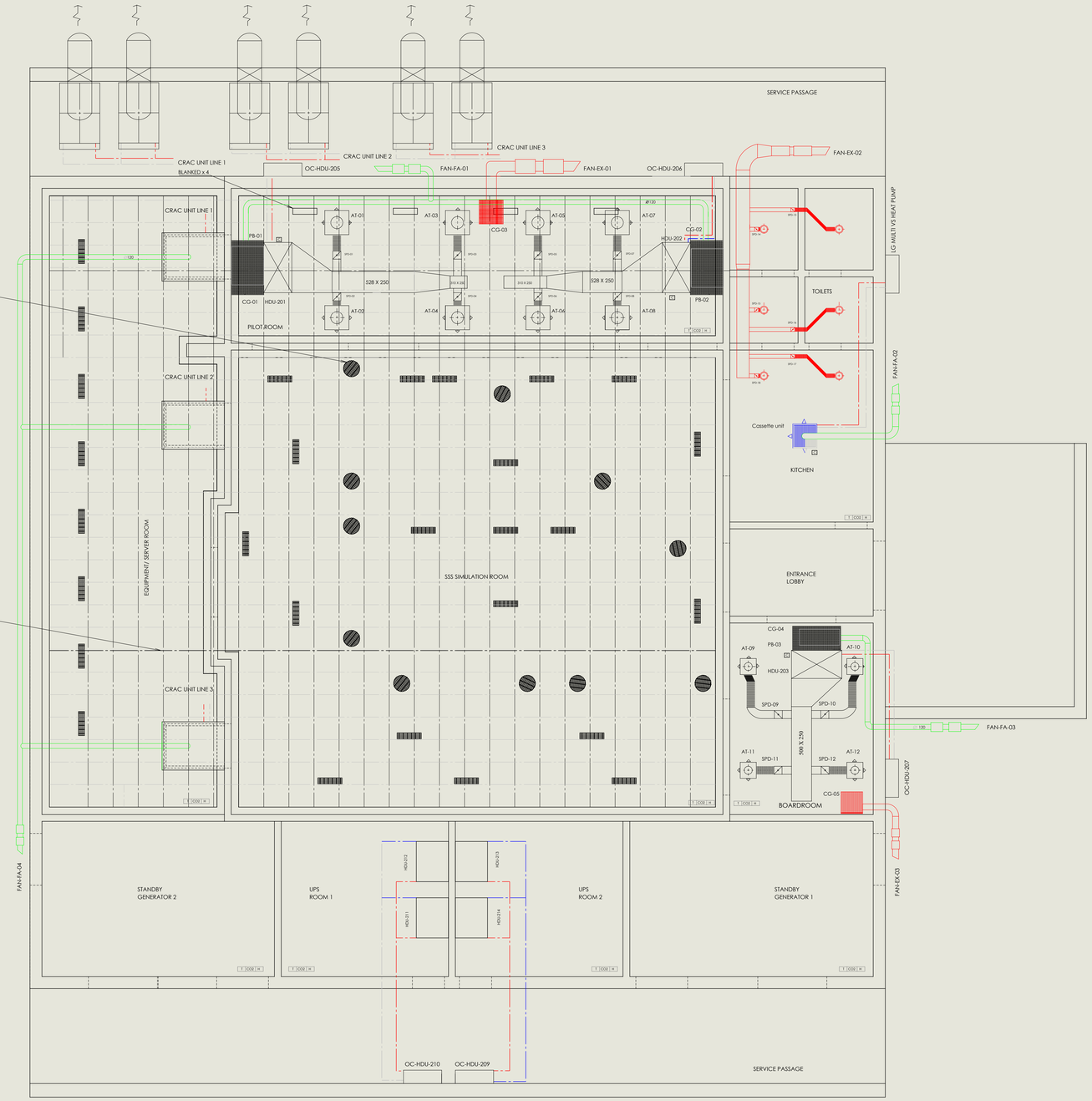


## General notes

1) Flexible ducts to be a maximum of 1.5 m.
2) Indoor units to comply to the specifications in the schedule of indoor units.
3) Outdoor units to comply to the specifications in the schedule of outdoor units.
4) Contractor to verify all dimensions on-site. Contractors must confirm all dimensions and ceiling heights before installation.
Report any discrepancies to the Berachah Consulting immeaditely.
5) Coordination with other services: coordinate installation with electrical and fire protection systems to avoid clashes
6) Drainage slope: ensure that condensate drain lines from each indoor ducted unit are installed with a continuous slope of at least 1:100 to prevent water.
7) CO2 sensor to be set according to the hazardous chemical substances regulations.
8) Unit placement accurary: install units strictly as per the design layout to ensure adequate airflow and avoid obstructing access doors, windows or light fixtures.
9) Contractor to select suitable plenum boxes for the selected indoor units.
10) Outlets for air-conditioned air in the pilot room must be blanked out.
11) All other units/ component installations must follow the schedules provided unless otherwise stated.

12) All HVAC indoor and outdoor units and ventilation fans shall be supplied from essential power.

## Ducting installation notes

1) Contractor to do shop detailing of the ductwork.
2) Insulation requirements: all ductwork and refrigerant lines must be insulated as per SANS 10400 standards
to prevent energy loss and condensation.
3) Ductwork to minimise losses.
4) Contractors are responsible for testing and balancing airflows to meet design specifications.
Provide reports upon completion.
5) Testing and balancing: contractors are responsible for testing and balancing airflows to meet design specifications.
Provide reports upon completion.
6) Testing and balancing: contractors are responsible to ensure that the air flow range is as specified within the provided
air terminal schedule
7) Duct sealing: all duct joints and connections must be sealed using an approved sealing method to prevent leakage.
8) Airflow testing: ensure even air distribution by adjusting dampers and verifying airflow rates match the design
requirements for each zone.
9) Diffuser placement: confirm diffuser locations on-site to avoid interference with ceiling grids, light fixtures or structural elements.

## Table 1- Schedule of fan

| ITEM NO. | DRAWING REFERENCE NO. | DESCRIPTION | VOLUME FLOW RATE (L/S) | STATIC PRESSURE (Pa) | POWER SUPPLY |
|---|---|---|---|---|---|
| 1 | FAN-FA-01 | Pilot room fresh air fan with cow & attenuation | 50 | >= 60 | 220 V/1phase/50 Hz |
| 2 | FAN-FA-02 | Kitchen fresh air fan with cow & attenuation | 40 | >= 20 | |
| 3 | FAN-FA-03 | Boardroom fresh air fan with cow & attenuation | 90 | >= 30 | |
| 4 | FAN-FA-04 | CRAC units fresh air fan with cow & attenuation | 45 | >= 30 | |
| 5 | FAN-EX-01 | Pilot room exhaust fan with cow & attenuation | 86.29 | >= 50 | |
| 6 | FAN-EX-02 | Toilet & kitchen exhaust fan with cow & attenuation | 514 | >= 30 | |
| 7 | FAN-EX-03 | Boardroom exhaust fan with cow & attenuation | 86 | >= 20 | |

## Table 2- Schedule of air terminals

| ITEM NO. | DRAWING REFERENCE NO. | DESCRIPTION | RANGE (L/S) |
|---|---|---|---|
| 1 | AT-1 | Pilot room constant air volume terminal | 166-200 |
| 2 | AT-2 | | |
| 3 | AT-3 | | |
| 4 | AT-4 | | |
| 5 | AT-5 | | |
| 6 | AT-6 | | |
| 7 | AT-7 | | |
| 8 | AT-8 | | |
| 9 | AT-9 | Boardroom constant air volume terminal | >= 111 |
| 10 | AT-10 | | |
| 11 | AT-11 | | |
| 12 | AT-12 | | |

## Table 3- Schedule of spigot dampers

| ITEM NO. | DRAWING REFERENCE NO. | DESCRIPTION | NOMINAL DIAMETER (mm) |
|---|---|---|---|
| 1 | SPD-01 | Pilot room manual spigot damper | 200 |
| 2 | SPD-02 | | |
| 3 | SPD-03 | | |
| 4 | SPD-04 | | |
| 5 | SPD-05 | | |
| 6 | SPD-06 | | |
| 7 | SPD-07 | | |
| 8 | SPD-08 | | |
| 9 | SPD-09 | Boardroom manual spigot damper | |
| 10 | SPD-10 | | |
| 11 | SPD-11 | | |
| 12 | SPD-12 | | |
| 13 | SPD-13 | Toilet manual spigot damper | |
| 14 | SPD-14 | | |
| 15 | SPD-15 | | |
| 16 | SPD-16 | | |
| 17 | SPD-17 | Kitchen manual spigot damper | |
| 18 | SPD-18 | | |

## Table 4 - Schedule of units

| ITEM NO. | DRAWING REFERENCE NO. | MODEL | ESSENTIAL POWER | LOCKED SET-POINT | SET-POINT | POWER SUPPLY |
|---|---|---|---|---|---|---|
| 1 | HDU-201 | LG UM48N34 - indoor unit | YES | YES | UPS rooms: 18 C<br>Other rooms: 20 C | UPS outdoor units: 380-415 V / 3Ph / 50Hz<br>Other scheduled units: 220-240 V / 1Ph / 50Hz |
| 2 | HDU-202 | | | | | |
| 3 | HDU-203 | | | | | |
| 4 | Cassette unit | LG CASSETTE UNIT ARNU48GTAB4 | | | | |
| 5 | OC-HDU-205 | LG UU48WU32 OUTDOOR UNIT | | | | |
| 6 | OC-HDU-206 | | | | | |
| 7 | OC-HDU-207 | | | | | |
| 8 | LG multi vs heat pump | LG ARUBO60GSS4 | | | | |
| 9 | OC-HDU-209 | LG ARUN120LSS5 | | | | |
| 10 | OC-HDU-210 | | | | | |
| 11-14 | HDU-211 TO HDU-214 | LG ARNU48GV2A4 | | | | |

## Table 5 - Schedule of ceiling grid

| ITEM NO. | DRAWING REFERENCE NO. | DESCRIPTION | SIZE (mm) |
|---|---|---|---|
| 1 | CG-01 | Pilot room return ceiling grid 1 | 1200 X 600 |
| 2 | CG-02 | Pilot room return ceiling grid 2 | |
| 3 | CG-03 | Pilot room extraction ceiling grid | 600 X 600 |
| 4 | CG-04 | Boardroom return ceiling grid | 1200 X 600 |
| 5 | CG-05 | Boardroom extraction ceiling grid | 540 X 540 |

## Table 6 - Schedule of plenum boxes

| ITEM NO. | DRAWING REFERENCE NO. | DESCRIPTION |
|---|---|---|
| 1 | PB-01 | PILOT ROOM FRESH & RETURN AIR NO. 1 |
| 2 | PB-02 | PILOT ROOM FRESH & RETURN AIR NO. 2 |
| 3 | PB-03 | BOARDROOM FRESH & RETURN AIR |

Berachah Consulting

ATNS

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH TOLERANCES: LINEAR: ANGULAR: | FINISH: | DEBURR AND BREAK SHARP EDGES | DO NOT SCALE DRAWING | REVISION: 0.0

| | NAME | SIGNATURE | DATE |
|---|---|---|---|
| DRAWN | | | |
| CHK'D | | | |
| APP'D | | | |
| MFG | | | |
| Q.A | | | |

MATERIAL: | WEIGHT:

TITLE: ATNS CAPE TOWN INTERNATIONAL AIRPORT SSS BUILDING HVAC LAYOUT

DWG NO. SSS-HVAC-LYT-001 | A0

SCALE:1:200 | SHEET 1 OF 1