

Building Surveying Division



The Building Surveyor

A Building Surveyor is as the name implies, a 'Surveyor of Buildings'. A Building Surveyor's core expertise is described below:

Survey of New Buildings

- Building control in Buildings Department, HKSAR Government;
- Technical advice on legal restrictions – Buildings Ordinance, Town Planning and Land Leases;
- Development consultancy and project monitoring; and
- Project management during development stage.

Survey of Existing Buildings

- Building maintenance management (both in the private and public sectors);
- Diagnosis of building defects as 'Building Doctor';
- Building and fire safety inspections;
- Alterations & Additions, refurbishment and renovation;
- Conservation, restoration and rehabilitation of historic heritage;
- Licence application;
- Fire insurance valuation;
- Facilities and property management;
- Building surveys prior to purchase, during hand over or arising from building disputes;
- Expert witness, mediation and arbitration;
- Advice on occupational requirements, spatial planning and management; and
- Management of fitting-out works.

Building Surveyors in private practices are involved in all stages of the development process from inception, completion to operation. They are available to provide tailor-made services for Clients engaging in property development.

Site Acquisition Stage

The Building Surveyor acts as Project Consultant in advising on the development potential regarding technical and legal implications as follows:

- Restrictions imposed under the Buildings Ordinance, lease conditions and Town Planning Ordinance and also on potential construction difficulties;
- Financial and time considerations affected by the construction aspects; and
- Preparation, finalization and execution of Joint Venture Agreements and Public Private Partnerships.

Development Stage (including Construction Stage)

The Building Surveyor acts as Project Manager (or Project Consultant) to monitor the development

and construction process so that the buildings are constructed principally on time, within budget and with the desired quality. The major functions of the Project Manager are as follows:

- Preparation of feasibility studies and Client brief;
- Preparation of budgets and master programme;
- Appointment of the design team, sub-consultants, main contractor, subcontractors, suppliers;
- Management of the design process and selection of materials;
- Coordination of Government approvals;
- Contract administration and co-ordinating the approval of shop drawings, samples, variations and claims;
- Project monitoring – time, cost and quality controls; and
- Undertaking financial control – cash flow, interim payments and final account procedures.

Pre-Completion Stage

- Advising on capital costs, running costs and replacement costs for fire insurance purposes;
- Advising on maintenance strategy and preparation of operation & maintenance manuals, as-built drawings and specialists handbooks; and
- Coordinating and approving (on behalf of Clients) of Alterations & Additions works to building and building services proposed by tenants and occupiers.

After Completion

Building Surveyors play a major role in the management and maintenance of properties after their completion.

- Advising on construction and legal constraints prior to letting and coordinating the fitting out works;
- Advising on licensing requirements for licensed premises (e.g. restaurants, hotels, child care centres, kindergarten, home for the elderly, etc.) and coordination of the fitting out works;
- Advising on maintenance strategy, planning and implementation of maintenance programmes, from day-to-day to long term;
- Condition surveys of existing buildings and preparation of schedule of dilapidation;
- Advising on diagnosis of building defects, remedial works and costs;
- Advising on effects and remedial actions including litigation and compensation;
- Alterations, additions and improvements to existing buildings. Conversion of existing buildings to modern uses and upgrading their provisions to meet current requirements;
- Improvement works required under the Fire Safety (Commercial Premises) Ordinance;
- Acting as expert witness in court and arbitrator in building and contract disputes; and
- Design and management of conservation, restoration and rehabilitation of historic heritage projects.

Profile of Employment

Building Surveyors are employed in both private and public sectors or engaged in private practices serving Clients of different concerns.

HKSAR Government and Quasi-Government Agencies

- Buildings Department;
- Housing Department;



- Architectural Services Department;
- Home Affairs Department;
- Licensing Authority;
- Hospital Authority;
- Urban Renewal Authority;
- Hong Kong Housing Society;
- Mass Transit Railway Corporation;
- Kowloon Canton Railway Corporation;
- Academic institutions and others.

Private Practices and NGOs

- Private and listed property developers;
- Tung Wah Group of Hospitals, English School Foundation, Salvation Army; and
- Local and major international property consultants offering comprehensive Building Surveying Services.

(A list of firms offering these services could be obtained from the Hong Kong Institute of Surveyors).

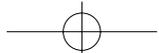
Expertise of Building Surveyors

Expertise possessed by professional Building Surveyors can be summarized and grouped in the following nine core areas of services undertaken on behalf of Clients:

- Project Planning and Design;
- Project Management and Monitoring;
- Project Supervision (including acting as Technically Competent Persons required by Buildings Department);
- Project Revitalization (Alterations and Additions, Conservation, Improvement, Refurbishment and Renovation);
- Building Maintenance Management;
- Building Surveys and Fire Insurance Valuations;
- Building and Fire Safety Inspections and Works Supervision;
- Facilities & Property Management; and
- Disputes Resolution (Expert Witness, Mediation and Arbitration).

Building Surveyors' Vision

Whenever there is a building need, be it of a new building or existing building, a building surveyor will be able to help finding a satisfactory solution.



General Practice Division



The General Practice Surveyor

Land is a strategic resource of operation and an investment asset. Interest in land or property is bought and sold for residential, retail, office and industrial uses. These uses require careful planning, continuous management and improvement; properties are also developed as direct investments or securitized and if they are professionally managed, their values will be enhanced.

General Practice Surveyors through their professional training, skill and knowledge are in a position to offer timely and effective advice in connection with the development, use and management of the property resources both for operational needs and investment purposes. They are concerned with the planning, development, use, management and valuation of lands and buildings; negotiation of sales and lettings by private treaty and sale by tender or auction; financial and economic aspects of investment in property. And contemporaneously, because of the General Practice Surveyors' understanding of the principles of investment and asset pricing, the profession is ready to respond to the mounting demand for valuation of trade-related business assets and business enterprises.

The services offered by General Practice Surveyors can be wide and varied. They range from professional and agency services connected with the investigation, valuation, planning, development, acquisition, disposal and management of property to more recently, valuation of franchises and intangibles.

Valuation of Properties

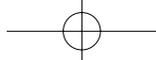
General Practice Surveyors value all types of landed properties for various purposes. The range of valuation services covers:-

- Valuations for sale, purchase, letting and mortgage purposes;
- Statutory valuations relating to resumption, rent control, rating, stamp duty, estate duty;
- Valuations of company portfolios for balance sheet purposes, company floatation, takeovers and mergers;
- Feasibility studies on all types of properties;
- Acting as an expert witness, independent valuer or arbitrator in valuation disputes.

Development and Town Planning Consultancy

Real estate development is a complex process, which needs professional expertise and judgement. Through proper training and experience, General Practice Surveyors can provide a comprehensive range of professional services covering:

- Market studies and evaluation of development;
- Negotiation with Government on modification, surrender and regrant of land leases;
- Applications and appeals to Town Planning Board in respect of change of uses;



- Preparation of detailed financial assessments, cash flow studies and expenditure control systems throughout the development period;
- Preparation of development and design briefs;
- Constant monitoring of the development to ensure that it meets the client's requirements and reflects market needs.

Sales, Lettings and Auctions

General Practice Surveyors, on behalf of clients, negotiate the purchase, sale or leasing of all types of lands and buildings. They may act as auctioneers in disposal of properties or as owner's agents in selling properties by private treaty or tender. They may also advise on marketing strategy and on the preparation of sale and lease documents.

Property Management

In a society of rising user expectations, good quality professional management services are an essential element to sustain and enhance the value of the property. General Practice Surveyors have been involved in the management of all types of properties. They negotiate with tenants on rent review, lease renewal and re-letting of premises. They also advise on situations of refurbishment/renovation and redevelopment.

Business Valuation

Contemporarily, experienced General Practice Surveyors are engaged to provide independent valuation of trade-related business assets and business enterprises in connection with mergers and acquisitions activities in Hong Kong and mainland China.

Apart from their work in the private practice, General Practice Surveyors are also employed by the HKSAR Government in departments such as the Lands Department, Rating and Valuation Department and Housing Department to handle work including government land disposal, resumption, rating, taxation, public housing and home ownership scheme.

Land Surveying Division

The Land Surveyor

Broadly speaking, land surveying is an art of position fixing. Surveyors involve themselves in all sorts of civil engineering works and land developments such as building houses, roads, bridges, canals, viaducts, defining property boundaries, preparing plans from various surveys and managing properties. Closely related to the development of civilisation of mankind throughout the world, the profession has contributed to the transformation of sparsely populated and undeveloped areas into modern industrial and commercial metropolises. Like other professions, advancement of technology has led to specialisation and land surveying is of no exception.

Cadastral Surveying

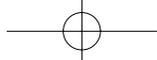
Cadastral Surveying is concerned with the physical determination of boundaries and areas of land properties. It is always advisable for landowners and developers to ascertain the boundaries and area entitlements of their properties by land boundary surveys prior to any land development. There are at present two legislations in Hong Kong which provide for the control of professional services in this aspect. Registered Professional Surveyors of the Land Surveying Division [RPS (LS)] registered under the Surveyors Registration Ordinance and Authorised Land Surveyors [ALS] registered under the Land Survey Ordinance are well-qualified professionals to conduct land boundary surveys. Under the Land Survey Ordinance, any legal instrument effecting a subdivision of land must be accompanied by a land boundary plan prepared and certified by an ALS for registration with the Land Registry. The main services provided by RPS(LS) and ALS include:

- Re-establishment of land boundaries for valuation, land transaction and various land development purposes;
- Setting out of land boundaries; and
- Preparation of certified plans for subdivision of land parcels.

Engineering Surveying

This type of surveying relates closely to civil engineering projects. The preparation of initial survey plans for detail design, setting out of critical points for construction and the measurement of earthwork quantities for payment are types of works under this category. Land Surveyors are actively involved in the construction of roads, flyovers, bridges, seawalls, railways, tunnels and skyscrapers. Land surveying techniques are also being used in industries like shipbuilding, aircraft construction and fixing of machinery where high precision on position determination is required. Monitoring of unstable structures, reservoirs, bridges, slopes, and areas is part of the works that may not be familiar to the public but important in protecting lives and properties. Major services provided under this category are :

- Preparation of initial site survey plans;
- Preparation of photo mosaics superimposed with engineering layouts for planning of engineering projects;



- Computation of construction alignments for civil engineering works;
- Setting out pre-determined positions for construction;
- Measurement of earthwork quantities; and
- Monitoring of unstable structures, bridges, reservoirs, slopes and areas.

Geodetic Surveying

The purpose of Geodetic Surveying is to establish a very accurate main survey framework. It involves the establishment of a national network of horizontal and vertical reference points covering an entire territory. Land Surveyors use very precise equipment for taking measurement over a large area for establishment of accurate survey network. With the advancement of space technology, land surveyors often use a satellite system, called Global Positioning System (GPS), for measuring points which are many or even hundred kilometers apart.

In the Hong Kong SAR, the Lands Department of the Government establishes and maintains the main survey framework. Trigonometrical stations situated on hilltops, traverses installed along roadside and bench marks on bedrock constitute the geodetic control point system. By connecting to the network, any survey can be tied together with respect to a unique reference system. In fact, the position of many land boundaries, roads, railways, bridges and construction works are referred to this system. Major services provided under this category are:

- Taking precise observation and maintaining the monuments of networks of horizontal and vertical reference points;
- Establishment of a territorial common reference system; and
- Detecting and measuring the movement of the earth's crust for scientific research and reducing the impact of natural disaster.

Topographic Surveying and Digital Mapping

Mapping is a national service for security and development. Maps have been in use for thousands of years. Besides being a principal means of position locator, accurate maps are necessary for effective management of our environment.

With the use of emerging technology in the Topographic Surveying and map revision, the complete series of 1:1000 scale maps covering the whole territory of Hong Kong have been available in digital form. Digital topographic information is the basic building block to support the sustainable development, natural resources management, environmental protection, urban planning and utilities management. Additionally, Digital Mapping forms the basic foundation for other information systems such as community services information systems, electronic street guide systems, natural disaster management systems, transport management systems and many others. It is foreseeable that many disciplines will benefit from Digital Mapping. As the advancement of technology has resulted in lower system costs and continual improvements in Digital Mapping, a much wider application of digital map data throughout government, business and industry can be achieved.

Land Information Management

In Land Information Management, Land Surveyors are engaged in the collection, integration

and dissemination of a wide range of spatial information. With the use of geographic information system technology, Land Information Management is rapidly penetrating a number of application domains such as environmental conservation, urban planning, pollution control, transport management, emergency rescues and many others. Land surveying is the most basic activity to create and maintain building blocks for the setting up of geographic information systems and Land Surveyors are in a good position to make valuable contributions to these systems.

Photogrammetric Surveying

Photogrammetry is the science of measurement by means of photographs or digital imagery.

The photographs and digital imagery can be captured on ground, under water and in air. Photogrammetric Surveying is the method of producing graphic plans, digital data, and computer model from photographs or digital imagery. Major services/products provided under this category are:

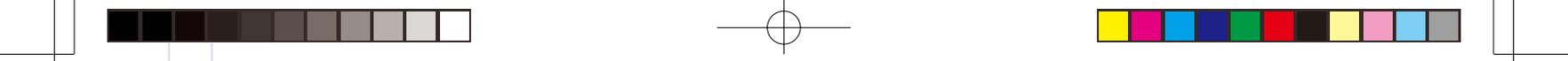
- Digital mapping;
- Digital terrain model;
- Orthophoto/orthoimage;
- 3D digital map;
- Deformation monitoring;
- Landslide investigation; and
- Antiquities and heritage sites recording.

Hydrographic Surveying

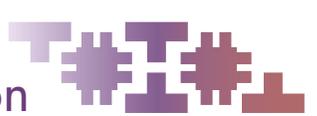
Safe navigation and subaqueous construction require an accurate knowledge of the depth and topography of the seabed. Land Surveyors have used different techniques including the Differential Global Positioning System (DGPS) in the hydrographic survey for positioning. In harbours and their approaches, the depth has to be constantly monitored. As the seabed is hidden from the naked eyes, its profile is determined by echo sounder which sends sound waves down to the bottom of the sea and calculates the depth by measuring the time required for the signal to return to the surface.

In the Hong Kong SAR, the Government has taken over responsibilities from the British Admiralty for producing navigation charts for the Hong Kong Waters. Major services provided under this category are:

- Measurement of water current;
- Bottom sampling;
- Location of rocks, lights, buoys and wrecks;
- Determination of channel depths and preparation of charts;
- Determination of subaqueous excavation quantities; and
- Collection of any information relating to marine navigation.



Planning & Development Division



The Planning & Development Surveyor

Real estate development is a complex process which requires professional inputs of various kinds throughout different stages of the process, from project inception to its completion. Planning & Development Surveyors, as a town planning and development consultant, can provide a comprehensive range of professional services to suit the specific needs of their clients.

Property Development

Development Feasibility Study

Prior to inception of a development proposal, Planning & Development Surveyors provide clients with necessary site search and detailed analysis, and advise them on property values and appropriate land acquisition strategies. They conduct detailed market research to understand specific markets and recommend the appropriate type and mix of land uses, and the optimal scale of development with a view to maximizing project return while minimizing the risks. Development appraisal, covering land and property valuation, cash flow analysis, project return estimation, sensitivity analysis, etc., can be undertaken to test the viability of the development proposal under different scenarios.

Land Administration Inputs

Planning & Development Surveyors specialize in the interpretation of lease conditions; can advise on compliance with the lease conditions or any modifications to the lease conditions required; can act for the land owner to submit an application to the Lands Department for a modification (or surrender and re-grant) of their land lease, negotiate with the Government on the lease terms and conditions (including the land premium); and assist in the execution of the lands document.

Town Planning Applications

Depending on the statutory town plan zoning that the development site falls within development on it may require prior approval from the Town Planning Board. Planning & Development Surveyors can advise on zoning implications and the strategy to submit planning applications, review and or appeal; co-ordinate with other professional experts to prepare the necessary technical impact assessments to support the planning application. Professional services may also be provided in submitting planning objection to gazetted town plan to safeguard the interests of land owners.

Development Project Management

Property development requires a wide range of inputs from various disciplines. Planning & Development Surveyors can help to set up a right team for development projects with team members coming in at an appropriate time during the process; monitor the project progress against the development programme, advise on re-distribution of resources and to resolve issues arising during the development process.

Project Evaluation

In order to update the clients on the change in financial position of the project, Planning & Development Surveyors will carry out continual evaluation of the development proposal throughout the development process. It is done by inputting the actual cash inflow and outflow as well as a more accurate forecast on future incomes and expenditure into the financial model. A regular review of the property market trends can ensure that the development meets the client's requirements apart from the supply and demand situation in the market.

Town Planning

Public Sector

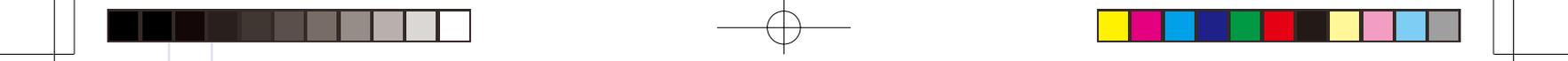
Planning & Development Surveyors are involved in the formulation of planning, lands, housing, environmental and other development strategies and policies; participate in the preparation of statutory town plans under the Town Planning Ordinance and the non-statutory departmental and layout plans. Major development briefs are also prepared to guide development. Through the statutory and non-statutory plans, they regulate and control the type of land use and property development permitted having regard to the relevant planning policies, the environmental context and specific site characteristics.

Private Sector

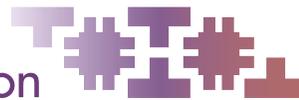
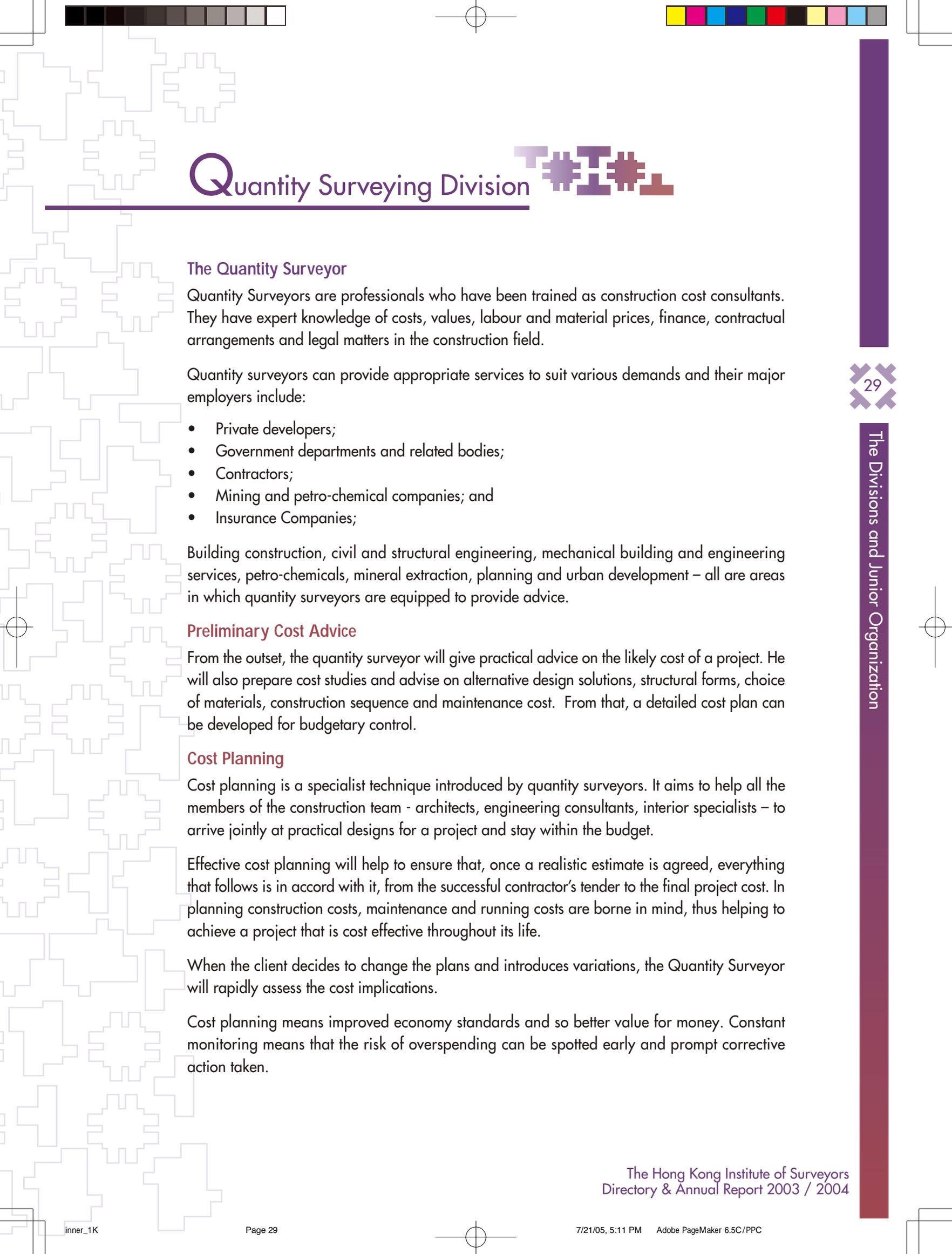
Planning & Development Surveyors advise clients on the extent to which the use and value of their land and property would be affected by town planning and environmental policies. The most common professional services include preparation, coordination and/or submission of planning applications, master layout plans, rezoning requests and planning objections; acting on behalf of clients in making written representations and attending hearing in planning review, appeal cases according to the Town Planning Board and Appeal Board proceedings respectively.

Other Common Professional Services

Planning & Development Surveyors also assist client in site planning and advise on urban design matters together with the relevant design experts. They also specialize in coordinating large-scale planning studies usually supported by various technical impact assessments e.g. Environmental/Ecological Impact Assessment (EIA), Drainage Impact Assessment (DIA), Traffic Impact Assessment (TIA), Geological Impact Assessment (GIA), Landscape & Visual Impact Assessment (LVIA), Social Impact Assessment (SIA).



Quantity Surveying Division



The Quantity Surveyor

Quantity Surveyors are professionals who have been trained as construction cost consultants. They have expert knowledge of costs, values, labour and material prices, finance, contractual arrangements and legal matters in the construction field.

Quantity surveyors can provide appropriate services to suit various demands and their major employers include:

- Private developers;
- Government departments and related bodies;
- Contractors;
- Mining and petro-chemical companies; and
- Insurance Companies;

Building construction, civil and structural engineering, mechanical building and engineering services, petro-chemicals, mineral extraction, planning and urban development – all are areas in which quantity surveyors are equipped to provide advice.

Preliminary Cost Advice

From the outset, the quantity surveyor will give practical advice on the likely cost of a project. He will also prepare cost studies and advise on alternative design solutions, structural forms, choice of materials, construction sequence and maintenance cost. From that, a detailed cost plan can be developed for budgetary control.

Cost Planning

Cost planning is a specialist technique introduced by quantity surveyors. It aims to help all the members of the construction team - architects, engineering consultants, interior specialists – to arrive jointly at practical designs for a project and stay within the budget.

Effective cost planning will help to ensure that, once a realistic estimate is agreed, everything that follows is in accord with it, from the successful contractor's tender to the final project cost. In planning construction costs, maintenance and running costs are borne in mind, thus helping to achieve a project that is cost effective throughout its life.

When the client decides to change the plans and introduces variations, the Quantity Surveyor will rapidly assess the cost implications.

Cost planning means improved economy standards and so better value for money. Constant monitoring means that the risk of overspending can be spotted early and prompt corrective action taken.

Contracting Methods

No two projects are the same. Most major projects - and many smaller ones - are individual challenges and need individual solutions. Not surprisingly, therefore, the construction industry has evolved a range of procedures.

Competitive tendering is the normal method, and can allow either for firm price tenders, or tenders which provide for cost fluctuations.

Negotiated tenders enable the whole project to be planned from the outset with a single contractor, chosen for a particular expertise or construction system, while in a package deal (or 'design and build') the contractor undertakes the whole task of design and construction.

The Quantity Surveyor will advise on the best kind of contract for the project.

Tendering

Competitive tendering of one kind or another remains the usual basis for construction contracts, and bills of quantities are fundamental to this process.

Bills of quantities translate the drawings, plans and specifications produced by the designers to enable each contractor to calculate his tender prices fairly, on exactly the same basis as his competitors. During construction, they are also a crucial element in effective cost control.

Where other tendering procedures are appropriate, the quantity surveyor will recommend alternatives.

Valuation of Construction Work

In most construction contracts, the contractor is paid monthly. The quantity surveyor will value the work carried out each month on the project and submit a recommendation for certified payment.

The Quantity Surveyor will stay with the project right to the settlement of the accounts, when all necessary adjustments are dealt with.

He will also prepare any analysis of the final account, which may be required; prepare statements of expenditure for tax or accountancy purposes; assess the project's replacement value for insurance.

Project Management

A successful project requires expert advice from all the building professionals. A Project Manager is necessary to co-ordinate the expert advice and manage the project to ensure its timely completion within the budget.

As quantity surveyors have been specially trained in the financial, legal and contractual aspects of construction, they are particularly well qualified for the role of Project Manager.

Giving expert evidence in arbitrations and disputes

Assessing replacement values for insurance



Junior Organization

The Junior Organization (JO) is a section of the Hong Kong Institute of Surveyors representing the interests of more than 3,500 members of HKIS comprising all student members, probationers and young qualified members of all divisions, those who are the future of the surveying profession.

A JO representative, usually the Chairman of JO, sits on the General Council and Executive Committee of HKIS and JO representatives are nominated to various Divisions, Boards, Panels, Committees and Working Groups of HKIS in order to express the views from JO members' perspective.

JO also holds CPD and PQSL seminars, which not only provide opportunities for our members to learn from outstanding personalities from the industry, academic or government but also help student members to tackle the Assessment of Professional Competence (APC). We also organise or participate in various social events such as leadership training, sports competition, dragon boat competition, volunteering services, fund raising campaigns, annual dinner and wine tasting training. Apart from the traditional events, we continue to create new themes for our members such as goodwill visits to mainland and the other professional institutions, which are introduced to provide an excellent opportunity for JO members to train their presentation skills and learn from celebrities within our industry or society respectively.

Beyond the Institute, we often encourage young members to participate in different kinds of activities. For example, JO members are actively involved in the annual Education & Careers Expo and HK Real Estates Service Expo in the Mainland, which are organised by the Hong Kong Trade and Development Council, together with senior members appointed by the General Council and Divisions. Besides, educational visits to universities, promotional visits to colleges and schools have been organised to communicate with students of universities and to promote the surveying profession respectively.

For the society, we also join in many charity activities such as charity walks and to-be auctioneers for auctions of Vehicle Registration Marks (VRM). **The HKIS List of Auctioneers for the Auction of VRM** is formed in order to nominate professional auctioneers for the future auctions of VRM in co-operation with the Transport Department.

