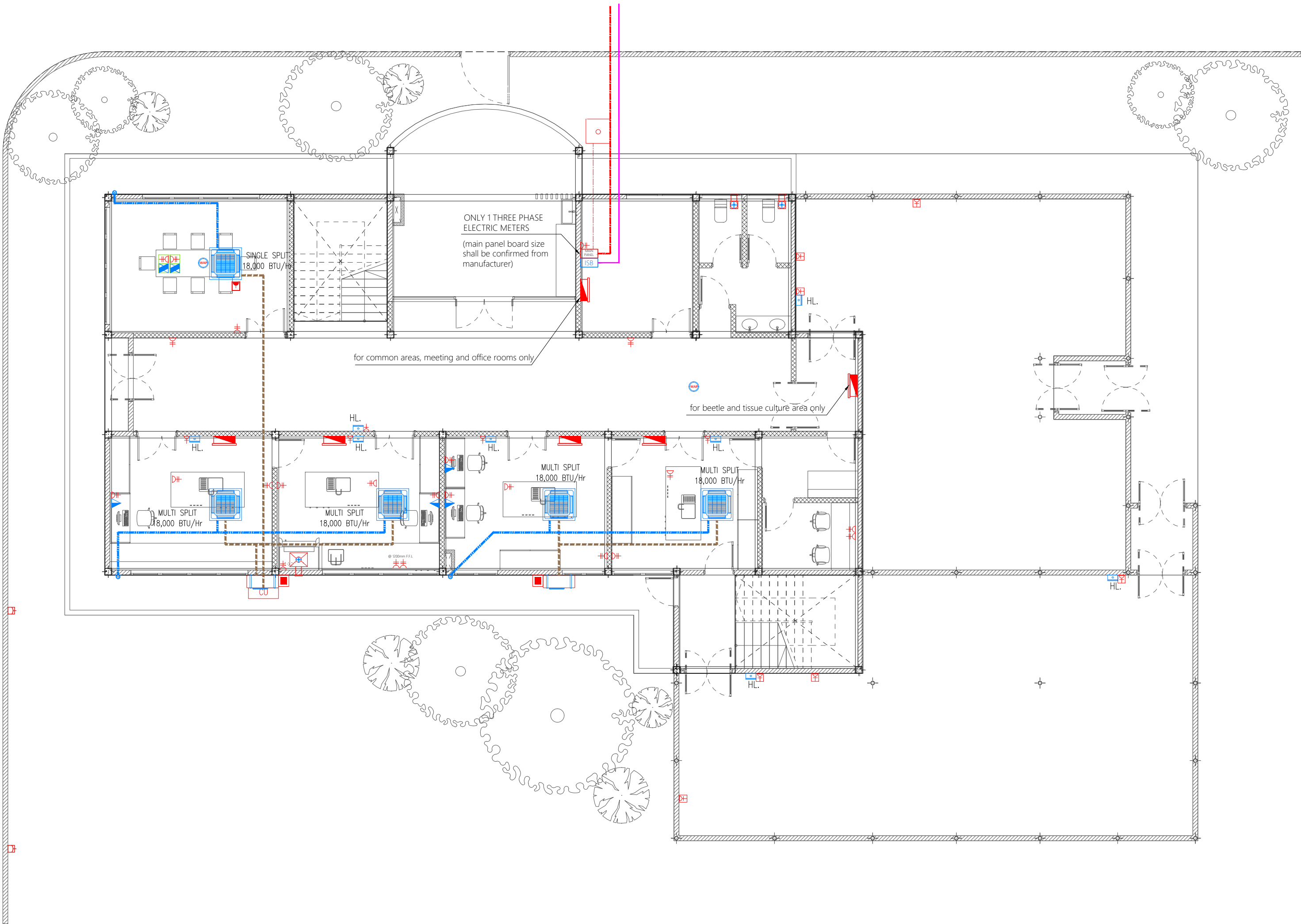




# Multipurpose Laboratory

BUILDING SERVICES DRAWINGS

Ministry of Fisheries, Marine Resources and Agriculture



- Legend**
- 13A Power Socket
  - 13A Twin Socket
  - 13A Power Socket in Weatherproof Polycarbonate Enclosure
  - 15A Switched Socket @ H.L.
  - 15A Switch @ 1200mm From F.F.L.
  - 15A Socket In Polycarbonate Box
  - 20A TPN Isolator
  - Distribution Board
  - HL. High Level
  - 82Ø PVC Duct For Tel/Internet Cable Lead In Below Ground Slab
  - Main Incoming Cable For Power In 110Ø PVC Duct Below Ground Slab
  - Internet Switchboard
  - Telephone Outlet
  - Computer Network Outlet
  - Computer Network Outlet
  - Emergency Light
  - Twin Computer Network Outlet
  - Computer Network Outlet In Floor Mount Pop-up Box
  - 13A Twin Socket In Floor Mount Pop-up Box
  - Wireless Access Point

**Notes:-**

- All 13A Power Outlets For Kitchen Hood Or Under Cabinet Or Wardrobe Lights At 1800mm From F.F.L.
- All Twin Sockets At 300mm From F.F.L. Except Located At Kitchen Cupboard Area Which Shall Be At 1200mm From F.F.L.
- All Computer, TV And Telephone Points At 300mm From F.F.L.
- All 20A Switched Neon Indicator At 1200mm From F.F.L.

- Legend**
- Refrigerant Pipes
  - 25Ø Condensate Drain Pipe
  - 40Ø Condensate Drain Riser Pipe
  - Kitchen Hood
  - Wall Mount Air Conditioner
  - 4-Way Cassette Air Conditioner
  - Outdoor Condensing Unit
  - Multi Split Outdoor Condensing Unit (Wall Mount)

**Notes:-**

Where Condensate Drain Pipes Are Connected To Wash Basin Or Kitchen Sink, 25 Ø Condensate Drain Pipe Is Extended In 32 Ø Flex Conduit Into 40 Ø Waste Pipe Of Respective Basin Or Sink

Proposed 02 Storey Building At

## Fuvahmulah City Multipurpose Laboratory

Client

**Ministry of Fisheries,  
Marine Resources and Agriculture**

17/09/2022

Services By **Mohamed Rassam**

Checked By **-**

Drawn By **Mohamed Nazran Nazeer**



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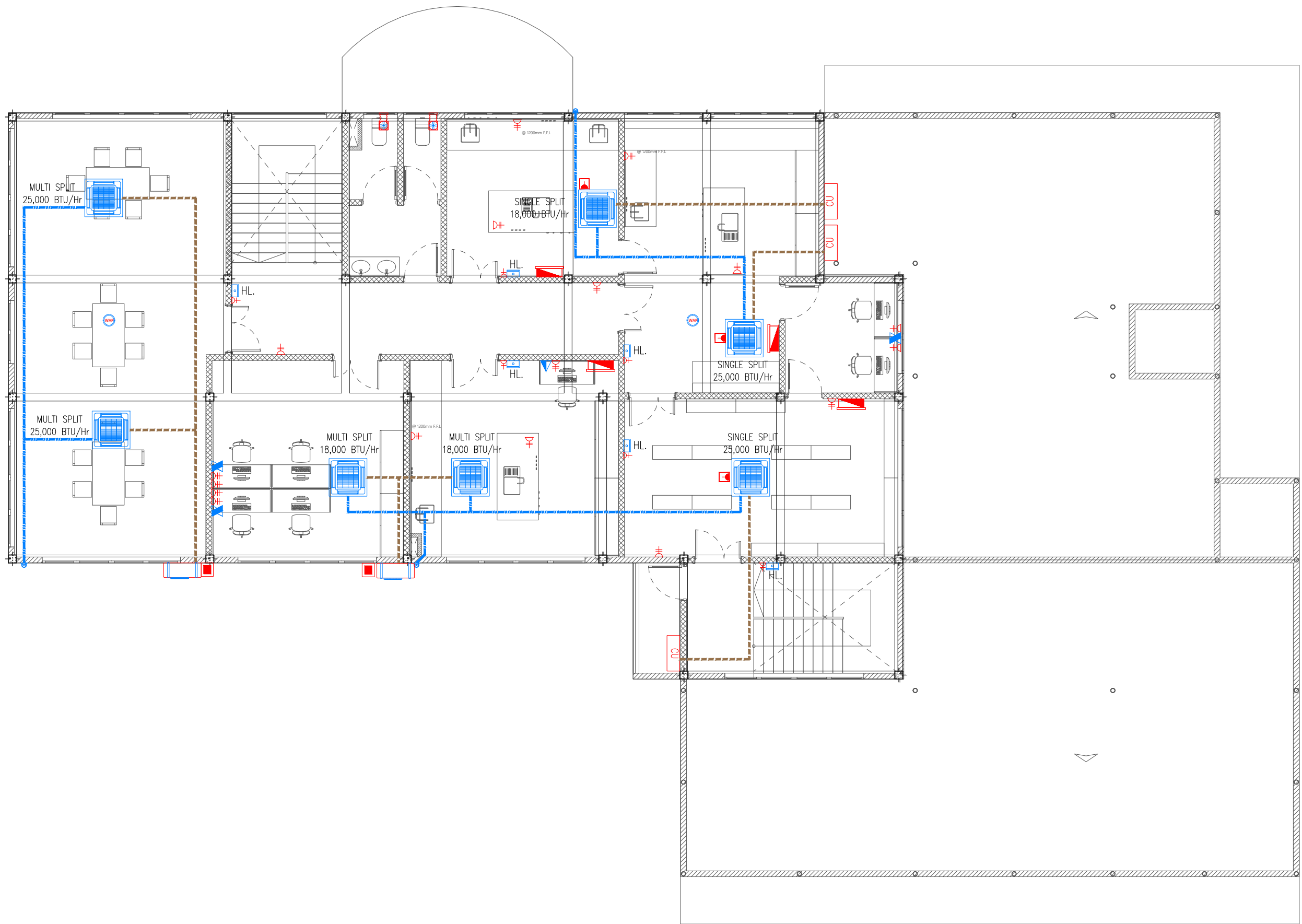
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Rev: Page:

**PAC-01**

## GROUND FLOOR POWER AND ACV LAYOUT

1:100



- Legend**
- 13A Power Socket
  - 13A Twin Socket
  - 13A Power Socket in Weatherproof Polycarbonate Enclosure
  - 15A Switched Socket @ H.L.
  - 15A Switch @ 1200mm From F.F.L.
  - 15A Socket In Polycarbonate Box
  - 20A TPN Isolator
  - Distribution Board
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  - Telephone Outlet
  - Computer Network Outlet
  - Computer Network Outlet
  - Emergency Light
  - Twin Computer Network Outlet
  - Computer Network Outlet In Floor Mount Pop-up Box
  - 13A Twin Socket In Floor Mount Pop-up Box
  - Wireless Access Point

**Notes: -**

- All 13A Power Outlets For Kitchen Hood Or Under Cabinet Or Wardrobe Lights At 1800mm From F.F.L.
- All Twin Sockets At 300mm From F.F.L. Except Located At Kitchen Cupboard Area Which Shall Be At 1200mm From F.F.L.
- All Computer, TV And Telephone Points At 300mm From F.F.L.
- All 20A Switched Neon Indicator At 1200mm From F.F.L.

- Legend**
- Refrigerant Pipes
  - 25Ø Condensate Drain Pipe
  - 40Ø Condensate Drain Riser Pipe
  - Kitchen Hood
  - Wall Mount Air Conditioner
  - 4-Way Cassette Air Conditioner
  - Outdoor Condensing Unit
  - Multi Split Outdoor Condensing Unit (Wall Mount)

**Notes: -**

Where Condensate Drain Pipes Are Connected To Wash Basin Or Kitchen Sink, 25 Ø Condensate Drain Pipe Is Extended In 32 Ø Flex Conduit Into 40 Ø Waste Pipe Of Respective Basin Or Sink

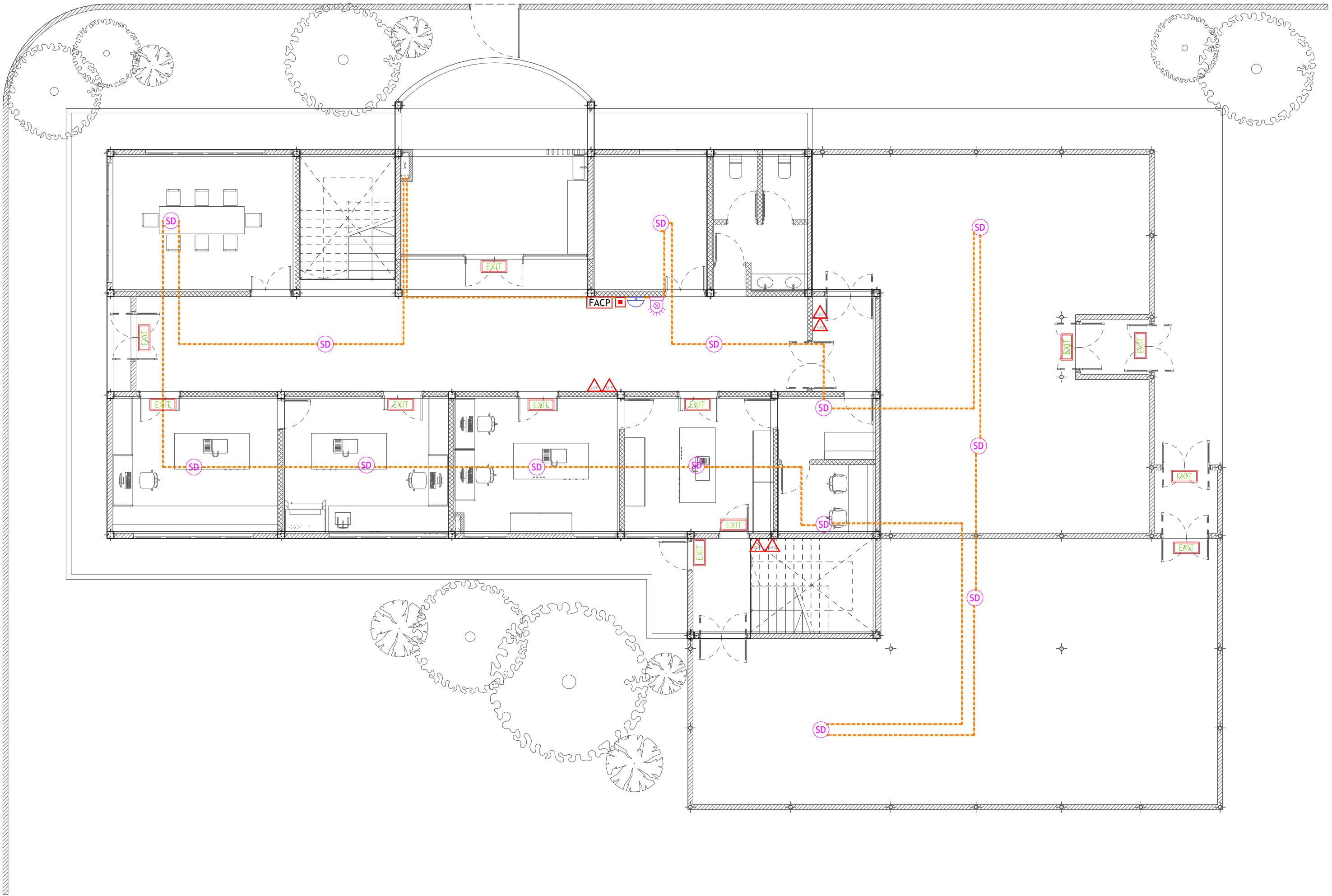


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- Legend
- CO<sub>2</sub> Extinguisher (load: 2kg) In Polycarbonate Enclosure
  - DCP Extinguisher (load: 6kg) In Polycarbonate Enclosure
  - H<sub>2</sub>O Extinguisher (load: 9L) In Polycarbonate Enclosure
  - Manual Call Point
  - Smoke Detector
  - Heat Detector
  - Beacon
  - Sounder Bell (85 DB)
  - Fire Blanket
  - 2.5mm<sup>2</sup> Fire Retardant Low Smoke (FRLS) Cables In FRLS Conduits
  - FACP Fire Alarm Control Panel (Addressable)
  - EXIT Exit Sign

ALL FIRE RATED DOOR SHOULD COME WITH  
PACKING (EXPANSION SEAL TRAP)



Proposed 02 Storey Building At

Fuvahmulah City  
Multipurpose Laboratory

Client

Ministry of Fisheries,  
Marine Resources and Agriculture

17/09/2022

Services By Mohamed Rassam

Checked By -

Drawn By Mohamed Nazran Nazeer



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Page:

GROUND FLOOR FDP LAYOUT

1:100

FDP-01

Legend

-  CO<sub>2</sub> Extinguisher (load: 2kg) In Polycarbonate Enclosure
-  DCP Extinguisher (load: 6kg) In Polycarbonate Enclosure
-  H<sub>2</sub>O Extinguisher (load: 9L) In Polycarbonate Enclosure
-  Manual Call Point
-  Smoke Detector
-  Heat Detector
-  Beacon
-  Sounder Bell (85 DB)
-  Fire Blanket
-  2.5mm<sup>2</sup> Fire Retardant Low Smoke (FRLS) Cables In FRLS Conduits
-  Fire Alarm Control Panel (Addressable)
-  Exit Sign

ALL FIRE RATED DOOR SHOULD COME WITH  
PACKING (EXPANSION SEAL TRAP)



Proposed 02 Storey Building At

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Multipurpose Laboratory

Client

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Marine Resources and Agriculture

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FDP-02



- Legend
- Ceiling Light (10W)

Ceiling Light (18W)

Ceiling Light (12W)

Recessed Ceiling Light (12W)

Ceiling Down Light (18W) - Weather Proof

Wall Light - Weather Proof Ip55 (low Level 8W)

Pendant Light (12W)

Indoor Wall Light (18W)

Weather Proof Wall Light IP55 (12W)

Wall Recessed Light With Motion Sensor (low Level 8W)

Ceiling Recessed Spot Light (3W)

Ceiling Mount Spot Light (5W)

Light Switch (1 Gang - 4 Gang)

Two Way Light Switches (1 Gang - 4 Gang)

Ceiling Fan Switch With Controller

Two Way Ceiling Fan Switch With Controller

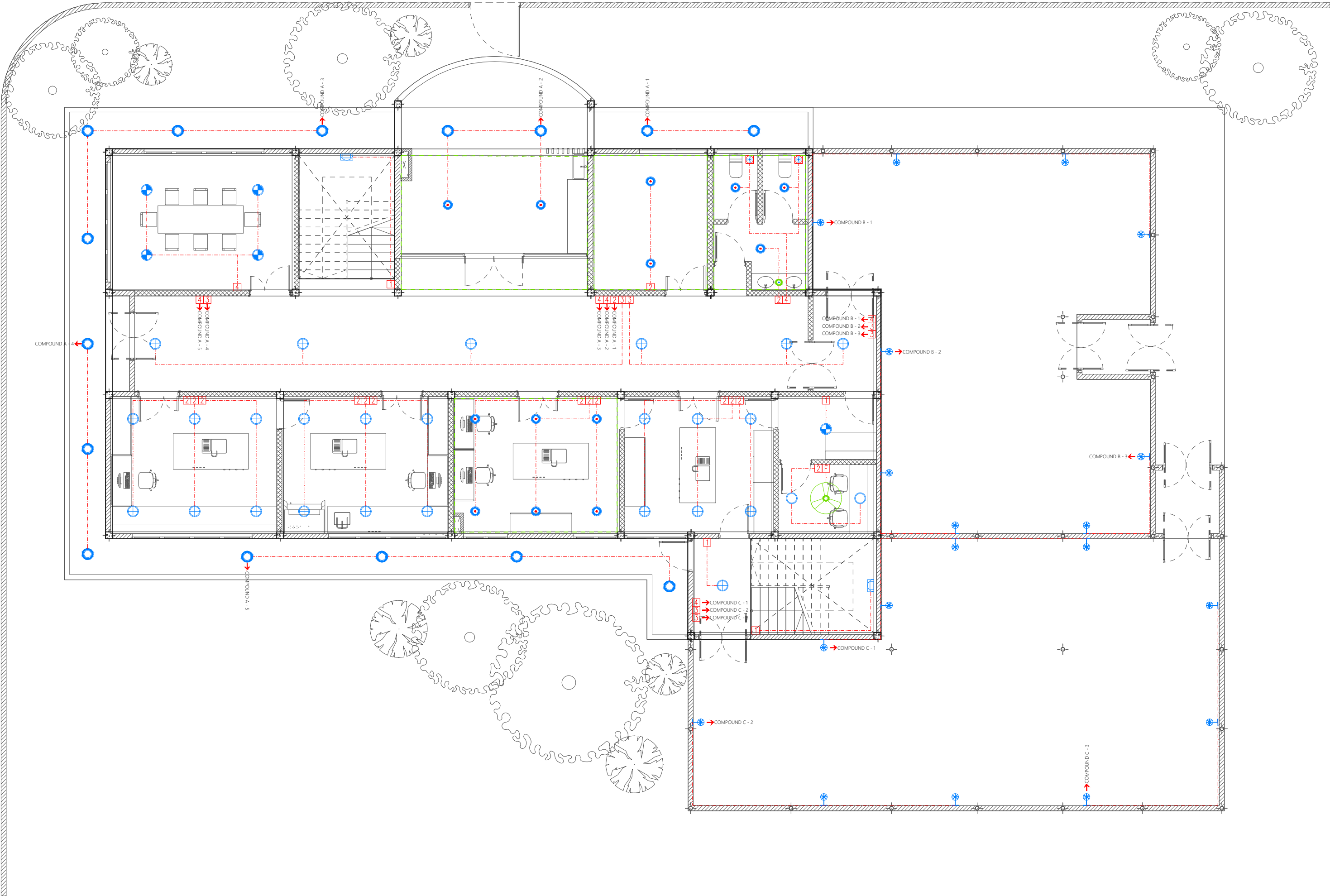
Cement Board False Ceiling [200mm below beam bottom]

Oscillating Ceiling Fan

29" To 36" Ceiling Fan

42" To 48" Ceiling Fan

Ceiling Mounted Exhaust Fan 90m3/hr



GROUND FLOOR LIGHTING LAYOUT

1:100

Proposed 02 Storey Building At

Fuvahmulah City  
Multipurpose Laboratory

Client

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Marine Resources and Agriculture

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Page:

EL-01



- Legend
- |  |   |  |                                     |
|--|---|--|-------------------------------------|
|  | Ceiling Light (10W)                                   |  | Oscillating Ceiling Fan             |
|  | Ceiling Light (18W)                                   |  | 29" To 36" Ceiling Fan              |
|  | Ceiling Light (12W)                                   |  | 42" To 48" Ceiling Fan              |
|  | Recessed Ceiling Light (12W)                          |  | Ceiling Mounted Exhaust Fan 90m3/hr |
|  | Ceiling Down Light (18W) - Weather Proof              |  |                                     |
|  | Wall Light - Weather Proof Ip55 (low Level 8W)        |  |                                     |
|  | Pendant Light (12W)                                   |  |                                     |
|  | Indoor Wall Light (18W)                               |  |                                     |
|  | Weather Proof Wall Light IP55 (12W)                   |  |                                     |
|  | Wall Recessed Light With Motion Sensor (low Level 8W) |  |                                     |
|  | Ceiling Recessed Spot Light (3W)                      |  |                                     |
|  | Ceiling Mount Spot Light (5W)                         |  |                                     |
|  | Light Switch (1 Gang - 4 Gang)                        |  |                                     |
|  | Two Way Light Switches (1 Gang - 4 Gang)              |  |                                     |
|  | Ceiling Fan Switch With Controller                    |  |                                     |
|  | Two Way Ceiling Fan Switch With Controller            |  |                                     |
|  | Cement Board False Ceiling [200mm below beam bottom]  |  |                                     |

FIRST FLOOR LIGHTING LAYOUT  
1:100


Proposed 02 Storey Building At

Fuvahmulah City  
Multipurpose Laboratory

Client  
**Ministry of Fisheries,  
Marine Resources and Agriculture**

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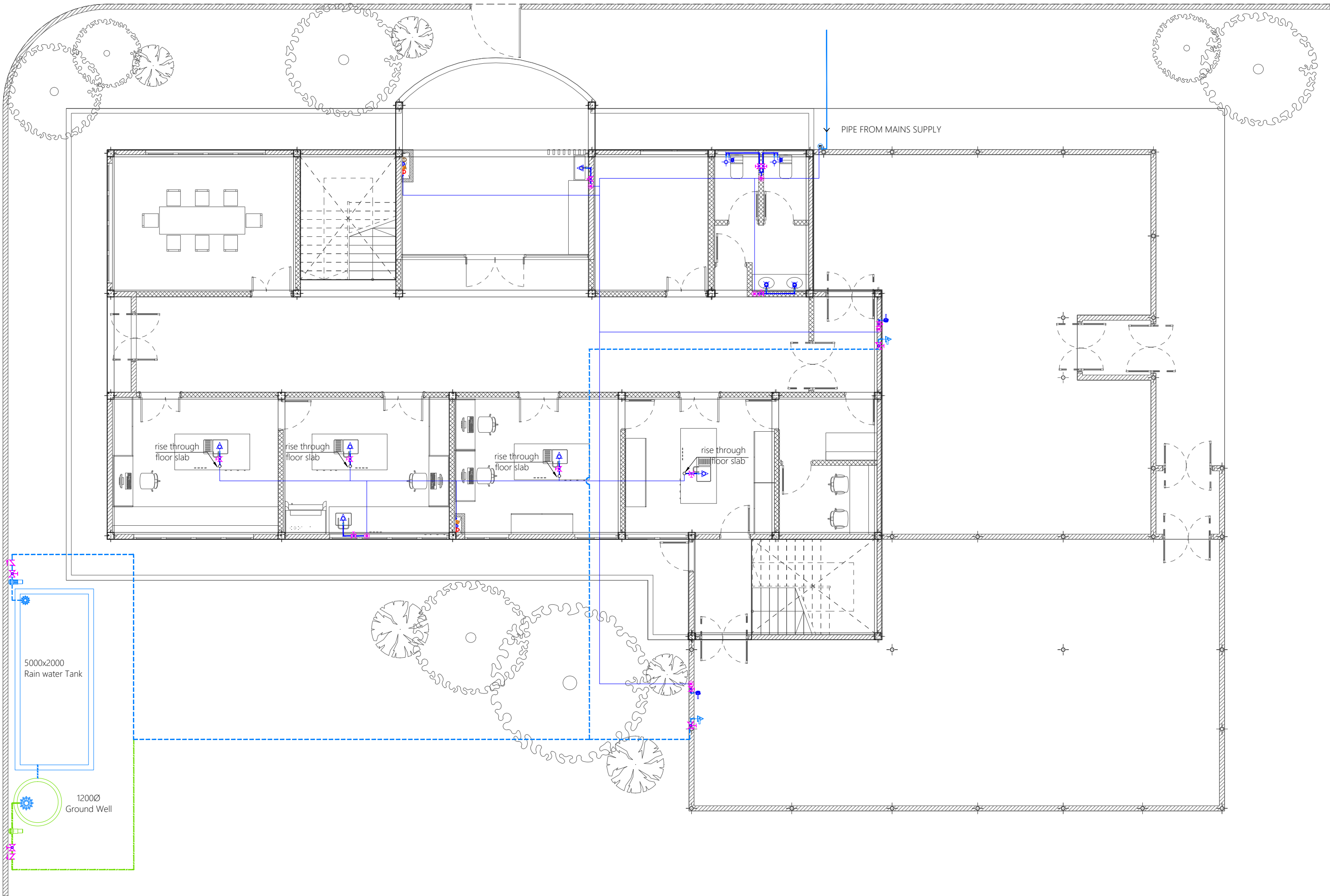
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Rev: Page:  
**EL-02**

- Legend
- 16Ø Cold Water Supply To Basin Faucet
  - 16Ø Cold Water Supply To Wall Tap
  - 16Ø Cold Water Supply To Head Shower
  - 16Ø Cold Water Supply To Sink Tap
  - 16Ø Cold Water Supply To Bidet Shower
  - 16Ø Cold Water Supply To Cistern
  - Gate Valve
  - Rise In Wall
  - Drop In Wall
  - MWSC Meter
  - 25Ø Cold Water Supply Pipes Running Underground
  - 20Ø Cold Water Supply Pipes Running In Wall
  - 20Ø Cold Water Supply Pipes Running Above False Ceiling
  - 16Ø Rain Water Supply Pipes
  - 25Ø Rain Water Supply Pipes
  - 25Ø Ground Well Supply Pipes Running Underground

Notes: -  
-All Cold Water Pipes Should Be PVC  
-All Hot Water Pipes Should Be PPR



GROUND FLOOR PLUMBING LAYOUT

1:100

Proposed 02 Storey Building At  
**Fuvahmulah City**  
**Multipurpose Laboratory**

Client  
**Ministry of Fisheries,  
Marine Resources and Agriculture**

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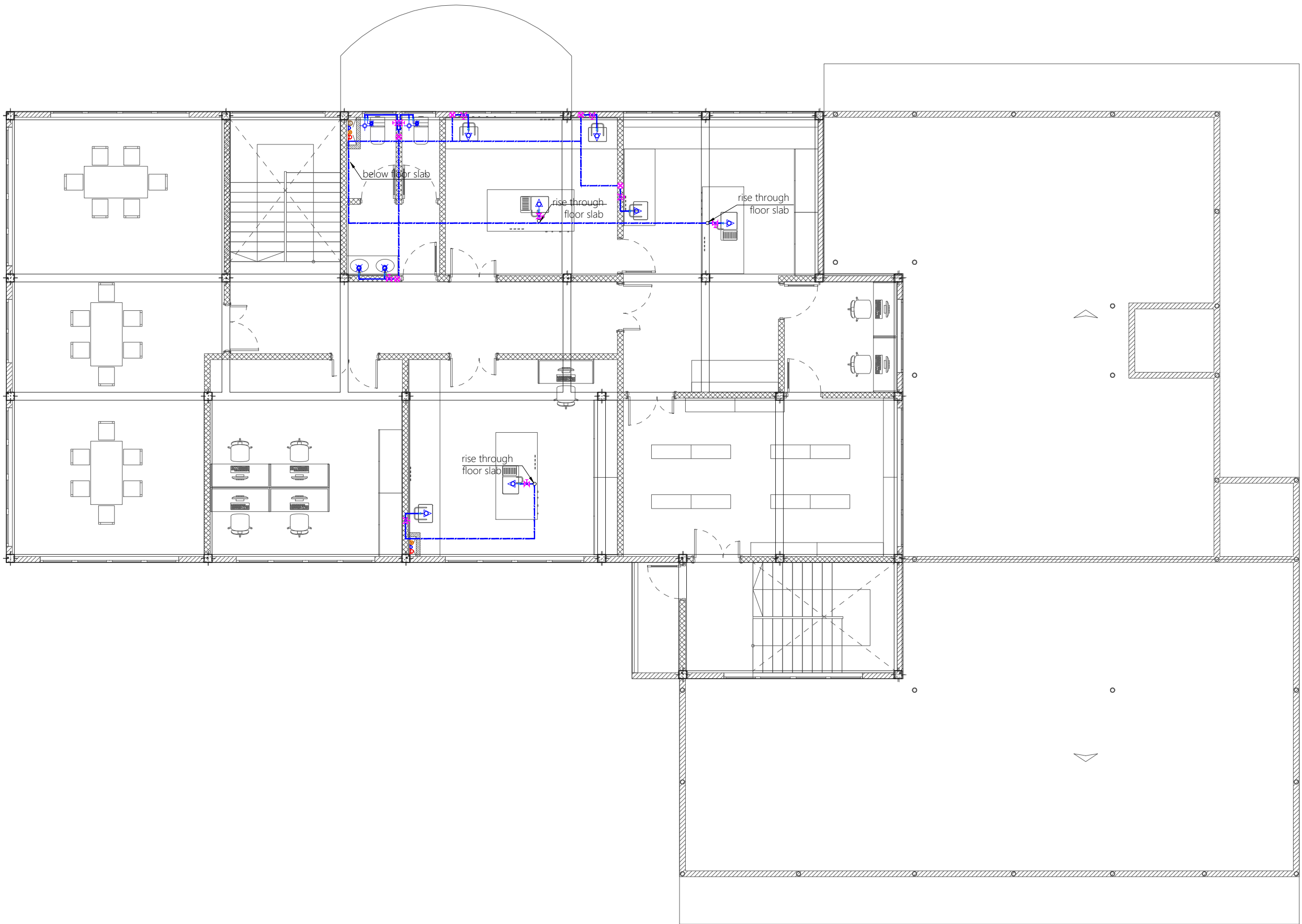
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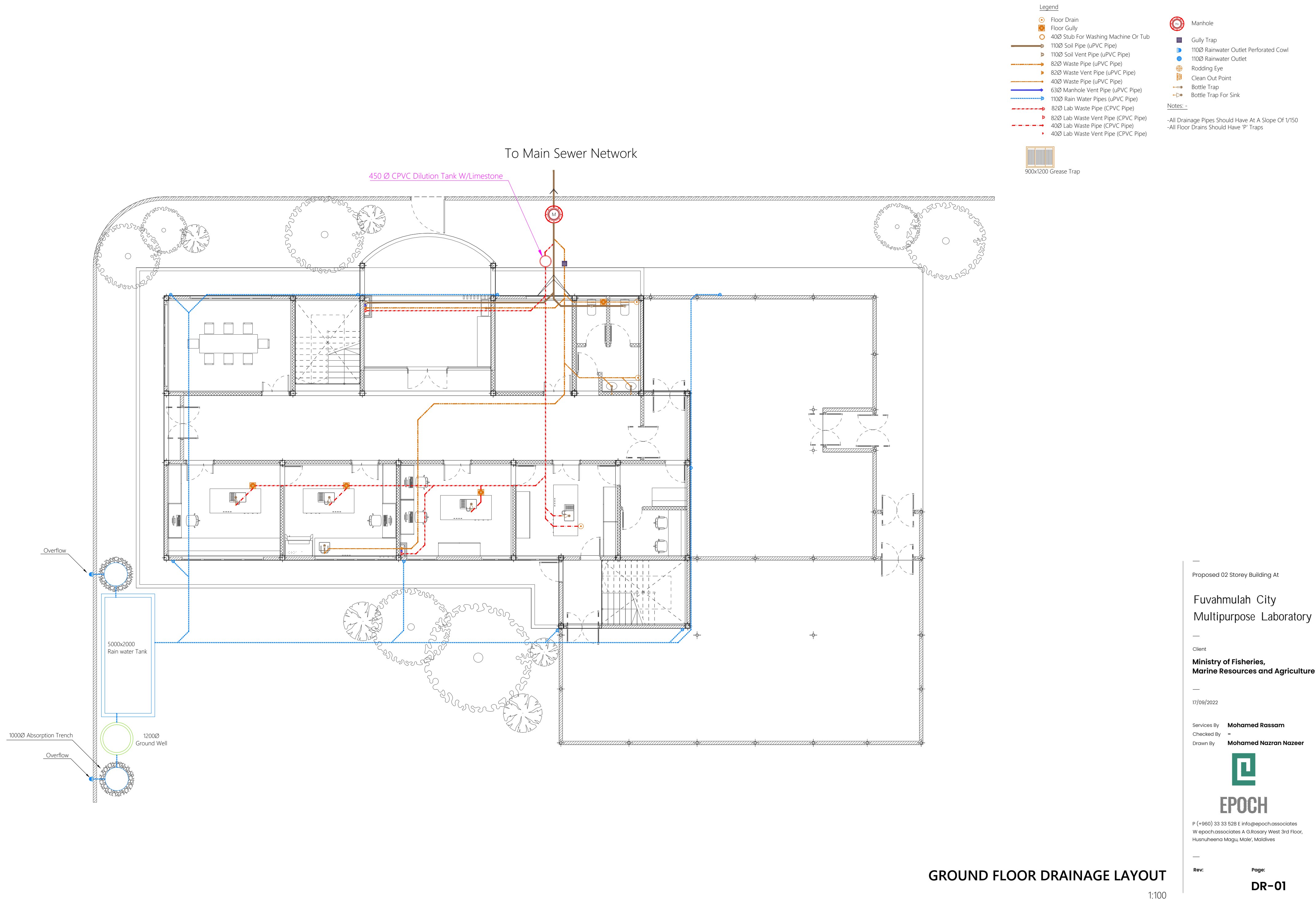
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**PL-01**



- Legend
- 16Ø Cold Water Supply To Basin Faucet
  - 16Ø Cold Water Supply To Wall Tap
  - 16Ø Cold Water Supply To Head Shower
  - 16Ø Cold Water Supply To Sink Tap
  - 16Ø Cold Water Supply To Bidet Shower
  - 16Ø Cold Water Supply To Cistern
  - Gate Valve
  - Rise In Wall
  - Drop In Wall
  - MWSC Meter
  - 25Ø Cold Water Supply Pipes Running Underground
  - 20Ø Cold Water Supply Pipes Running In Wall
  - 20Ø Cold Water Supply Pipes Running Above False Ceiling
  - 16Ø Rain Water Supply Pipes
  - 25Ø Rain Water Supply Pipes
  - 25Ø Ground Well Supply Pipes Running Underground

Notes: -  
-All Cold Water Pipes Should Be PVC  
-All Hot Water Pipes Should Be PPR







Legend

- Floor Drain
- Floor Gully
- 400 Stub For Washing Machine Or Tub
- 1100 Soil Pipe (uPVC Pipe)
- 1100 Soil Vent Pipe (uPVC Pipe)
- 820 Waste Pipe (uPVC Pipe)
- 820 Waste Vent Pipe (uPVC Pipe)
- 400 Waste Pipe (uPVC Pipe)
- 630 Manhole Vent Pipe (uPVC Pipe)
- 1100 Rain Water Pipes (uPVC Pipe)
- 820 Lab Waste Pipe (CPVC Pipe)
- 820 Lab Waste Vent Pipe (CPVC Pipe)
- 400 Lab Waste Pipe (CPVC Pipe)
- 400 Lab Waste Vent Pipe (CPVC Pipe)

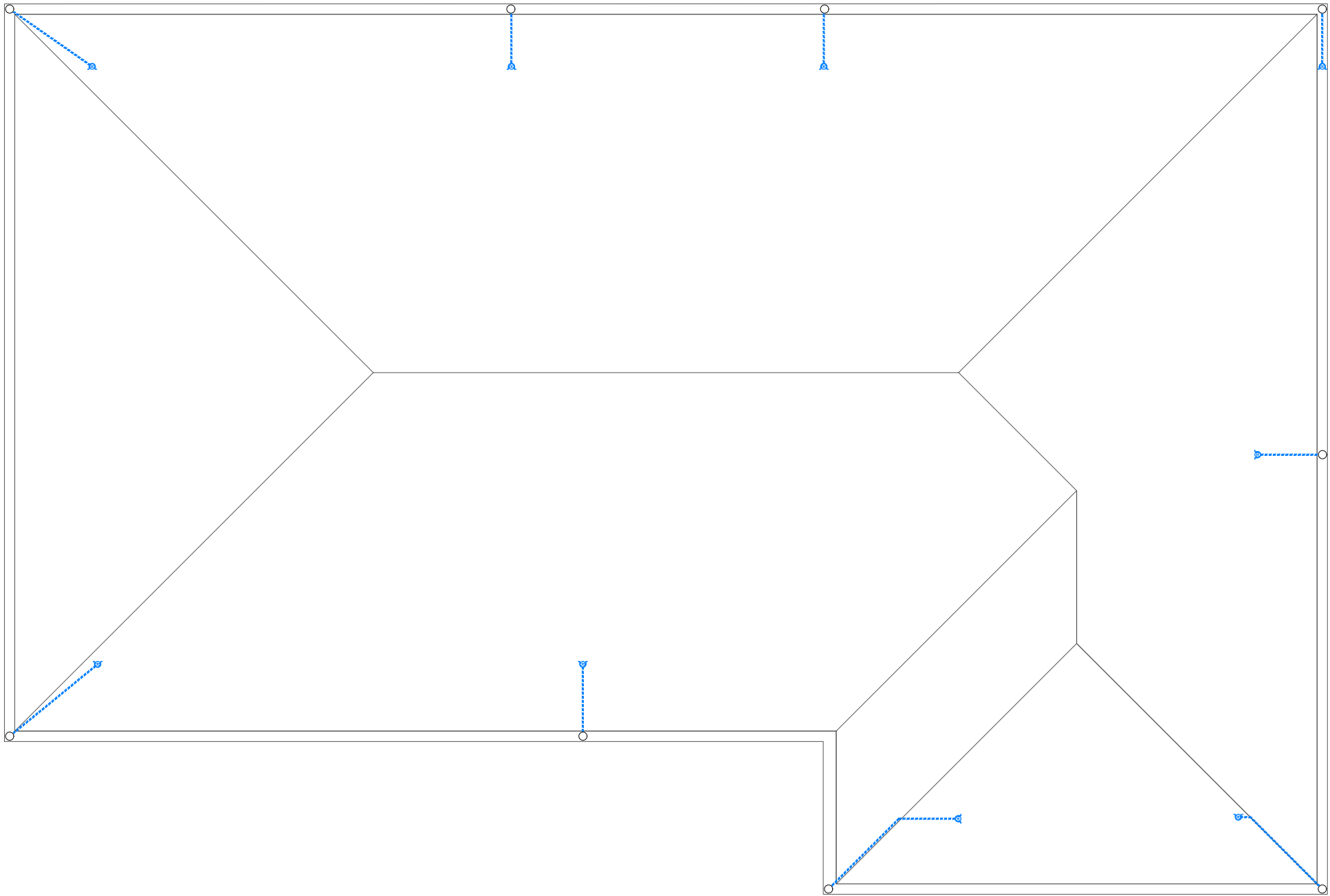
900x1200 Grease Trap

Manhole

- Gully Trap
- 1100 Rainwater Outlet Perforated Cowl
- 1100 Rainwater Outlet
- Rodding Eye
- Clean Out Point
- Bottle Trap
- Bottle Trap For Sink

Notes: -

- All Drainage Pipes Should Have At A Slope Of 1/150
- All Floor Drains Should Have 'P' Traps



Legend

Floor Drain

Floor Gully

400 Stub For Washing Machine Or Tub

1100 Soil Pipe (uPVC Pipe)

1100 Soil Vent Pipe (uPVC Pipe)

820 Waste Pipe (uPVC Pipe)

820 Waste Vent Pipe (uPVC Pipe)

400 Waste Pipe (uPVC Pipe)

630 Manhole Vent Pipe (uPVC Pipe)

1100 Rain Water Pipes (uPVC Pipe)

820 Lab Waste Pipe (CPVC Pipe)

820 Lab Waste Vent Pipe (CPVC Pipe)

400 Lab Waste Pipe (CPVC Pipe)

400 Lab Waste Vent Pipe (CPVC Pipe)

900x1200 Grease Trap

Manhole

Gully Trap

1100 Rainwater Outlet Perforated Cowl

1100 Rainwater Outlet

Rodding Eye

Clean Out Point

Bottle Trap

Bottle Trap For Sink

Notes: -

-All Drainage Pipes Should Have At A Slope Of 1/150

-All Floor Drains Should Have 'P' Traps

SECOND FLOOR DRAINAGE LAYOUT

1:100

Proposed 02 Storey Building At

Fuvahmulah City

Multi Purpose Laboratory

Client

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Drawn By **Mohamed Nazran Nazeer**

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DR-03