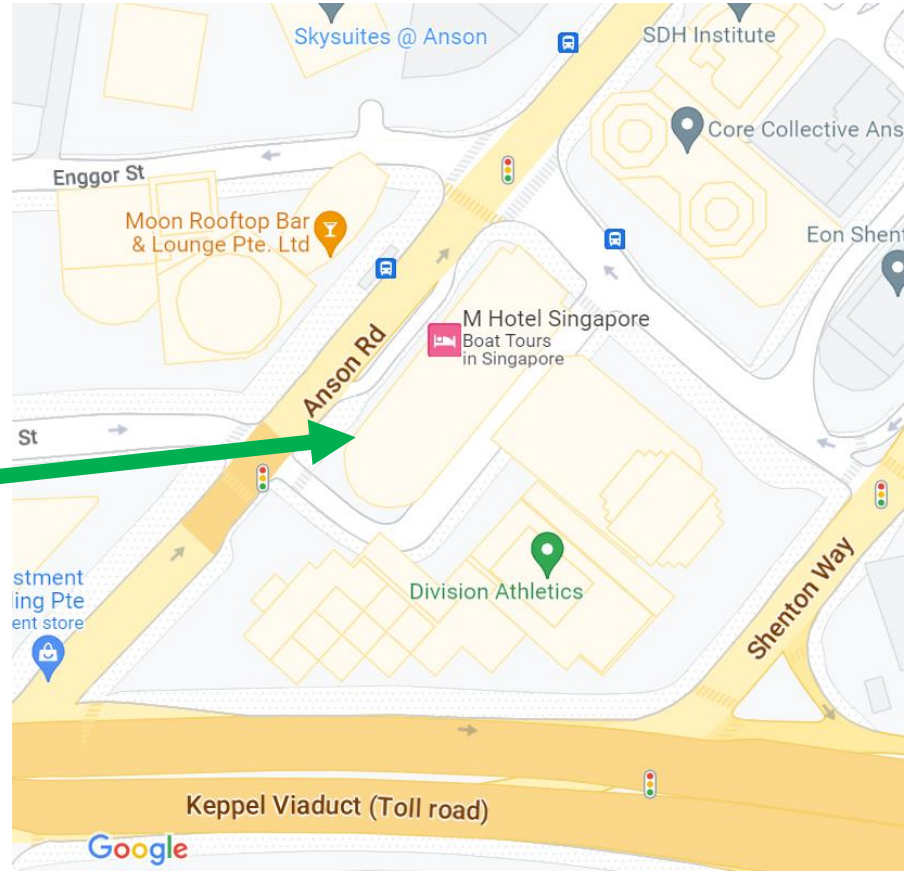
MILLENNIUM
HOTELS AND RESORTS

GBIC2.0 - Thematic Challenge Call Briefing

M Hotel Singapore



81 Anson Road, Singapore 079908

Building Information

Building Name	M Hotel Singapore
Building Address	81 Anson Road, Singapore 079908
Building Orientation	North West
Age of Building	TOP 1985 (38 years)
Gross Floor Area (total), m^2	32,379.32
Number of Rooms	415
Number of Floors	29 + 2 Basement
Current EUI (kWh/m²/year)	< 200
Target EUI (kWh/m²/year)	118 or below
Current Green Mark Certification	Gold Plus (valid till Sep 2024)
Target Green Mark Certification	Platinum Super Low Energy Building

Building Information

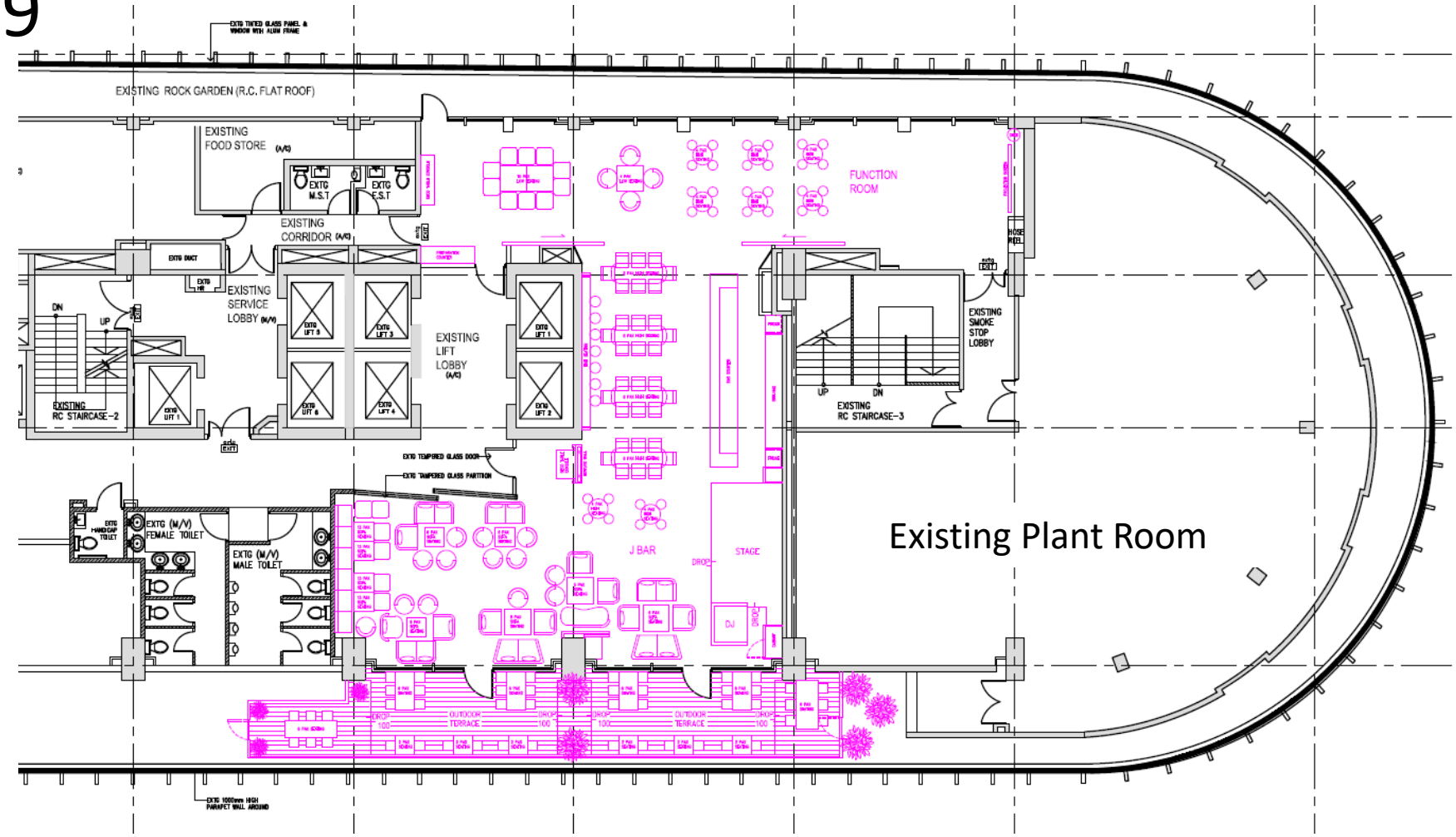
Level 30	Rooftop (M&E)
Level 12 - 29	Guestrooms (415)
Level 11	Swimming pool / SPA / Gym
Level 10	Banquet
Level 9	Plantroom / Offices / F&B
Level 8	Offices
Level 3 - 7	Carpark
Level 2	Function rooms / Buffet
Level 1	Lobby and F&B
B1	Function rooms
B2	Offices / Kitchen

Building M&E

Building Cooling load (RT)	Office Hours: 397.92
	24 hours: 351.13
Air-Conditioning System Type	Water-cooled chilled water system
Type of compressor/Number of compressors	Centrifugal chiller / 3 numbers
Age of chiller plant,Years	19
Type of Refrigerant Used	R11
Number of Chillers and Installed Capacity	3 chillers (400 RT)

Building M&E

Level 9



Building M&E

Number of Air-Handling Units (AHU) and type of fan motor	20 AHU / Belt driven Fan motor
Number of Fan Coil Units (FCU) and type of fan motor	104 FCU / single phase motor
Number of Mechanical Fans and type of fan motor	10 Supply Air Fan
Number of Exhaust Fans and type of fan motor	7 Kitchen exhaust fans and 10 Toilet exhaust fans
Percentage of LED used (%)	99%
Hot water system	Air Sourced Heat Pumps

Challenge statement

To develop energy efficient technologies and solutions to push boundaries of energy performance.

Hotel is open to solutions that considers the use of district cooling system (DCS) or In house chiller plant. In addition, energy efficient air side solutions to improve the total system efficiency of its ACMV installation and Indoor Air Quality (IAQ).

All proposed solutions shall minimally have a simple payback of 5 years or below. Longer payback period can be considered on a case by case basis, provided the non-financial benefits are attractive. The complete suite of solutions shall be aligned with M Hotel's aspiration to achieve Super Low Energy Building (SLEB) status.

Challenge statement

For ACMV , solutions should cover the following systems:

AHU / FCU solutions – shall achieve 25-30% better than GM 2021 Platinum standard or demonstrate a reduction of energy consumption by 50% or more from existing system.

AC Total System efficiency – shall achieve 25-30% better than GM 2021 Platinum standard

IAQ solutions – Optimisation of Hotel's outdoor air supply and exhaust fan system while ensuring IAQ compliance to Code of practice

For solutions to reduce solar heat gain, the below parameters should achieve 25-30% better than GM 2021 Platinum standard (or current best in class solutions):

Visible Light Transmittance (VLT)
Solar Heat Gain Coefficient (SHGC)
Total Solar Energy Rejected (TSER)
UV Rejection (UVR)
Infrared Rejection (IRR)
Glare Reduction

Thank you