

INNOVATE

CONCEPT

WHOLESOME GROWTH.

The concept is created and organised around the concept of wholesome growth. This is a kind of child upbringing that hinges on good nutrition, mental and physical engagement and interaction so as to learn from both the environment and the society. This hence dictates the reduction of all hostile factors to the minimum.

SPATIAL ORGANISATION

The building is built around a courtyard allowing for views into the play area without compromising privacy and air quality. The windflow being predominantly from the north east sweeps most of the air pollutants from the generator southwards and out of the site.

GROUND FLOOR PLAN

The rooms open to the outdoor play area allowing for the monitoring of the kids as they play within the compound. The busiest and most noisy of the spaces are located in this level so as to control noise and activity flow. The activities foster for appreciation of the aspects that are beyond self. This ranges from interaction with their peers, the rest of the society and their environment. These activities include

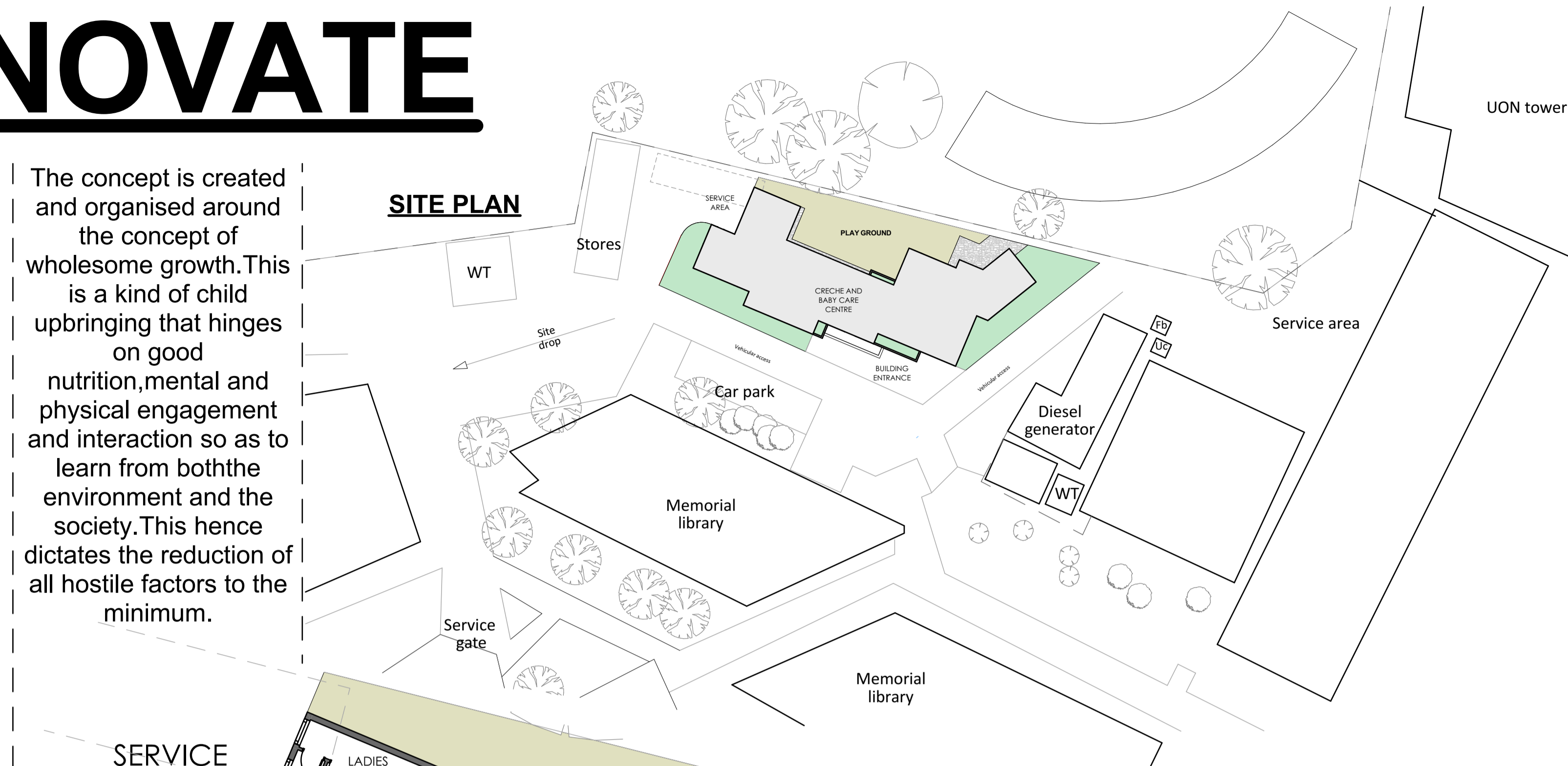
1. Play
2. Feeding
3. Socialising

FIRST FLOOR PLAN

The area located in the top floor is designed to cater for more intimate, quiet and private of the spaces. The idea is to allow the children to grow through coming to a more intimate connection with themselves. The activities to be hosted here range from

1. Resting
2. Feeding
3. Learning through reading and teaching
4. Connection with the religious and spiritual part of themselves

SITE PLAN



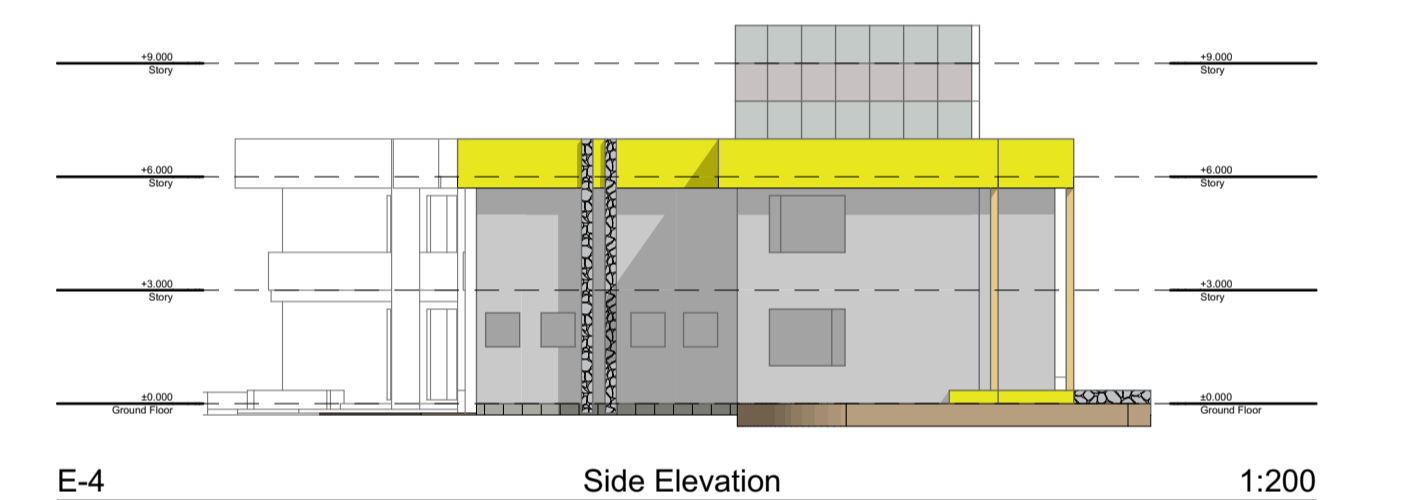
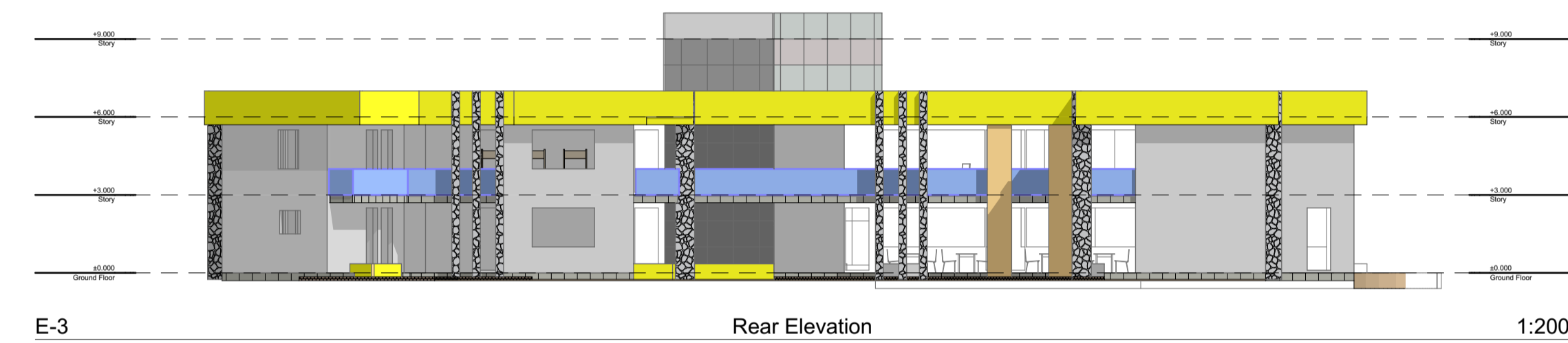
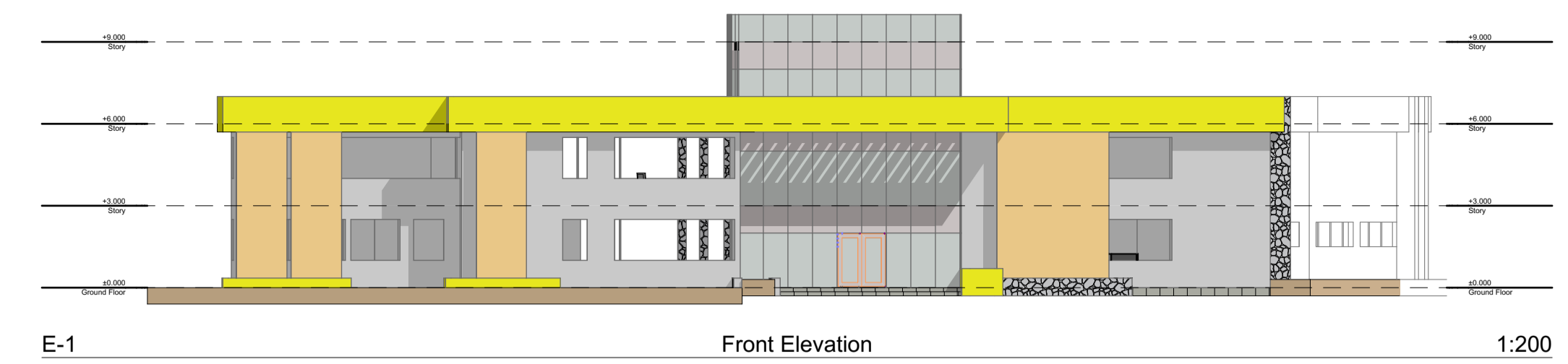
SERVICE AREA



PLAY GROUND



ELEVATIONS



FRONT AERIAL RENDER



REAR AERIAL RENDER



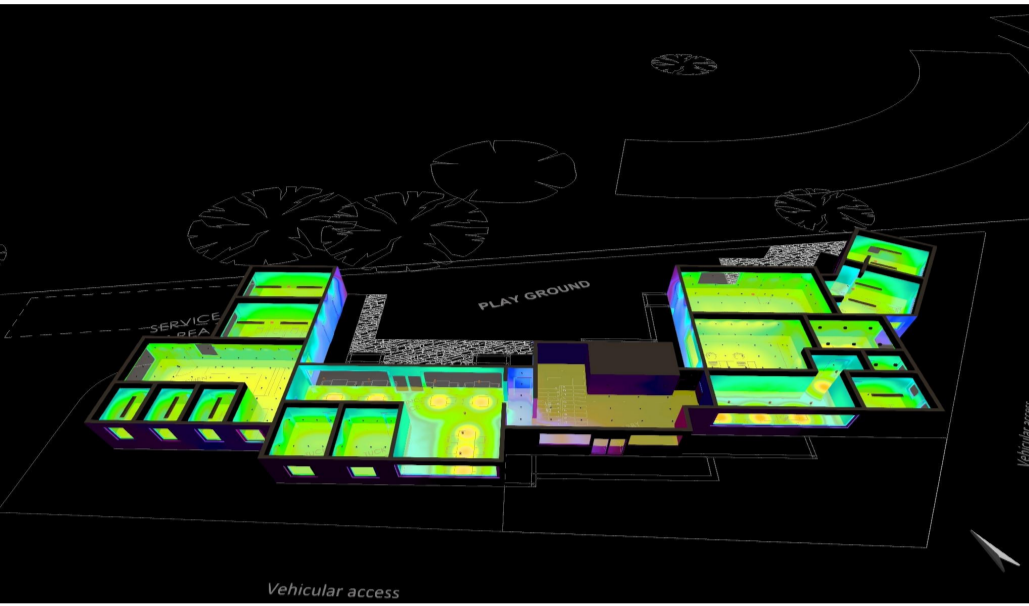
Architectural

INNOVATE

ARTIFICIAL LIGHTING DESIGN

EARLY NIGHT LIGHTING

In early night stage: Typically between 6 and 10pm and between 4am and 6am. Most of the spaces are considered to be in use.



POWER USAGE

Space	Power unit usage	Daily consumption usage
Space		

LIGHTING DESIGN

ARTIFICIAL LIGHTING SCHEDULE

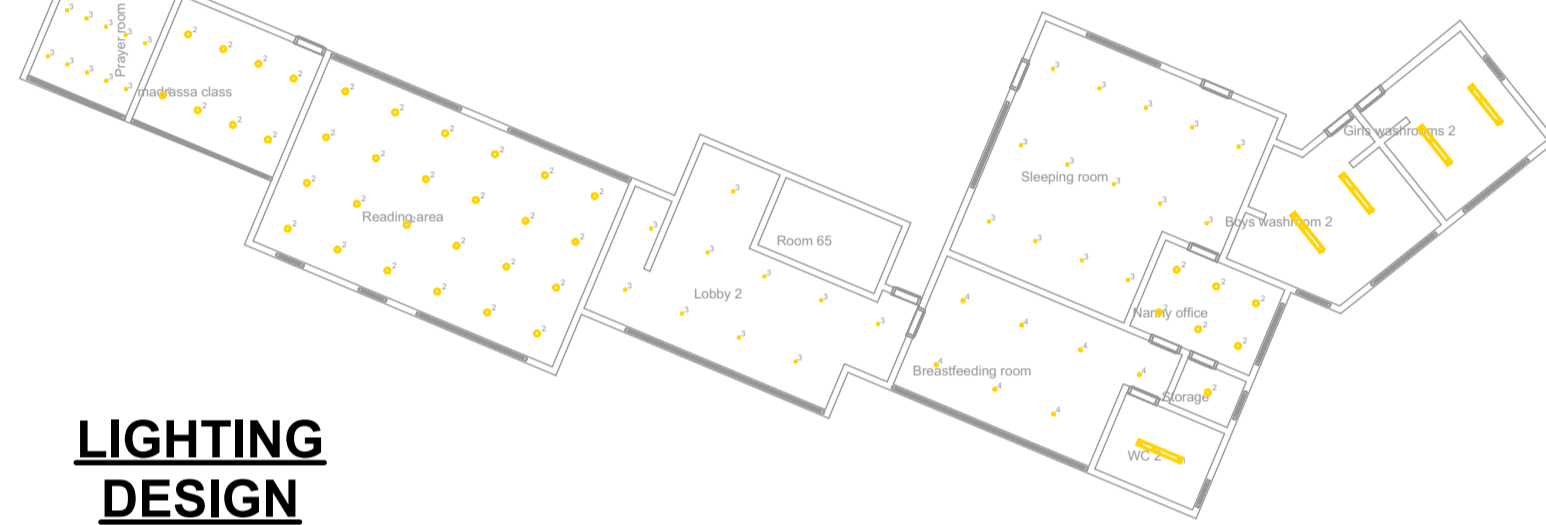
Luminaire list

Φout	Power	Luminous efficacy
296047 lm	2988.0 W	99.1 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
30	Philips	DN1458 PSU DS8 1 xLED65/840		6.5 W	650 lm	100.0 lm/W
11	Philips	EM1208 1 xLED25/760 OA		3.0 W	185 lm	61.7 lm/W
18	Philips	PT320T 1 xLED175/827 MB		14.4 W	1709 lm	118.7 lm/W
185	Philips	RS060B 1xLED05-36/830		6.0 W	478 lm	79.7 lm/W
47	Philips	RS340B 1 xLED175/830 MB		14.4 W	1748 lm	121.4 lm/W
21	Philips	SM340C PSD L1500 1 x355/930 MLO		34.0 W	3484 lm	102.5 lm/W

Index	Manufacturer	Article name	Beam angle	Φ	Height	Light loss factor	Controlled cut	Quantity
1	Philips	DN1458 PSU DS8 1 xLED65/840	14.0	650	2000	0.80	14.0	11
2	Philips	EM1208 1 xLED25/760 OA	14.0	185	2000	0.80	14.0	11
3	Philips	PT320T 1 xLED175/827 MB	14.0	1709	2000	0.80	14.0	18
4	Philips	RS060B 1xLED05-36/830	14.0	478	2000	0.80	14.0	185
5	Philips	RS340B 1 xLED175/830 MB	14.0	1748	2000	0.80	14.0	47
6	Philips	SM340C PSD L1500 1 x355/930 MLO	14.0	3484	2000	0.80	14.0	21

First floor lighting layout



LIGHTING DESIGN

Index	Manufacturer	Article name	Beam angle	Φ	Height	Light loss factor	Controlled cut	Quantity
1	Philips	DN1458 PSU DS8 1 xLED65/840	14.0	650	2000	0.80	14.0	11
2	Philips	EM1208 1 xLED25/760 OA	14.0	185	2000	0.80	14.0	11
3	Philips	PT320T 1 xLED175/827 MB	14.0	1709	2000	0.80	14.0	18
4	Philips	RS060B 1xLED05-36/830	14.0	478	2000	0.80	14.0	185
5	Philips	RS340B 1 xLED175/830 MB	14.0	1748	2000	0.80	14.0	47
6	Philips	SM340C PSD L1500 1 x355/930 MLO	14.0	3484	2000	0.80	14.0	21

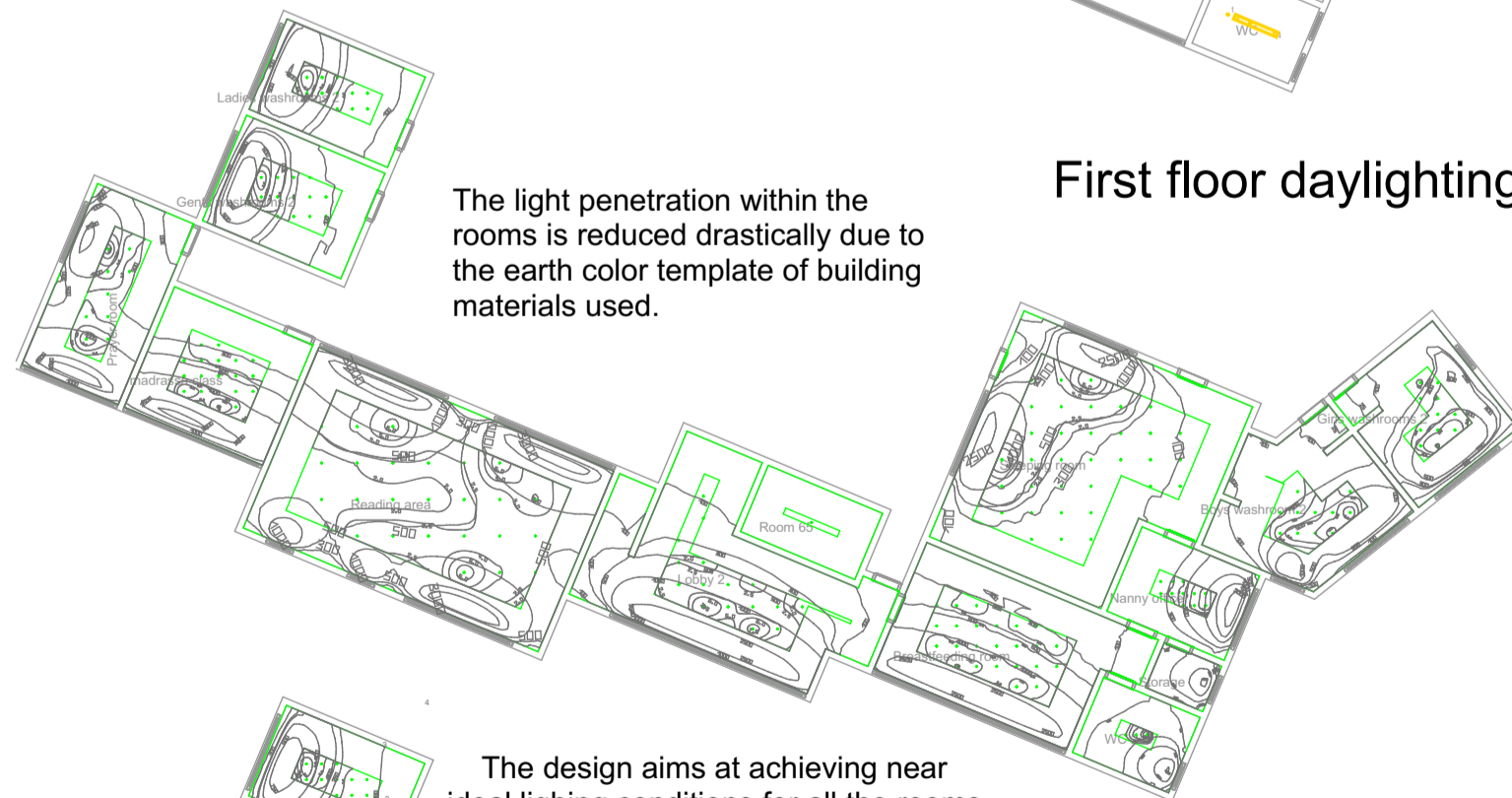
Ground floor lighting layout



DAYLIGHTING DESIGN

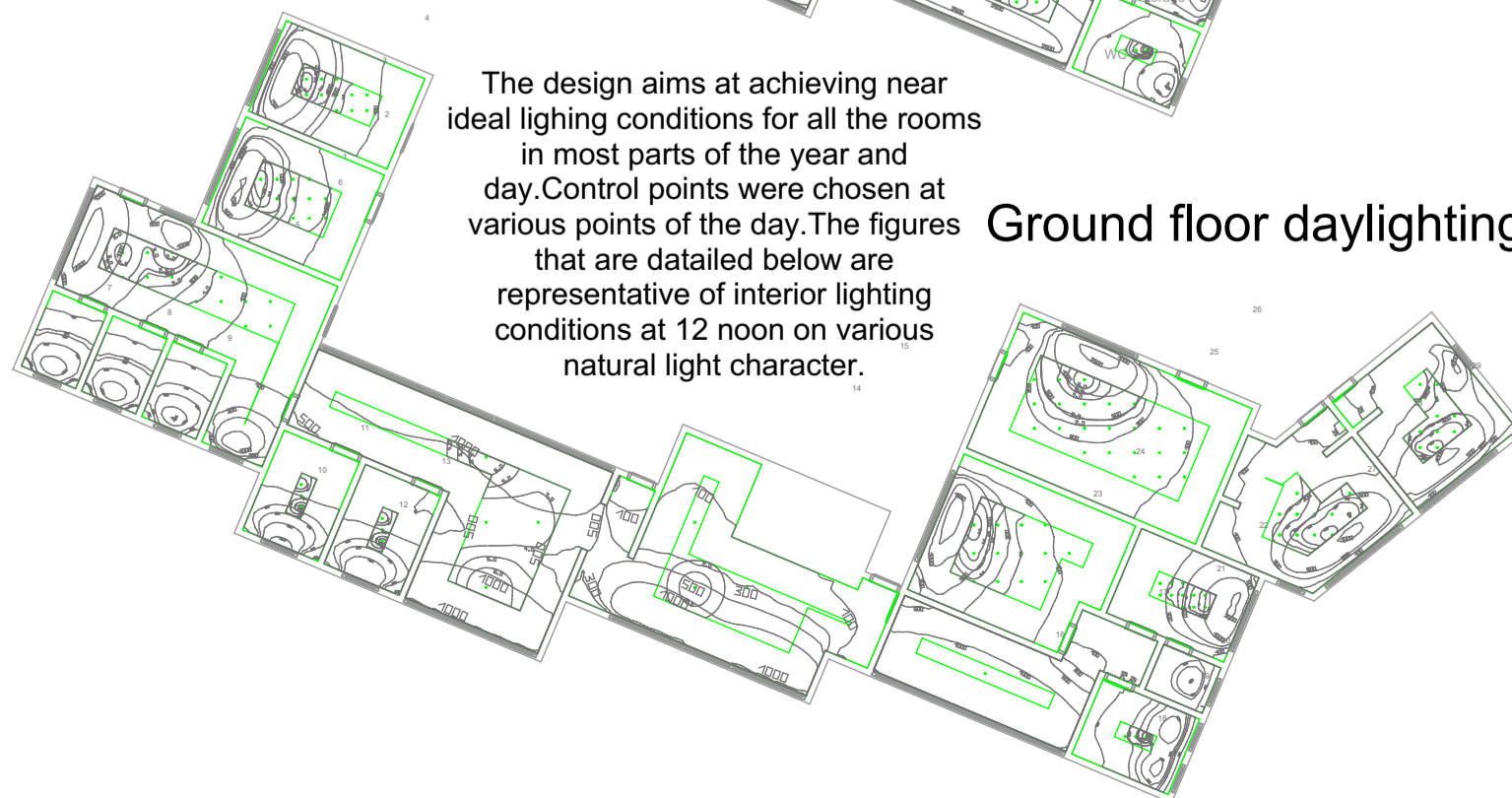
The light penetration within the rooms is reduced drastically due to the earth color template of building materials used.

First floor daylighting



The design aims at achieving near ideal lighting conditions for all the rooms in most parts of the year and day. Control points were chosen at various points of the day. The figures that are detailed below are representative of interior lighting conditions at 12 noon on various natural light character.

Ground floor daylighting



POWER USAGE

Space	Power unit usage	Daily consumption usage
Space		



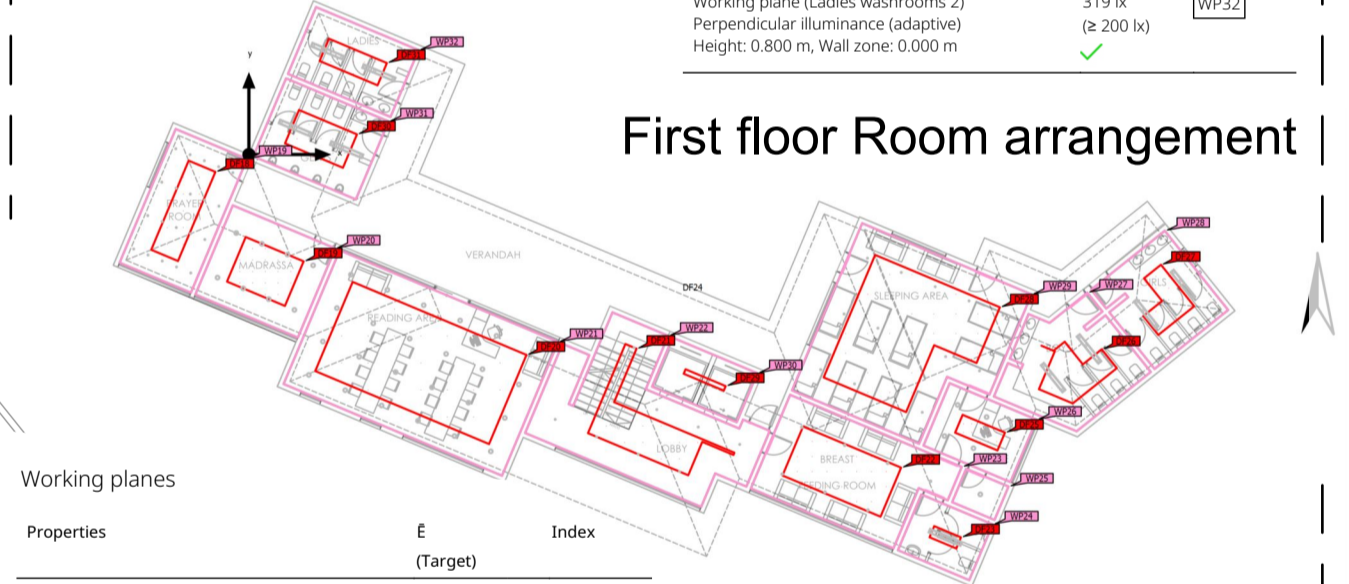
Ground floor

Properties	E (Target)	Index
Working plane (Gents washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	273 lx (≥ 200 lx)	WP1
Working plane (Ladies washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	318 lx (≥ 200 lx)	WP2
Working plane (Kitchen) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	632 lx (≥ 500 lx)	WP3
Working plane (Store 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	474 lx (≥ 100 lx)	WP4
Working plane (Store 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	472 lx (≥ 100 lx)	WP5
Working plane (Store 3) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	472 lx (≥ 100 lx)	WP6
Working plane (Tuck shop 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	459 lx (≥ 300 lx)	WP7
Working plane (Tuck shop 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	459 lx (≥ 300 lx)	WP8
Working plane (Lounge and lobby) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1351 lx (≥ 200 lx)	WP9
Working plane (Waiting area) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1545 lx (≥ 300 lx)	WP10
Working plane (WC) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	236 lx (≥ 200 lx)	WP11
Working plane (Store) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	235 lx (≥ 500 lx)	WP12
Working plane (Office 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	641 lx (≥ 500 lx)	WP13
Working plane (Common office) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	473 lx (≥ 500 lx)	WP14
Working plane (Play room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	426 lx (≥ 300 lx)	WP15
Working plane (Boys washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	399 lx (≥ 200 lx)	WP16
Working plane (Girls washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	446 lx (≥ 200 lx)	WP17

OVERCAST SKY

Properties	E (Target)	Index
Working plane (Prayer room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1060 lx (≥ 300 lx)	WP19
Working plane (Madrasa class) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	920 lx (≥ 500 lx)	WP20
Working plane (Reading area) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1025 lx (≥ 500 lx)	WP21
Working plane (Lobby 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	751 lx (≥ 100 lx)	WP22
Working plane (Breastfeeding room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1050 lx (≥ 300 lx)	WP23
Working plane (WC 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	268 lx (≥ 200 lx)	WP24
Working plane (Storage) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	637 lx (≥ 300 lx)	WP25
Working plane (Nanny office) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	575 lx (≥ 500 lx)	WP26
Working plane (Boys washroom 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	355 lx (≥ 200 lx)	WP27
Working plane (Girls washrooms 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	331 lx (≥ 200 lx)	WP28
Working plane (Sleeping room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	483 lx (≥ 100 lx)	WP29
Working plane (Room 65) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	0.00 lx (≥ 500 lx)	WP30
Working plane (Gents washrooms 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	260 lx (≥ 200 lx)	WP31
Working plane (Ladies washrooms 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	319 lx (≥ 200 lx)	WP32

First floor Room arrangement

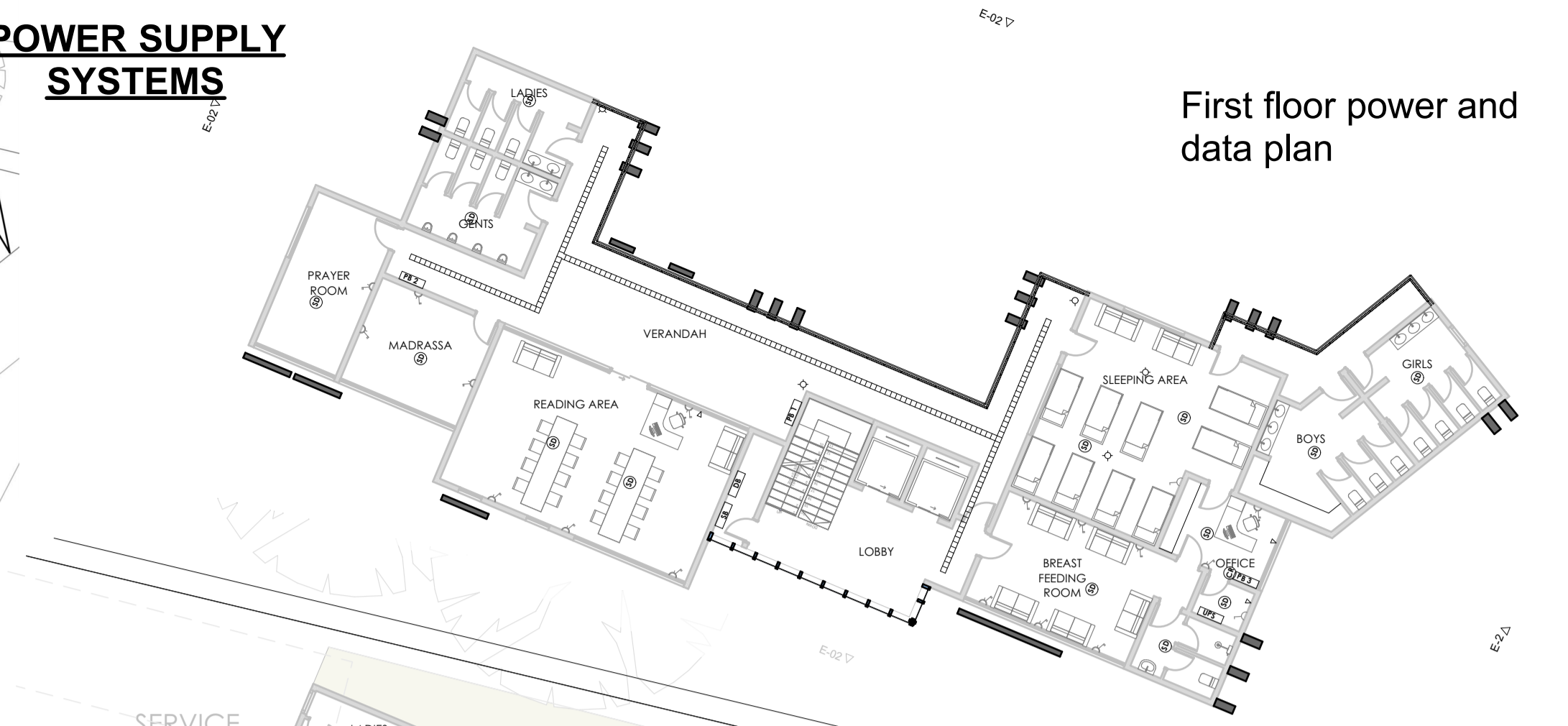


CLEAR SKY

Properties	E (Target)	Index
Working plane (Gents washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	163 lx (≥ 200 lx)	WP1
Working plane (Ladies washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	191 lx (≥ 200 lx)	WP2
Working plane (Kitchen) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	427 lx (≥ 500 lx)	WP3
Working plane (Store 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	388 lx (≥ 100 lx)	WP4
Working plane (Store 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	388 lx (≥ 100 lx)	WP5
Working plane (Store 3) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	386 lx (≥ 300 lx)	WP6
Working plane (Tuck shop 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	397 lx (≥ 300 lx)	WP7
Working plane (Tuck shop 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	397 lx (≥ 300 lx)	WP8
Working plane (Lounge and lobby) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1097 lx (≥ 200 lx)	WP9
Working plane (Waiting area) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1312 lx (≥ 300 lx)	WP10
Working plane (WC) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	568 lx (≥ 200 lx)	WP11
Working plane (Store) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	616 lx (≥ 500 lx)	WP12
Working plane (Office 1) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	2459 lx (≥ 500 lx)	WP13
Working plane (Common office) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	280 lx (≥ 500 lx)	WP14
Working plane (Play room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	316 lx (≥ 300 lx)	WP15
Working plane (Boys washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	658 lx (≥ 200 lx)	WP16
Working plane (Girls washrooms) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	854 lx (≥ 200 lx)	WP17

Properties	E (Target)	Index
Working plane (Prayer room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1130 lx (≥ 300 lx)	WP19
Working plane (Madrasa class) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1347 lx (≥ 500 lx)	WP20
Working plane (Reading area) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1368 lx (≥ 500 lx)	WP21
Working plane (Lobby 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	715 lx (≥ 100 lx)	WP22
Working plane (Breastfeeding room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1234 lx (≥ 300 lx)	WP23
Working plane (WC 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	1364 lx (≥ 200 lx)	WP24
Working plane (Storage) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	3498 lx (≥ 300 lx)	WP25
Working plane (Nanny office) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	2976 lx (≥ 500 lx)	WP26
Working plane (Boys washroom 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	572 lx (≥ 200 lx)	WP27
Working plane (Girls washrooms 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	647 lx (≥ 200 lx)	WP28
Working plane (Sleeping room) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	445 lx (≥ 100 lx)	WP29
Working plane (Room 65) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	0.00 lx (≥ 500 lx)	WP30
Working plane (Gents washrooms 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	438 lx (≥ 200 lx)	WP31
Working plane (Ladies washrooms 2) Perpendicular illuminance (adaptive) Height: 0.800 m, Wall zone: 0.000 m	510 lx (≥ 200 lx)	WP32

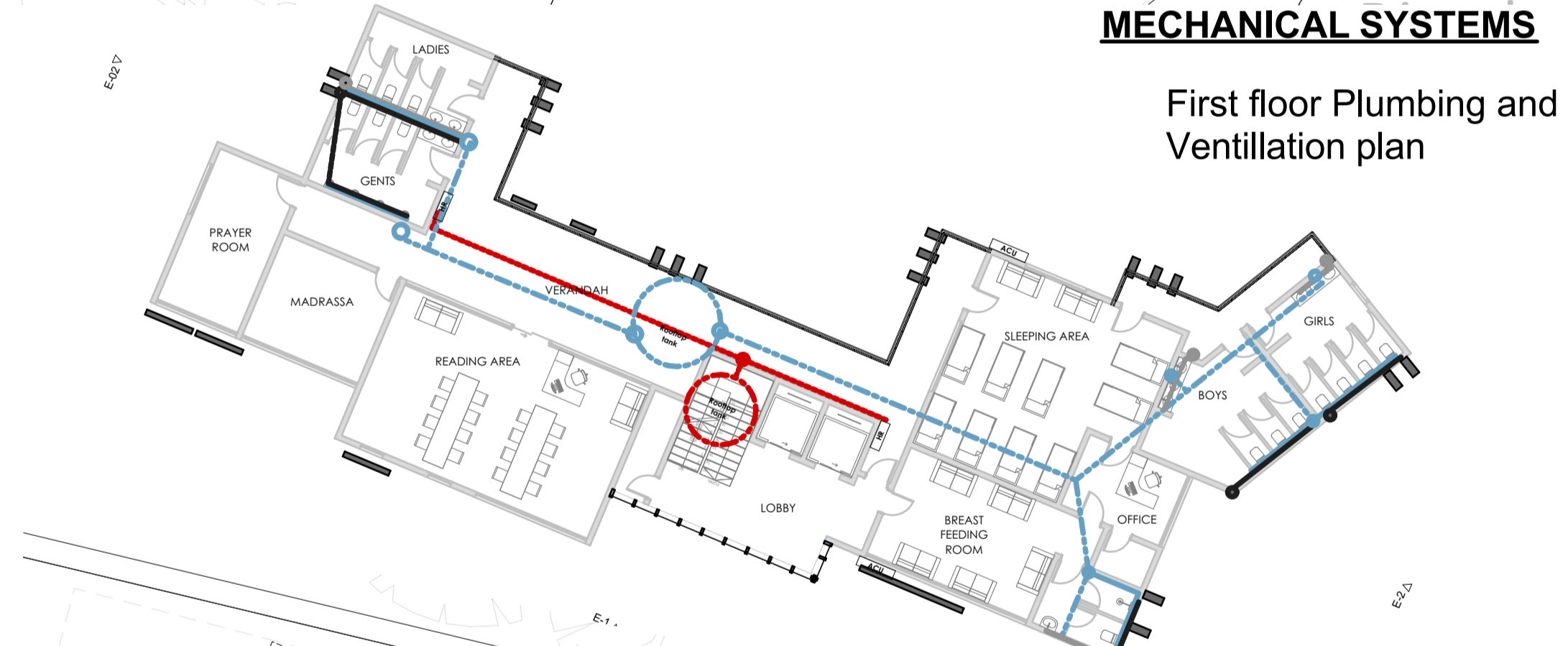
POWER SUPPLY SYSTEMS



First floor power and data plan

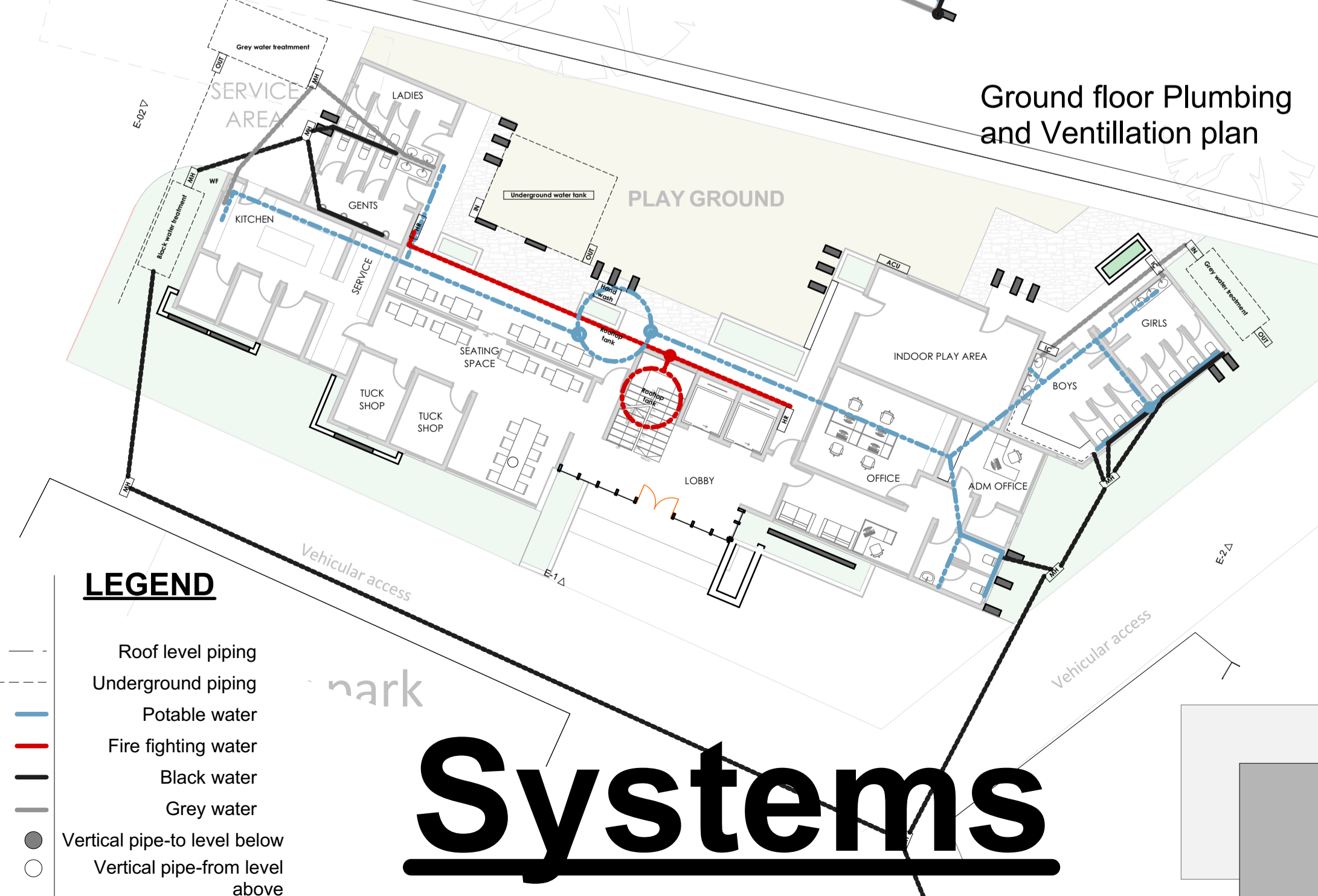


Ground floor power and data plan



MECHANICAL SYSTEMS

First floor Plumbing and Ventilation plan



Ground floor Plumbing and Ventilation plan

LEGEND

- Roof level piping
- Underground piping
- Potable water
- Fire fighting water
- Black water
- Grey water
- Vertical pipe-to level below
- Vertical pipe-from level above

Systems