTS TO BE CONNECTED TO THEIR RESPECTIVE DB
- ALL CORRIDOR LIGHTS AND OUTDOOR LIGHTS ARE TIMMERD
- CONTRACTOR TO PREPARE SHOP DRAWINGS AND GET APPROVAL FROM CONSULTANT AND/OR PROJECT MANAGER FOR ALL LIGHTS, SWITCHES, DB, PANEL BOARD AND OTHER RELEVANT LIGHTING AND POWER POINT LOCATIONS INCLUDING CONDUITING AND WIRING AND TO BE VERIFIED AT SITE PRIOR TO CONSTRUCTION

FIRST FLOOR LIGHTING PLAN

SCALE 1:150

0 0.5 1 2 3 4 5

HDh. Makunudhoo Health Center
Client: Ministry of Health

Rev no	Date
1	01/01/2022
2	01/01/2022
3	01/01/2022
4	01/01/2022
5	01/01/2022
6	01/01/2022
7	01/01/2022
8	01/01/2022
9	01/01/2022
10	01/01/2022



RIYAN PRIVATE LIMITED

t: +960335048 f: +9603310776
e: info@riyan.com.mv
w: www.riyan.com.mv
3rd floor, H. Azam, Ammeenemogai, Malé

Title: First Floor
Lighting Layout

Page: EL-02 /03

The contents of these drawings remain as a property of Riyan Private Limited. Any use other than those expressly stated is a violation of this copyright.



LIGHTING LEGEND

- LED RECESSED LIGHT TYPE 1 (18W)
- LED STRIP COVER LIGHT IP65 (8W)
- LED RECESSED LIGHT TYPE 2 (12W)
- 600 X 600 LED SQUARE DIFFUSER WITH T5 FITTINGS (12W)
- LED RECESSED LIGHT TYPE 3 (12W)
- LED DOWN LIGHT (18W) - WEATHER PROOF
- FLEX. POWER OUTLET W/ COVER PLATE (EXHAUST FAN)
- CEILING FAN (52" - 54")
- LED OUTDOOR WALL LIGHT UP/DWN (8W) - WEATHER PROOF
- LED SPKE LIGHT (3W)
- OUTDOOR WALL LIGHT 12W - WEATHER RPOOF
- LIGHTING SWITCH
- FAN SWITCH
- LIGHTING CABLE
- TROFFER DIFFUSER WITH T5 FITTING (28W)
- LED INDOOR WALL LIGHT UP/DWN (8W)

LIGHTING NOTES

- ALL LIGHTS TO BE CONNECTED TO THEIR RESPECTIVE DB
- ALL CORRIDOR LIGHTS AND OUTDOOR LIGHTS ARE TIMMERD
- CONTRACTOR TO PREPARE SHOP DRAWINGS AND GET APPROVAL FROM CONSULTANT AND/OR PROJECT MANAGER FOR ALL LIGHTS, SWITCHES, DB, PANEL BOARD AND OTHER RELEVANT LIGHTING AND POWER POINT LOCATIONS INCLUDING CONDUITING AND WIRING AND TO BE VERIFIED AT SITE PRIOR TO CONSTRUCTION

HDh. Makunudhoo Health Center
Client: Ministry of Health

Rev no	Date
1	01/03/2023
2	01/03/2023
3	01/03/2023
4	01/03/2023
5	01/03/2023
6	01/03/2023
7	01/03/2023
8	01/03/2023
9	01/03/2023
10	01/03/2023



RIYAN PRIVATE LIMITED
t: +9603375049 f: +9603310776
e: info@riyan.com.mv
w: www.riyan.com.mv
3rd floor, H. Azam, Ammeenemogau, Malé

Title: Terrace Floor
Lighting Layout

Page: EL-03 /03



LIGHTING LEGEND

TWO GANG TV SOCKET OUTLET

13A POWER OUTLET (300MM FROM F.F.L)
(ABOVE FALSE CEILING FOR TOKEN MONITORS)

13A TWIN SOCKET OUTLET (300MM FROM F.F.L)

13A UPS SOCKET OUTLET (300MM FROM F.F.L)

POWER OVER ETHERNET OUTLET

15A POWER OUTLET

VGA CABLE FOR PROJECTOR

PROXIMITY CARD READER

AUTOMATIC DOOR MOTION DETECTOR SENSOR

ACCESS CONTROLLER

EXIT SWITCH

DISTRIBUTION BOX

13A SOCKETS FOR TOILETS (1500 F.F.L)

WEATHER PROOF POLYCARBONATE ENCLOSURE

PAGING MIC

VOLUME CONTROLLER

WALL SPEAKERS AT CEILING LEVEL

EMERGENCY DOOR RELEASE

NURSE STATION PANEL ROOM INDICATOR

ELECTROMAGNETIC LOCK

DOOR BELL BUTTON

HONE SPEAKER

DOOR BELL RECEIVER

CEILING SPEAKER

8 POWER POINTS ON ENVIROM VERTICAL
HEADWALLS CALL POINT TO NURSES STATION:
INTEGRATED IN ENVIROM BEDHEAD TRUNK

THEATER CONTROL PANEL
(INCLUDES TELEPHONE UNIT, FIRE ALARM
STROBE, MEDICAL GAS INDICATOR UNIT)

T.I TABLE INTEGRATED OR F.F.L OUTLETS

C.L CEILING LEVEL OUTLETS

H.L HIGH LEVEL OUTLETS ON WALL

POWER NOTES

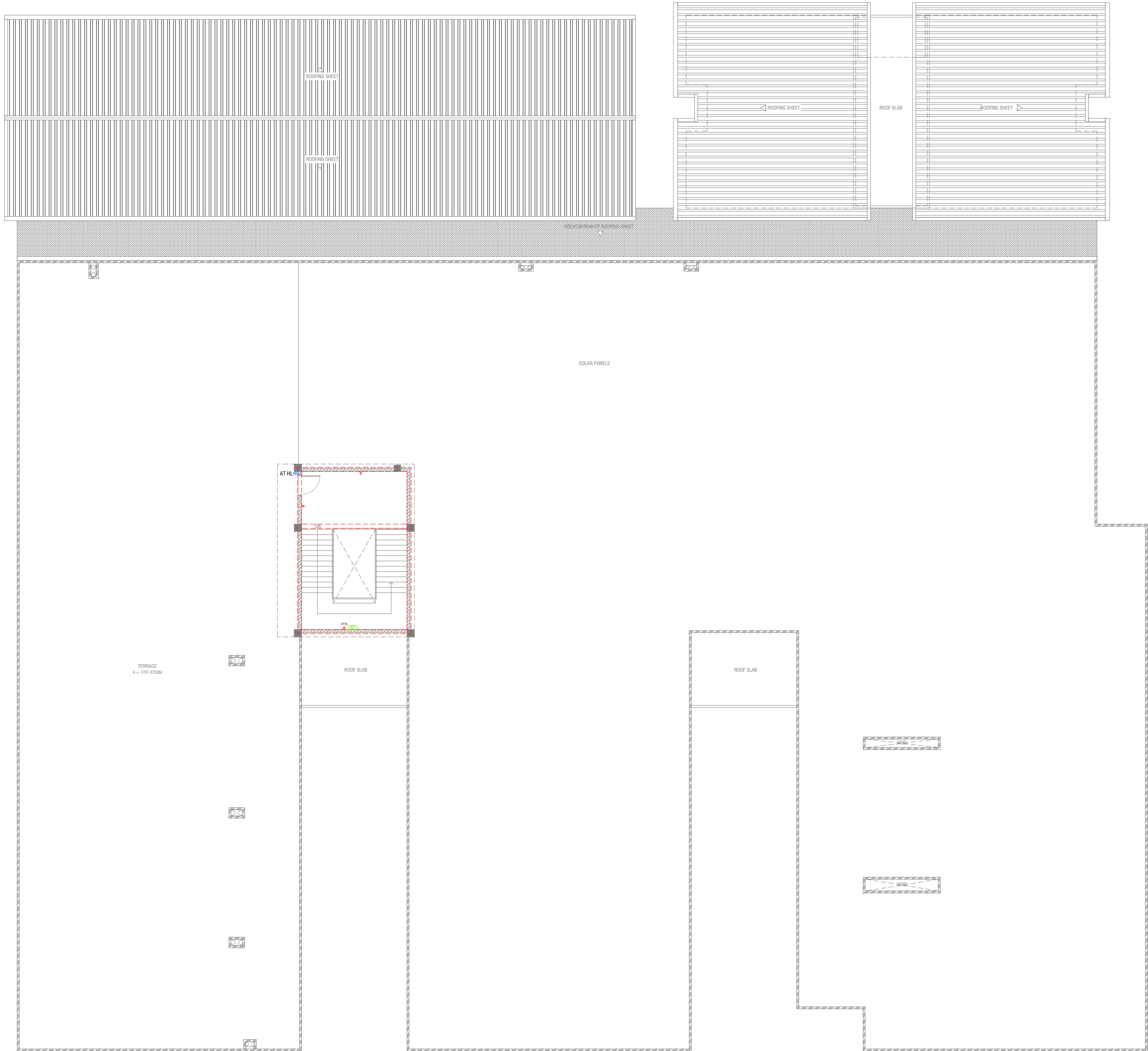
- ALL POWER POINTS CONNECTED TO THE
RESPECTIVE DB

- CONTRACTOR TO PREPARE SHOP DRAWINGS AND
GET APPROVAL FROM CONSULTANT/PROJECT
MANAGER FOR ALL LIGHTS, SWITCHES, DB, PANEL
BOARD, EAC, REQUIRED ISOLATORS, ACV SERVICES
AND OTHER RELEVANT LIGHTING AND POWER POINT
LOCATIONS INCLUDING CONDUITING AND WIRING
AND TO BE VERIFIED AT SITE PRIOR TO
CONSTRUCTION

- CONTRACTOR SHALL BE RESPONSIBLE TO MODIFY,
CHANGE, REROUTE, RELOCATE THE LIGHTING AND
POWER POINTS AS PER THE SITE CONDITIONS AND
SUBMIT SHOP DRAWING FOR APPROVAL PRIOR TO
CONSTRUCTION

- CONTRACTOR SHALL BE RESPONSIBLE TO
PROVIDE ELECTRICAL POWER REQUIREMENTS AND
POWER POINTS FOR MECHANICAL VENTILATION
DEVICES TO ELECTRICAL CONTRACTOR

GROUND FLOOR POWER PLAN
SCALE 1:150



LIGHTING LEGEND	
	TWO GANG TV SOCKET OUTLET
	13A POWER OUTLET (300MM FROM F.F.L) (ABOVE FALSE CEILING FOR TOKEN MONITORS)
	13A TWIN SOCKET OUTLET (300MM FROM F.F.L)
	13A UPS SOCKET OUTLET (300MM FROM F.F.L)
	POWER OVER ETHERNET OUTLET
	15A POWER OUTLET
	VGA CABLE FOR PROJECTOR
	PROXIMITY CARD READER
	AUTOMATIC DOOR MOTION DETECTOR SENSOR
	ACCESS CONTROLLER
	EXIT SWITCH
	DISTRIBUTION BOX
	13A SOCKETS FOR TOILETS (1500 F.F.L)
	WEATHER PROOF POLYCARBONATE ENCLOSURE
	PAGING MIC
	VOLUME CONTROLLER
	WALL SPEAKERS AT CEILING LEVEL
	EMERGENCY DOOR RELEASE
	NURSE STATION PANEL ROOM INDICATOR
	ELECTROMAGNETIC LOCK
	DOOR BELL BUTTON
	HONE SPEAKER
	DOOR BELL RECEIVER
	CEILING SPEAKER
	8 POWER POINTS ON ENVIROM VERTICAL HEADWALLS CALL POINT TO NURSES STATION: INTEGRATED IN ENVIROM BEDHEAD TRUNK
	THEATER CONTROL PANEL (INCLUDES TELEPHONE UNIT, FIRE ALARM STROBE, MEDICAL GAS INDICATOR UNIT)
	T.I TABLE INTEGRATED OR F.F.L OUTLETS
	C.L CEILING LEVEL OUTLETS
	H.L HIGH LEVEL OUTLETS ON WALL

POWER NOTES	
<ul style="list-style-type: none">- ALL POWER POINTS CONNECTED TO THE RESPECTIVE DB- CONTRACTOR TO PREPARE SHOP DRAWINGS AND GET APPROVAL FROM CONSULTANT/PROJECT MANAGER FOR ALL LIGHTS, SWITCHES, DB, PANEL BOARD, EAC, REQUIRED ISOLATORS, ACV SERVICES AND OTHER RELEVANT LIGHTING AND POWER POINT LOCATIONS INCLUDING CONDUITING AND WIRING AND TO BE VERIFIED AT SITE PRIOR TO CONSTRUCTION- CONTRACTOR SHALL BE RESPONSIBLE TO MODIFY, CHANGE, REROUTE, RELOCATE THE LIGHTING AND POWER POINTS AS PER THE SITE CONDITIONS AND SUBMIT SHOP DRAWING FOR APPROVAL PRIOR TO CONSTRUCTION- CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ELECTRICAL POWER REQUIREMENTS AND POWER POINTS FOR MECHANICAL VENTILATION DEVICES TO ELECTRICAL CONTRACTOR	



ACV LEGEND & ABBREVIATION	
	AIR HANDLING UNIT
	WALL MOUNTED UNIT
	4 WAY CASSETTE UNIT
	OUTDOOR UNIT (TOP DISCHARGE)
	OUTDOOR UNIT (SIDE DISCHARGE)
	CEILING MOUNTED EXHAUST FAN
	FRESH AIR EXHAUST AIR FAN (DUCT IN LINE)
	WALL MOUNTED FAN
	REFRIGERANT PIPES WITH INSULATION
	AC DRAIN PIPES WITH INSULATION
	SUPPLY AIR DUCT WITH THERMAL INSULATION
	RETURN AIR DUCT WITH THERMAL INSULATION
	EXHAUST AIR DUCT
	FRESH AIR DUCT
	VOLUME CONTROL DAMPER
	SUPPLY AIR DIFFUSER WITH DAMPER
	RETURN AIR DIFFUSER WITH DAMPER
	EXHAUST AIR GRILL
	150MM WIDTH SUPPLY AND RETURN AIR GRILL
T/B	TO BELOW
T/A	TO ABOVE
F/A	FROM ABOVE
F/B	FROM BELOW
AHU	AIR HANDLING UNIT
TFA	TREATED FRESH AIR HANDLING UNIT
ODU	OUT DOOR UNIT

SPECIFICATION FOR VRF/VRV	
Outdoor Unit	Air cooled VRF / VRV system working in R410A / R-407C or equivalent refrigerant. The system shall be suitable to operate on 3 phase, 380-415 V, 50Hz AC power supply & shall comprise with multiple no's of inverter, digital scroll/screw compressors, air cooled condenser fan with motor, microprocessor control panel, starter controls for air scroll compressors and condenser fan motors along with internal control and power wiring, cooling coil with internally interconnected refrigerant pipes, charging port and all other required accessories, & hardware's. The entire unit shall be with weather resistant powder coating paint for withstanding all ambient conditions for continuous outdoor operation
Indoor unit	Air Conditioning Units suitable for mounting inside false ceiling/ wall hang, each comprising of cooling coil, blower with motor, electronic expansion valve, filter, insulated connection of refrigerant circuit, provision for fresh air intake ducting, condensate water drain pump with electronic level sensor, including wireless remote controller etc
Air Handling Unit (DX type)	AHU having GI double skin (0.6/0.8 mm thick) sandwich panel (PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dc coil (copper), motor, SSW/DDW fan, pre filter (MERV 7/8) and fine filters (MERV 13)
Air Handling Unit (DX type) for OT, ICU, Lab room, Sterile Areas and Accidents and Emergencies	AHU having GI double skin (0.6/0.8 mm thick) sandwich panel (PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dc coil (copper), motor, SSW/DDW fan, pre filter (MERV 7/8), fine filters (MERV 13) and HEPA Filter(H14)

NOTE	
-The AC unit shall be suitable for operation under tropical condition with ambient temperature and relative humidity	
-Proper access for easy maintenance to be provided as recommended by the manufacturer of AC equipment above false ceiling	
-All ceiling suspended unit to be provided with anti vibration hangers spring type	
-GI Ducting/Pre insulated duct for common areas and AL Ducting for OTs, CSSD and sterile areas	
-Acoustic insulation to be provided for duct with minimum 35gsm from each AHU unit except OT and CSSD areas AHUs	
-Canvas connection to be provided between indoor unit and duct	
-Aluminium cladding to be provided over the insulation for the exposed duct and pipe works	
Air outlet shall be completely factory aluminium extruded with powder coated and the colour shall be the approval of the interior design	
-Air outlet location and size shall be adjusted to suit reflected ceiling drawing/site condition	
-Lower with bird screen to be provided for all the fresh air and exhaust air duct	
-Kitchen hood exhaust should be provided in the kitchen areas	
-Contractor shall be responsible for electrical power requirements to electrical contractor	
-Contractor shall be responsible for coordination of all other services	
-Contractor shall be responsible for modifying the static pressure for AHU/Exhaust air fan	
-Contractor shall be responsible to notify change, route, re locate as per the site condition and submit shop drawing for approval	
-Contractor to be provided detailed shop drawings before starting works	

GROUND FLOOR AC LAYOUT
SCALE 1:150

HDh. Makunudhoo Health Center
Client: Ministry of Health
Project Number: 03712MCH - HDHM
Date: March 2023
Architect: Razana Amir
Engineer: Ziauddin Hassan Yusuf
Drawn by: Razana Amir
Checked by: Ziauddin Hassan Yusuf
Interior: -

