



Design and Construction of
Redevelopment of Queen Mary Hospital, Phase 1
at Pok Fu Lam Road, Hong Kong

CONTRACT NO: SS F501 (PWP NO. 70MM)

Green Contractor Award 2020



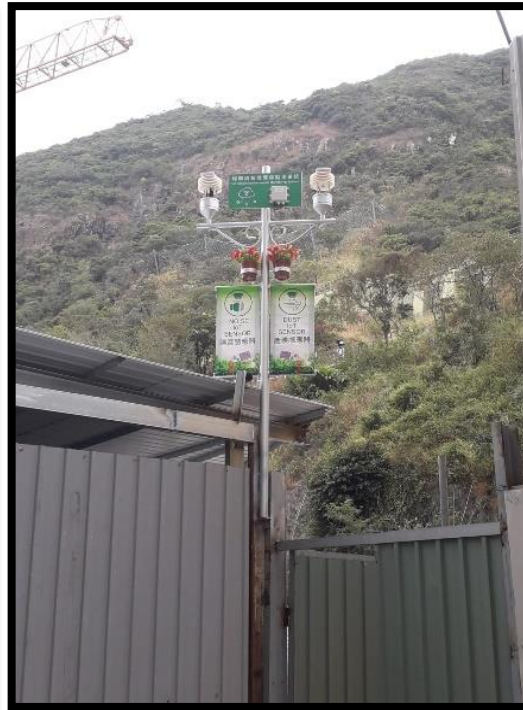
PAULY. - ABLE JOINT VENTURE



1. IoT Smart Environmental Monitoring System



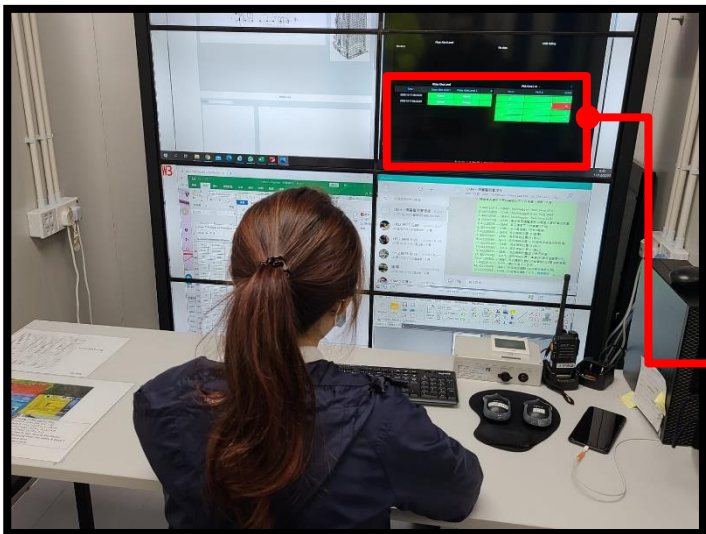
Adjacent to A&E of Block J



Adjacent to LO of Block K



<u>Monitored Items</u>	<u>Considerate Level</u>	<u>Action Level</u>
Noise Level	65db	70db
PM _{2.5}	90µg/m ³	100µg/m ³
PM ₁₀	65µg/m ³	75µg/m ³



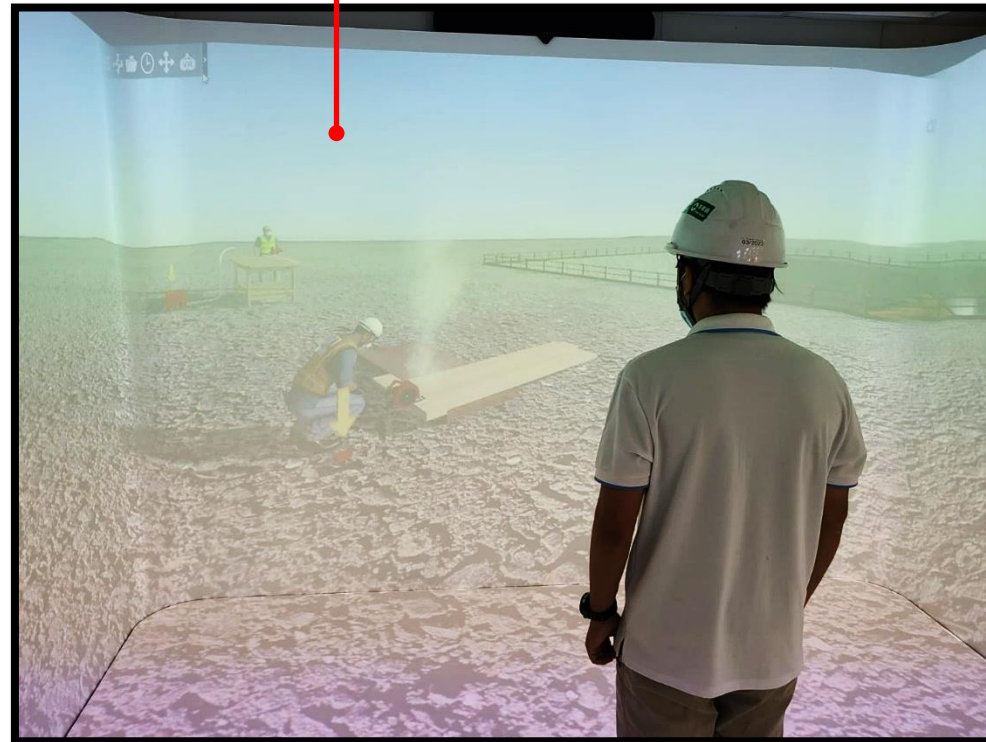
"IoT Smart Environmental Monitoring System", which includes noise & dust IoT sensors, is installed to **ensure "nuisance-free construction"**. Noise level and concentration of particulates in air would be **full-time monitored at cloud-based platform and feedback in Care and control center.** Alert would be issued if any detected figures exceed the preset standards.

2. VR Cave Training: Dust-free Construction



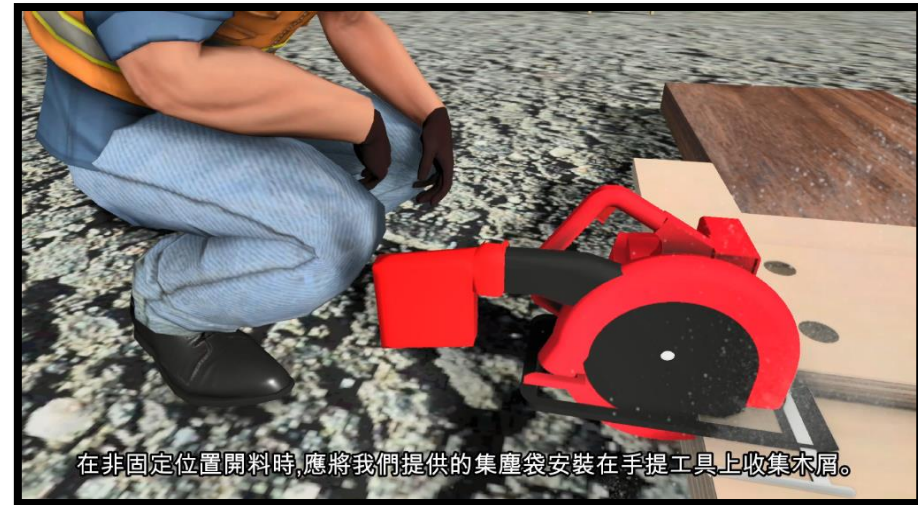
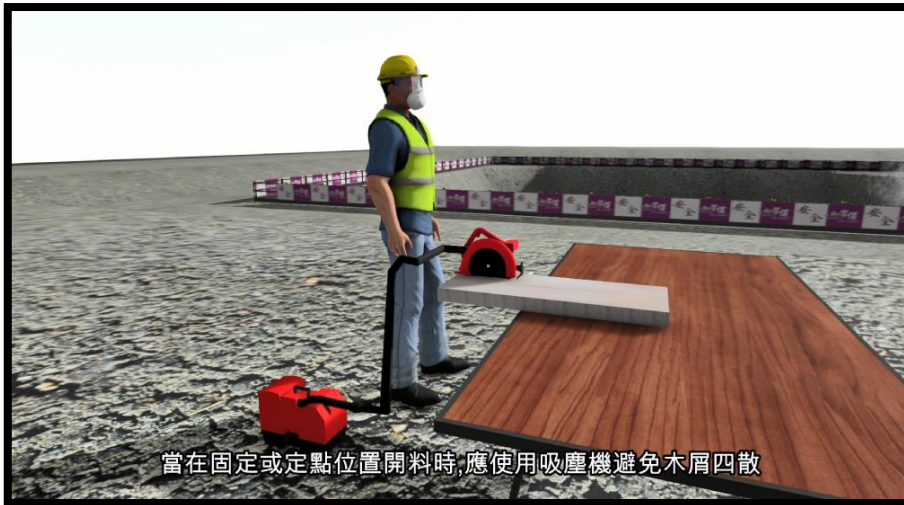
**Simulation of excavation works -
Atomized spray device must operate.**

**Simulation of cutting timber formwork -
Dust collection bag/ vacuum cleaner
must be provided.**



A 4D game, which simulates the dusty works on site, is produced by our in-house site staff and is installed in our VR Cave for environmental training regarding “DUST-FREE CONSTRUCTION”.

3. 4D Animation: Dust-free Construction



4D animation is produced by in-house site staff in order to illustrate our environmental working procedures and to promote dust-free construction.

4. Adoption of Recycled Material in Replacement of Timber



Approximately
10000m² of
timber has been
saved!!!



Concrete blocks made by recycled rockfill materials are used as formwork of footings and ground beams in lieu of traditional timber formwork.

5. Reusable Lunch Box and Tableware

1



1



Environmental Protection Measures

1. **Reusable lunch boxes and tableware** are provided to workers and site personnel.
2. All **reusable lunch boxes would be collected for cleaning** after lunch everyday.

2



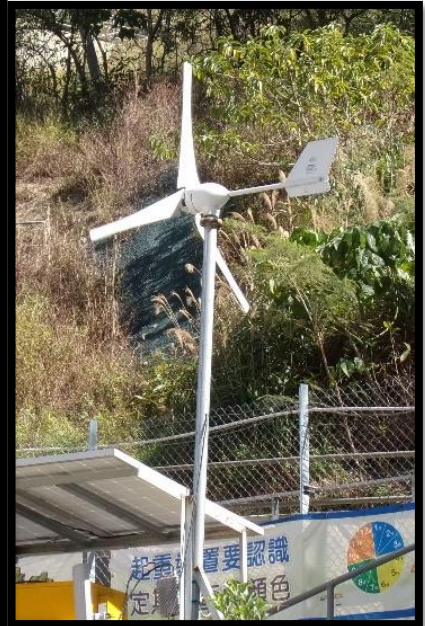
5. Reusable Lunch Box and Tableware



From 21st July 2020 to 17th September 2020, approximately 4,500 nos. of lunch boxes are delivered to site personnel and workers. Thus, 4,500 nos. Styrofoam boxes are avoided.

6. Utilization of Renewable Energy – Advanced Type Wind Turbines

1.344 kg CO₂e
of carbon
emission is
reduced DAILY



3rd Generation

Vertical axis wind turbine

2nd Generation

Horizontal axis wind turbine
(5 Blades)

1st Generation

Horizontal axis wind turbine
(3 Blades)

Cumulative Reading
From 17/2 to 20/2/2020
(Wh)

5043.24

2436.57

1472

Daily generation
(kWh)

1.68

0.81

0.49

6. Utilization of Renewable Energy – Advanced Type Wind Turbines



**45W Television
Consumed 450W (10hrs)**

**3rd Generation
Vertical Axis Wind Turbine**



**Totally Daily
Consumption -
690Wh**



**24V Fan
Consumed 240W (10hrs)**

**Daily 1.68 kWh
electricity
generation is
ADEQUATE!!!**

end | thank you