Cost-saving Solution for Drainage of Large Roof Areas

Siphonic roof drainage is a relatively new building services technology which has many benefits over conventional gravity solutions. Building designers and architects are specifying siphonic roof drainage systems on an increasing number of airports, commercial and industrial buildings. For example, Singapore Sports Hub in Singapore, Jewel Gold Coast in Australia and Soekarno–Hatta International Airport Terminal 3 in Indonesia all have siphonic roof systems. The benefits of these systems include ability to quickly drain high intensity rainfall events, substantial cost reductions, virtual elimination of underground pipework and the opportunities for significant stormwater reuse.

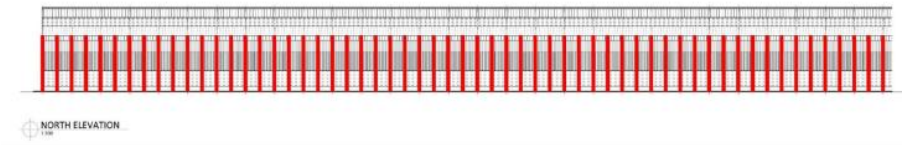
With the help of Fast Flow Licensed Distributor in Indonesia (Siphonic Flow Mandiri) Fast Flow completed the installation on siphonic system in Kamadjaja Logistics in 2015. Located in Cibitung, Indonesia the integrated logistic hub is well equipped with Fast Flow's technology to drain a total roof area of 32,000 square meters.

Fast Flow rainwater management system provides a more effective solution to large-roof rainwater drainage through the use of lesser yet better material as compared to conventional gravity solutions. It utilizes 16 sets of the psOutlet™ and 16 stacks of 100mm diameter pipe to drain a total roof area of 16,821 square meters for the North Elevation area. Whilst the conventional gravity system would require either 30 stacks of 250mm diameter pipe or 59 stacks of 200mm diameter pipe to drain the same area of roof.

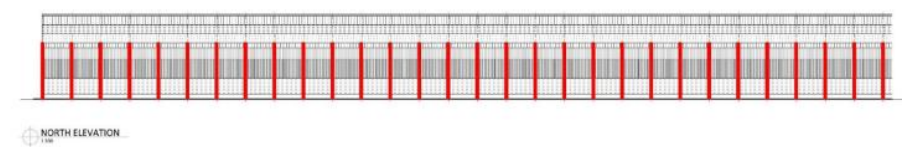
Inside this issue…

The sizes of pipes used in Fast Flow systems are much smaller than conventional gravity solutions and generally smaller than other similar system in the market place. The psOutlet™ delivers a highly efficient inflow capacity, which results in a very low water level around the outlet when operating at full design. The interface of the psOutlet™ with waterproofing system outperforms most conventional rainwater outlet connections. Below is the comparative analysis for North Elevation and South Elevation.

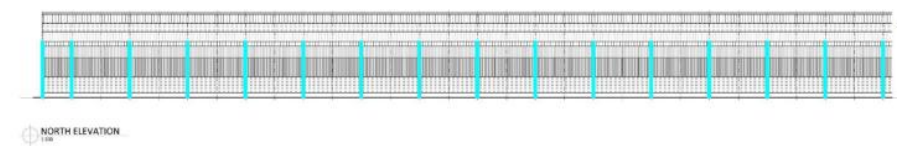
North Elevation – Comparative Analysis



Gravity System 01
59 Stacks Ø200 mm pipe every 4.5 m
Gutter 600x600 mm
Total material 23.5 x 59 = 1,386.5 m

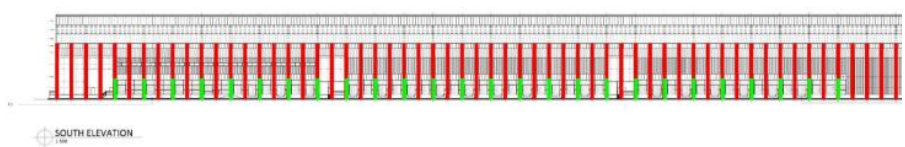


Gravity System 02
30 Stacks Ø250 mm pipe every 9 m
Gutter 600x600 mm
Total material 23.5 x 30 = 705 m

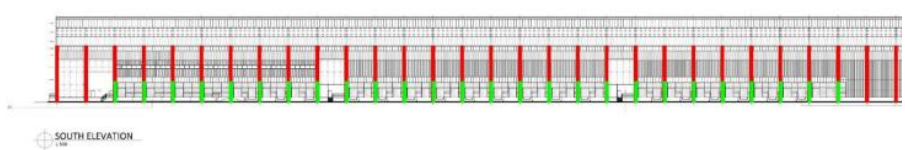


psRWDP
16 Stacks Ø100 mm pipe every 18 m
Gutter 600x300 mm
Total material 23.5 x 16 = 376 m

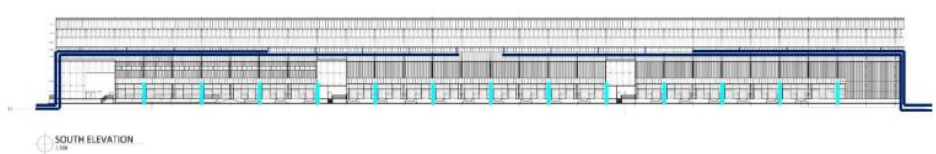
South Elevation – Comparative Analysis



Gravity System 01 (main roof)
59 Stacks Ø200 mm pipe every 4.5 m
Gutter 600x600 mm
Total material 23.5 x 59 = 1,386.5 m
Gravity System (canopy)
26 stacks Ø150 mm pipe every 9 m
Gutter 450x150 mm
Total material 7.8 x 26 = 202.8 m



Gravity System 02 (main roof)
30 Stacks Ø250 mm pipe every 9 m
Gutter 600x600 mm
Total material 23.5 x 30 = 705 m
Gravity System (canopy)
26 stacks Ø150 mm pipe every 9 m
Gutter 450x250 mm
Total material 7.8 x 26 = 202.8 m



Siphonic System (main roof)
2 Stacks in each side
Gutter 600x300 mm
Total material 308 m
Gravity System (canopy)
13 stacks Ø75 mm pipe every 18 m
Gutter 300x200 mm
Total material 7.8 x 13 = 101.4 m

Nowadays, large-roof and most complicated roof plans are drained with Fast Flow technology. As a reliable partner, we are supporting our customers with innovative products and services.

Discover some of our industrial projects in Singapore, Indonesia and Australia.

3M Tuas Plant, Singapore

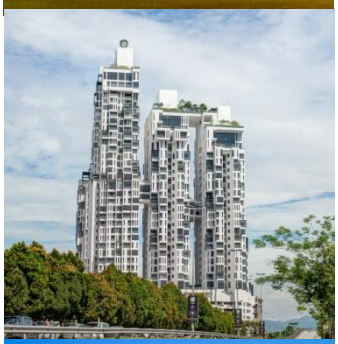
UMC Plant, Singapore

Coca - Cola Amatil Indonesia, Indonesia

Coles Myer Distribution Centre, Australia

Knauf Plasterboards, Australia




SIA – Fast Flow Professional Knowledge Seminar: Urbanisation > Built Environment > Sustainability > Challenges in the design for Rainwater Systems. Are current codes and standards keeping pace with the needs and demands from Architects or are they becoming irrelevant?

Urbanisation is taking place on a global scale. The nature and design of buildings, structures and infrastructure is changing because there is pressure to ensure the 'built environment' is 'sustainable'. Rainwater is one of the key sources of moisture which affects buildings and its building envelope which is the roof and the facade. What are the new challenges for Rainwater Systems in these new buildings and structures?

It depends on where you are! Decisions of what water to collect, how to collect, where to collect, dictate solutions. However, what is common to all solutions is that the rainwater system must perform and be capable of collecting the rainwater from identified areas and spaces and transporting the rainwater to its designated discharge point safely and without leakage. Many countries are actively collecting the rainwater for re-use and others are temporarily storing the water to reduce overloading infrastructure drainage. Different uses! Different solutions!

What are these solutions? Current global codes and standards are generally relics from the history books and have not kept pace with the effects of urbanization. Industry is driving change despite the shortcomings of the codes and standards. This Seminar aims to provide a different perspective.

Presentation Topics:

Drainage of 'Open to Sky' areas

- What is 'open to sky' drainage?
- Review of current international codes and practices
- Insights into the design and use of gravity drainage systems
- A brief introduction to the use of Siphonic Systems. A game changer!

Drainage of 'Wind-Driven Rain Spaces'

- What are Wind-Driven Spaces?
- Absence of codes and standards
- Review of current practices
- What are the Risks for Specifiers?
- An introduction to an engineered solution

Case Studies:

'Open to Sky' areas and 'Wind-Driven Spaces'

SIA – Fast Flow Professional Knowledge Seminar

Urbanisation > Built Environment > Sustainability > Challenges in the design for Rainwater Systems. Are current codes and standards keeping pace with the needs and demands from Architects or are they becoming irrelevant?

Event Details

Date	: Thursday, 4th July 2019
Time	: 2.45 pm – 5.00 pm
Venue	: SIA Theatrette Level 3 79 Neil Road, Singapore 088904
CPD Point	: 2
Seminar fee	: SIA members (complimentary) Non members (SGD 70)

Programme Schedule

2.45 pm	: Registration with light refreshment
3.00 pm	: Seminar Commences
4.30 pm	: Q&A
5.00 pm	: End of event

For registration please visit http://members.sia.org.sg/go.html?1

Fast Flow Group
Newly Secured Projects
Q2/2019

Singapore
- 3 Cuscaden
- NUS ISS (A&A)
- NUS Techno Edge Canteen
- SCBD
- Mont Botanik Residence

Australia
- The Atrium Lutwyche
- ONSP Building 21
- ONSP Building 20
- ONSP Building 18
- 120 Marine Parade
- Yatala Warehouse D
- Mon Komo Redcliffe
- The Periscope at Palm Beach

Malaysia
- OXLEY Towers KLCC
- UniSZA Terengganu
- BJM-Mega Canopy
- Symphony Sunway
- UTP Roof Canopy
- Malaya Glass Factory

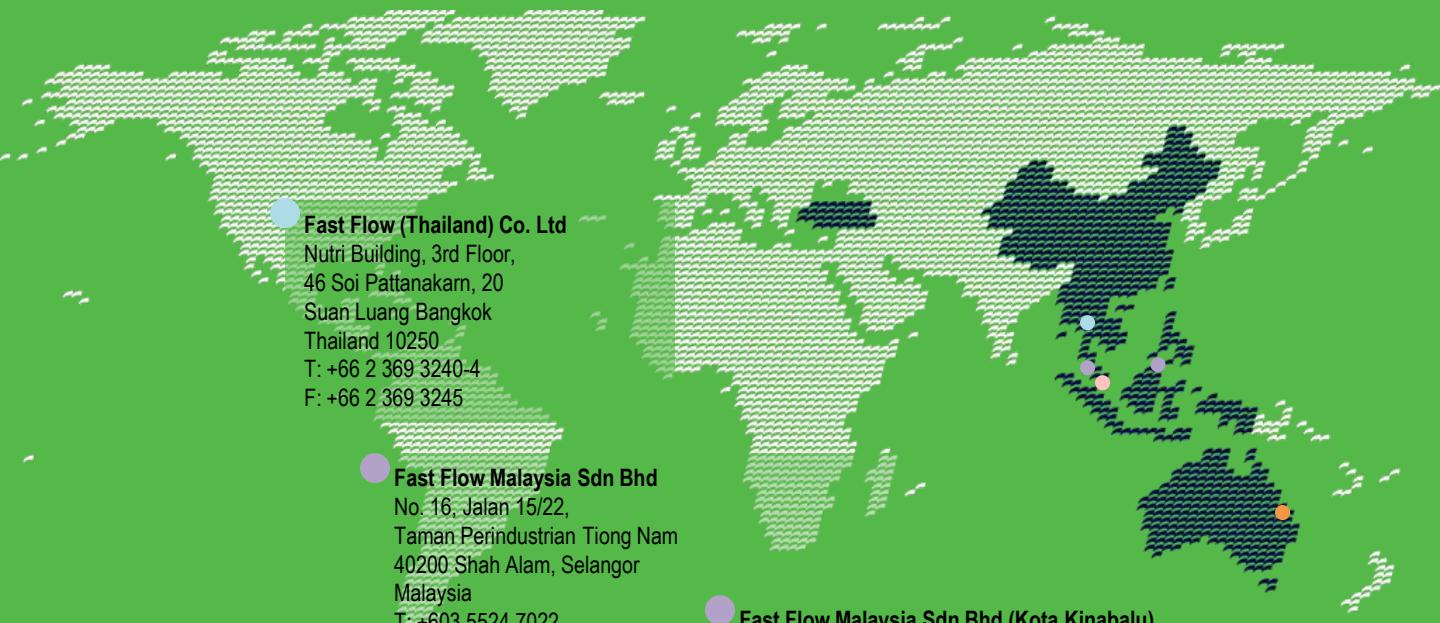
Thailand
- CNMI PCN
- Siamese Sukhumvit 87
- LMC2 Extension
- Fuji Distribution Center

Project name: 3 Cuscaden
Country: Singapore
Catchment area: 365 sqm

Project name: Mont Botanik Residence
Country: Singapore
Catchment area: 860 sqm

Project name: OXLEY Towers KLCC
Country: Malaysia
Catchment area: 7,493 sqm

Project name: Siamese Sukhumvit 87
Country: Thailand
Catchment area: 2,759 sqm



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