MAA Bulletin

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Hsin-Wei Butterfly Bridge, Taiwan

亞新工程顧問（集團）公司
MAA Group Consulting Engineers
BANGKOK BEIJING HONG KONG KAOHSIUNG
PENANG SHANGHAI SINGAPORE TAIPEI

Integrated Solutions For Global Impact

MAA GROUP

MAA Bulletin

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Founded in 1975, **MAA** is a leading Asian engineering and consulting service provider in the East and Southeast Asian region focused in the areas of infrastructure, land resources, environment, buildings, and information technology.

To meet the global needs of both public and private clients, MAA has a full range of engineering capabilities to provide clients with integrated solutions - ranging from conceptual planning, general consultancy, engineering design to project management.

Today, MAA has 700 people with companies in the Greater China Region (Beijing, Hong Kong, Shanghai, Taiwan), Mekong Region (Bangkok), and Southeast Asia Region (Penang, Singapore), creating a close professional network in East/Southeast Asia.

MAA's goal is to establish engineering capability that will meet local needs. Along with the changes in social-economic environment over the years, MAA's business philosophy is to provide professional service that will become an asset to clients with long lasting benefits. **ASSET** represents five key components that underlies MAA's principles of professional service:

Advanced Technology
project **S**afety
client's **S**atisfaction
Economical Solution
Timely Completion

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ISO 9001 CERTIFICATION

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OPENING OF SURVARNBHUMI AIRPORT

Suvarnabhumi Airport, also known as New Bangkok International Airport, was opened for full commercial operation on 28 September 2006, forty years after the initial planning in 1961. The Suvarnabhumi Airport will not only provide additional airport capacity to supplement the existing Bangkok International Airport at Don Muang, but will also position Bangkok as an international aviation hub in Southeast Asia. The airport has the world's tallest control tower (132.2 m), and the world's second largest single building airport terminal (563,000 m²), which is slightly smaller than Hong Kong International Airport (570,000 m²) and larger than South Korea's Incheon International Airport (496,000 m²). Costing an estimated 155 billion baht, the airport has 2 parallel runways (60 m wide, 4000 m and 3700 m long) and two parallel taxiways to accommodate simultaneous departures and arrivals. It has a total of 120 parking bays (51 with contact gates and 69 remote gates), with five of these capable of accommodating the Airbus A380. The first development phase will be capable of handling 45 million passengers and 3 million tonnes of cargo per year. In the future, the new airport is estimated to serve 100 million passengers and 6.40 million tons of cargo annually with two passenger terminals and four runways.

The new airport is located at Nong Ngu Hao ("Cobra Swamp" in Thai), about 30 km to the east of Bangkok Metropolis. The airport site is 8 km long and 4 km wide with a total area of 32,000,000 m² and is originally situated on swampy lands in flat marine deltaic deposit with several crossing canals. Due to the underlying high compressibility and low strength soft marine clay, ground improvement becomes necessary prior to the construction of permanent airport facilities to reduce the maintenance cost. In addition to works commissioned by the airport authorities, more than 45 master's and doctoral thesis researches were carried out by students at the Asian Institute of Technology.

MAA has been involved in the airport development since 1980s and has provided consulting services including engineering feasibility study, detail design and construction supervision for master planning, ground improvement for the whole airport site, landside road system, passenger and cargo terminals, airport maintenance and ground support equipment services facilities, which are summarized below.

Suvarnabhumi Airport

Master Plan and Feasibility Study

- Master Plan –Field Test Embankment Study
- Real Estate Development Master Plan

Detailed Design

- Landside Road System (21 internal roads) including ground improvement
- Air Maintenance Facilities
- Fire and Rescue Stations
- TG Ground Support Equipment Maintenance Building
- TG Cargo Terminal and Mail Commercial Service Buildings
- Independent checking of Terminal Building – Super Truss

Construction Supervision

- Ground Improvement of Airfield Pavements
- Ground Improvement Phase II
- Airfield Pavement including all visual aids facilities
- North Tunnel for Airport Mass Transit System
- Landside Road System
- Airfield Pavement in East and West Supporting Zone
- Ground Improvement of the 1st Midfield Satellite Apron and 3rd Runway

OPENING OF FUSHING NORTH ROAD UNDERPASS

The opening ceremony of the Fushing North Road Underpass

Fushing North Road Underpass

The opening ceremony of the Fushing North Road Underpass took place on 29 November, 2006 by the then Taipei City Mayor Ma Ying–Jeou (馬英九). The Fushing North Road Underpass is a four-lane roadway that passes under and through Taipei's Songshan airport. The project is the first of its kind in the world, where construction took place under a busy and fully operated airport runway. The underpass took ten years to complete, partly due to land use dispute, with a total construction cost of approximately NT$4.6 billion – averaging NT$6.5 million per meter.

MAA used two special construction techniques, Endless Self Advancing Method (ESA) and Piping-roof construction method to successfully control site settlement within 2.5 cm. Total length by ESA method is 101 m (world's third longest tunnel using ESA method); and total excavated soil by ESA method is 17,316 m3 (world second largest amount using ESA method). Total length using Pipe-roofing method is 27,373 m, which is the longest length using such technique. To avoid disturbances to the airport's daily operation, construction was carried out only between 11 pm and 5:30 am. The total length of the road is 592 m, in which 505 m is located within the boundary of the airport. The tunnel cross-section is 7.8 m by 22.2 m. The Public Construction Commission of Taiwan awarded MAA in December 2003 two Golden Achievement Awards for outstanding engineering design and construction supervision. In subsequent years, the project has also received numerous other awards.

MAA HOLDS PROJECT MANAGEMENT CLASSES

MAA was invited by Chung-Hua University President, Dr. Jia-Zhu Chang, to open a course named "Project Management and Case Study" in the Graduate School of Business Administration in September 2006. The curriculum is based on PMBOK Guide of PM1 and case studies of real projects. The courses are taught by MAA Senior Vice President Mr. Steve Hsiang-Liu Wang (王祥騮), Manager Mr. Shao-Kuei Chen (陳紹魁), Project Manager Mr. Ta-Hsing Lee (李大行), Engineer Mr. Yu-Chi Lin (林育祺), Engineer Mr. Shian-Tsair Sheu (許先才), Project Engineer Mr. Gwo-Jenn Liu (劉國鎮), Engineer Mr. San-Yi Fang (方尚義) and Consultant Mr. Shih-Chien Yen (嚴士潛). The purpose of the courses is to translate theories with actual practices in the industry. Cases include Project Management Service Contract, Project Team & Human Resource, Project Scope Management, Project Integration Management and Project Risk Management etc. The course is to last from 16 September, 2006 to 13 January, 2007.

PREMIER SU PRAISES THE LANDMARK BRIDGE IN SOUTHERN TAIWAN – HSIN WEI BUTTERFLY BRIDGE IN MAOLIN NATIONAL SCENIC AREA.

On 17 March 2007, Taiwan's Premier Zhen-Chang Su visited the important transportation project Hsin-Wei Bridge in Maolin National Scenic Area, Kaohsiung County. Accompanied by the Kaohsiung County magistrate Qiu-Xing Yang, Minister of Communications Tsai Dui, Legislators Wen-Zhang Yan, Shao-He Zhong and Director-General of National Expressway Engineering Bureau Lin-Bin Qiu, Premier Su specifically praised the design of the bridge, which upon completion will not only ease traffic in the region but also become a landmark bridge in southern Taiwan and enhance tourist business to adjacent towns along Lao-Nong River.

MAA was commissioned in 2002 by the NEEB to design the bridge that will link National Expressway No. 27 & 28 at Da-jin Village and Hsin Wei Village in Maolin National Scenic Area, Kaohsiung County. Maolin National Scenic Area, established in October 2001, is a long and narrow scenic area that encompasses many major unique features of Taiwan mountains, precipices, waterfalls, natural hot springs, rivers and forests. It also encompasses several Purple Butterfly valleys, where every winter as many as 600,000 Euploeini butterflies take shelter in. It is one of only two mass wintering sites known in the world.

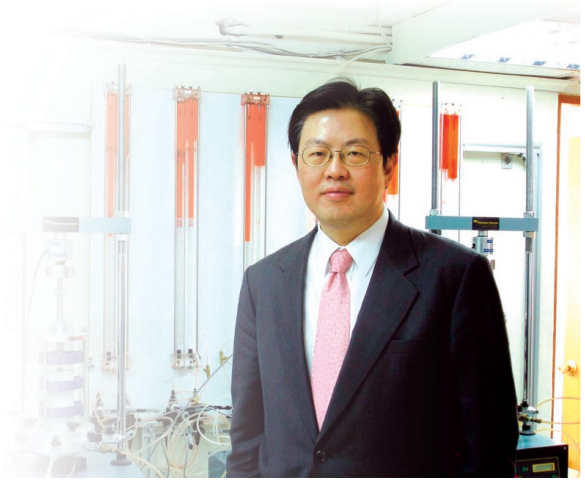
Taiwan – Hsin Wei Butterfly Bridge

To reflect the famous "Purple Butterfly Valleys" in the Maolin National Scenic Area, MAA specifically designed the bridge as a double-arch bridge (with a span of 145 meter) to reflect the image of Euploeini purple butterfly. The total length of the two-way link is 2,320 meter long, in which the bridge section is 1,735 meter in length. Additional passageway are designed for walking and bicycles. The total construction cost is NTD 1,790,000,000. The construction began on 15 August 2006 and will be completed in April 2009.

DR. CHUNG-TIEN CHIN - ELECTED AS PRESIDENT OF SOUTH- EAST ASIAN GEOTECHNICAL SOCIETY 2007-2010.

ABOUT DR. CHUNG-TIEN CHIN

In May 2007, Dr. Chung-Tien Chin was elected as President of Southeast Asian Geotechnical Society (SEAGS) for the period of 2007 to 2010. Dr. Chin is currently Senior Vice President of MAA Taiwan. He received his B.S.C.E degree from National Taiwan University in 1980 and Ph.D. degree from Massachusetts Institute of Technology in 1986. Dr. Chin is a Registered Professional Engineer in Civil Engineering in the R.O.C. He received the Outstanding Young Engineer award in 1991 from the Chinese Institute of Engineers and is listed in Who's Who in Science and Engineering since 1996. He has published/co-published over 70 technical papers for various conferences, technical journals, and seminars.



Dr. Chung-Tien Chin

During his service at MAA from 1986-2000 and 2004-current, Dr. Chin had been actively involved in many major building, highway, airport, MRT, and high speed rail projects in Taiwan, Mainland China, and Southeast Asia. Some specific examples include Taipei MRT's Geotechnical Engineering Specialist Consultant, Stages II & III, study of ground subsidence in Taiwan, geotechnical design of 17km Binh Thuan Roadway south of Ho Chi Minn City, supervision of ground improvement works of Bangkok-Chonburi Highway construction, and design of landside road systems of New Bangkok International Airport, geotechnical works of detailed design of Tainan-Kaohsiung section of the High Speed Rail in Taiwan, and geological hazardous maps of Taiwan. He has also successfully applied techniques of remote sensing, Global Positioning System and Geographic Information System to tackle geotechnical and geoenvironmental problems, which led to the formation of Geomatics Department at MAA.

He also has been a member of many engineering societies, including International Soceity for Soil Mechanics and Geotechnical Engineering, American Society of Civil Engineers, Chinese Instistue of Engineers, Chinese Institute of Civil and Hydraulic Engineering, Society of Theorectical and Applied Mechanics, Taiwan Geotechnical Society and Southeast Asian Geotechnical Society.

ABOUT SEAGS

(SOURCE FROM WWW.SEAGS.AIT.AC.TH/ABOUTUS.HTML)

The Southeast Asian Geotechnical Society was founded in 1967 by Dr. Za-Chieh Moh as a Regional Society encompassing countries or territories in Southeast Asia, not full fledged in the National Societies of the then International Society for Soil Mechanics and Foundation Engineering (ISSMFE). At that time, the Society was called the Southeast Asian Society of Soil Engineering (SEASSE). The countries which originally composed this Regional Society were Thailand, Malaysia, Singapore, Philippines, Indonesia, Hong Kong, and Taiwan with members from Korea, Vietnam, Nepal, Bangladesh, Burma and Pakistan. It started with 250 members. In 1967, there were only a handful of geotechnical engineers in the above countries with postgraduate education and especially doctoral degrees. During the period 1967 to date, exponential growth has taken place in the profession and the number of individuals with doctoral degrees and post-graduate education.

As each country began to develop, they formed their own National Societies. At the present, there are National Societies in Indonesia, Korea, Vietnam, Pakistan, Bangladesh, Nepal and Philippines. However, there are still many members from these countries who retain their membership in SEAGS. Additionally,

the Southeast Asia is very dynamic in its development and as such, many Geotechnical Engineers and Companies began to have interest in the region and many of them worked in Southeast Asia. Thus, SEAGS have nearly a third of its members coming from Japan, Australia, New Zealand, Germany, France, U.K., Norway, Sweden, Switzerland, Canada, U.S.A. and the former countries in which there were no National Societies in Asia. Over the years, Thailand, Malaysia, Singapore, and Taiwan continue to remain as full partners with the Society.

Currently, SEAGS covers Thailand, Malaysia, Singapore, and Taiwan. It has now a membership of over 260. Its members are very active in soil mechanics and foundation engineering, engineering geology, rock mechanics, geoenvironmental engineering, and geosynthetic engineering. It is affiliated with the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), the International Association of Engineering Geology (IAEG), and the International Society for Rock Mechanics (ISRM).The Society arranges regular Southeast Asian Conferences once in two to three years, publishes a Journal and prepares Newsletters as well as liase with ISSMFE.

The past Presidents of the Society were:

Dr. Za-Chieh Moh (1967 - 1973)
Prof. Chin Fung Kee (1973 - 1975)
Prof. Peter Lumb (1975 - 1977)
Dr. Tan Swan Beng (1977 - 1980)
Dr. E. W. Brand (1980 - 1983)
Dr. Ting Wei Hui (1983 - 1985)
Prof. A. S. Balasubramaniam (1985 - 1987)
Prof. Seng Lip Lee (1987 - 1990)
Dr. Chin Der Ou (1990 - 1993)
Dr. Ooi Teik Aun (1993 - 1996)
Dr. Surachat Sambhandharaksa (1996 - 1998)
Dr. John C.C. Li (1998 - 2001)
Prof. Kwet Yew Yong (2001 – 2007)

The past Secretary-General of the Society were:

Dr. Robert Mackey (1967 - 1970)
Dr. John Nelson (1970 - 1973)
Prof. A.S. Balasubramaniam (1972 - 2000)
Prof. D.T. Bergado (2000 - Present)

PROJECTS 1st April 2006 – 30th April 2007

FOUNDATION CONSULTANT FOR HIGH-RISE BUILDINGS IN SINGAPORE

MAA Singapore has been actively involved in the geotechnical engineering works in Singapore since 1979 and has been appointed as the foundation consultant/designer for many high-rise buildings supported by using various types of foundation systems, (Raft, Raymond Piles, RC spun Piles, Steel H-piles, Steel Pipe Piles, Cast in-situ Concrete Bored Piles, Barrettes and Caissons, etc.) over complicated geological formations ranging from very soft Marine Clay to very hard Boulderly Clay.

As the foundation consultant/designer for the high-rise building projects, MAA provides comprehensive geotechnical inputs in the ground interpretation which are essential in the selection of suitable / economical foundation system, analysis / evaluation of pile bearing capacity, pile load test results and possible construction difficulties, supervision of pile installation works and pile loading tests, etc.

Major high-rise building projects undertaken by MAA as the foundation consultant/designer include :

- ***Marine Square***
- ***Chartered Bank***
- ***The Gateway***
- ***Glass Hotel***
- ***Bugis Junction***
- ***The Exchange***
- ***Coasta Rhu***
- ***Trellis Towers***
- ***MayBank***
- ***Cathay Building***
- ***SeaView***
- ***ICON***
- ***City Square***
- ***One Raffles Quay***
- ***Sail @ Marine Bay***
- ***One Newton Road Development***
- ***The new Business & Financial Center***

PROPOSED RESORTS WORLD AT SENTOSA

Proposed Resorts World at Sentosa

The proposed development, which occupies a land parcel of 49.0 ha., consists of Universal Studio Singapore theme park, Quest Marine Life Park and Equarius Water Park, thematic hotel, spa villas, ballroom and meeting rooms, international showroom, maritime museum, casino, retails, festive plaza and waterfront amphitheatre. The development involves the construction of a two-level basements, which measures approximately 375m × 818m (B1) & 353m × 395m (B2) in plan. The substructure works will incorporate the construction of various structures above the basement level such as thematic hotel, International showroom, casino, maritime museum, thematic amusement park, retail shops, restaurant and others within the development. MAA was engaged by Resorts Worlds of Sentosa Pte. Ltd. to provide with the Geotechnical Investigation consisting of drilling of 106 nos. of land based boreholes and 24 nos. offshore boreholes, laboratory soil tests and field tests over the reclaimed land and Jurong formation with various compositions ranging from residual soil to decomposed Siltstone and Sandstone. The service period began in January 2007 and ended in May 2007.

PROPOSED COMMERCIAL DEVELOPMENT IN CITY CENTER, SINGAPORE

Proposed Commercial Development at Orchard Road / Killiney Road

MAA was engaged by the Orchard Central Pte Ltd. as geotechnical consultant to the proposed Commercial Development at Orchard Road / Killiney Road (Orchard Central) in Singapore. The proposed development comprises a 10-storey shopping mall with 2 basements and a subterranean shopping mall incorporating pedestrian walkway. MAA provided geotechnical study consisting of soil investigation works with regard to the foundation system and excavation work of the proposed commercial development to be built adjacent to the existing Somerset MRT Station / Stanford Canal at the prime shopping district of Singapore, i.e. Orchard Road where restricted site condition and complicated geological formation consisting of erratic Granite bedding are involved in the construction works. The service period began in March 2006 and ended in August 2006.

PROPOSED ERECTION OF A 6-STOREY OFFICE DEVELOPMENT WITH ONE BASEMENT CARPARK AT TELOK BLANGAH ROAD – HF PLACE

HF Place

HF Place is a built-to-suit office project that will be developed at the Harbour Front Office Park. A 6-storey Office Development with one basement at Telok Blangah Road is one of the projects. With a net lettable space of 200,000 sq ft, this new office building will feature modern office requirements like column free space and large floor plates. Harbour Front Pte. Ltd. engaged MAA to provide geotechnical study consisting of soil investigation works with regard to the foundation system and excavation work of the proposed office development to be built directly on the tunnel boxes of the existing North–East MRT Line (NEL) and in close proximity to the proposed Circle Line MRT structure (CCL). The service period began in February 2006 and ended in June 2006.

PROPOSED CARLTON HOTEL NEW WING DEVELOPMENT AT BRAS BASAH ROAD / NORTH BRIDGE ROAD

Carlton Properties (Singapore) Pte Ltd. engaged MAA to provide geotechnical services to the proposed Carlton Hotel New Wing Development at Bras Basah Road / North Bridge Road in Singapore. The proposed development comprises a 16-storey commercial / hotel development with one basement to be erected next to the existing Carlton Hotel. MAA's geotechnical study consisting of soil investigation works with regard to the foundation system and excavation work of the proposed hotel extension to be built adjacent to the underground tunnels of MRT Circle Lines (C825) at Bras Basah Road / North Bridge Road where restricted site condition and complicated geological formation consisting of Bouldery Clay are involved.The service period began in January 2006 and ended in July 2006.

Carlton Hotel

PERMANENT STABILIZATION TO FAILED SLOPE AT BIZ 2 BUILDING, NATIONAL UNIVERSITY OF SINGAPORE

National University of Singapore

A slip failure occurred on 11 January 2006 in a 19m high existing fill slope ,which was built in early 80's during the construction of Business School Block 2 (Biz 2), National University of Singapore (NUS). The failure occurred after a wet weather period experienced since December 2005 and a prolonged rain storm on 10 January 2006. The major slip extended from the mid berm between RL 122m and RL 123m to the toe of slope causing soil heave and damage to the open drain along Car Park 11. Minor slip was observed within the upper slope above ~RL 123 m, resulting into a steep soil face right beside Biz 2 Building. MAA was engaged by NUS to study the slip failure and to provide a permanent stabilization to the failed slope. The scope of services include case study and report on causes of slope failure, temporary and permanent slope stabilization design and consultancy services during construction stage. The project began in April 2006 and ended in November 2006.

BANGKOK MRT NETWORK EXTENSION AND REMAINING NEW ROUTES

Bangkok Mass Rapid Transit Extension

MAA Thailand is part of the consortium that has been selected to provide professional services for the Mass Rapid Transit Network Extension and Remaining New Line projects for the Mass Rapid Transit Authority of Thailand (MRTA). The consortium performed feasibility studies and design services in corporation with MRTA and related public agencies for 3 lines totaling 71 km in distance. They are:

- **Blue Line:** *Northbound Bang Sue – Thaphra (13 km) and Southbound Hua Lamphong – Bang Khea (14 km);*
- **Orange Line:** *extension of an original route Bang Kapi*
  - *Samsen (20 km) and a new route Samsen*
  - *Bang Bumru (4 km); and*
- **Purple Line:** *extension of an original route Samsen*
  - *Ratburana (15km) and a new route Bang Sue*
  - *Samsen (5 km).*

MRT-Blue Line Map

MAA was responsible for managing and monitoring project activities, coordination of the various design elements and disciplines related to the successful functioning of the MRT system, development of the route alignment, development of preliminary design, cost estimates, and design/built contract documents preparation. The project started in July 2005 and ended in April 2007.

BANGKOK TRANSIT SYSTEM (BTS) EXTENSION (SUKHUMVIT LINE SECTION 1)

Bangkok Transit System

Bangkok Mass Transit System (BTS) or Skytrain is the elevated metro system in Bangkok, Thailand, operated by the Bangkok Mass Transit System Public Company Limited (BTSC) under a concession granted by the Bangkok Metropolitan Administration (BMA). The BMA has a policy to extend the skytrain system from Sukhumvit 85 to a suburb of Bangkok by ending at Sukhumvit 107 in order to reduce traffic congestions and to improve living conditions to the residents in Samrong and Onnut areas. With a total length of about 5.25 km., the project route includes the construction of elevated structure for Skytrain, five elevated stations and installation of track system. MAA was engaged by the BMA to provide detailed design, and on-site construction supervision, including preparation of construction drawings, specifications and construction contracts, approval of construction process, monitoring of shop drawing submission schedule and construction progress. The service period began in January 2007 and will end in June 2009.

BTS Extension Map

CAMBODIA'S PHNOM PENH INTERNATIONAL AIRPORT – NEW PARALLEL TAXIWAY AND NEW APRON EXTENSION

Cambodia's Phnom Penh International Airport

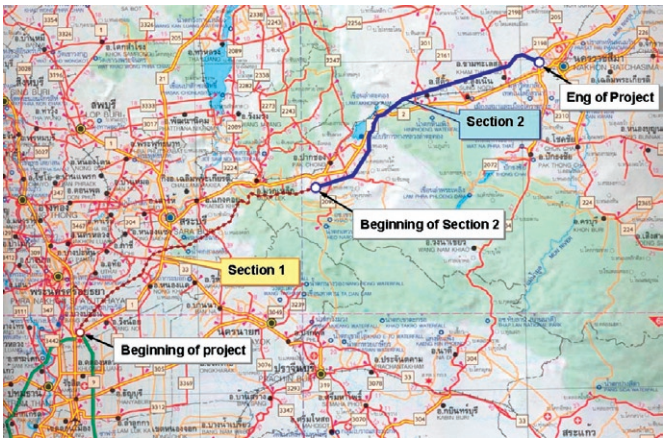
To meet the growing demand of incoming flights to Cambodia, Phnom Penh International Airport has decided to construct a new parallel taxiway, widen 2 existing taxiways, extend 2 more apron stands and widen an existing main apron to accommodate perpendicular parking to the terminal for category 4E aircrafts. MAA was engaged by Societe Concessionnaire De l' Aeroports (SCA) in July 2006 to provide preliminary design, detailed design, tender review and technical support during construction. The service is estimated to end in July 2007.

SITE SURVEY AND ENVIRONMENTAL IMPACT ASSESSMENT STUDY FOR THE DESIGN OF HIGHWAY ALONG THE WEST COAST

Site Survey and Environmental Impact Assessment Study for the Design of Highway Along the West Coast

MAA Thailand was engaged by the Department of Rural Roads, Thailand to conduct Site Survey and Environmental Impact Assessment Study for the Design of Highway Along the West Coast. The highway links Petchaburi, Prachub Kereekhan, Chumporn and Ranong at a total cost of Baht 6,500 million. The purpose of this study was to identify tourist spots, design issues and to develop a 620 km of highway route that will run along the west coast of the Thailand gulf. The project includes a 2-traffic lane asphalt paving with 2m wide shoulder on both sides that are aesthetically compatible with the surrounding, widening of existing bridge to accommodate the new road, and provide road safety facilities such as traffic sign boards and street lightings. Other tasks include road rest area, walkway, scenery points, and landscape improvements and design. The service period began in July 2006 and ended in March 2007.

HIGHWAY NO.6 - BANG PA IN ROUTE TO NAKORNRAT SRIMA SECTION 2



Highway No. 6 Connecting between Bang Pa In route and Nakornrat Srima Section 2

MAA Thailand was engaged by the Department of Highways, Thailand, for the design of Highway No. 6 connecting Bang Pa In route and Nakornrat Srima Section 2. MAA started the project in September 2006 with a 1-year duration. The highway will be designed with a 6-10 lane motor way to improve the traffic flow and land access to Ayutthaya and Nakornrat Srima provinces. The total cost is Baht 12,500 million. The project includes a 83 km at-grade road, a 14 km elevated road, an elevated interchange, and enter/exit ramps. Other associated highway facilities includes toll collection system, control buildings, services area and rest area.

HOU-BI ULTRA-HIGH VOLTAGE TRANSFORMATION STATION

Hou-Bi Ultra-High Voltage Transformation Station

The project, located in Tainan, is a part of the "significant national power transportation and distribution construction projects" in Taiwan. The area of the site is 7.9 hectares and is located at the land originally owned by Taiwan Sugar Corporation. MAA Taiwan is engaged by Taiwan Power Company to provide detail designs of civil, structure, as well as water and soil conservation works. The design works commenced in April 2006, and will be completed in August 2007. The total design period is 17 months. Construction works will be carried out from August 2007 to November 2008.

161 KV EXTRA-HIGH VOLTAGE POWER CABLE TRACE IN HSIN-CHU INDUSTRIAL PARK

Hsin-Chu Industrial Park area

The Taiwan Power Company contract is a Turnkey project to improve Hsin-Chu Industrial Park area's power supplying capacity and quality. China Wire & Cable Corporation, Ltd. and MAA Taiwan are engaged to provide the design and construction of 161 KV Extra-High Voltage Power Cable Trace's civil and wire cable manufacturing, system setting & testing works. Covering a total length of 10,150 meters, the project is divided into four stages including site investigation, civil designing & electric cable system manufacturing, constructing and system testing. Services started in April 2006 and is expected to finish in the beginning of 2009.

BASIC DATA INVESTIGATION AND SAFETY VISUAL INPECTION ON BRIDGES IN YILAN COUNTY

Bridges in Yilan County

MAA Taiwan was engaged by the Yilan County Government for the basic data investigation and visual inspection on 163 bridges in Yilan County. The 163 bridges are scattered in 12 Townships/Cities in Yilan County with a total length of 9,584 meters. The project began in September 2006 and ended in November 2006. The contract includes investigation of the bridges' basic data, visual inspection of the bridges' current conditions, and update of bridge information into the "Taiwan Bridge Management System", and publication of the bridges basic data and their current conditions. In addition, MAA will stand by for on call inspection of these bridges after any event of earthquake or typhoon and MAA will advice on the allowable depth of scouring around pier foundation, if they are exposed to air.

NEI-HU SOLID WASTE DUMPSITE CLEAN UP

Nei-Hu Solid Waste Dumpsite Clean Up

MAA Taiwan was engaged by the Department of Environmental Protection of Taipei City Government for the detail design of the turnkey project for Nei-Hu Solid Waste Dumpsite Clean Up. The Municipal Solid Waste Landfill is located along the Keelung River in Lu Zhou Li, Nei-Hu area, Taipei. It has been in operation from 1960 to 1985. The dumped wastes occupied a substantial part of the river, causing a reduction of the river section as well as contaminating the river water.

An estimated 2,230,000 cubic meters of waste and soil will be excavated top-down and removed from the 15 hectare area. The waste will be treated on site and sorted by trommel screen into recyclable, masonry and combustible materials. The waste treatment site will be completed in 2 phases. MAA's services also include: earthwork engineering, waste sorting plant and equipment selection, bank protection works of Keelung River, environmental monitoring, facility management, safety, maintenance plan, and application for authorization and permits. The service period began in September 2006 and will end in January 2011.

SAFETY INSPECTION AND RETROFIT DESIGN & CONSTRUCTION SUPERVISION OF GANYUAN BRIDGE

Ganyuan Bridge

Safety Inspection

Ganyuan Bridge crosses Dahan River, connecting Shulin town and Sanxia city in Taipei County. The superstructures are simple supported PCI girders, and the substructures are oval-shaped piers with caisson type foundations. The bridge was expanded in the northern section to connect with the ramps of the road along northern bank in 2003. The southern section is scheduled to connect with the southern existing road. Over the years, the cassion foundations are being exposed due to river scouring, with the deepest exposure of 7 meters as well as concrete cracks, delamination, and rebar corrosions. MAA was engaged by the Taipei County Government to provide visual inspections, nondestructive testings, bearing capacity evaluations, seismic capacity evaluations, scouring evaluations, retrofit designs and retrofit construction supervision. The project began in October 2006 and will end in November 2007.

PROFESSIONAL ACTIVITIES

Professional Awards / Honors

KAOHSIUNG RAPID TRANSIT SYSTEM SUPERVISION AWARD

To enhance the construction quality of deep excavations for underground stations and shielded tunnels of the Kaohsiung Rapid Transit System and to maximize safety measures to the nearby residents and their properties, the Kaohsiung Rapid Transit Corporation (KRTC) established a "parallel supervision" system in addition to the existing supervision system. The parallel supervision includes on-site construction examination and assistance to the contractors to ensure construction safety.

Kaohsiung Rapid Transit System Supervision Award

On 23 December, 2005 KRTC entrusted MAA to send an experienced team to conduct the parallel supervision for Contracts CO1 and CO4. Contract CO1 covers Hsitzuwan Station located at the Kaohsiung Harbor (which had suffered serious accidents), the LUO-03 shield tunnels that pass through harbor channel, and the cross passageway on the sides of the channel. Contract CO4 includes the LUO-016 shield tunnels and the cross passageway of the LUO-22 shield tunnels. The high-risk construction works of the project was successfully completed on 30 June, 2006. The KRTC presented an award to MAA Taiwan to express its gratitude for the attentive supervisions.

KE-YA BOULEVARD PROJECT AWARD

Ke-Ya Boulevard Project Award

To meet future traffic demand in Hsinchu Living District, the Hsinchu City Government initiated a plan to build the Ke-Ya streamside road (Ke-Ya Boulevard). MAA Taiwan was engaged to provide planning and construction supervision for the project. The Ke-Ya Boulevard construction in Hsin Chu City began in March 2003 and ended as scheduled in August 2006. Ke-Ya Boulevard includes a bridge, tunnel, and underground passageway connecting the town center and the Jaidong Interchange of the National Highway No.3. The total length is 1760 m long, in which the flat section is 974 m long, the bridge section is 590 m long and underpass section is 196 m long. The roadway width is 30 m including an express lane, motorcycle lane, sidewalk and cyclewalk. MAA Chairman, Dr. Za-Lee Moh and the RSEA Engineering Corp. Chairman Jing-Peng Shen attended the opening ceremony during which Hsin-Chu Mayor Zheng-Ze Lin (林政則) awarded both parties for the on schedule completion of the project.

PRESIDENT DR. ZA-CHIEH MOH WAS HONORED BY SEVERAL INTERNATIONAL WHO'S WHO BIBLIOGRAPHIES

Dr. Za-Chieh Moh, President of MAA Group was honored by a number of international Who's Who bibliographies, including the 24th Edition of Marquis Who's Who in the World (2007), 9th Edition of Marquis Who's Who in Science and Engineering (2006-07), 1st Edition Marquis Who's Who in Asia (2007), 1st Editing Rifacimento's Asian Admirable Achievers (2007), and 1st Editor of Rifacimento's Afro-Asian Who's Who (2007).

Professional Registration

- SINGAPORE

After the much-publicized Nicoll Highway accidents, the Singapore government, in view of the importance of geotechnical engineering in underground and deep executive work, established a new Register of Specialist Professional Engineers in Geotechnical Engineering in early 2006. Dr. Za-Chieh Moh has been registered in the first batch of the specialist P.E. (Geotechnical)

-APEC ENGINEER

In two years after the establishment of the Chinese Taipei APEC Engineer Monitoring Committee, a total of 37 professional engineers in Chinese Taipei have been qualified to be listed in the Register. Among them, 7 are from MAA, including Dr. Za-Lee Moh (Civil, Structural), Dr. Za-Chieh Moh (Civil), Dr. Richard N. Huang (Civil), Dr. Chung-Tien Chin (Civil), Mr. Steve H.L. Wang (Civil), Mr. Chien-Hong Wang (Geotechnical) and Mr. Tung-Lih Yen (Geotechnical).

-TAIWAN

The Chinese Association of Engineering Consultants in Taipei held the election of the 2nd Board of Directors in December 2006, Dr. Za-Chieh Moh was elected as a Vice President and Dr. Za-Lee Moh as a Supervisior from year 2007 to 2010.

In the election of the 3rd Board of Directors of the Taipei Federation of Engineering Consultants in December 2006, Mr. Steve H.L. Wang was elected as the Executive Supervisor. In October 2007, Dr. Za-Chieh Moh was elected as an Executive Supervisor of the 14th Board of Directors of the Arbitration Association of R.O.C.

International Meetings

16TH SEAGC CONFERENCE

SEAGC Conference

The 16th Southeast Asian Geotechnical Conference was held in Kuala Lumpur, Malaysia from 8th to 11th May 2007. Dr. Za Chieh Moh was invited to deliver the Opening Keynote Address, entitled "Lessons Learned from Recent MRT Construction Failures in Asia Pacific".

Dr. Chung-Tien Chin, Senior Vice President of MAA Taiwan, delivered a special lecture entitled "Establishment of Environmental Geology Database in Taiwan". In addition, two technical papers were presented by Dr. Richard N. Huang, Senior Vice President MAA Taiwan. The conference was organized by the Institution of Engineers Malaysia, the Public Works Department Malaysia and the Southeast Asian Geotechnical Society.

SYMPOSIUM ON SUVARNABHUMI AIRPORT

Dr. Za-Chieh Moh was invited to give a keynote lecture entitled "Geotechnical History of the Development of Suvarnabhumi International Airport" at the two-day International Symposium on Geotechnical Aspects of the Second Bangkok International Airport in Samut Prakarn Province, Thailand. The symposium was organized the Engineering Institute of Thailand and the Southeast Asian Geotechnical Society.

CROSS STRAIT WORKSHOP: GEOTECHNICAL ENGINEERING RISK MANAGEMENT

"Risk" can be described as a combination of consequence and associated probability of an event whose occurrence can potentially deviate accomplishment of the project goal. "Risk Management" constitutes a systematic process that is designed to effectively manage those events and associated adverse consequences. The primary components of risk management include risk identification, risk assessment, and risk control.

Cross Strait Workshop

"Geotechnical Engineering" includes foundation engineering, ground excavation, tunneling, slope engineering, soil-water conservation engineering, and so on. The primary material coped with in geotechnical engineering consists of natural substances of soil, rock, and water. The properties of these material and geological structures vary with time and environment in which they are fabricated such as climate, hydrology, and landform. The resulting uncertainties existing in subsurface where engineered structures are founded and surrounded amply the risks involved in engineering design and construction. These risks must therefore be assessed and managed. The construction of Taipei Rapid Transit System, for instance, had engaged MAA as Geotechnical Engineering Specialty Consultants (GESC) to provide services of forewarning and management of underground risk. These days, due to latest development in theory and technology the risk management can be implemented with systematic knowledge based methodology and scientific analysis and assessment. The risk in geotechnical engineering uncertainties can be further reduced.

On 1 November 2006, Tamkang University and MAA sponsored the Cross-Strait Workshop on Geotechnical Engineering Risk Management. The co-sponsors of the event are Civil Engineering Technology Science and Research & Development Foundation, and Professional Geotechnical Engineers Association, Taipei. Guest speakers include Dr. Victor Qi-Xin Li (The Hong Kong Geotechnical Society), Mr. Yung-Ming Tsai (Chairman of Risk Management Society of Taiwan),

Mr. Huang Fu-Kuo (Assistant Professor, College of Construction, Tamkang University), Dr. Richard Hwang (Senior Vice President, MAA), Mr. Ting-Chiun Su (Geotechnical Department Manager, MAA), and Dr. Daniel Ta-Chun Yao (Senior Geotechnical Engineer, MAA). The event was chaired by Dr. Der-Wen Chang (Chairman of the Geotechnical Department, Tamkang University), Mr. Chia-Chun Tang (Chairman of the Professional Geotechnical Engineers Association, Taipei) and Dr. Chung-Tien Chin (Senior Vice President, MAA). This workshop had in-depth presentations on the risk and its assessment as well as management associated with geotechnical engineering. Engineering insurers and underwriters also attended and shared their insights on risk assessment and decision-making process. The knowledge, experience, and issues regarding engineering risk management were extensively exchanged and discussed among geotechnical engineering professionals from various areas in this workshop.

4TH CROSS-STRAIT STRUCTURAL AND GEOTECHNICAL ENGINEERING CONFERENCE

Cross-Strait Structural and Geotechnical Conference

MAA's Dr. Chung-Tien Chin and Mr. Szu-Ming Kang and Zhe-Jiang University Professors.

The 4th Cross-Strait Structural and Geotechnical Conference was held in Hangzhou from 24th to 26th April 2007. Dr. Za-Chieh Moh, Dr. Chung-Tien Chin and Mr. Szu-Ming Kang attended the conference. Dr.Chin and Dr. Kang presented three papers related to tunnel construction for MRT systems. The conference was organized by the Zhe-Jiang University, China.

TECHNICAL PUBLICATIONS

Hsiung, K.I., Hsieh, C.H. and Wu, T.E. (2006), "Case Study of Applying Value Engineering Analysis Method in Metropolitan Area Rapid Transit System Xin Yi Line Project Design Lot DR148", *Rapid Transit Systems & Technology,* No. 34, pp. 77-98, Taiwan

Hwang, R.N. (2006), "Risk Management for MRT Constructions – From the Insurers' Point of View", *Workshop on Cross-Strait Geotechnical Engineering Risk Management,* Tamkang University, Taipei, Taiwan, pp. 1-10 , November 01(in Chinese)

Hwang, R. N. and Moh, Z. C. (2006), "*Prediction of Long-Term Settlements Induced by Shield Tunneling", J. of GeoEngineering,* Vo1, No. 2, pp. 63~70, December, Taipei

Hwang, R.N. and Moh, Z.C. (2007), "*Reflection Paths and Reference Envelopes for Diaphragm walls in the Taipei Basin", J. of GeoEngineering,* Vol.2, no.1, pp.1-12 April

Hwang, R.N. and Moh, Z.C. (2007), "Numerical Models for Predicting Long-Term Settlements Over Tunnels", *Pros. 16th Southeast Asian Geotechnical Conf.,* Kuala Lumpur, vol.1, pp. 307-312, May

Hwang, R.N., Moh, Z.C. and Wang, K.S. (2007), "*Reference Envelopes for Reflections of diaphragm Walls in Singapore Marine Clay", Proc. 16th Southeast Asian Geotechnical Conf.,* Kuala Lumpur, Vol.1, pp. 821-826, May

Kang, S.M., Chen, K.S., Chua, H.Y. and Whang, Y.H. (2006), "*Analysis and Design of the Curved Steel Truss Bridge for Taiwan High Speed Rail Project Lot C296", Proc., EASEC-10., Bangkok, Thailand, REAL STRUCTURES : Bridges and Tall Buildings,* pp. 41-46, Thailand

Lin, P.C., Koslanan, S. and Moh, Z.C. (2006), "*Construction Control and Management of Ground Improvement of Airside Pavements", Proc., International Symposium on Geotechnical Aspects of the Second Bangkok International (Suvarnabhumi) Airport in Samut Prakarn Province, Thailand,* pp. 169-189, Thailand

Lin, P.C., Lin, D.G. and Liu, W.T. (2006), "*Numerical Analysis of PVD Improved Ground at Reference Section of Second Bangkok International Airport", Proc., International Symposium on Geotechnical Aspects of the Second Bangkok International (Suvarnabhumi) Airport in Samut Prakarn Province, Thailand,* pp. 67-88, Thailand

Moh, Z.C and Hwang, R.N.(2007) Lessons Learned from Recent MRT Construction Failures in Asia Pacific, Opening Keynote Address, *Pros.16th Southeast Asian Geotechnical Conference,* Kuala Lumpur, vol.1, pp3-20, May

Moh, Z.C and Lin P.C. (2006), Geotechnical History of the Development of Suvarnabhumi International Airport, Keynote Lecture, *Proc. International Symposium on Geotechnical Aspect of the second Bangkok International (Suvarnabhumi) Airport in Thailand, Bangkok,* pp. 3-21, May

Su, T.C. and Chan, S.J. (2006), "*Study of Ground Treatment on Improvement of Pile Foundation Response in Liquefiable Soils", Proc., Second Japan-Taiwan Joint Workshop, Nagaoka, Niigata, Japan on Geotechnical Hazards from Large Earthquake and Heavy Rainfall,* pp. 135-140, Japan

Ting, W.H. and Moh, Z.C. (2007) The sole of Zebris flow in Hazadom Ground Movement, Keynote Lecture, *Proc. 16th Southeast Asian Geptechnical Conf.,* Kuala Lumpur, Vol.1, pp. 153-160, May

Yang, G.R., Wong, K.N., Chan, J.F., Huang, M.H. and Chao, C.L. (2006), *"Case Study on the Application of Horizontal Double Packer Method in Crosspassage Excavation of the Taipei MRT", Sino-Geotechnics No. 108,* pp. 71-80, Taiwan

PERSONNEL MOVEMENTS

PROMOTIONS

ENGLISH NAME	CHINESE NAME	DEPARTMENT	FROM	TO	EFFECTIVE DATE
Shao-Kuei Chen	陳 紹 魁	Construction Management Dept.	Senior Civil Engineer II and Technical Manager of Construction Management Dept.	Senior Civil Engineer II and Manager of Construction Management Dept.	14/02/2007

MAA AWARDS

AWARDS

ENGLISH NAME	CHINESE NAME	DEPARTMENT	POSITION	DESCRIPTION	AWARD TYPE
Chia-Hsing Wu	吳 家 興	Environmental Protection Dept.	Environmental Protection Engineer I	工作積極認真，表現優異，待人誠懇謙虛，深受同仁敬重；為公司爭取多項工作，業務能力卓越，堪為楷模。	staff-of-the-year award
Chih-Hung Lin	林 志 宏	Transportation & Civil Eng. Dept. I	Civil Engineer I	負責辦理台中縣擴大大里（**草湖地區**）**及台中縣太平（新光地區）二項區段徵收公共工程之**專業服務工作，成果深受業主肯定。林君待人處世誠懇，工作積極，至可信賴，對公司之忠誠度極高，堪為楷模。	staff-of-the-year award
Song-Tsang Lin	林 松 蒼	Transportation & Civil Eng. Dept. I	Senior Civil Engineer II	運輸與土木工程一部正工程師林松蒼先生及工程師唐炳清先生、李虹昇先生等辦理「客雅大道」工程規劃、設計及監造工作，表現優異，順利竣工，獲新竹市政府林政則市長頒發感謝狀，為公司爭光，予以嘉獎並發給獎金，以資鼓勵。	Merit Award
Ping-Ching Tang	唐 炳 清	Transportation & Civil Eng. Dept. I	Civil Engineer I	同上	Merit Award
Hung-Sheng Lee	李 虹 昇	Transportation & Civil Eng. Dept. I	Civil Engineer II	同上	Merit Award

ENGLISH NAME	CHINESE NAME	DEPARTMENT	POSITION	DESCRIPTION	AWARD TYPE
Sheng-Sheng Mao	毛聖生	Environmental Protection Dept.	Senior Environmental Protection Engineer II	環境保護工程部正工程師毛聖生先生及工程師吳家興先生在「越基隆河連絡管工程」設計案中，協助業主（**行政院公共工程委員會及台北市政府工務局衛工處）辦理工程品質研討及**觀摩會籌劃周詳，解說詳盡，獲公共工程委員會來函致謝，提昇公司之聲譽，予以嘉獎並發給獎金，以資鼓勵。	Merit Award
Chia-Hsing Wu	吳家興	Environmental Protection Dept.	Environmental Protection Engineer I	同上	Merit Award
Wan-Ching Chen	陳婉青	Environmental Protection Dept.	Assistant	環境保護工程部行政助理陳婉青小姐在「高雄市福德路、鎮興路及旗津路區域內污水分支管管線工程」設計及監造案中，派駐於高雄市政府工務局下水道工程處，克盡職守，表現優異，獲業主來函感謝，提昇公司之聲譽，予以嘉獎並發給獎金，以資鼓勵。	Merit Award
		Construction Management Dept. Environmental Protection Dept.		工程管理部及環境保護工程部辦理「九十五年度技專校院教師赴公民營機構研習環境保護工程與工程專案管理實務課程」團隊，盡職負責，表現良好，獲教育部來函感謝，提昇公司之聲譽，予以嘉獎並發給團隊獎金，以資鼓勵。	Merit Award
Shao-Kuei Chen	陳紹魁	Construction Management Dept.	Senior Civil Engineer II	工程管理部正工程師陳紹魁先生、工程師許燕萍小姐及楊昌隆先生等辦理「台北市橋梁增設照明及美化工程初部設計及監造工作」，負責盡職，表現優異，榮獲台北市政府馬英九市長頒發獎狀，並在媒體前公開表揚，提昇公司形象，予以嘉獎並發給獎金，以資鼓勵。	Merit Award
Yen-Ping Hsu	許燕萍	Construction Management Dept.	Civil Engineer II	同上	Merit Award
Chang-Lung Yang	楊昌隆	Construction Management Dept.	Electric-Mechanical System Engineer I	同上	Merit Award
Meng-Han Chuang	莊孟翰	Geotechnical Eng. Dept.	Geotechnical Engineer I	大地工程部工程師莊孟翰先生擔任台北捷運CR580B **區段標駐地工程師期間，工作努力認真，**配合工程進度適時提出有效意見，提昇公司與業主良好關係，並屢獲業主來函肯定，予以嘉獎並發給獎金，以資鼓勵。	Merit Award
Chih-Hung Wu	吳志宏	Geotechnical Eng. Dept.	Geotechnical Engineer I	大地工程部工程師吳志宏先生於「客雅大道計畫」工程施工資鼓勵期間工作積極努力，發揮團隊精神，達成目標，並獲業主頒發感謝狀，提昇公司形象，予以嘉獎並發給獎金，以資鼓勵。	Merit Award
		Construction Management Dept. Geotechnical Eng. Dept. Structural Eng. Dept.		工程管理部、大地工程部及結構工程部辦理「新生南路地下停車場新建工程」工作團隊，盡職負責，積極協調，使全案順利完成並榮獲公共工程金質獎、獲業主頒發感謝狀、提昇公司形象，予以嘉獎並發給團隊獎金，以資鼓勵。	Merit Award
Yu-Luan Lin	林育瑞	Kaohsiung Office	Senior Technician	高雄辦事處高級技術員林育瑞先生不辭勞苦，經常於極短時間內發揮最大創意與努力，協助爭取多項業務，對公司信譽提昇及業務推廣頗有功勞，予以嘉獎並發給獎金，以資鼓勵。	Merit Award
Yun-Hui Lai	賴昀暉	Geotechnical Eng. Dept.	Geotechnical Engineer I	大地工程部工程師賴昀暉先生參與台北捷運DG166 細設標工作，任勞任怨，積極與業主溝通，獲得業主多次讚許，並為公司爭取最大之利益，予以嘉獎並發給獎金，以資鼓勵。	Merit Award

LONG-YEARS SERVICE AWARDS

AWARD TYPE	COMPANY	ENGLISH NAME	CHINESE NAME	POSITION HELD
5 YEARS SERVICE	MAAT	Richard Jen-Chueh Moh	莫仁維	Vice President
	MAAT	Chih-Kang Huang	黃志剛	IC Engineer I
	MAAT	Sun-Yi Fang	方尚義	Civil Engineer I
	MAAT	Chien-Chih Lu	盧建志	Structural Engineer I
	MAAT	Chun-Ta Lin	林俊達	Structural Engineer I
	MAAT	Wei-Jun Chung	鍾維鈞	Geotechnical Engineer I
	MAAT	Chia-Huei Lee	李佳慧	CADD Operator
	MAAT	Pei-Yao Lin	林沛堯	Structural Engineer I
	MAAT	Chin-Sheng Hsu	許晉盛	Structural Engineer I
	MAAT	Shu-Ying Chen	陳淑瑩	CADD Operator
	MAAT	Chao-Chia Chen	陳肇嘉	Civil Engineer II
	MAAT	Mong-Ling Shu	許夢玲	Assistant
	MAAT	Te-Tzu Liu	劉得慈	CADD Operator
	MAAT	Ping-Ching Tang	唐炳清	Civil Engineer I
	MAAT	Chih-Hung Wu	吳志宏	Geotechnical Engineer I
	MAAT	Yung-Chieh Yang	楊詠傑	Group Leader of Human Resource Group
	MAAT	Chi-Hung Lin	林志宏	Civil Engineer I
	MAAT	Chi-Kun Liao	廖溪堃	Civil Engineer II
	MAAT	Hui-Chun Lee	李蕙君	Assistant
	MAAT	Ming-Sung Chang	張明順	Civil Engineer I
	MAAT	Yi-Yang Chen	陳亦揚	Structural Engineer I
	MAAT	Ming-Chiung Kao	高銘炯	Civil Engineer I
	MAAT	Tzu-Lien Huang	黃姿連	Geotechnical Engineer I
	MAAT	Ming-Hsi Chen	陳明熙	Civil Engineer I
	MAAT	Kuei-Ying Chen	陳桂英	Librarian
	MAAT	Hsiang-Jung Lin	林向榮	Senior Civil Engineer II

AWARD TYPE	COMPANY	ENGLISH NAME	CHINESE NAME	POSITION HELD
15 YEARS SERVICE	MAAT	Yee Ng	伍　于	Senior Civil Engineer II
	MAAT	Hui-Hung Wang	王惠虹	Civil Engineer III
	MAAT	Chien-Chung Huang	黃建忠	Senior Engineering Geologist II and Manager of Geomatics Dept.
	MAAT	Pih -Yun Lin	林碧雲	Secretary I
	MAAT	Ren-Chi Chen	陳仁齊	Civil Engineer II
	MAAT	Shu-Hui Perng	彭淑惠	CADD Designer III
	MAAT	Shuu-Chin Wang	王素金	Manager of Financial Dept.
	MAAT	Pen-Chi Lin	林本騏	Senior Geotechnical Engineer II
	MAAT	Chen-Hui Hsieh	謝震輝	Senior Structural Engineer II and Manager of Transportation & Civil Eng. Dept. II
	MAAT	Yu-Chuan Fu	符玉泉	Civil Engineer I
20 YEARS SERVICE	MAAT	Sheue-Fen Chen	陳雪鳳	Officer
	MAAT	Kuang-Ming Chen	陳光明	Geotechnical Engineer I
	MAAT	Shaw-Wei Duann	段紹緯	Senior Geotechnical Engineer I
25 YEARS SERVICE	MAAT	Lih-Chun Sung	宋麗春	Section Chief of Accouting Office
	MAAT	Huat-Yoo Chua	蔡發耀	Principal Structural Engineer
	MAAT	Zun-Gwo Lee	李潤國	Senior Geotechnical Engineer II
	MAAT	Li-Chiou Liaw	廖麗秋	CADD Designer III

PERSONNEL PROFILES

Mr. Chien-Hong Wang （王劍虹）

Mr. Chien-Hong Wang has been promoted to Principal Engineer in 2006. Mr. Wang obtained a Bachelor's degree from National Central University (1975), a Masters of Science degree from University of California, Berkeley (1989), and recently the Project Management Professional (PMP) license. Currently he has more than 25 technical publications and is a member of many professional institutions. Since joining MAA in 1977, he has been involved in many geotechnical investigation, planning, analysis, design and construction consultancy projects. Previously as Manager (since 1992) of Geotechnical Engineering Department, he had more than 30 qualified engineering staff working under his supervision on some of the most important geotechnical projects in Taiwan and Southeast Asia. Mr. Wang is well equipped with technical expertise and managerial experience in leading team for geotechnical projects. His major works undertaken include geotechnical analysis and design for many high-rise building foundations, deep excavations, oil tank foundations, highway foundations, railway foundations and soil improvement as well as slope stability of slopeland. Others include industrial parks, plants, estate developments, railways and highways. A few specific examples include: 101 Taipei Finance center, Core Pacific City Center, China Steel corporation, slopeland stability analysis behind National Palace Museum, Taipei MRT, Taiwan High Speed Rail, and Ground Improvement for Landside Road System for Suvarnabhumi Airport in Thailand.

Mr. Tin-Chun Su （蘇鼎鈞）

Mr. Tin-Chun Su was promoted to Manager of MAA Taiwan Geotechnical Department in April 2006. Mr. Su received both his Bachelors of Science degree in Civil Engineering and Master's degree in Geotechnical Engineering from the National Central University in 1984 and 1989, respectively. Since graduation, Mr. Su joined MAA and during the years he has participated in many major projects including site investigations and foundation analyses for high-rise buildings, assessment of building protection for deep excavation, geotechnical consultancy for foundation excavation, foundation design for bridges, ground improvement design for road embankments and newland developments and Taipei MRT designs. Some specific examples include planning and design of soil improvement for the reclamation of Keelung River, deep excavation and building protection assessment for Taipei Railway Underground Pan-chiao Extension Project, site investigation and foundation analysis for Chiahui Power Plant, geotechnical engineering design for Taipei MRT DB144A, DB144B, DR148 and DG166 design lots. To date, he has published/co-published 30 technical papers.

Mr. Wen-Sheng Lin （林文盛）

Mr. Wen-Sheng Lin was promoted to Manager of MAA Kaohsiung Office in April 2006. Mr. Lin received both his Bachelor's and Master's degrees from the Taiwan Institute of Technology in 1988 and 1994, respectively. Prior to joining MAA, he worked as a sales engineer at Aristotle Information Co. & Jan-Yung Information Company. His tasks include cost estimation and project management for the company's computer software systems. In 1991, he joined an architect company where he was the site inspector for Shin-Shu Industrial Development Project. After his graduate study at the Taiwan Institute of Technology, Mr. Lin joined MAA Taiwan in August 1994. At MAA he has been responsible for the scheduling and cost control system of a commercial developing project in Ilan, drafting of Turn-Key tender documents for Binh-Thuan Roadway in HCMC, Vietnam, quality assurance and auditing works of Tachia-Chang Pin section of the second freeway, construction management services of Fushing North Road Underpass Sung-shan airport project. In 1997, Mr. Lin was appointed to the Construction Supervision Division of the Second Freeway Nantou Section Project, where he was responsible for schedule controlling as well as contracts administration. Mr. Lin was promoted to Project Engineer in 1999 and then to Deputy Project Manager in 2001 of the above project. After the completion of the project in 2002, Mr. Lin was dispatched to the Kaohsiung Office of MAA Taiwan as Deputy Manager where he was in charge of several projects ranging from hi-tech building erection, parking lots renovation, to utilities surveying for the Kaohsiung MRT CR2 Project. Mr. Lin was reenrolled to the Construction Management Department as Technical Manager in September 2003. He was responsible for the technical development of various projects including: the Baja Site of National United University, the Hsinsun South Road underground parking facilities project of the National Taiwan University, the 1st Multifunctional Administration Building and Site Developing Project of the Yun-lin County based on the National Taiwan University, and the Technical Research Center Project of the National Taipei University of Technology. Since 2004, Mr. Lin has been involved in projects with different natures, including BOT projects and Design-and-Build projects. Project reference include the Kaoshiung Modern Dome BOT Project, Dormitory of Graduated Students, and the Health and Training Center of the National Chi Nan International University, the Advanced Business Incubation Center Project of the National Chung Hsing University, and the World Game 2009 Main Stadium.

Mr. Shao-Kuei Chen （陳紹魁）

Mr. Shao-Kuei Chen was promoted to Manager of Construction Management Department at MAA Taiwan in April 2006 after many years of substantial design and on-site practical experiences for various types of projects. Mr. Chen obtained his Bachelor's degree from Tamkang University in 1992 and Master's degree from the National Taiwan University in 1994. Upon graduation, he joined MAA as an engineer in the Geotechnical Department, during which he worked on site investigation and foundation analysis for high-rise buildings, assessment of building protection for deep excavation, and foundation designs for bridges and newland developments. In 1998, Mr. Chen was transferred to the Construction Management Department to work on the Yu-Hua Ching-Cheng Commercial Building Job-Site, where he was responsible for the construction management of slurry wall, excavation, safety-bracing system and RC structure construction. In 1999, Mr. Chen was promoted to Deputy Section Chief of Tam-Hai New County Developing Construction Supervision Project and later served as Chief of Project Construction Management for Memorial Plaza to the Victory of Japan Resistance War and The Retrocession of Taiwan. In later years, Mr. Chen carried out construction management for 2 work for many buildings including buildings at the National Taipei Nurse College Campus, campus reconstruction after the 921 earthquakes in Yunlin, Chiayi, and Tainan areas, General Hospital, First Stage Administration Building at National Tainan University Yun-Lin subdivision, and the lighting improvement and beautification of 12 major bridges along the Keelung River in Taipei.

Integrated Solutions For Global Impact

MAA GROUP

MAA INTERNATIONAL / **MAA Engineering Consultants International Ltd.**

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