

## Regulations 1975 No. 10

### Regulations under the *Surveyors Ordinance 1967-1970*.\*

I, GORDON MUNRO BRYANT, the Minister of State for the Capital Territory, hereby make the following Regulations under the *Surveyors Ordinance 1967-1970*.

Dated this twelfth day of May, 1975.

GORDON M. BRYANT  
Minister of State for the Capital Territory.

#### AMENDMENTS OF THE SURVEYORS (EXAMINATION AND REGISTRATION) REGULATIONS†

1. Regulation 4 of the Surveyors (Examination and Registration) Regulations is amended by adding at the end thereof the following sub-regulation:—

Approval for entering into articles.

“(4) For the purpose of paragraph (3) (a) or (b), the Board shall not regard a university or institute of technology as providing sufficient instruction and training in the principles and practice of surveying if the syllabus, either in whole or in part, of the course leading to the degree or diploma in surveying granted by that university or institute of technology is not substantially in accordance with the syllabus contained in Schedule 1.”.

2. The Surveyors (Examination and Registration) Regulations are amended as set out in the following table:—

Table of amendments.

Provision	Amendments
Sub-regulation 3 (2)	Omit “the Schedule to these Regulations”, substitute “Schedule 2”.
Regulation 15	Omit “twenty chains”, substitute “400 metres”.
Sub-paragraph 16 (5) (a) (i)	Omit “eighty acres”, substitute “30 hectares”.
Sub-paragraph 16 (5) (a) (iii)	Omit “one thousand feet”, substitute “300 metres”.
Paragraph 16 (5) (e)	Omit “forty inches by twenty-seven inches”, substitute “of the size known as International B1”.
Sub-paragraph 16 (5) (e) (iii)	Omit “five hundred acres”, substitute “200 hectares”.
Sub-paragraph 16 (5) (f) (i)	Omit “a ten-chain outline zoning plan”, substitute “an outline zoning plan on the scale of 1 to 10,000”.
Paragraph 28 (d)	Omit “letter of recommendation”, substitute “letter of accreditation”.
Sub-regulation 31 (1)	Omit “letter of recommendation”, substitute “letter of accreditation”.
Sub-regulation 31 (2)	Omit “letter of recommendation”, substitute “letter of accreditation”.
Paragraph 32 (c)	Omit “Letters of Recommendation”, substitute “Letters of Accreditation”.
	Omit “letters of recommendation”, substitute “letters of accreditation”.
Regulation 34	Omit “the Schedule to these Regulations”, substitute “Schedule 2”.

\* Notified in the *Australian Government Gazette* on 16 May 1975.

† Regulations 1968, No. 1, as amended by Regulations 1970, No. 4.

Schedules.

**3. The Schedule to the Surveyors (Examination and Registration) Regulations is repealed and the following Schedules substituted:—**

" SCHEDULE 1  
SYLLABUS

Regulation 4

## (1) Principles of Surveying.

History and development of surveying and of the instruments used; nature, causes and classes of errors of measurements; theory of construction, adjustment, care and use of the steel band; the invar band; optical square; Abney clinometer; Indian clinometer; magnetic compass; plane table; level; theodolite, tacheometer, levelling staff, subtense bar, sextant and barometer.

Recording of field notes, line ranging, surveying with steel band, reduction of bearings, traversing with magnetic compass, traversing with theodolite, calculation of traverse closures by method of latitudes and departures, methods of adjustment of traverse misclosure, plane table surveying, differential levelling, reduction of levels.

## (2) Computations.

Problems regarding standardisation of steel tapes, determination of tension, sag and temperature corrections, reduction of traverses and co-ordinates; calculation of areas by double longitudes; calculation of offset areas; calculations in connection with areas and dimensions of plane figures having rectilinear or curved boundaries, mensuration of surfaces and solids; calculations for setting out circular and parabolic curves and road secants; computations connected with plane surveying, intersection and resection; calculation of heights and distances; adjustment of plane surveys; calculations in connection with mine surveying; problems connected with setting out areas; problems dealing with small angles, interpolations, elementary theory of errors, propagation of true and probable errors, spherical trigonometry.

## (3) Engineering Surveying.

Levelling; barometric measurement of height; mass diagrams; tacheometric surveying; contouring; earthwork quantities from contours and spot levels; the prismatic formula; locating, grading and setting out roads and railways; setting out simple curves, banks, cuttings and other earthworks; elementary theory of hydraulics; hydraulic terms and constants; determination of mean sea level; gauging of streams, rivers and water-ways; current meters; flow of water in pipes and open channels; run off and flood discharge; three point problem by graphical methods; setting out railways and highways using circular, parabolic and transition curves; super elevation; precise levelling; design and setting out engineering works; determination of waterways for bridges and culverts, harbour and river surveys, hydrographic surveys.

## (4) Town and Country Planning.

History of planning; the principles of town, country and regional planning; zoning; communications and transport; the design and allocation of open spaces and recreational areas; by-laws; public services; amenities; preparation of civic survey and scheme plans inclusive of detail of town design; planning legislation.

## (5) Photogrammetry.

Flying specifications, identification and plotting of air photo control; flight maps; scales; aerial camera; types of camera; photographic materials; geometry of the aerial photograph; scale relationships; coverage, relief and tilt displacements; principles of stereoscopy; the stereocomparator; ground control; map compilation; radial line plotting, restitution by analytical instruments; inner orientation; relative orientation, and absolute orientation; aerotriangulation; stereoscopic plotting methods, absolute and differential parallax; principles of rectifying and enlarging camera and plotting machines; preparation of mosaics; interpretation and use of aerial photographs, terrestrial photogrammetry.

## (6) Mapping and Cartography.

Types of maps and charts and their application; map and chart scales; design of topographical sheets and series; methods of representation of physical and artificial features; conventional signs, map projections, grids and graticules; methods of drawing and map compilation, topographic surveying, cartographic processes and materials; methods of plan reproduction and printing procedures.

SCHEDULE 1—continued

(7) Land Classification and Development.

Elementary geology; specimens of rock may be submitted for classification and description; structural geology and geology stressing engineering applications; nature and origin of rocks and soil formation; drawing of cross sections, their interpolation and history; examination of hard specimens of major rock types and rock forming mineral; classification of areas of land according to physiography including geological formation, topography and climate related to vegetal growth; types and properties of soils and their relation to the basic physiographic factors; soil erosion and soil conservation; reclamation of land; farm products in relation to soils; types of pastures and their relation to basic physiographic factors; soils and vegetation; effect of river control and water conservation in land development; water supply and reticulation for farm development; land drainage and irrigation; economics of land subdivision for development; economic farm unit; farm planning; principles of afforestation; distribution of indigenous timbers and shrubs; economic values of timbers; existing and potential land uses; general principles and definition of land valuation; stock carrying capacity; cost of development of various types of country, method of valuing all improvements; valuation of building, roads, drains, clearing and earthworks; legislation affecting land values; methods of estimating compensation for land acquired by Australia or resumed by the State Governments; valuation of the fee simple of urban and rural properties and of interests less than fee simple; farm costs and returns; depreciation and obsolescence; influence of existing laws on land values.

(8) Laws Relating to Surveying.

Common and Statute law; equity and case law; real and personal property; land and tenure; estates in land, freehold and leasehold licenses; interests in land of other persons; easements and profits; invalid conditions; land as a security; mortgages; transfer of land; the common law and the Real Property Ordinance 1925-1972; the expansion of interests in land; adverse possession; the law relating to surveys of land for the purpose of title; the subdivision of land; the taking of land for special purposes; the law of contract and liability.

(9) Astronomy.

Spherical trigonometry; azimuth, altitude, hour angle, time, right ascension, declination and the relation between them; use of the Star Almanac for Land Surveyors; corrections to star or sun observations; effect of errors of adjustment of instruments, determination of azimuth, longitude, latitude and time.

(10) Geodetic Surveying.

Principles of and the general procedure for first and second order and minor triangulations, trilateration and traversing, including reconnaissance, observing, beaconing and permanent marking; field book practice, summaries and strength of figures; triangulations, base nets, resections; figure of the earth; reduction of length to sea level; corrections for curvature and refraction; trigonometrical heights of stations; intervisibility of stations; spherical excess; calculation of geodetic latitude, longitude and reverse azimuth; convergence of meridians; computations connected with triangulation, trilateration and traversing; application of the Transverse Mercator and Conformal projections, theory of errors, adjustment to observations including weight co-efficient; Laplace stations.

(11) Professional Practice.

A study of the history of land surveying, the early Surveyor-Explorers, an outline of the Surveyor and Statutory Authorities, the Survey and Civil Law, liability, trespass, damage, copyright, contract, office organisation and administration, surveyor-client relationship, survey-consultant relationship, the surveyor as an expert witness, conditions of employment, professional ethics.

" SCHEDULE 2

Regulation 34

FEES		Regulation 34
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1. On application for registration of articles .. .. .	.. .. .	5.00
2. On application for registration of instrument of transfer of articles .. .. .	.. .. .	5.00
3. On application for permission to sit for part of an examination .. .. .	.. .. .	10.00
4. On application for permission to sit for whole of an examination .. .. .	.. .. .	15.00
5. On application for registration as a surveyor .. .. .	.. .. .	20.00
6. On issue of certificate of registration .. .. .	.. .. .	5.00
7. Annual registration fee .. .. .	.. .. .	5.00
8. On application for restoration of name to register after removal for non-payment of annual registration fee .. .. .	.. .. .	20.00
9. On issue of letter of accreditation .. .. .	.. .. .	5.00
10. For permission to inspect a register .. .. .	.. .. .	2.00