The Hong Kong Institute of
香港營造師學會

builders

Jul 2000

Hong Kong Institute of Builders, Limited

president's message 2

Our Troubled Construction Industry Problems & Solutions

internal affairs 5

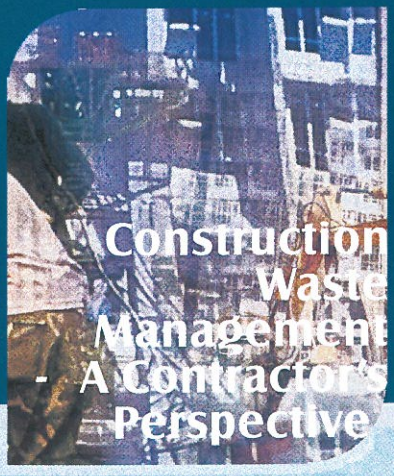
china link 13

coming cpd events 13

past cpd events 14

special events 16

features 8



Construction Waste Management - A Contractor's Perspective

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Mr. Peter K. W. Mok

Our Troubled Construction Industry Problems & Solutions

Recently, our construction industry faces a lot of criticisms and urge for changes, the problems are multiform and they are the results of the Government policies, our long established industry-wide commercial structure and the culture of our workforce.

A Highly Fluctuating Workload and Open Market

Hong Kong must be the world's most open market in construction industry. You will find construction companies of nearly all major countries in the world operating on our small island and there is absolutely no protection to the local contractors. Local contractors are facing the severe competition of many overseas and mainland contractors who may receive some assistance from their countries by means of working capitals, low interest rates and cheaper technical staff etc.

Due to the balanced budget and spend what you earned policy, the Hong Kong Government never uses the public works to balance the overall workload of the market. Instead, it tends to compete with the private sector as while the private market is booming and the Government makes a lot of money, it will spend more money on the public construction projects, and vise-versa. Resulting a highly fluctuating construction market which in fact is very unhealthy.

Though the contractors enjoy ample of workload in the peak periods, yet they would inevitably be facing the problems of acute shortage of skilled workers and therefore high wages. Yet in the trough periods, a lot of local contractors would not survive due to the severe competition.

The fluctuation of workload is also the major cause of poor workmanship and high cost in our industry. The wages of the workers increased rapidly in the peak periods and at the same time the quality dropped because of the shortage of skilled workers. I consider importation of workers is the best tool to balance and self-regulate this problem. Our industry can maintain a certain steady number of workforce and only import the necessary amount of workers in the peak periods. These imported workers would be sent back and return to their countries in the trough periods. This mechanism will no doubt control the sudden rises in labour's cost during the peak periods and on another hand making the forward planning on training of our future construction workers more simple and more manageable i.e. we only need to train the necessary number of workers to replace the annual drop-outs of our steady workforce. Moreover, we don't have to worry about the surplus amount of the trained workers in the trough periods.

Tendering System and Subcontracting

Unlike some merchandise that you can examine or even tried out before purchase, paying the lowest price for construction work is not a good decision as it will result your purchase not meeting your expectation or standard. Construction should not be looked upon as a profitable business but should be treated as a professional service to the society. In a market of severe competition, it would be

naive to think that there would be self-regulating and self conscience among all contractors to price the tenders according to the required standards and quality. There are always a few contractors who prepared to take chances and there may also be some contractors who bid below costs due to commercial decisions.

There are pros and cons to our long established subcontracting system. It is no doubt the most efficient way in sharing our limited resources of the skilled workforce. However, the irresponsible and broker type of subcontracting is damaging the quality and even the order of the industry. In this matter, both the main contractors and the subcontractors are needed to be blamed.

Some main contractors after once sublet a certain part or even the entire work to the subcontractors, they feel that they can shift the responsibilities totally to the subcontractors and therefore provide no control or supervision over the subcontractors. Worst still is the subcontractors also do not provide supervision to their own workers. i.e. both the main contractors and subcontractors rely on the workers to perform and produce quality work on their own accord.

During the periods of acute competitions, some main contractors simply lower the subcontractors 'costs in order to win a contract. Afterwards they force the subcontractors to accept the low costs as their subcontract price without considering whether these are reasonable costs in producing work of the required quality. On the other hand, the subcontractors will have to employ unskilled workers or even in some cases illegal workers to carry out the work in order to meet the budget.

The restriction of the use of broker type of subcontractors; limiting the tiers of subcontracting; trade testing and registration of workers; and the award of tenders on reasonable costs in order to prevent cut-throat prices may be the solution.

Professional Ethics in the Industry

The worst scenario in our present construction industry is as follow:

- the main contractor only wants to make the largest profit.
- the construction manager cannot control the workforce and runs the job site with incompetent site staff.
- the subcontractors and their workers are not under control.
- the site supervisors are incompetent and irresponsible.
- the workers only concern is getting paid daily and take no pride or responsibility for their work.

Construction industry should therefore be regulated and each participant to be recognised and to be responsible for their contributions as follows:

- main contractors to take up full responsibility on all legal aspects on public safety, health and environment.
- each and every project site to be controlled by a qualified and registered construction manager who will lost his registration for professional practice if he is found to be incompetent or negligence.
- all trade subcontractors to be well organised or even registered, all broker type subcontractors will be delisted.
- site supervisors are to be well trained, trade tested and certificated.
- workers are to be trained, trade tested and registered.

Once the complete registration of the workforce in the construction industry is established, the poor performers will be expelled or to be re-trained. This will gradually formed a self regulating system and the present police type of supervision provided by the clients will be minimised.

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Publisher
Professional Publications Co.
Rm 301, 3/F., Cheong Tai Bldg., 7-11 Mercer St., Central, Hong Kong.
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Membership Update

Elections & Transfers

Member

099002M Chan Chun Yin Thompson
099009M Lo Chun Yin
099011M Sin Wing Ning Barry
099012M Lun Tim Ho
099013M Wong Yuen Ling Jessica
099015M Lam King Chiu
099017M Wong Oi Wan Evia
099018M Wong Kar Wai Gary
099019M Wong Kwok Tung Thomas
099023M Chan Ka Hin
099024M Myles William Jason
099025M Ng Yau Yee Peter
099027M Ding Charn Lam
099028M Wong Tze Kwong Kocher
099030M Cheng Hon Kei Rex
099031M Mak Chi Wing Felix
099032M Geung Tsz Chiu
099033M Wong Shing Kee
099034M Bottomley John Victor
099035M Lau Siu Hong
099036M Yim Pui Chuen
099037M Wong Hong Wai Albert
200001M Fung Fu Tak
200002M Wong Sue Toa Stewart
200003M Chan Yin Nin Sammy
200004M Cui Qi
200005M Yau Wing Fung
200006M Yau Wing Shing
200007M Chan King Yin James
200008M Ip Kwok Leung
200009M Chan Chi Wo
200010M Lam Ka Tung
200011M Cheung Chan Ki Dominic
200013M Ho Sum
200015M Li Ting Han Ben

Associate Member

099001ACheung Wing Kuen
099003AParker Stephen James
099004AChan Ching Kong
099006ALo Chung Ho
099014ACheung Tak Hung
099029AWong Suk Ming
099038ACheung Sun Tsun
200012AChan Siu Keung
200014ALeung King Wah Samuel
200016AChan Kwong On Andy
200017AAu Yun Lung Eddie
200018ALau Kwai Shing Daniel

Graduate Member

099005G Fung King Shing Andy
099007G Leung Tik Lun Alan
099008G Lee Chung Wai
099010G Ma Wai Shing
099016G Lam Kwok Sang
099020G Yuen Chung Kit
099021G Ng Chi Wai
099022G Yip Yu Sun
099039G Tam Wing Kai Patrick

Transfers

To Fellow

097606F Shuttleworth David John
097134F Kwok Siu Wing
097195F Ng Chun Wah Teddy

To Member

097301M Chan Siu Chuen Peter
097530M Lee Kin Wang Bosco
097661M Leung Wai Keung

Proposal to change the name of the Institute to the Hong Kong Institute of Construction Managers (HKICM)

With the current status of the Industry in Hong Kong today the Institute has the perfect opportunity to demonstrate that it can be the fourth recognised professional construction institute in Hong Kong on parity with the Architects, Engineers and Surveyors.

As the first step to achieve this parity, it is the General Council's recommendation that the Institute change its name to the Hong Kong Institute of Construction Managers (香港營造師學會) (HKICM) and that the Institute and the members promote the role of the Construction Manager in the Construction Industry both within Government and Private Practice.

THE HKIB IN HONG KONG A PAPER FOR CHANGE

1.0 Today

1.1 HKIB the "new boy on the block"

The HKIB is perhaps one of the newest construction related Institutions to have been established in Hong Kong during the latter part of the 1990's. It is, therefore, a "new" Institution born for the future. The major problem is; where does it fit in the construction industry of Hong Kong, what does it have to offer to both the industry and most importantly, the community, and where, and how, will it achieve recognition of its professional peers?

1.2 What do we want?

This can to some degree be answered by looking at the original intention when the institution was set up. Notwithstanding its existence in Hong Kong for some twenty years, it was realised that the CIOB would not be recognised by Government post 1997 due to the Basic Law and that the local CIOB members as well as the members of the Society of Builders, Hong Kong needed a local Institution to represent them, and indeed, receive recognition from Government, to this end the HKIB was born.

Times have moved on, and we have to clearly identity what we want to achieve as an Institution, and where we see ourselves in the new millennium.

The bottom line is the Institution's members wish to be duly recognised for the role they fill in the construction process, and also in providing Hong Kong with an Institution committed to improving the current situation within the construction industry of Hong Kong which we see today. There is clearly a need for change and HKIB is ready to take on these changes and to be the leader in Hong Kong to drive quality and safety and management issues within the built environment.

1.3 Where do we fit?

Unfortunately, without the consent and recognition of Government, the Industry and the community, the Institution can only achieve limited progress, and thus, its members will not be recognised as the professionals they are trained to be. Government and the Industry in particular, need a "Box" in which the Institution can be placed.

Just where do we fit in ? In addition, what is different about the HKIB now and how does it differ from other local Institution ?

The answer lies in what we do! Our members manage the whole construction and management process from beginning to end - We supervise, coordinate and turn design into reality. We are therefore, dedicated to quality construction and lifetime maintenance. The management process to achieve this is without doubt the answer to Hong Kong's problem of poor construction.

The Institution has tried to set its case to Government many times but we are continually asked - "what is different to the last time we spoke and there is already an Institution to represent builders in Hong Kong - HKIE (Building Division). "

We clearly need to set the case for an Institution which focuses on the "management of entire construction and the complete life cycle of a building". This is where our strengths lie and the direction this Institution should go.

Although made up of many professional skills, we are not just Engineers, surveyors or Architects, we are in fact, and incidently, proud of the fact, the managers constructing and maintaining the buildings and structures of today and tomorrow.

1.4 What will it take for the Hong Kong Government to recognise HKIB?

Recognition will only come when we demonstrate that this Institution is not just predominantly about building, but managing the process of construction and the subsequent aftercare (for information the fife cycle cost of a building is roughly 40% on construction and 60% on maintenance). There are no other institutions in Hong Kong which cover the total life of a building. The Government and indeed, the community of Hong Kong are closely examining the way the Industry constructs and professionally maintains buildings today, many will say quite badly!

2.0 The Problems in the Industry

2.1 Hong Kong Needs "Quality Building "

It is clear that there is a drive from the community to achieve Quality construction and after care. We, as an Institution, should be looking further. Excellence in construction, excellence in after care. We are management professionals, trained in the area of providing professional expertise in the total

Construction process. We can fill this gap. A change in philosophy is needed in the Industry and the HKIB is best suited to make this change.

Quality in construction and after care is what our members do and do best. Recognition of this is needed and is an area we need to target.

2.2 Safety

Safety is another issue of concern to the community, whilst the Government have taken steps to introduce legislation which identifies the obligations and responsibilities on the Contractors and related professionals, there is still a requirement for the expertise of professionally qualified individuals to implement such policies and we suggest this is another area our members do best.

2.3 Supervision

One of the reasons identified as a problem area arising out of the issues relating to the piling problems recently in the news, is the question of supervision, or, more precisely, the lack of supervision.

The situation has been with the Industry for years and is not just restricted to piling; many other trades are affected. Fortunately the majority do not present the same concerns with safety as the piling, however, quality is affected.

The current standards of supervision of trades within the Industry needs considerable improvement, this can be achieved by training and requiring such 'supervision' to be more academically qualified.

Our Institution provides this academic qualification, our members follow a lengthy process before qualifying, and supervision is an area in which are members have an expertise which is not prevalent to the same degree in other professional institutions.

3.0 The Solution

3.1 The recent workmanship problems in the construction market and the ways for improvement in supervision, quality, safety and professionalism in the Industry given us a good opportunity to promote our Institute.

3.2 The first step is for Government, the Industry and the community to recognise the need for a professional responsible for the management of the whole construction process from beginning to end. At the present time we have Architects, Engineers, Quantity surveyors, very few of whom have the expertise to supervise the construction process, now is the time for Construction Managers to manage it properly.

3.3 Our Council recommends to Government, the Industry and the community to introduce the role of the Construction Manager into the construction process. Each and every construction project should be statutory controlled by a Registered Construction Manager who will be totally responsible for the management quality and safety of the entire construction process.

3.4 We have AP's, RSE's, RPS's all of whom tend to be on the design and development side of the Industry, there is no recognised professional on the construction process, so why not RCM's?

3.5 The members of this Institution are the best qualified for this role of Construction Manager and to promote this expertise, it is the General Councils recommendation that we change the name of the Institution to the Hong Kong Institute of Construction Managers (HKICM), and this proposal will be put to the members at an EGM to be convened before the next AGM.

3.6 We must distance ourselves from the "Builder" title as this is confused with other 'building' related Institutions, not forgetting the Hong Kong Construction Association, Government and the community do not see the difference. It is further confused with those who build as opposed to those who manage the construction process. HKICM as an Institution would be significantly different and would better represent our goals. Government, and perhaps the community, still see us as builders. The name change would therefore, give us an opportunity to broaden their perception of what we actually do.

3.7 At the same time, we must :

(i) Promote the role of the Construction Manager within Government, the Industry and the Community.

(ii) Raise the standards of Contractors. At the present time Contractors are required to be on a Register of General Building Contractors, however, the standards for satisfying the criteria for Registration are quite routine. Contractors should be required to demonstrate that they employ professionally qualified personnel holding a qualification recognised by the Government, the Industry and the Community, this should be HKICM.

(iii) Promote the Registration of Construction Managers.

(iv) Promote our professionalism, produce more technical papers, CPD and develops programs for education with the Universities.

(v) Seek co-operation with other 'building' related Institutions for HKICM to represent these professionals to Government.

CONSTRUC MANAG - A CON PERSPECTI

Introduction

My paper today is on Construction Waste Management. Let's define construction waste management to its wider sense to mean cutting inefficiencies and saving valuable resources.

When one is looking at construction waste management, one should not just focus at the construction sites and a wider angle should be employed. In deed, the whole building process should be addressed.

Hong Kong is being criticized for its high construction costs and its non-competitiveness. It is apparent that there are a lot of "fats" in the building process that can be trimmed.

Buildability Input from the Outset

Recently we have completed two Grade 'A' office buildings for a prestige client, one in Hong Kong and one in Singapore, namely, 1063, King's Road and Esplane in Raffle Link. The client adopted a non-traditional approach - the GMP approach - Guaranteed Maximum Price. We were brought in at the very outset of the project giving our buildability input in construction design, construction method and advising on construction costs. The project was completed on time and the outturn cost is roughly HK$899/sq.ft^2 and we have analysed similar buildings that we constructed around the same time using the traditional procurement system.

The results are as follows:

	Location	Out-turn Cost
1063, King's Road	Quarry Bay	$ 9,679/m^2
Building A		$10,739/m^2 (+11%)
Building B		$12,149/m^2 (+26%)
Building C	North Point	$13,333/m^2 (+38%)
Building D	Central	$12,413/m^2 (+28%)

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Thomas Ho On Sing,
MSc, FCIOB, FHKIE, FHKIB
Vice President of
Hong Kong Institute of Builders

Thomas Ho is an Executive Director of Gammon Construction Ltd. He possesses over 20 years of contract and project management experience. Thomas is also very active in community services and professional institutes' services including Past Chairman of The Chartered Institute of Building, Past Chairman of The Hong Kong Institution of Engineers, Building Division and is the current Vice President of The Hong Kong Institute of Builders.
Thomas won a public award - the Building Manager of The Year of Hong Kong in 1994.

In our recommendations, we recognized that the major reason for the saving in cost or value for money are contributed by the early input of the main contractor and the partnering arrangement created between the consultants and ourselves. The open book approach has helped all parties to concentrate on better quality, better productivities and efficiencies. This approach, in our mind, is one of the best way to start construction waste management because it will minimise mismatch between design and construction and cutting down a lot of unnecessary red tapes in the process. Design and Build approach and management contracting approach would have similar merits as G.M.P.

IT Project Management And Paperless Project Management

A lot of inefficiencies or wastages occurred in the industry because of communication breakdown or incorrect data transfer from one party to another or late transfer of data. With the help of today's IT technology, I would appeal to REDA and major clients, and all consultants to provide a common platform or portal for the industry for better communication and quick transfer of the right data. If REDA and major clients like KCRC, MTRC, Housing Authority, Housing Society had formed this platform, the contractors, subcontractors and suppliers had no option but to join the club. The benefits of real E-commence will then bring the inefficiencies down and save a lot of resources with the outcome of cheaper product and better quality. Sourcing internationally and cutting down middlemen and agents would become the norms for our industry. Just imagine, in the current practice, how many copies of Bills of Quantities and drawings we need to make to our subcontractors and suppliers to quote and action and if we have this common "REDA" platform all information can be transferred electronically and sourcing of cheapest products can be done inside this common platforms or "portals", thus making huge saving for the industry. Now it is a total waste of monies and resources as each one is investing monies to develop their own platform and each investment could mean $5M, $10M or even $50M. I can guarantee to develop a common industry platform, technology is not the issue and it is the mindset of the people here today and the commitment of our friends in REDA or major clients organisations. The contractors are always ready.

Improved Construction Methodology

- **Large Panel System + Precast**

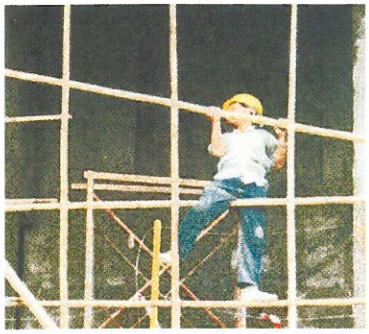
If we try to compare our industry with the other industries like the car industry, we can see that ours are still very much lacking of mechanisation, computerisation and standardisation. Although Housing Authority had made a lead in the public sector, however, the metal forms and precast elements are still of the minorities in the private sector. A lot of timbers are still need to be expanded using traditional environmental unfriendly method. It is also very interesting to see that we are not moving to large panel system but go back to mini-panels which need expensing manual labour to assemble, dismantle and transport. I hope this phenomenon in only short term and more efforts would be utilised to use more large panel formwork and precasting techniques or even modular construction because that will be definitely improve quality and save valuable resources. Again this need to be thought of at the design stage. Very often, the contractor after contract award because of the time limitations or the Buildings Department submission requirements, have no alternative but to stick to the most traditional system. It is more that apparent that saving of valuable resources need to start at the concept stage and the clients should be making the lead and Buildings Department should develop an open minded approach and process that actually recognises and rewards better methods that improve efficiency and reduce waste. The set up of an innovation unit is a good starting point.

- **Reduction of Wet Trade**

Whenever one go to visit a construction site, I think everyone would agree the wet trades need to be minimised in order to cut down inefficiencies and help good house-keeping which inturn improve products quality. Drywall systems are still uncommon in residential projects because of the hollow sound but these have been resolved by putting lightweight infill into the drywall. Now in Taiwan market over 50% of the internal partition walls are using drywall plus infill and the operations are very clean and their housekeeping are very much better than ours, at least for those sites I have visited. I believe more need to be done by our developers' friends and consultants' friends.

- **Bamboo Scaffolding**

We all are aware that bamboo scaffolding had been used in the industry for many many years due to its flexibility but we can see that the quality of bamboo had deteriorated in recent years and the same applies to the skills of our scaffolders, and we fail to see why the steel scaffolding still cannot be used widely. Steel scaffolding are rigid, reusable, environmental friendly and definitely can cut down safety accidents. In the two public utilities companies, steel scaffolding are specified in the contracts and their safety records compare very favorably with the industry's norm. Of course they had their 5-star system as well. The only drawback of steel platform is the high capital costs but if these can be used widely, these issues will be resolved automatically.



Supply Chain Management

With the size of our projects, developers should be able to influence the packing of the delivered products which very often are requiring contractors and subcontractors a lot of resources to cart away. Proper products packaging which matched the construction method will help productivities and efficiencies and cut down wastages. In one of our previous project we transport the whole pallet of concrete blocks from the lorry to the working place mechanically thus saving a lot of resources. This kind of thought are still very much lacking in the industry.

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Teamwork

Construction Waste Management cannot be done alone by the site staff. As senior management, we should bring our subcontractors and suppliers together, we should stipulate in the subcontract document of a bonus/penalty system for saving materials. The subcontractors/suppliers should be encouraged to come up with innovative method which could bring a WIN-WIN to both parties. A straight "master to slave" management style is no longer applicable and a partnering approach should be adopted. These could definitely help to reduce wastages on site.

Combined Services Drawing

The importance of E&M management is often neglected and for me this is one of the crucial factors for cutting down inefficiencies and wastages. It is not uncommon to see blockwork wall constructed one day and knock down the other day because of missing of E&M ductwork or otherwise. The production of the 'Real' Combined Services Drawings is most important. I like to stress the word 'Real'. Very often the Combined Services Installation Drawings are just merely overlaying of drawings and also the drawings produced are only kept on the drawers and never be used on site by site personnel to manage the sequences and activities.

Again with the latest technology and common data platform, the continuation of the Combined Consultant Design Intent Drawing to contractors/subcontractors Combined Services Installation Drawings should become a norm. I need to point out that Intelligent Buildings and Cyberbuildings would mean more E&M inbuilt into the buildings.

Another facet of waste cutting is the modularization of E&M element and factory produced modular elements. Modular ducting, piping, wiring are all now common products. In my last visit to Queens Elizabeth hospital project in U.K. last year, they are already using these technology and site management become more easy not to mention the reduction of maintenance and running costs of the buildings.

Cost-In-Use

Very few contractors will consider cost in use because all would consider that this is the developers' problems but I can assure you if the contractor is obliged to take care of the building after completion, the whole strategy and materials selection would be different. In the Queens Elizabeth Hospital project that I mentioned previously the contractor need to operate the hospital for another 30 years, so they are using stainless steel dampers instead of the specified one due to long term maintenance benefits. It is an area for our REDA's friends to consider as the contractors these days had already required to produce so many warranties and guarantees and they might as well maintain the buildings and facilities for the developers at an economical prices.

Outdated Specifications

I think we all agreed a lot of inefficiencies are arisen from outdated specification. Just take one typical example, cement lime sand is always being specified in the BOQ but because of practical reasons only cement sand will be used or now sprayed plaster are being used. I believe Industry as a whole should update our specifications to meet with the updated products and technology otherwise there will be a lot of mismatches that will generate unnecessary wastages.

Multi-Discipline Training

Leading from the above chapter, one would agree, in order to have a successful project, the project leaders, both from the clients, consultants, contractor, subcontractor side must have multi-disciplinary concept. They must all appreciate the others' discipline and cooperate and integrate together and this had become a trend. Try to protect one's discipline would obviously cause mismatch and inefficiencies to the project as a whole.

Wastages On Site

If we have got all the above in place, the construction wastages generated on site should be very minimal but I still have got a suggestion. I think someone should be able to design a compactor to be used on site to compact all those construction waste to a cube or condensed form then it would help to minimise transportation cost, handling charges and areas for disposals as well. I can show all of you an example.

Conclusion

Construction Waste Management is not a single party problem and it requires the joint efforts of all stakeholders to make that work. There are a lot of good practices implemented in this market or in other part of the world and we should all look ahead to bring the best practice together to make Hong Kong construction more competitive.

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建造隨想曲

譚景良

最近就香港建造業的整體質素問題，城中議論紛紛，筆者因此要求會長及幾位副會長在本期會訊中寫點東西，期望能引發討論，以收拋磚引玉之效。筆者原來計劃是用英文寫一點由業主角度看建造質素的文章，但恐讀者要連讀幾篇嚴肅的議論文章，故不拘一格，寫成本文。

廿年前筆者初入行時，曾聽一名地盤管工說的一個故事：兩位平水開錯了樓梯線，發現有錯時模板經已釘好，兩人不敢告知管工但卻即時通知自己師傅，於是師傅於當夜召來幾位徒弟和兩位平水合力將模板較正，因連夜工作時驚動了巡警，管工才得悉該事件。從故事中可見當年建造業從業員的責任感及如何珍惜自己的名聲。建造業要改善質素，恐怕第一步應從建造人員的責任感開始。施工中每個環節如不認眞處理，幾個小錯累積起來便可能成爲大錯。筆者以前曾監督過某屋苑的鋁窗滲水維修工程，鑿開部份滲水的窗底英坭沙察看，竟發現內有報紙、雜誌及更甚者有汽水鋁罐，施工人員職業公德心不足，不但令建商損失金錢及商譽，甚至會危及用者。

香港主要的建造合約，是通過投標制度獲得，雖然部份私人發展商會採用協商或選擇較高標價者批出合約，但政府連同有關機構爲本港最大的建造業合約來源，價低者得成了主要的遊戲規則。近一兩年由於經濟不景氣，許多承建商生意額不足，爲求生存，部份承建商不惜以極低價格投標，由較悲觀之角度看，筆者預測可能有以下三種結果：

一、 有承建商因工程合約虧損而需要重整或甚至結業；

二、 部份承建商「將貨就價」以減虧損，並起用較低資歷之管理人員以節成本，最終導致建築質素下降；

三、 有些承建商會通過合約訴訟謀求利潤，另一方面會藉詞延付或減付分判商的工程費用，最終導致大量工程合約糾紛。

最近數年，由政府推動之下，專業服務如建築設計、工程設計等均經由投標制度下批出，價低者得、惡性競爭已逐漸使專業服務質素下降。由於建築業專業人材的低回報，長遠而言，社會精英將會遠離建築行業，在惡性循環下，建築業質素將陷於沉淪！

長期以來，政府忽視施工管理人員如營造師或工程經理的重要性，從前當工地施工祇要求技術員或工匠管理水平時，營造師的地位自然未能與設計師、工程師等看齊，但這幾十年來，建造業起了質與量的根本變化。其中包括：

一、 工程規模增大

香港近年的屋宇工程，往往以整個屋苑爲單位，工程值以億計，施工人員以千計，施工管理人員之質素直接影響資源效益、安全作業及產品質素。

二、 工程複雜性增加

現今之施工管理人員須要協調爲數衆多之工種及不同之分判商，除傳統之機電分判商外，近年玻璃幕牆應用日廣，最近更增加環保設施、電子及智能大廈設施等等，如非專業施工管理人員，根本難以處理。

三、 科技對工程管理之衝擊

資訊科技的興起正逐漸影響施工管理之模式。資訊科技正廣泛應用於繪圖、資料處理、存檔、成本控制及進度控制等。在可見將來，資訊科技將會更深入和普遍地運用於施工管理。此外，各種日新月異的建築技術及機械亦要通過專業水平的管理人材來掌握及調配應用。

四、 角色的調換

傳統上設計與建造分工的情況已日漸改變，施工管理者往往要充份解讀設計者的原意並提供施工圖則予設計者批核。此外，施工過程中的臨時工種如支撐、模板、工作平台等等亦需要施工管理人員投入大量設計工作。有些情況，原設計更要被修改以符合地盤實際環境。而近年所流行之「設計與建造」更實則地改變設計者與施工人員之組織關係，由傳統之以設計者爲主導轉成以施工者爲主導。施工管理者之重要性由此可見。

近期政府所推行之監工計劃書制度及承建商註册制度無疑會有助改良施工質素，大體方向是對的，惟力度是仍有不足。其實政府對承建商的施工管理人員，無論在資歷要求和投入程度方面，都應訂定更高的標準。另外，政府在監工計劃書中對營造師的忽視一如既往，在制訂政策的思維邏輯中仍是偏重設計專才而忽視施工管理專才的重要性。舉例而言，土木工程師可以在整過屋宇建造過程中擔當最高級別的監督。難道土木工程師比營造師或建造經理更了解屋宇建造中的內、外牆裝飾、門窗安裝、天面防水等等嗎？而營造師在合約管理、作業安全、施工流程和各行業協作方面，比起其他設計專才應該是更爲優勝。

香港建造業改革之路漫長而修遠，主其事者如不勇於求索、打破成規，則難以成功。筆者對建造業之改革有幾點意見。一是行業人員之技能、知識、責任感和歸屬感必須提高。二是香港建造業之結構及體制必須要重整，而改革必須由政府開始，予民方便、廣納專才、更新舊例、申明權責爲政府改革方向。行業架構調整須重視施工管理專才如營造師、工程經理等地位，打破重設計輕建造之舊制度。而業主、設計者及承建者三方應建立伙伴關係，以專業、平等、互利和合約精神爲依歸。

而建造業界必須對社會有所承擔，於建設質素、環境保護、作業安全及行業誠信方面對社會負責。科技發展必然有助於建造行業的改善，善用科技以提高成效、加強建設質素及改善管理效益實爲建造業改革的一個重要方向。

「廣東省第三次建築施工技術交流會」

「廣東省建築施工技術交流會」是國內全省性建築施工行業三年一度的盛事。由主辦單位（廣東省建築委員會及廣東省土木建築學會）精心策劃下，每次交流會都屢創佳績，達到交流匯粹的效果，對國內建築施工技術的水平和能力的發展有很大的推動作用。

「廣東省第三次建築施工技術交流會」於2000年3月30至31日圓滿成功舉辦。香港營造師學會應邀協辦是次交流會，深感榮幸。爲此盛事，本會聯同英國特許建造學會（香港）及金門建築（中國）有限公司組一10人代表團參加是次交流會，進一步加強香港營造界專業人士與廣東同業之交流及交往。

coming cpd events

Jointly organised by the Hong Kong Institute of Builders and the Chartered Institute of Building (Hong Kong).

1. Seminar on "Modern Formwork Construction Methods for Tall Structures & Top Down Construction Method"

Date: 27 June 2000 (Tuesday)

Speaker: Mr. Norman J. Flodine
Ir. Reuben P. K. Chu
Mr. Mok Kwok Ho

2. Topic Site Visit to Guangdong Olympic Stadium (廣東奧林匹克體育場) and Guangzhou Stadium (廣州體育館)

Date: 5 August 2000 (Saturday)

Further details can be obtained by contacting the HKIB s Secretariat Office on 2523 2081.

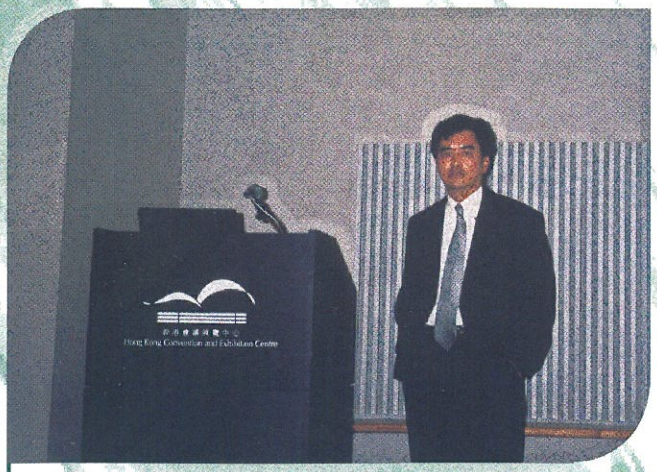
Further CPD Events are being arranged, members are welcome to make suggestions on topics of common interest.

1. **2 December 1999**

Seminar on "Precast Construction for Hong Kong Housing Authority's Projects "

A seminar on the "Precast Construction for Hong Kong Housing Authority's Projects" jointly organised by HKIB & CIOB(HK) was held successfully on 2 December 1999. The seminar aimed to investigate the details of Precast Construction Method from four different perspectives: Developer (HKHA), Designer Engineer, Manufacturer and Main Contractor.

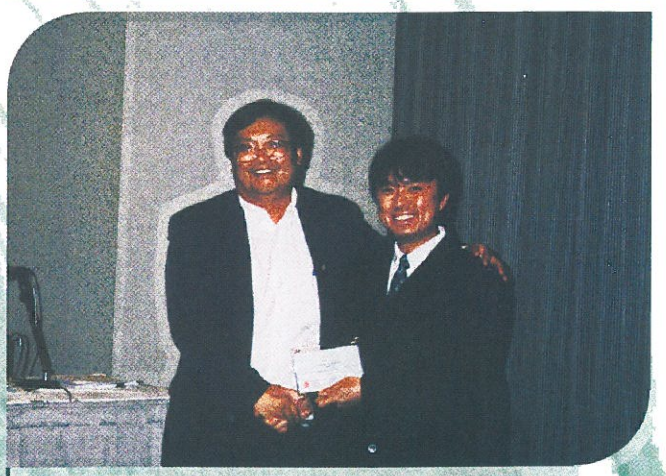
The programme went fluently with the relevant speakers as follow:



Mr. Y. W. Mak - Senior Structural Engineer from Housing Authority - on History of Precast Construction in the Housing Authority's Projects. Application to different Housing Blocks, Future Design and Development.

Ir. Albert Leung - Director of Harris & Sutherland Consulting Engineers - on Engineering Design Concept, Computer Models, Connection Details, etc.

Mr. Y. C. Wong - Technical Manager of Nipon Hume Concrete (HK) Ltd. - on Manufacturing Process & Techniques.



Mr. S. C. Lo - Senior Manager/Works from Sintec Construction Ltd. - on Installation Process, Practical problems encountered on site, etc.

2. **30 January 2000**

Seminar on" Partnering"

A seminar on "Partnering" jointly organised by HKIB & CIOB(HK) was held successfully on 30 January 2000. Mr. David Avery, Mr. Julian Hill and Mr. M. Moynihan presented the seminar.

3. **9 March 2000**

Seminar on" The Art of Sun Tze applied to Construction Industry"

A seminar on "The Art of Sun Tze applied to Construction Industry" jointly organised by HKIB & CIOB(HK) was held on 9 March 2000. Mr. Y. H. Cheung presented the seminar.

4. **28 April 2000**

Seminar on "New Procurement Method of Term Contract in this Millennium "

A seminar on "New Procurement Method of Term Contract in this Millennium" jointly organised by HKIB & CIOB(HK) was held on 28 April 2000. The Seminar presented by R. C. Wilson.

CERTIFICATE IN CONSTRUCTION PROJECT MANAGEMENT / PROFESSIONAL DIPLOMA IN CONSTRUCTION PROJECT MANAGEMENT / PROFESSIONAL DIPLOMA IN FACILITIES MANAGEMENT

This 3-year part-time programme is an award of the School of Professional and Continuing Education, The University of Hong Kong. It enhances the participants' skill training in various aspects of project management practice such as cost control, planning, quality and risk management techniques.

Minimum Entry Requirements (This programme allows dual entries and dual exits)

Year 1

a. English (HKCEE - Syl B) Grade E or equivalent; and
b. (i) holders of a certificate recognized by SPACE, HKU; or
   (ii) be aged 21 or above with at least 2 years relevant working experience.

Year 2

a. English (HKCEE - Syl B) Grade E or equivalent; and
b. (i) holders of a certificate in subject related to the construction industry; or
   (ii) be aged 23 or above with at least 3 years relevant working experience.

The programme will commence in September/October 2000. It is accreditated by the Chartered Institute of Building (Hong Kong Branch) as a Continuing Professional Development Event and students of the programme are eligible to join CIOB as a student member. CIOB members are entitled to a 5% discount of the course fee.

Programme Progression

Holders of the SPACE Professional Diploma in Construction Project Management/Facilities Management are eligible to apply for the following relevant higher degree programmes:

1. MSc in Construction Project Management (Distance Learning) [University of Greenwich]
2. MSc in Real Estate (Distance Learning) [University of Greenwich]
3. MSc in Facilities Management (Distance Learning) [University of Greenwich]
4. Bridging Course to BSc in Building Management [University of Northumbria]

Closing Date for Application: July 14, 2000 (Batch 1) and August 11, 2000 (Batch 2).

POSTGRADUATE DIPLOMA IN CONSTRUCTION LAW AND ARBITRATION

This 1-year part-time programme aims to enhance professionals' expertise and knowledge in construction law and arbitration in order to allow disputes be settled efficiently and effectively. It also targets to broaden and deepen the construction and legal professionals' knowledge in construction law and arbitration.

Minimum Entry Requirements

a. a Bachelor's degree in legal or construction related subjects; or
b. a professional qualification; or
c. an academic qualification of equivalent standard of the University of Hong Kong or equivalent;

AND at least 2 years' relevant working experience.

Accreditation by the Hong Kong Institute of Arbitrators and recognition by the Society of Construction Law Hong Kong are being processed. CPD points from the Law Society of Hong Kong is also being applied for.

Closing Date for Application: July 27, 2000 (Batch 1) and August 11, 2000 (Batch 2).

JOINT INFORMATION SEMINAR	
Date:	**July 22, 2000 (Saturday)**
Venue:	**Room S204, SPACE Learning Centre, 2/F, Admiralty Centre, Harcourt Road, Hong Kong.**
2:30 pm	Certificate in Construction Project Management / Professional Diploma in Construction Project Management/ Professional Diploma in Facilities Management
3:30 pm	Postgraduate Diploma in Construction Law and Arbitration

Please fax this form to 2546 0295 for course details with application forms / reservation on seminar(s):
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Fax: _____ E-mail:_____
Address: _____
_____
☐ Please send me course details with application forms.
☐ I would like to attend seminar on _____.

Please fax this form to 2546 0295 for course details with application forms / reservation on seminar(s):
Course Name: **PgDip in Const Law & Arbitration**
Name:_____ Tel: _____
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Address: _____
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☐ Please send me course details with application forms.
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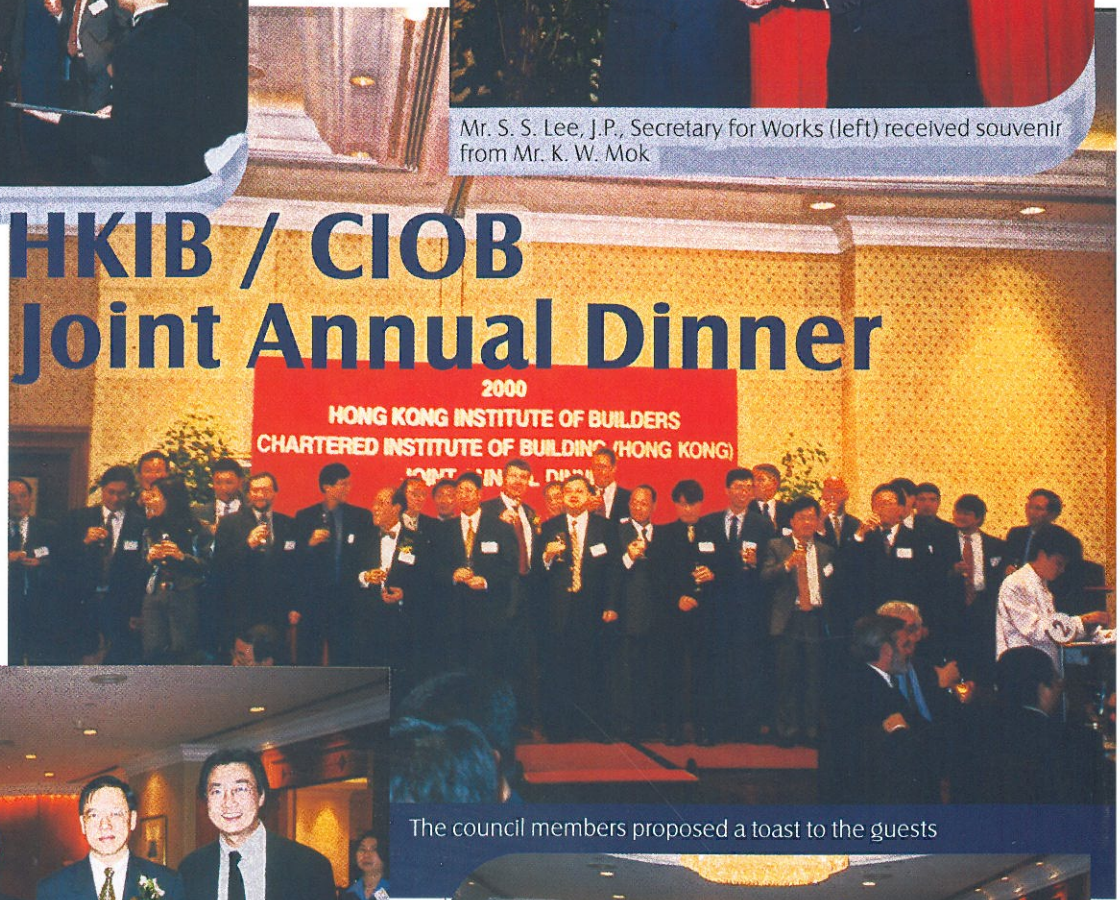
HKIB / CIOB Joint Annual Dinner

Some of the guests photographed at the annual dinner

Mr. S. S. Lee, J.P., Secretary for Works (left) received souvenir from Mr. K. W. Mok

Some guests at the event



The council members proposed a toast to the guests

Mr. K. W. Mok photographed with some guests

Some members photographed togehter

The Hong Kong Institute of Builders/The Chartered Institute of Building (Hong Kong) Joint Annual Dinner was held on 6 April 2000 at JW Marriott Hotel.

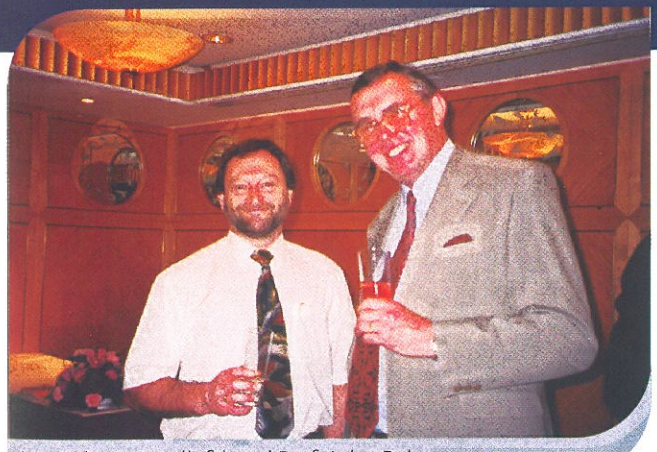
Mr S.S. Lee, J.P., Secretary for Works has kindly consented to be the Guest of Honour for the evening.

Cocktail invited by CIOB(HK)

Mr. Paul Shephard, the president of CIOB UK

(from left) Mr. Albert Tong, Ir. Frederick So, Dr. Evia Wong and Mr. K. L. Tam

Mr. Paul Shepherd (President CIOB UK) and Mr. Chris Blythe (CEO CIOB UK) have visited Hong Kong on 4 May to 6 May 2000. They are treated by CIOB (HK) to a Cocktail with our council members on 4 May 2000 at World Trade Club in World Trade Centre.



Mr. Colin B. Lee (left) and Prof. John Bale

Group picture

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- Lift and escalator
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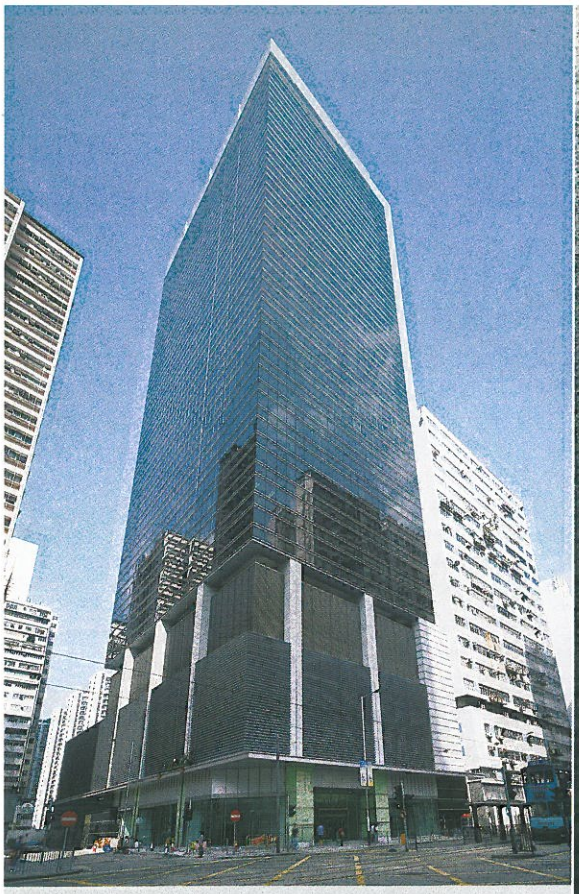
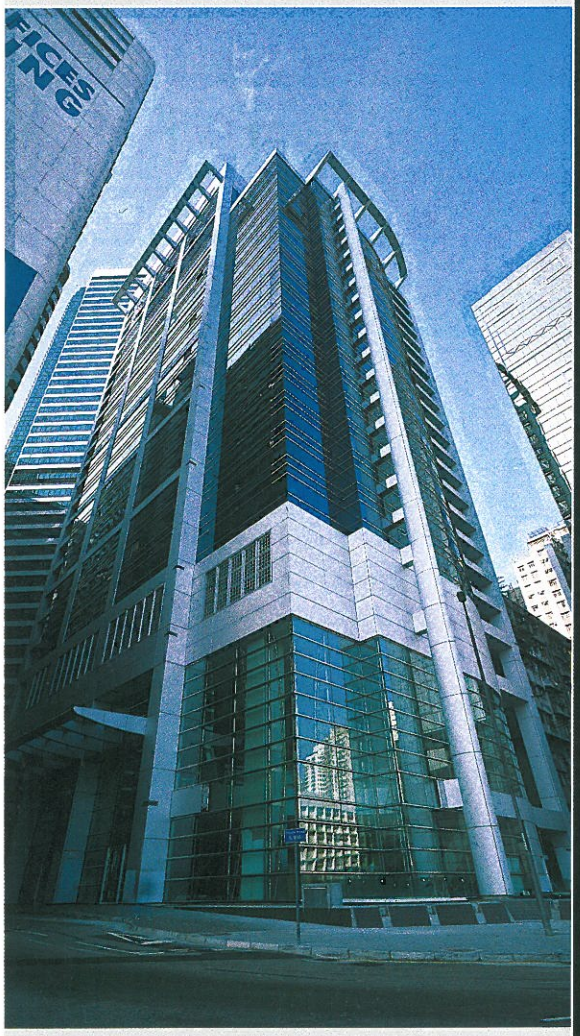


1063 King's Road – an excellent rating from the Centre of Environmental Technology Limited in accordance with the Hong Kong Building Environmental Assessment Method



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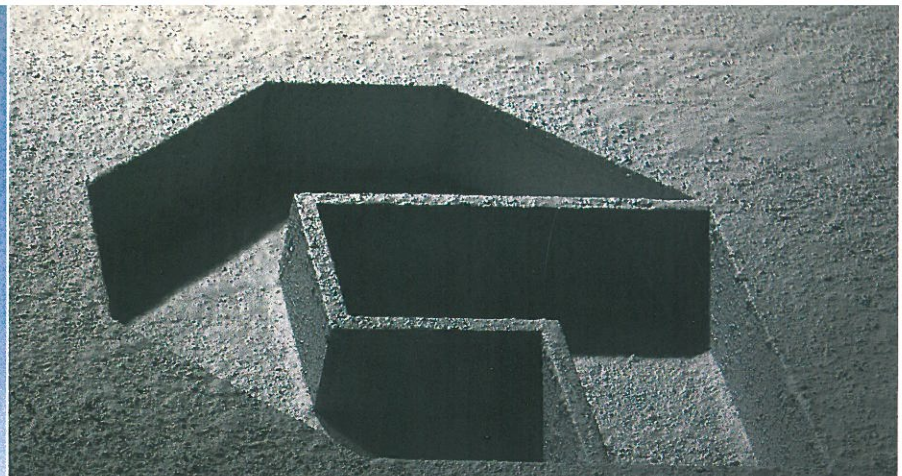

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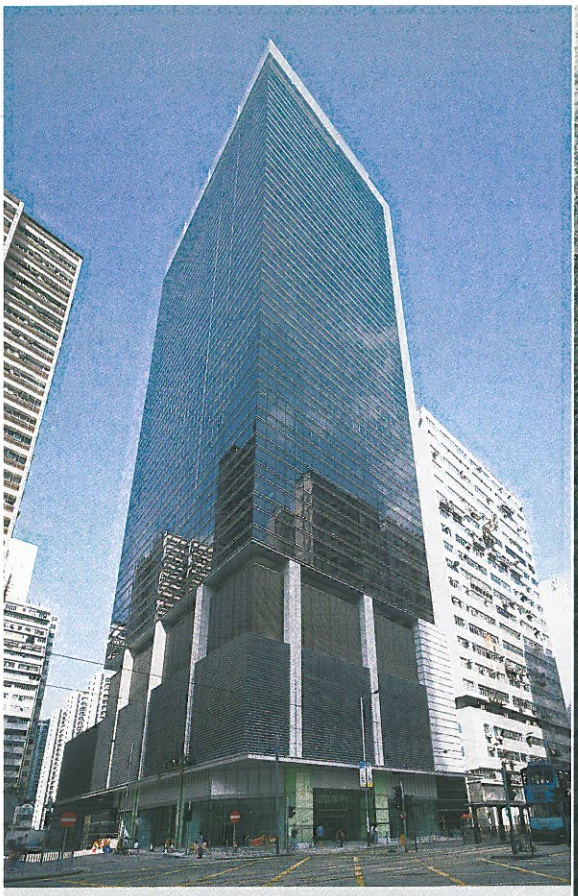

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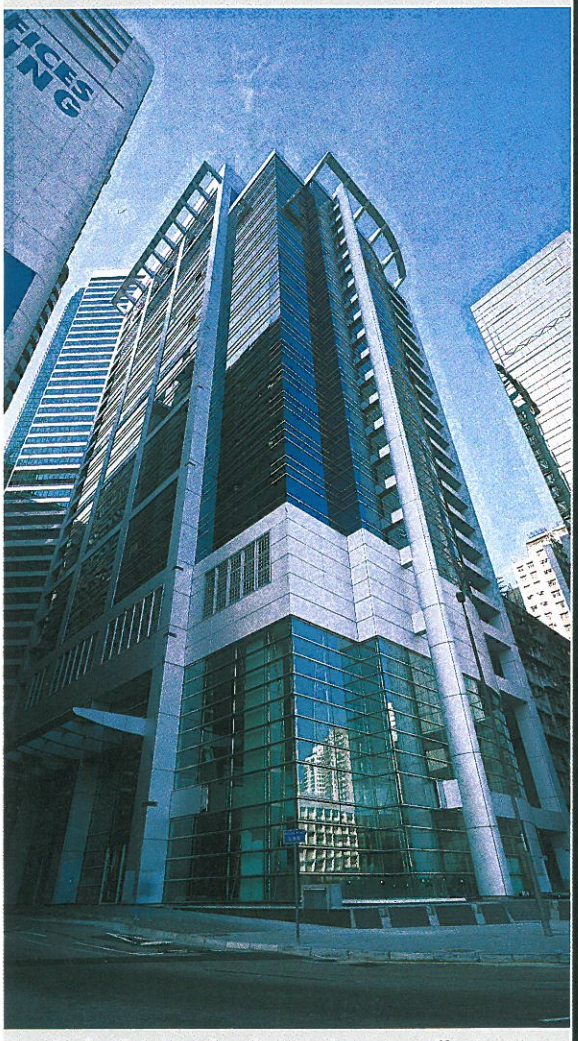

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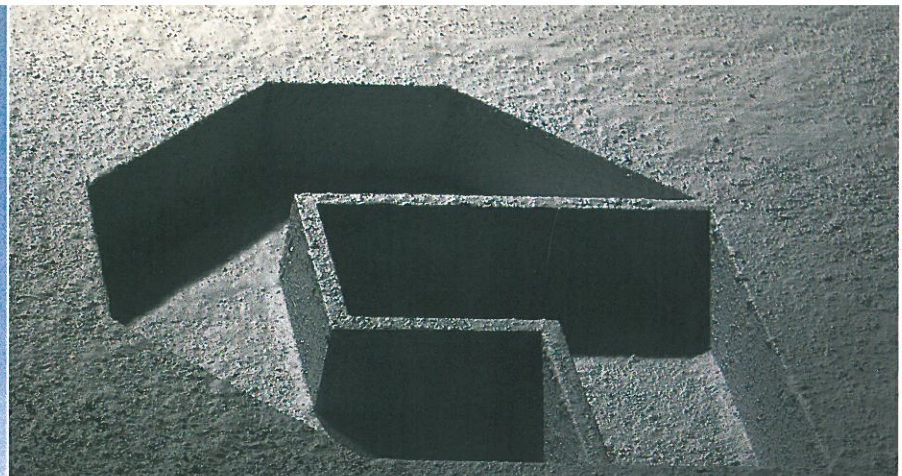

Our Commitment to Safety and Environment

For more than 40 years, Gammon has been helping to build the impressive skyline of Hong Kong and much of the infrastructure and landmark buildings in other Asia.

Gammon has also built something else – a reputation for safety, health and environment. Gammon is proud to have a good safety record in the construction industry, with an incident rate of less than 50 for 1,000 workers, which is very much below the industry figure of 200 plus.

Excellence in all areas of our operations, including safety, health and environment, results in a record of achievement in the construction industry second to none.

金門建築 Gammon

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