

PROFESSIONAL TRAINING AGREEMENTS

A CO-OPERATIVE APPROACH TO TRAINING SURVEYING GRADUATES

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ABSTRACT

The education and training of surveying professionals has undergone significant change over the past ten years. The move towards mutual recognition of qualifications and the introduction of competency standards has impacted on both the undergraduate and graduate training of surveyors.

The introduction of Professional Training Agreements (PTA's) by the Surveyors Board of Queensland in 1998 has heralded a new co-operative process of preparing graduate surveyors for their professional careers. This paper will give some background into the development of PTA's in Queensland and will discuss some of the issues involved with the implementation and administration of these agreements. The development of a National PTA will also be discussed.

1.0 INTRODUCTION

The registration and licensing of surveyors has been undertaken by the State Boards of Surveyors with the express purpose of ensuring that the public has confidence in professional surveyors undertaking surveys in the community. The system of registration has worked effectively to the extent that the quality of the work produced by professional surveyors is invariably at a very high standard in the areas of their technical, ethical and administrative responsibilities.

This professionalism is supported by the fact that there are relatively few complaints by the public and very few disputes between surveyors. However, a review of the current system of registration has indicated that improvements in system could be made.

2.0 TRENDS IN REGISTRATION OF SURVEYORS

In the mid 1980's a number of studies were undertaken to investigate the education and training in the Surveying and Mapping Industry. Reports such as the Commonwealth Tertiary Education Commission (CTEC) study indicated that there were a number of disturbing trends beginning to emerge regarding the education and training of surveyors.

In particular, two trends were identified namely,

- (i) the number of surveying graduates proceeding to registration/licensing was declining, and
- (ii) the time taken for graduates to proceed to registration/licensing was averaging over five years and increasing.

The Projects System, which was then the preferred mechanism for registration and licensing in Queensland and throughout Australia, was becoming increasingly problematic with poor progression and little employer support for the graduate. Initiatives such as the Survey Practice Course (SPC) at QUT was introduced to address these issues. The SPC provided graduates with the opportunity to complete a post graduate qualification and at the same time satisfy the training requirements for registration and licensing. The SPC achieved its initial objective of reducing the backlog of graduates proceeding through to registration. However, in the current economic environment the SPC has found it difficult to attract students away from full-time employment to undertake full-time or even part-time studies.

In 1995, the Australian Key Centre for Land Information Studies commissioned a report on the Review of the System for Registration of Surveyors. The report again identified the trends of declining graduate numbers proceeding to registration and the time taken to achieve registration. It recommended that a system of training agreements be introduced to replace the project system in Queensland.

The Queensland Board of Surveyors adopted this recommendation in 1996 and a process of industry consultation and education began. Responses by industry bodies were considered and in 1997 the Board began to develop the PTA process. In January 1998 the new PTA system was introduced and the Projects System, as well as a number of other alternative registration mechanisms were phased out.

3.0 DESIGN OF THE PROFESSIONAL TRAINING AGREEMENTS

The Professional Training Agreements were designed to facilitate a co-operative training approach to enable graduates to reach a level of professionalism and competence suitable for professional registration with the Surveyors Board of Queensland or an equivalent professional body. Moreover, the PTA was designed to provide a structured training program to assist a Registered Surveying Graduate with continuing education, training and development of their skills.

The issues and concerns identified by the Profession were examined and addressed during the development of the PTA's. Some of the key issues identified included: -

- the PTA should supplement existing registration processes such as the Survey Practice Course;
- the PTA should not place an onerous burden on the supervising surveyor and thereby discourage such agreements;
- the majority of the training within the PTA should be 'on the job' training which should be available within a typical survey practice;
- there should be mechanisms in the agreement to provide additional training outside the graduates place of employment if it is deemed necessary; and
- the PTA should be flexible enough to accommodate a range of situations which will inevitably arise during the training period e.g. change of employment.

4.0 THE MAIN ELEMENTS OF THE PTA

4.1 Who Is Involved In The PTA And What Are The Entry Requirements?

The emphasis of the PTA's is on the training component, with assessment occurring throughout the process by regular reporting and a final interview with the Board. The PTA involves the Applicant, a Supervising Surveyor, the Surveyors Board of Queensland and, where applicable, the Queensland University of Technology.

Prior to entering into a PTA an Applicant must have a four (4) year degree in Surveying and the equivalent of twelve (12) months of approved postgraduate experience. The PTA can be transferred between Supervising Surveyors, subject to certain conditions and the approval of the Board.

4.2 Competency Based Assessment

The PTA includes a range of core activities which essentially are competencies expected of all professional surveyors seeking general registration. These core competencies should be capable of being provided in almost any survey practice. Additional competency areas are then identified to cover endorsements to perform specialised surveys, e.g. cadastral, engineering surveys and so on.

In the PTA six core and three optional modules, must be satisfactorily completed to achieve Registration as a Surveyor.

The six core modules comprise:

- *Generic Skills, including*
 - *Ethics and professionalism,*
 - *Regulation of Surveying in Queensland,*
 - *Basic surveying skills,*
 - *Communication skills.*
- *Professional Practice Management.*
- *Survey Computing and Processing.*
- *Boundary Definition Surveys.*
- *Control Surveys (GIS and GPS).*
- *Project Site Surveys.*

The optional modules currently include:

- *Property Development Surveys.*
- *Advanced Boundary Definition Surveys.*
- *Engineering Surveys.*
- *Advanced Professional Practice Management.*

Other optional modules may be developed in due course or as dictated by demand.

Three optional modules, together with the six core modules above, when completed at an appropriate competence level, would provide for Registration as a Surveyor. The granting of specialist endorsements is related to the choice of Optional Modules.

An example module is shown in Appendix 2.

4.3 Term of the PTA

The PTA is designed to be completed within a period of not more than two (2) years. An Applicant who considers they can demonstrate professional and technical competence within a reduced period, may apply to the Board for a reduced time frame. For example, applicants attempting the SPC in the 'full-time' format could apply for a reduction in the timeframe. Where valid reasons are documented, the PTA can be suspended for a period and then re-started at a later date. This process may occur a number of times during the life of the PTA. The Board considers that the total elapsed period should not exceed four (4) years and that the minimum period spent at any one time, as part of a PTA, should not be less than four weeks.

The above approach will provide some flexibility to the process, while ensuring that worthwhile structured training is provided, albeit with some breaks. As occurs at present the Board will always be willing to consider exceptional circumstances, on a case by case basis.

4.4 Components of the PTA

The PTA is usually developed by the graduate in consultation with the Supervising Surveyors. It generally includes the following components: -

- the parties to the Agreement and their responsibilities;
- the purpose and objectives of the Agreement;
- the scope and limits of the Agreement;
- the practices, procedures and assessment to be followed;
- a flow chart detailing events and projected dates of completion;
- details of the Applicant including academic record and experience;
- details of the firm/company employing the Applicant; and
- details of the Supervising Surveyor.

The last two dot points above assist in developing an overall picture of the expertise and facilities available within the survey practice. This background assists with the establishment of an appropriate PTA and helps to identify those components able to be provided within the practice and those which may need to be outsourced.

The Board provides applicants with a set of guidelines, a sample agreement and a proforma to complete their PTA.

4.5 Responsibilities

The responsibilities for the Training Agreement are for:

The Applicant;

- ♦ to develop in conjunction with the Supervising Surveyor, a program for the Training Agreement;
- ♦ to understand the detail of the Training Agreement;
- ♦ to register the Training Agreement with the Surveyors Board;
- ♦ to satisfy the tasks as set out in the Training Agreement within the specified time periods; and
- ♦ to develop professional skills and ethics.

The Supervising Surveyor;

- ♦ to develop in conjunction with the Applicant, a program for the Training Agreement;
- ♦ to report to the Board as required by the Training Agreement;
- ♦ to report to the Board about the applicant at the completion of the agreement;
- ♦ to ensure that reasonable resources are available to undertake the training; and
- ♦ to provide supervision, leadership and tutoring.

The Surveyors Board;

- ♦ to develop a model Training Agreement package;

- ♦ to assess Training Agreement applications to ensure that they encompass a total quality management approach; and
- ♦ to register and monitor the Training Agreement.

4.6 Supervision

The Supervising Surveyor has the responsibility for determining the amount and level of supervision, which is provided to the applicant. Supervision should be provided in line with the requirements of Sections 18 and 20 of the Surveyors Regulations 1992 and Board Memorandum 6/93 on Supervision. The Supervising Surveyor is solely responsible for surveys carried out under their supervision and as such should exercise a standard of supervision that would ensure the survey reflects their professional responsibilities and complies with relevant statutes.

The extent of supervision will vary according to the experience, skill and ethics of the Applicant. A minimum level of supervision would include the following: -

1. The Supervising Surveyor should fully brief the Applicant on the purpose and detail of the survey before the Applicant commences their involvement in that survey;
2. The Supervising Surveyor should discuss all aspects of the survey with the Applicant at the completion of the work.

4.7 Flexibility and Options within the PTA

Flexibility in the choice of optional modules is available within the PTA with the overall intent being the provision of education and training to develop a well-rounded professional surveyor. The Applicant may utilise providers of postgraduate block courses to satisfy the Board on their competence in specific core and optional elements of competence. That is, appropriate topics relating to a broad spectrum of work carried out by a professional surveyor may be undertaken.

The Board encourages Applicants and Supervising Surveyors to utilise secondments to other professional survey firms and make use of education providers for elements of the PTA, which may not be readily provided in-house. The range of providers does not need to be limited to traditional sources and methodologies.

The development of the PTA will depend upon the training stream chosen by the graduate. The PTA can be based on obtaining training and practical experience in the workplace, or through a combination of the Survey Practice Course and the workplace.

An applicant who has entered into a PTA and, due to certain circumstances, requires a variation to the agreement, may request a review of the training agreement structure. During the course of the PTA, the Agreement may only be altered in relation to an exclusion of specialist endorsement components, a change in how a core module is to be undertaken or a change in Supervising Surveyor. Other variations will require the preparation of a new PTA.

4.8 Other Certified Training

The Board may recognise training provided by other organisations. Such training will normally be an approved course undertaken at a certified training organisation (e.g. Tertiary institution) and must include an assessment component within the course. Thus, training may be provided through PTA's from the Surveyors Boards in other States/Territories and certified training from other recognised bodies such as tertiary education institutions.

Evidence of competence in the form of certified academic transcripts or certificates of competency should be submitted as evidence to the Supervising Surveyor and documented within the reports and/or portfolio submitted by the applicant. The Supervising Surveyor will then assess the module for competence, within the overall PTA.

4.9 Levels of Endorsement

The current levels of registration and endorsement include:

- registration as a Surveyor;
- cadastral endorsement (Licensed Surveyor);
- engineering endorsement;
- consulting endorsement.

Registration as a Surveyor requires the satisfactory completion of core competency modules in the PTA. Each additional endorsement or specialisation will then require the completion of additional modules in the area of specialisation. Details of these endorsements are contained in Appendix 1.

5.0 ASSESSMENT OF THE PTA

A necessary element of the training agreement is monitoring, to enable assessment to be carried out on a continual basis. A portion of the monitoring is through informal discussions between the Applicant and the Supervising Surveyor. The results of the monitoring will assist in providing a training program that is comprehensive, flexible and not specifically biased to any aspect of Surveying.

The assessment of the PTA is performed through: -

- Regular Reports
- A Professional Assessment Project (PAP)
- Board Interviews

5.1 Regular Reports

Reports are submitted to the Board initially on a three (3) monthly basis for the first two (2) reports and thereafter on a six (6) monthly basis. The reports are considered to be an important assessment tool and are to be comprehensive and professionally presented. They are expected to contain: -

- a self assessment summary detailing the work that has been completed since the last report, responsibilities attained and assessment of their personal progress;
- a brief report by the supervising surveyor on the progress and performance of the candidate;
- a copy of their personal work diary detailing jobs completed and activities undertaken;
- a work portfolio containing the details of representative jobs undertaken by the Applicant throughout the training period; and
- details of competencies signed off over the period.

It is the responsibility of both the Applicant and Supervising Surveyor to identify potential shortcomings in the Agreement, as soon as these become apparent. This should then allow for early rectification of potential problems.

5.2 Professional Assessment Project

To support Registration and any associated specialist endorsements applied for, the Applicant is required to successfully complete a Professional Assessment Project (PAP) as approved by the Board. This project should be done in conjunction with the PTA and should be completed by the end of the Professional Training Agreement.

Where the Applicant intends to apply for a specialist endorsement, the PAP should be based on the specialisation. For instance, the Licensing endorsement would require the successful completion of a cadastral-based PAP. The Engineering endorsement requires the successful completion of an engineering based PAP. Commonly PAP's will incorporate both cadastral and engineering aspects for both endorsements.

It is considered that the PAP should commence at about month fifteen (15) of the PTA. It should be completed within six (6) to nine (9) months.

5.3 Board Interview

After the completion of the two year training period and the PAP, the Applicant applies for an oral examination before a Panel established by the Board. The Applicant will be examined in a number of areas to assess their training; competence in surveying; understanding of Ethics and Professionalism, Practice and Management.

6.0 PROGRESS OF THE PTA'S IN QUEENSLAND AND OTHER STATES

The Queensland Surveyors Board introduced PTA's in January 1998. Apart from some minor problems in establishing a few of the early agreements and the administrative mechanisms for monitoring the PTA's, the implementation of the new system has been very successful.

The Board currently has 22 graduates undertaking the PTA process. Of these graduates 15 are completing their PTA in association with the Survey Practice Course whilst the remainder are undertaking their PTA completely within their place of employment.

To date the quality of the reports and work folios have been of a high standard and the Board is encouraged by the quality of the work submitted. It is expected that the first surveyors to be registered and licensed through this process will emerge in late 1999 or early 2000. The PTA process will undergo further review and refinements to ensure that the quality of registrants is maintained and that any undue administration is minimised.

It has been promising to see that other states are also progressing towards the adoption of the PTA system. Victoria has implemented a PTA system, whilst the other states are in the process of developing or refining their agreements. This has led to discussions by the various Boards on the development of a National PTA. The objective of the National PTA is to provide a mechanism for the reciprocation and transfer of agreements between states. Although each state will have some variations in their agreements the overall concept of a two year structured 'on the job' training program will be standardised.

7.0 CONCLUSIONS

The introduction of Professional Training Agreements as a new pathway to registration has to date been a successful and positive initiative of the Board. The development and introduction of the PTA's has been achieved through consultation with the profession and the industry as a whole. The PTA process involves a co-operative arrangement between the Board, the Graduate and The Supervising Surveyor, which now establishes and ensures that communication on the progress of the graduate occurs.

In establishing the PTA system the Board sought to maximise the its flexibility and ensure that existing resources such as the Survey Practice Course could be utilised. This flexibility together with a structured approach to training should address some of the deficiencies identified in the past registration mechanisms. The process of assessment of competency is an ongoing activity of the Board and will require continuing refinement of these strategies for the future.

REFERENCES.

Surveyors Board of Queensland, 1998, *Guidelines for the Operation of Professional Training Agreements.*

APPENDIX 1

ENDORSEMENTS

Endorsements can be achieved by completing the six Core Modules required for registration as a Surveyor and then selecting the appropriate Optional Modules to achieve the endorsement(s) desired. It is also required that the Professional Assessment Project (PAP) be undertaken in the area of specialisation of the endorsement. The appropriate endorsements can be achieved from the following combinations of Modules:-

- **Registration as a Surveyor and the Licensing (cadastral) endorsement**
 - Six core modules
 - Property Development Surveys
 - Advanced Boundary Definition Surveys
 - another optional module
 - Plus PAP in the cadastral/land development area.

- **Registration as a Surveyor and the Engineering endorsement**
 - Six core modules
 - Property Development Surveys
 - Engineering Surveys
 - another optional module
 - Plus PAP in engineering area.

- **Registration as a Surveyor and the Consulting endorsement**
 - Six core modules
 - Property Development Surveys
 - Advanced Professional Practice Management
 - another optional module
 - Plus PAP in approved area with emphasis on consulting activities.

- **Registration as a Surveyor and the Licensing and Consulting endorsements**
 - Five core modules
 - Property Development Surveys
 - Advanced Boundary Definition Surveys
 - Advanced Professional Practice Management
 - Plus PAP in approved areas.

- **Registration as a Surveyor and the Licensing and Engineering endorsements**
 - Five core modules
 - Property Development Surveys
 - Engineering Surveys
 - Advanced Boundary Definition Surveys
 - Plus PAP in approved areas.

- **Registration as a Surveyor and the Licensing, Engineering and Consulting endorsements**
 - Five core modules
 - Property Development Surveys
 - Advanced Boundary Definition Surveys
 - Advanced Professional Practice Management
 - Engineering Surveys
 - Plus PAP in approved areas.

APPENDIX 2

SAMPLE MODULE

Module No/Name:	Boundary Definition Surveys 1
Indicative Duration in Hours:	100 – 150
Prerequisite Modules:	Nil

A very large component of the practice of surveying is related to cadastral surveying and in particular those aspects involved with the definition of land boundaries. It is critical that professional surveyors, registered and licensed to undertake boundary survey work, have a thorough understanding and knowledge of the requirements.

LEARNING TOPIC		COMPETENCY VERIFIED	
Boundary Definition Surveys 1		SIGNATURE	DATE
1	Introduction to Land Registration & Reinstatement		/ /
2	Searching		/ /
3	Identification Surveys		/ /
4	Urban Surveys		/ /
5	Rural Surveys		/ /
6	Plan Preparation and Examination		/ /
7	Reinstatement Computations and Reports		/ /
8	Survey Integration, Survey Co-ordination. Overview of the changes in the practice of surveying.		/ /
9	Practical Work		/ /

LEARNING TOPIC	LEARNING OUTCOME
1	Land Registration, Field Procedures and Field Notes, Cadastral History, Introduction to Reinstatement.
2	Searching Procedures. Undertake searching for various cadastral jobs. Assessment of search to determine approach to survey.
3	Suburban Identification Surveys, Reinstatement Exercises
4 and 5	Complete a range of a cadastral surveys including surround surveys, subdivisional pegging, building units and group title and easement surveys.
6	Prepare plan sketches suitable to final drafting. Examine final plans suitable for registration using in-house QA System.
7	Complete reinstatement calculations under guidance of a Licensed Surveyor. Complete brief reinstatement reports for at least 5 surveys.
8	Research and prepare a report for discussion with colleagues and the Supervising Surveyor on the impacts of Survey Integration.
9	Field work and re-instatements. Discussion of re-instatements with colleagues and the Supervising Surveyor.

Assessment	
PTA Portfolio	SPC Assessments
<p>The portfolio would include complete documentation of at least 3 field survey boundary re-instatement projects of moderate complexity. The Supervising Surveyor would involve the graduate in a range of re-instatement exercises.</p>	<p>At least 3 cadastral field projects would be done in the workplace and the portfolio and supervisor's comments would be submitted to the course co-ordinator. 60%</p> <p>3 office based reinstatement exercises would be completed under exam conditions. 40%</p>