Fast Flow Provides Rainwater Drainage Solution for Changi Airport

Image source: Takenaka Corporation

Since its early and ongoing role in the development and expansion of Chongqing Airport in China and Changi International Airport in Singapore, Fast Flow has acquired over 13 years of experience in airport rainwater management. And due to a successful marketing drive, Fast Flow Singapore was appointed as a rainwater solution provider for the development of Changi Airport's Terminal 4 in May 2014. Fast Flow worked together with the main contractor (Takenaka Corporation) during the upgrading of Terminal 2 in 2006 and Terminal 1 two years ago. The two companies have now been reunited to complete the development of Terminal 4.

Fast Flow's technical sales team started to work with Takenaka Corporation in early February 2014. Progressive meetings between Fast Flow and Takenaka Corporation were carried out at least twice a month during the design stage. Both design team and technical sales team were actively involved in submitting the conceptual drawings as well as fulfilling the requirements from Takenaka Corporation's internal audit team. The constraints of pipes in column cladding, shaft issues and the variation of design intensity were some of the challenges faced by Fast Flow during the initial design stage. The main challenge was on the roof design as it did not provide primary pipe support for the pipeworks. The team put a lot of effort in providing the main contractor with proposals which led to earning their trust to provide a network of primary supports system spanning across each 3.75 metres by 2.5 metres bay of the main roof structure framework.

The construction of this two-storey building with a height of 25 metres and a gross floor area of about 160,000 square metres started in 2013 with the terminal expected to be ready for commuters in 2017.

To date, Fast Flow has provided rainwater management solutions for more than 50 airport projects in Asia Pacific, including Pudong International Airport, Kuala Lumpur International Airport 2 (KLIA 2), Brunei International Airport, Sydney Airport, New Delhi International Airport, Hanoi International Airport, Hong Kong Chek Lap Kok International Airport Terminal 2 and Ngurah Rai International Airport. Within Asia Pacific, Fast Flow is more than familiar with the expansion and rejuvenation of airports and previous projects experience.

Inside this issue…

Energy Efficient Office Space

Project Name:
Gran Rubina Business Park Tower 1

Location:
Rasuna Epicentrum, Kuningan, South Jakarta

Main Contractor:
PT. PP (Pembangunan Perumahan)

Architect:
PT. Pandega Design Weharima (PDW) and AG5

ME Consultant:
PT. Sigmatech Tatakarsa

Façade Consultant:
Paul Adam Façade

Fast Flow's licensed distributor in Indonesia, Siphonic Flow Mandiri (SFM) has been supporting the movement of green building development in Indonesia since 2011. And thanks to their unrivalled contributions, Fast Flow was appointed in July 2013 to be the rainwater solution provider for the first phase of Gran Rubina Business Park development; a 30,000 sqm development that embraces green building features in its design.

Located in Jakarta CBD's area, Gran Rubina applies essential features of a green sustainable development. This office building with 21 floors was built with the concept of "Green Building" that utilizes the energy and natural resources to the maximum. The green features are reflected in orientation of the building that adapts to the direction of the sun, the addition of fins on the building façade that serve to block the sun's heat entry into office space, the use of siphonic technology as the building's rainwater drainage and the utilization of waste water to be processed for use in plant irrigation.

By embracing the green building concept, Gran Rubina is included under Registered Project – New Building of Green Building Council Indonesia (http://www.gbcindonesia.org/) and targeted to win a gold certification from Green Building Council Indonesia as environmental-friendly buildings.

Jakarta Green Building Code

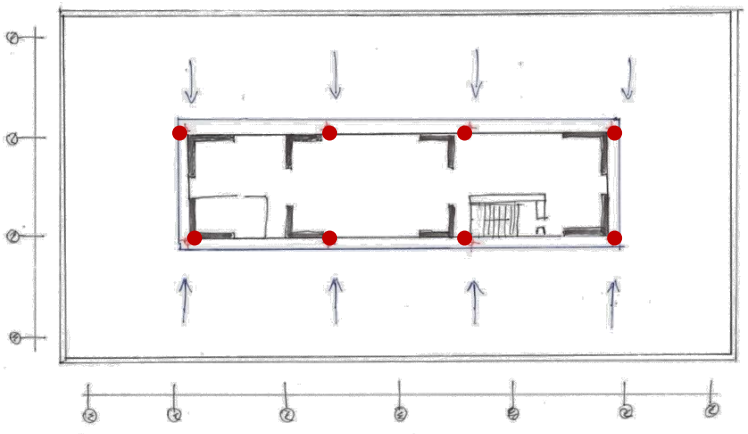
Jakarta Green Building Code was assigned in April 2012 by Governor Fauzi Bowo and became effective in May 2012. The new regulation is expected to help the city to meet its 26% reduction for carbon dioxide emission targets for 2020. Also to achieve an important reduction of energy consumption in residential, trade and office buildings.

The city of Jakarta adopted serious commitments in contributing for lower carbon emissions. The government has established a working group for greenhouse gas (GHG) emissions, which is focused on the intensification of mass rapid transportation, green building regulations, and safe energy for office buildings.

Source: http://www.indonesiarealestatelaw.com

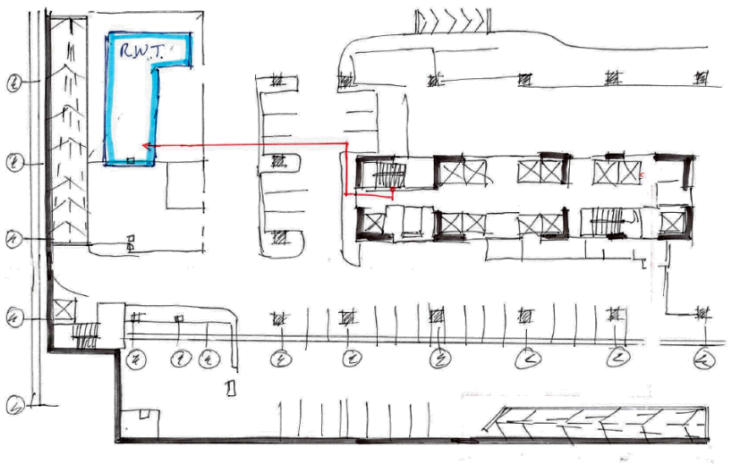
Gran Rubina's Roof Plan

Fast Flow's siphonic system fully optimizes lateral pipe length without gradient to achieve use of ceiling headroom. The system allows 8 rainwater outlets (Primo™75) to combine into a single system and drain a total roof area of 2,081 sqm.



● Primo™75

The Gran Rubina project is also well equipped with a rainwater harvesting system. Fast Flow's siphonic system utilizes a 150mm diameter pipe to travel from the main building to a rainwater tank (31m) without gradient. A pipe traveling without slope makes an ideal transportation tool for rainwater harvesting. A large diameter pipe with slope creates difficulties in coordination with other services and wastes valuable headroom space.



Pipe Route
Rainwater tank

More Malls Going Green

Image source: http://www.setiacitymall.com/

Even the shopping malls in Malaysia are turning green. Setia City Mall, located in Setia Alam, Shah Alam, became the first mall in the country to receive Singapore's Building and Construction Authority (BCA) Green Mark Gold Award and is also Malaysia's 1st Green certified shopping mall (http://news.asiaone.com/news).

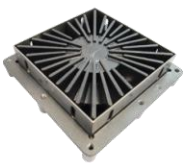
Setia City mall received its Silver GBI rating from Malaysia Green Building Index on 10th July 2013. Some of its many green features include rainwater harvesting and drip irrigation to all planter boxes, siphonic drainage system and rainwater collection for daily construction work.

The project applies Fast Flow's siphonic system for both the Retail Mall and Car Park Blocks. Selected siphonic stacks have been allocated to convey the rainwater into a collection tank and are able drain a total flow rate of 448 l/s from 3,733 sqm of selected roof area. It utilizes 14 Fast Flow's siphonic rainwater outlets (PRIMO™ & ARTECO™-T) to drain the roof top and 300 mm diameter pipe to transport water through long distance (136 meters) without slope from the main building to the collection tank. The rainwater is used for irrigation of the landscape for the Mall (non-potable water is used for landscape irrigation).

PRIMO™ Series Siphonic Outlets

A Complete range of siphonic outlets ranging from 5 l/s to 150 l/s comes with specialized adaptors for installation on all type of roofs and gutters. Fast Flow Primo™ series siphonic outlets are specially designed to minimize any forms of blockages resulting from debris or fallen leaves collected on the roof top.

ARTECO™-T Architectural Siphonic Outlet



Fast Flow Arteco™-T architectural siphonic outlet combines the high drainage capability of siphonic system with architectural aesthetics. Ideal for drainage of roof terraces with fine architectural finishes.

Green Spotlight

The green buildings movement in Thailand has been drastically growing since the first introduction of several green labeling tools, namely LEED (United States), BCA Green Mark (Singapore), BREEAM (United Kingdom), CASBEE (Japan), Indonesia (GreenShip) and TREES (Thailand) a few years ago.

In Thailand, a building is certified green if it complies with a number of requirements. There are two main certifications in Thailand: LEED which is the US certification launched by the US Green Building Council and the local Thai certification called TREES, launched by the Thai Green Building Institute which includes some of the LEED requirements such as energy consumption, material and resources, indoor environmental quality, but adds specific requirements such as building management.

To date, Thailand is the home of 22 LEED and TREES certified green buildings. There are currently six LEED "Platinum" certified buildings in Thailand: The Energy Complex, Park Venture Ecoplex, K-Bank Learning centre, HSBC Green Library, SCG Building 5 (SCT) and SCG Head Office Building 1 and 2. Three of Fast Flow's projects in Thailand; IKEA Mega Bangna, Colgate Palmolive Factory and Ritta Head office are also BCA Green Mark and LEED certified green buildings.

The primary role of green labeling tools is to shape a safe, high quality, sustainable and friendly built environment. Fast Flow's solutions form part of the green building assessment criteria and have been supporting the developers to achieve green building certifications in Asia.

IKEA Mega Bangna, Thailand (BCA Green Mark Award – Gold)


Colgate Palmolive Factory, Thailand (LEED - Silver)


Ritta Head Office, Thailand (LEED - Gold)

Sources: http://www.nationmultimedia.com
http://www.colgate.com.mx
www.thaige.co.th

Fast Flow Group Q3/2014 Project Highlights

Newly Secured Projects

Singapore

Project title: Terminal 4 – Changi Airport
Roof area: 91,700 square meters

Project title: Marina One
Roof area: 21,392 square meters

China

Project title: Hangzhou Cigarette Factory 2#
Roof area: 13,000 square meters

Thailand

Project title: Siamese Surawong
Roof area: 2,749 square meters

Under Construction

Thailand

Project title: EGAT Phase 2 (Electricity Generating Authority of Thailand)
Roof area: 5,636 square meters

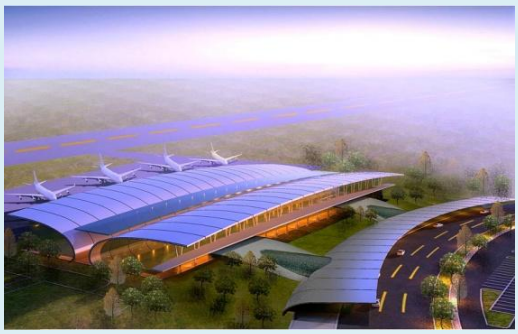
Recently Completed Projects

Singapore

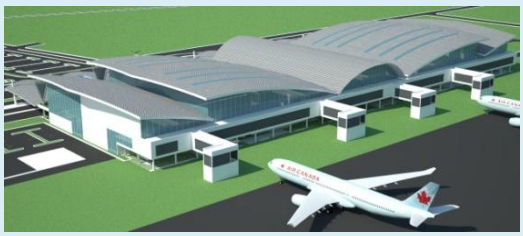
Project title: FairPrice Hub
Roof area: 30,882 square meters

Recently Completed Projects

Indonesia



Project title: Samarinda Baru Airport
Roof area: 9,580 square meters



Project title: Supadio International Airport
Roof area: 19,132.52 square meters

Project title: Coca Cola Amatil Semarang
Roof area: 10,015 square meters

China

Project title: Mianyang Kaide Plaza 2#
Roof area: 5,000 square meters

Project title: Zhanjiang People Centre Hospital
Roof area: 22,000 square meters

Thailand

Project title: Bee Hive
Roof area: 900 square meters

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