fast flow CONNECTION

December 2005

WHERE IDEAS FLOW

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VOLUME 3

Architect, Businessman or Plumber?

Colin Thoms

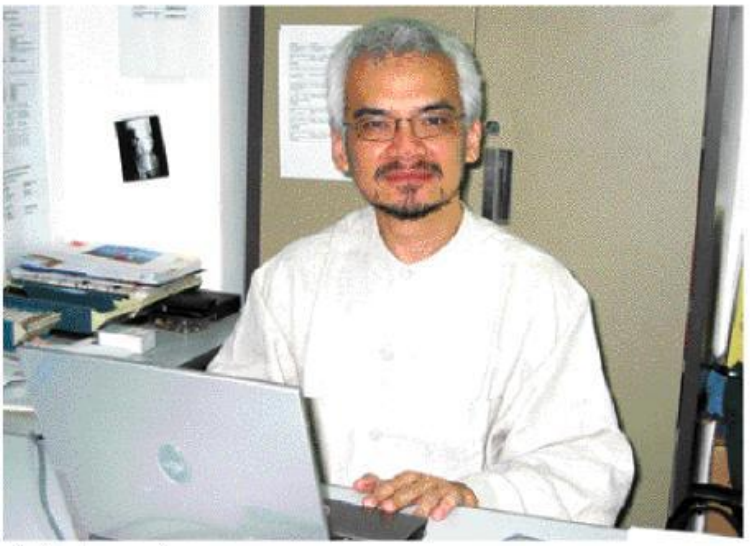
Depends on which time of the day you talk to him. Yap qualified as an Architect from Technological University of Malaysia in 1990 with a Bachelor's degree in Architecture. When he started working with the well known William Lim Associates in Singapore, it was with a naive passion to do Architecture whilst embracing environmentalism.

Yap's passion was so strong he was always on the look out for ways to express his capabilities. In 1994 whilst working as Site Architect on a project using siphonic for the first time in Singapore, he met up with Colin Thoms who had stumbled across the UV System from Europe. Yap Kern Ling and Colin Thoms became partners and co-founded Fast Flow. So now Yap is a Businessman!

But why did Siphonic Rainwater Systems interest him? Simple, it was a business with a good commercial balance to it. But it also had exciting potential which would meet his desires to improve environmental issues in the design and construction process, and economically.

But Yap is not just a paper and pencil man and in the early days he was down there at site getting himself involved in sorting out installation procedures in order to ensure the first systems were installed as designed. Yes, he became a Plumber!

Yap Kern Ling is recognised as one of the leading application specialists in the business and his ideas and schemes are endless. Yap has based himself in China for the last 3-4 years and is currently working on many of the Beijing Olympic projects which have been most challenging. We will explore some of his siphonic solutions in forthcoming issues of the 'Connection'



Yap Kern Ling at work.

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We would love to hear from you. If you have a viewpoint, which you would like to share or a story idea, please drop us a note either by fax, e-mail or snail mail.

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Singapore

Ong Hwee Bin

"BCA gives green light"

The Building and Construction Authority of Singapore launched the Green Mark for Building Scheme earlier this year in a bold initiative to move Singapore's building and construction industry towards environment-friendly buildings and help strengthen Singapore's position as a global city committed to balancing its development with care for the environment.

In an effort to increase environmental awareness, the Green Mark is an effective assessment system used to evaluate the environmental impact and performance of new and existing buildings. The rating system will be a key driver to encourage developers, building owners, designers and contractors to adopt environment-friendly practices when they conceptualise, design and construct projects. The program is also keenly supported by the National Environment Agency as part of sustainable building development.

The US, the UK and Australia have introduced similar green building programs whilst Korea and Japan and other developed Asian nations are also in the process of promoting the adoption of environment-friendly buildings. Such programs evaluate a building in several common areas, namely; energy efficiency, water efficiency, land use, site management, conservation of material, indoor environmental quality and environmental protection.

The **Objective** of the Green Mark for Buildings is also to accord recognition to building owners and developers who adopt building practices that are environmentally conscious and socially responsible. This will be done by identifying best practices in the development, design, construction, management and operation of "green" buildings. These practices must have potential cost benefits and will be shared with the rest of the industry.

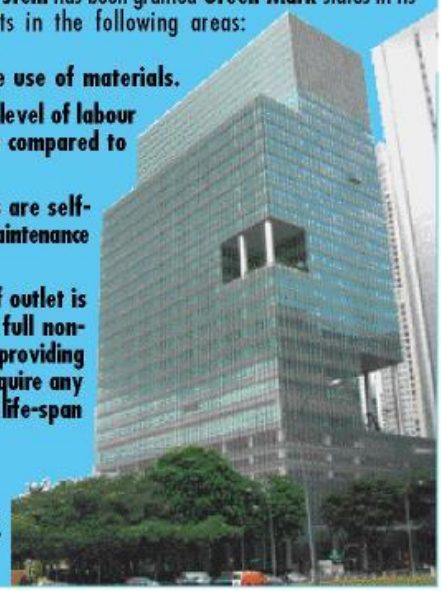
The **Siphonic Roof Drainage System** has been granted **Green Mark** status in its own category bringing benefits in the following areas:

a) **Significant reduction in the use of materials.**

b) **Significant reduction in the level of labour needed to install a system compared to conventional means.**

c) **Siphonic Drainage Systems are self-deansing and this reduces maintenance over the building lifetime.**

d) **The quality of Siphonic roof outlet is superior being supplied in full non-ferrous metallic outlet thus providing a system which does not require any replacement throughout the life-span of the building.**



1 George Street, 'a green marked project'

Smooth Sailing in Sydney

Jason Nelson

Ingleburn, Sydney

Fast Flow has recently completed their first project in Sydney. Working hand in hand with the professional plumbing company Jones & Jones, the Fast Flow Siphonic Roof Drainage system was installed into a large warehouse facility in Ingleburn, South of Sydney.

"Although being based in Brisbane, Fast Flow offered a quick turn around time of the quotation and concept drawings for our project" said Jim Quinlan from Jones and Jones Plumbers. "Once we gave them (Fast Flow) the go ahead, we received simple and precise drawings for our on site personnel to follow, reliable and quick response to on site changes to the system, easy to follow installation instructions and very professional on site representation from Fast Flow" said Jim.

After asking Jim if he would use us again, Jim's response was: "We would have no hesitation in using or recommending Fast Flow for any future Siphonic projects". With the company already designing and tendering on a number of other projects in and around Sydney, it won't be long before many more quality Fast Flow systems are installed throughout New South Wales.

DON'T MISS IT!

New flash presentation can be seen in our website

www.fastflow-uv.com

NEW OFFICES IN MALAYSIA

Goh Chun Hee

Kuala Lumpur

Fast Flow moved its office in Kuala Lumpur recently as part of its drive to give better service from a more central location. The office is located in Puchong and has a small warehouse attached where inventory can be kept for the odd projects which really need fast-tracking.

The General Manager, Ng Joo Lim is confident the increased space will soon fill up with new people as the business has really accelerated this year.

Johor Bahru

Fast Flow expands its 2nd Regional Design Centre in Johor Bahru, Malaysia. This is a support centre for Malaysia, China and Thailand. The centre provides design and engineering support for the locally based technical offices. The Design Centre houses a multi-discipline staff of architects and engineers from civil and mechanical backgrounds.

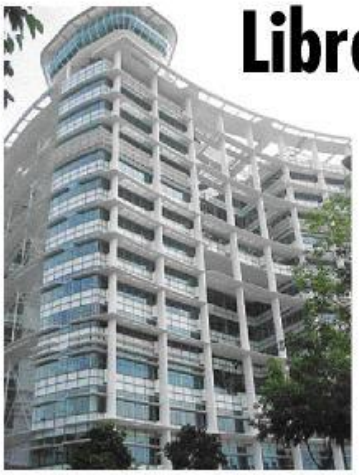
Mr Goh Chun Hee, our Design Director at work. He also leads Fast Flow's R&D

Kuala Lumpur
From left: Raja, Azmi, Kok Ming, Fais and Ms Cheah

Johor Bahru
Back row clockwise from left: Nazry, Mohd, Fais, Raymond, Goh, Siti, JJ and Eliza

Libraries around the Region

Gilbert Ang



Singapore National Library Board

Singapore

The new National Library at Victoria Street opened at the end June 2005. The $230 million project consists of 2 blocks of 16 storeys connected by a covered walkway. The library looks like one of the city's other modern metal-glass structures but a closer look reveals why it won the Green Mark Platinum award, the highest honour offered by the Building and Construction Authority for environmentally friendly buildings in Singapore. Designed with a predominant north-south aspect to reduce heat gain, the building also includes features such as auto adjusting facade shading on the western face, rain sensors to help conserve water for recycling and daylight sensors that optimise the desired natural lighting entering the library.

Continuing this theme Fast Flow worked with the consultants to derive a solution that minimised the number of downpipes and placed the pipes in non-sensitive areas due to the strict guidelines required for humidity and noise control in the main library zones.

Thailand Laung Pow Koon Library

Thailand

Laung Pow Koon Library was completed in 2004. A distinctive building in typical Thai style that adds atmosphere to the learning zone.

Australia

Elanora Library is one our most recent projects and is currently under construction.

China

Nanjing Library was also completed in 2005. As with most cities in China, the pace of re-construction is phenomenal but this building makes a real statement that Nanjing (old Capital of the South) is intent on making its municipal buildings something to be proud of.

China Nanjing Library

HONG KONG

Fast Flow marked its entry into Hong Kong with a prime project being undertaken in Lantau. The Sky Plaza project is very typical of the Hong Kong market requiring a 'cast iron pipe' system to meet a perceived cast iron solution. Not a problem for Fast Flow to deliver as we have the technology. Look out for further news from Hong Kong in the next edition.

Pleasing Projects! Pleasing Clients!

Ng Joo Lim

CIQ Project, Johor Bahru

The landmark new Customs, Immigration, Quarantine building in Johor Bahru, Malaysia is nearing completion in early 2006. Fast Flow has installed a comprehensive system of roof drainage to the many levels of roof structure which form part of a building of this nature. Distinctive features are that all exposed pipework is installed in Stainless Steel whilst the hidden pipework is done in upvc. The project has run very smoothly and the client has been pleased enough to award Fast Flow the next prestigious project sitting alongside CIQ which is the new Johor Bahru Sentral railway station. The same concept and theme flows through this new project. Well done JB team!

Major Mythstakes in Australia

Jason Nelson

"Fast Flow brings a lot of understanding about siphonic systems into the Australia Market Place that has been lacking ..." says Jason Nelson. "... but I still have to dispel 5 major myths every week to new customers."

Myth #1

Only HDPE can be used.

Wrong ! Pipe systems are determined on technical properties and other materials such as Stainless Steel, UPVC, Cast Iron, all meet the necessary criterion and are used every day with the Fast Flow UV System.

Myth #2

A lot of ceiling space is needed for the sump and tail pipe coming from the box gutter.

Wrong! Fast Flow UV System outlets don't have sumps and depending on gravity and hydraulic head, some outlet configurations can allow direct elbow return under the outlet.

Myth #3

The maximum flow rate of a siphonic outlet is 25 l/sec.

Wrong! Fast Flow UV System has outlets ranging up to 120 l/sec but then that's Fast Flow.

Myth #4

The minimum working head for a siphonic system is 3m.

Wrong! But do talk to us.

Myth #5

The main advantage of Siphonic Systems is in reducing the number of downpipes.

Wrong! Siphonic systems carry water in full-bore flow and at higher velocities. It is clear that the pipe material is much reduced giving direct and indirect benefits. Just simply replacing a 200mm-diameter pipe with a 65mm-diameter pipe is already a good solution.

Looks like Australia is ready for a change!

Fast Flow continues to fly in China

Colin Thoms

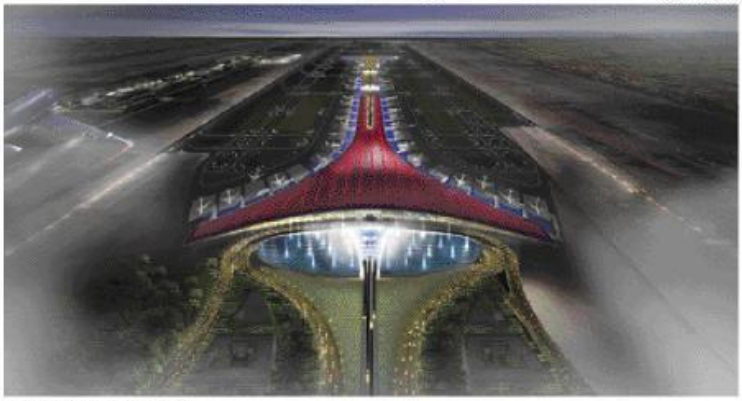
In the March 2005 edition of 'Connection' we showed seven airport projects which Fast Flow had completed in China. Since then Fast Flow has been awarded two more airports in China and both of them are high profile.

Beijing Terminal 3 is being constructed at great speed and will be the gateway for the 2008 Beijing Olympic Games. Fast Flow is working on this project with all due haste and we hope to give a technical review of the unique features of our solution in future 'Fast Flow's Connection'.

Fast Flow has just been awarded Pudong International Airport Terminal 2 in Shanghai and design is on the drawing board.

Well done Fast Flow China!

.....and in Malaysia Fast Flow has also become involved in airport projects. The new Low Cost Airport Terminal (LCAT) at KLIA has a Fast Flow system in it and this has recently been completed. The LCAT award came hard on the heels of the Kuching Airport in East Malaysia (Borneo), which was awarded in June. The Kuching Airport will take much longer to complete being a more complex project.
Great news Fast Flow Malaysia!



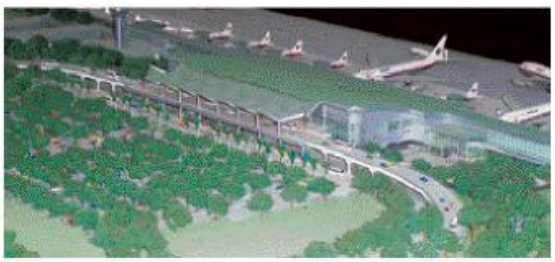
Beijing Airport, Terminal 3

.....and in Singapore.
The completion of the upgrading of Terminal 2 and the brand new Terminal 3 is in sight for Fast Flow Singapore.

Terminal 2 underwent upgrading partly due to the forthcoming arrival of the new A380's. The result has been fantastic giving the Terminal a new good feel factor. Fast Flow is proud to have played its part.

When Terminal 3 completes in a few years time, it will also be another remarkable feat in the Changi Airport history book. High tech places need high tech solutions.

A great job Fast Flow Singapore!



Kuching Airport

KLIA Airport Low Cost Terminal

Singapore Changi Airport Terminal 3

Singapore Changi Airport Terminal 2

Are we hitting "oily waters"?

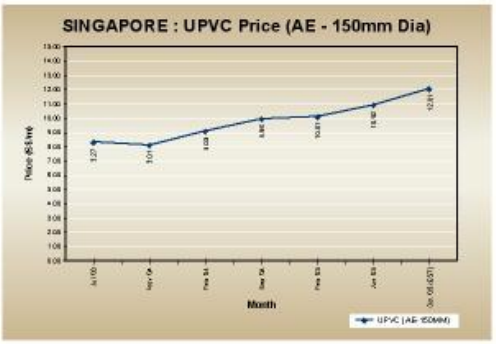
Cheong Eng Peng

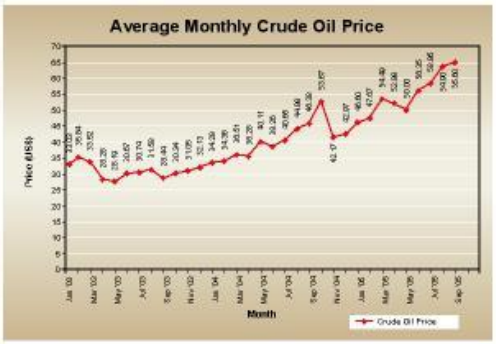
Fast Flow have utilised upvc and hdpe pipes throughout the region for its systems due to the lower cost and stock availability of these materials. In recent years, however, we have seen soaring prices of pipes and fittings by as much as 45% (refer chart 1).

One of the main factors is the equally soaring price of the basic raw material, crude oil, on the world market (see chart 2). This price hike also affects indirect costs such as transport and energy for manufacturing. The price increases have been unstable due to the unstable political situation in the Middle East, global economy recovery trend and growing demand for energy in China.

Manufacturers of pipes and fittings, of course, are passing any increases onto pipe users such as Fast Flow who in turn are forced to pass these costs onto, ultimately, the Developers. Such, sometimes, is the speed of the price increase that the price increase dramatically affects current projects which are fixed price and this hurts.

Maybe we should look at an 'oil related surcharge' like the airlines do!





WARRANTY
A game of "Consequences"-Who plays?-Who pays?

A couple of years ago, I declined to sign a contract which included a Warranty with a clause stating that all 'consequential damages' had to be the liability of Fast Flow if its system experienced a failure. The person asking me to sign then asked why I wouldn't sign saying "Did I not have confidence in the quality of the Fast Flow system?" I quickly asked him if he had car insurance and being told yes. I asked him if he was so confident of his driving why did he need insurance? "Ah ..." he said "... accidents happen and problems occur and it is too much money to pay." So I said to him "It's all about risk and you don't want to take the risk that a major car accident will occur that exceeds your ability or desire to pay for. In my best zen logic, I convinced him that the consequential damages from any failure of our system could be substantial especially in relation to the cost of the system. "So the risk needs to be insured" he said. Now we were getting somewhere.

Now let's consider who the players are in this game. We have the Developer, the Main Contractor and the Rainwater Contractor with the Consultants in the shadows. So who should carry the risk? Well during construction the works are insured under the CAR/TPL insurance held by the Main Contractor sometimes jointly

with the Developer but always paid for by the Developer as part of the contract cost. Upon completion, the Developer takes over the building and he will undoubtedly put building insurance in place to cover all his risk. This has been the practice for a long time. However it has been the vogue in recent years to ask the contractors to warrant their products beyond standard defects liability periods and somewhere in this process there was added consequential damages. So who pays for this risk now? Well the Main Contractor will ignore, absorb or try to pass the risk onto the Rainwater Contractor. The Rainwater Contractor cannot ignore or absorb so can he insure this risk? The answer is well maybe but the cost of insuring is disproportionate to the cost of the work. And if he does insure this it has to be added to the Rainwater cost and ultimately paid for by the Developer who is (yes you got it) already insuring for it.

So we come back to the Warranty and what is it really for? I would suggest it is to give the Developer the guarantee and satisfaction that the product he is getting will be fit for purpose and will last the life cycle expected and if it does not there is recourse for putting it right.

QUESTIONAIRE For NEWSLETTER

1. Is there a restriction to the numbers of bends and turns in the Siphonic pipe works system?

There is no restriction to the numbers of bends in the pipe system as Siphonic system is an engineering system where all bends in the pipe system can be calculated and sized accordingly.

2. Can the siphonic system work on environmental deck level?

The Siphonic system can be used as long as the environmental deck is located above the ground level as the system requires a height difference between the roof and discharge level. Another critical factor for the Siphonic System to function effectively on environmental deck is the sub-soil drainage system for the landscape areas have to be designed properly to prevent soil entry to the pipe system.

3. Are there any special features in siphonic system that are considered environmentally friendly?

Based on the launch of "Green Mark" Building by BCA in Singapore, Siphonic System is considered as a design efficiency feature to be adopted in any New or Existing buildings as it utilises less pipe material and less labour compared to the Conventional RWDP System. (For more detail regarding "Green Mark" Buildings in Singapore, please refer to the articles in Fast Flow Connection Vol. 3).

NEWS FLASH

Fast Flow wins Beijing Main Olympic Track & Field Stadium, better known as the "Birdnest"

Just for Laughs

Etta Cheong

– Less Is More

The workers were busy working at the site.

Khamal, a Bangladeshi worker from the conventional rainwater contractor is holding a large diameter pipe ready to be installed into their system.

There came Suckalah, the worker from Fast Flow to the site holding a small diameter pipe.

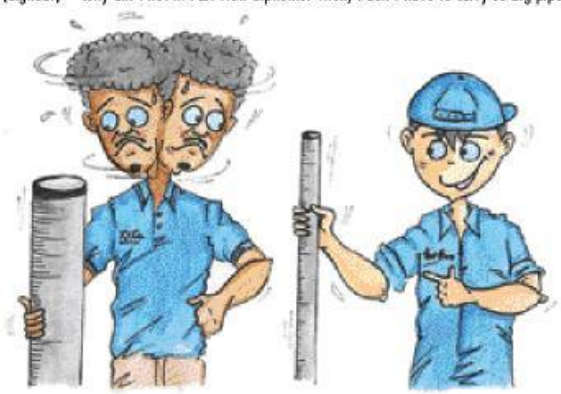
Khamal : Hello…friend, which trade huh?

Suckalah : (Holding his shirt up with proud dignity, revealing the company logo of which he is working for) Fast Flow Siphonic, rainwater system!

Khamal : (Astonished with what he heard) What? Rainwater? …So…so small pipe? I also rainwater, conventional leh!

Suckalah : Siphonic, good …huh? Small pipe, easy to install.

Khamal : (Sighed!) Why am I not in Fast Flow Siphonic? Then, I don't have to carry so big pipe …deh?



Please feel free to contact us without any obligation concerning any issue or constraint you may encounter with your project, so that we can offer our "Value-Added Engineering Solution", for your information and consideration.

You may also contact us for a free seminar on the following topics:

- Introduction of Siphonic Roof Drainage System
- Application of Siphonic Roof Drainage System in different types of Building/Areas

Feel free to explore our website **www.fastflow-uv.com**

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