

No. S343, Friday 20 December, 1996

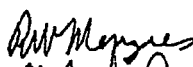
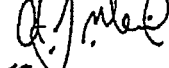

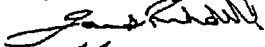
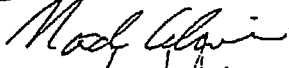
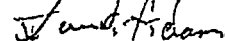


AUSTRALIAN CAPITAL TERRITORY

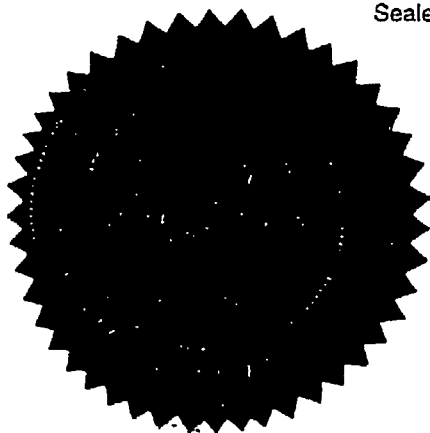
SURVEYORS ACT 1967
SURVEY PRACTICE DIRECTIONS 1996

PURSUANT to section 34A of the *Surveyors Act 1967* the Surveyors Board of the Australian Capital Territory repeals the Survey Practice Directions 1995 as published in the Special Gazette No. S42 dated 13 February 1995 and makes the Survey Practice Directions 1996 as attached to this instrument with respect to the practice to be followed by surveyors.

The Survey Practice Directions 1996 take effect on the date they are published in the Gazette.

	R. Menzies	Chairman
	A. Mail	Deputy Chairman
	F. Searson	Member
	J. Riddell	Member
	N. Oliver	Member
	D. Adams	Member

Sealed by the Board this the Third day of December 1996.



Part 1 - Preliminary

1. These Directions may be cited as the Survey Practice Directions 1996.
2. These Directions are divided into parts as follows:
 - Part I - Preliminary (Directions 1-3)
 - Part II - Definitions (Direction 4)
 - Part III - Supervision (Directions 5-6)
 - Part IV - Survey Practice (Directions 7-21)
 - Part V - Re-determination of boundaries (Directions 22-28)
 - Part VI - Irregular Boundaries (Directions 29-33)
 - Part VII - Nature and Position of Marks (Directions 34-39)
 - Part VIII - Accuracy of Surveys (Directions 40-43)
 - Part IX - Identification Surveys and Remarking (Directions 44-46)
 - Part X - Field Notes (Directions 47-51)
 - Part XI - Plans (Directions 52-57)
 - Part XII - Stratum Surveys (Direction 58)
 - Part XIII - Unit Titles (Direction 59)
3. The Survey Practice Directions 1995 issued by the Surveyors Board of the Australian Capital Territory on 13 February 1995 are hereby revoked.

Part II - Definitions

- Definitions*
4. In these directions, unless the contrary intention appears:
 - 'Appropriate accuracy' means such accuracy as is reasonably possible of attainment in any particular survey.
 - 'Chief Surveyor' means the person occupying the position of Chief Surveyor of the Australian Capital Territory.
 - 'Control Survey' means a survey of either first order or a breakdown of a first order survey established for the purpose of setting out any other survey or to which any existing survey can be related, shown on a plan signed by a registered surveyor and available from a government authority.
 - 'Control Mark' means a survey mark of a durable nature established and maintained as part of a control survey.
 - 'Co-ordinated Reference Mark' or 'CRM' means a reference mark, registered by a government authority, which has been or will be connected to a control survey such that co-ordinates derived from that control survey have been or will be attributed to the mark.

'Monument' means a natural or artificial object or point thereon which is used for the purpose of locating or relocating a boundary or point thereon.

'Plan' means any drawing or record, signed by a registered surveyor, of either a partial or complete survey of land.

'Reference Mark' means a survey mark of a durable nature placed or situated near and connected by measurement to a corner, angle or tangent point of any survey.

'Rural Survey' means a survey, other than an urban survey, of land within the Territory for a purpose specified in Section 34 of the Act.

'Stratum' means any parcel of land consisting of a space of any shape below, on or above the surface of the land or partly below and partly above the surface of the land, all dimensions of which are limited.

"Survey/Land Survey" means any activity carried out by a registered surveyor which results in a plan required in connection with any disposition of, or interest in, land under any Act.

'Survey Mark' means any mark placed in accordance with these directions or shown on a plan of a survey.

'The Act' means the Surveyors Act 1967 (as amended).

'Urban Survey' means a survey of land within the Territory for urban development for a purpose specified in Section 34 of the Act.

Part III - Supervision

*Requirements for
Supervision*

5. No requirements of these Directions shall be construed as to allow any survey to be made by other than a registered surveyor without the supervision of a registered surveyor.

*Nature of
Supervision*

6. The nature and extent of supervision to be exercised by a surveyor over a survey made under the supervision of the surveyor shall be as follows:

The Surveyor shall attend personally on the ground during the making of the survey, and exercise such immediate oversight and direction of the work, as will ensure that the survey is carried out in accordance with these Directions.

Part IV - Survey Practice

- Power of Entry* 7. The written notice of intention to enter upon land given under Section 47 of the Act shall be in or to the effect of Form 3 in the Schedule to these Directions
- General Provisions for Undertaking a Survey* 8. When undertaking a survey in accordance with these Directions the surveyor shall:
- (a) (i) during the course of the survey locate or relocate with appropriate accuracy the boundaries of the land surveyed;
 - (ii) place or if required replace such survey marks as are required by that survey considering the purpose of the survey;
 - (iii) determine with appropriate accuracy the position of all monuments relevant to the survey; and
 - (iv) in the absence of adjacent surface reference marks, determine with appropriate accuracy connections to kerbs as laid provided the kerb offset is less than 15m;
- (b) make complete field notes of the survey in accordance with Part X of these Directions; and
- (c) if so required prepare a plan of the land surveyed and if necessary a report on the survey
- Survey Search Information* 9. A surveyor shall procure all information necessary to locate or relocate the boundaries of any land surveyed
- Standardisation and Calibration of Equipment* 10. (1) In making a survey, the surveyor shall ensure that all equipment used in the survey is in accurate adjustment, standardised and properly calibrated.
- (2) Steel and invar bands and electronic distance measuring equipment must be verified at least once every 12 months and immediately after repairs on a standard base established by or acceptable to the Chief Surveyor.
- (3) Global Positioning System (GPS) equipment should be validated during the course of the survey on a geodetic network approved by the Chief Surveyor. The method of verification or validation, and the procedures used when operating GPS, must be in a manner approved by the Chief Surveyor, details and results of which are to be supplied to the Chief Surveyor on request.

- Azimuth*
11. (1) Before adopting a line as the datum for the azimuth of a survey, a surveyor shall determine and confirm the position of the marks defining such line.
- (2) Whenever possible the defining marks shall be contained within a single registered survey.
- (3) The bearing of the azimuth line shall:
- (a) be taken from the datum survey either directly or by calculations from stated dimensions;
 - (b) be calculated from datum co-ordinate values if the defining marks are CRMs or control marks, or
 - (c) be obtained from astronomical observations.
 - (d) be calculated from observations taken by GPS equipment between control marks, using the transformation parameters provided by the Chief Surveyor, from the appropriate geocentric datum to the ACT grid.
- Connection to Control Marks*
12. (1) If the land being surveyed is not connected by survey to a control survey, a surveyor shall connect the survey to the nearest control mark if within a reasonable distance of the survey by either direct measurement or well conditioned bearings.
- (2) If GPS equipment is used in the making of a survey a surveyor shall connect to at least two control marks the co-ordinates of which are known in the appropriate geocentric datum
- Use of Direct Measurements*
13. A surveyor shall measure all boundaries and lines by the most direct method that is reasonable and practicable.
- Partial Surveys*
14. If surveying part of the land in a document of title, the surveyor shall connect such part by actual measurement to monuments or points having a known relation to a corner of the land in the title
- Location of Easements or Proposed Easements*
15. (1) Where the land being surveyed is subject to or it is proposed that it be subject to any form of easement the surveyor shall connect such easement or proposed easement by measurement to essential relevant monuments and where practical to corners of the parcel in which the easement is or is to be located.
- (2) The surveyor shall show on the plan the essential dimensions of the site and shall note it thereon as 'easement' or 'proposed easement' as appropriate,

provided that the essential dimension to be shown on the plan need not be determined by measurement of the boundaries of the easement or proposed easement unless the circumstances so require.

Marking Urban Surveys

16. (1) Where a surveyor makes an urban survey the surveyor shall whenever possible firmly mark each corner thereof (including corners of each parcel of land in a subdivision) with a peg or mark of a nature as prescribed in Direction 34.
- (2) Where it is not possible or practical to mark a corner a line mark of a nature prescribed in Direction 34 shall be placed along a boundary or its prolongation as near as practical to that corner and its position shown on the plan.
- (3) Marking of urban surveys should not be completed until land servicing has reached a stage where all marking will be durable.

Connections to CRMs where available

17. Where a surveyor makes an urban survey and the land surveyed abuts or comprises a road or street or other public place:
- (a) in which CRM(s) have been placed adjacent to the survey but not connected to any other survey the surveyor shall:
- (i) connect the subject land to such CRM(s) by a closed traverse which includes the CRM(s) and a control mark; and
 - (ii) record the derived co-ordinate values of the CRM(s) on the plan of survey.
- (b) in which CRM(s) have been placed adjacent to the survey and are shown on another registered plan the surveyor shall connect to those marks by closed traverse.

Placement of Reference Marks for Urban Surveys

18. (1) Where a surveyor makes an urban survey for any purpose and the land surveyed:
- (a) abuts a road or street in which within the limits of the frontage of the land surveyed, reference marks or CRMs have not been placed or have been disturbed, the surveyor shall
- (i) place a reference mark near each extremity of the boundary of the land where it abuts the road or street; and

- (ii) place reference marks at intervals or not more than 200m throughout the length of the frontage of the land surveyed;

provided that where the road or street frontage is less than 50m one reference mark only need be placed if an azimuth line of not less than 50m is shown from that reference mark to some other suitable reference mark or control mark or suitable fixed object, otherwise a second reference mark shall be placed not less than 50m from the first.

- (b) does not front a road or street the surveyor shall place 2 reference marks suitable for azimuth.

(2) Where a surveyor makes an urban survey solely for the establishment or redefinition of a road or street and CRMs have not been placed or have been disturbed the surveyor shall place reference marks:

- (a) near each extremity of the survey;
- (b) at all intermediate angles or tangent points provided that the distance between marks is not less than 25m, and
- (c) such that the distance between any two adjacent marks does not exceed 200m.

Marking Rural Surveys

19. Where a surveyor makes a rural survey the surveyor shall mark distinctly and durably all lines which form or are to form the boundaries between parcels:

- (a) with a peg or mark as prescribed in Direction 34 together with lockspits cut in the direction of each unfenced boundary from each corner and angle; and
- (b) on unfenced boundaries with pegs or marks and lockspits as prescribed in Direction 34 placed at intervals of not more than 200m.

Reference Marks for Rural Surveys

20. Reference marks shall be placed on rural surveys in accordance with the following:

- (a) where the land surveyed is not being subdivided - two reference marks suitable for redefinition of the survey;
- (b) where the land surveyed is being sub-divided into parcels which are less than 4ha - at least 1 reference mark in respect of each such parcel;
- (c) where the land surveyed is being sub-divided into

parcels which are of 4ha or more - at least 2 reference marks in respect of each such parcel;

- (d) where a boundary other than a road frontage exceeds 2000m - additional reference marks at intervals of not more than 1500m; and
- (e) where a boundary required to be marked in accordance with the Directions is a road frontage - pairs of reference marks suitable for azimuth at intervals of not more than 1000m along such boundary, and one reference mark at each extremity of that boundary

Surveys of Rural or Reserved Roads

21. When making a survey of a rural or reserved road a surveyor shall:
- (a) measure and mark definitely and durably all lines which form the boundary of one side of the road with pegs or marks and lockspits of the nature prescribed in Direction 34;
 - (b) place pegs or marks at each angle along the surveyed boundary and where the distance between angles is in excess of 200m at intervals of not more than 200m except where angle marks are intervisible the distance should not exceed 300m;
 - (c) mark with the prescribed pegs or marks each angle of the unsurveyed boundary; and
 - (d) place pairs of reference marks suitable for azimuth at intervals of not more than 1000m along the surveyed boundary and one reference mark at each extremity thereof.

Part V - Re-determination of Boundaries

Adoption of Original Survey Marks

22. Where a surveyor makes a resurvey of land in a Crown Grant or Crown Lease or part thereof the boundaries as originally marked on the ground shall be adopted as the true boundaries, even though the bearings and lengths appearing in a relevant plan or document do not agree with those between the corresponding monuments.

Variation from Original Dimensions to be Shown

23. Where a corner peg and reference mark or control mark are found a surveyor shall determine the bearing and distance between them, and if a difference from the original reference is disclosed the surveyor shall decide from other evidence which of the monuments to adopt, and shall note details of such evidence and difference on the plan.

- Practice to be Adopted where Original Marks are Missing or disturbed* 24 Where monuments of an original survey are missing or disturbed the surveyor shall determine the boundaries and corners of the subject land by measurement in correct relation to boundaries of adjacent parcels of land and parcels of land on opposite sides of roads, and to fences, and to such other evidence of correct location as may be found after full investigation and inquiry.
- Disclosure of Excess or Shortage* 25. (1) Where a measurement discloses a boundary of land surveyed to be longer or shorter than is indicated in the document of title to such land a surveyor shall verify the length of such boundary and record appropriate entries in field notes, and show in such notes and on any plan of the survey the monuments adopted.
- (2) In the absence of monuments defining the land surveyed a surveyor shall indicate whether there is sufficient land available to permit the adoption of such measurement without causing any encroachment upon or hiatus with any road, street or lane or upon any adjoining or adjacent parcel of land.
- Reference to Old Marks to be Shown on Field Notes and Plans* 26. (1) A surveyor shall indicate in field notes and in any plan of survey the nature and position, or non existence of all monuments relevant to the survey.
- (2) A monument shall not be recorded as missing, lost or destroyed unless a thorough search for it has been made, and when it is so recorded measurements to its probable location shall be entered in the field notes.
- (3) Where a surveyor ascertains during the making of any survey that control marks or co-ordinated reference marks are missing, disturbed or likely to be disturbed the surveyor shall report the fact to the Chief Surveyor.
- Variation in the Position of Non-Tidal Streams* 27. (1) Where since the date of any survey there has been a change in the position of any non-tidal stream forming a boundary of land to be surveyed caused otherwise than by gradual and imperceptible accretion or erosion, then in any subsequent survey, the position of such bank as it was immediately before such change shall be relocated after examination of all relevant accessible information.
- (2) The middle line of a stream need not be determined by offsets nor marked unless the purpose for which the survey is made so requires.
- Variation in the Position of High Water Mark* 28 Where since the date of any survey there has been a change in the position of high-water mark forming a boundary of land to be surveyed caused otherwise than by gradual and imperceptible accretion or erosion, then in any

subsequent survey the position of mean high-water mark as it was immediately before such change shall be relocated after examination of all relevant accessible information.

Part VI - Irregular Boundaries

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| <i>Location of Irregular Natural Boundary</i> | 29. | Where the land surveyed has an irregular natural feature as a boundary, a surveyor shall take such measurements as may be necessary to accurately determine each change of course or direction of the boundary. |
| <i>Use of Photogrammetric Methods</i> | 30. | Notwithstanding the provisions of Direction 13, the Chief Surveyor may authorise the determination of natural boundaries by photogrammetric methods |
| <i>Location of other Irregular Boundaries</i> | 31. | (1) Where an irregular fence must be used to define a boundary a surveyor shall carefully traverse it and place the angle points of the boundary in such a way that the boundary shall follow the material of the fence at the surface of the ground

(2) Angle points shall be substantially marked by the surveyor, and the nature thereof shown on the plan. |
| <i>Definition of High Water-Mark</i> | 32. | (1) High-water mark in a document relating to land shall, unless a contrary intention appears, be taken to mean the line of mean high-tide, between the ordinary high-water spring and ordinary high-water neap tides.

(2) The boundary of land abutting on tidal water shall, unless a contrary intention appears, be taken to be the mean high-water mark

(3) Where it is not reasonably practicable for a surveyor to determine an inaccessible or irregular high-water mark, the surveyor may determine it approximately by reference to regular or approximately regular curves, or to right lines or to any combination thereof, and, in these circumstances, it shall not be essential to place marks on the mean high-water mark. |
| <i>Area to be Determined by Survey</i> | 33. | The area of land abutting on a non-tidal stream or on tidal water shall be ascertained by the surveyor, and shall include all lands to the bank or the high-water mark as the case may be |

Part VII - Nature and Position of Marks

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| <i>Description of Marks</i> | 34. | (1) Where any line or corner of any portion of a survey is required to be marked in accordance with these Directions, the points shall be firmly marked with a peg; |
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drill hole in rock, concrete, or other similar material; a chisel mark or nail in fixed timber; or otherwise suitably marked.

- (2) For rural surveys, or surveys of blocks of 5000 sq.m or more, all pegs shall be of sound durable wood at least 350mm long and not less than 75mm by 75mm section at the top end.
- (3) For urban surveys all pegs shall be of sound durable wood at least 250mm long and not less than 75mm by 40mm section at the top end.
- (4) Angles and tangent points along road or street frontages in other than urban surveys shall be marked with pegs of sound durable wood at least 350mm long and not less than 75mm x 75mm in section at the top end.
- (5) Where placing line marks in accordance with Direction 16(2) the boundary shall be firmly marked:
 - (a) with a peg of sound durable wood at least 250mm long and not less than 50mm by 50mm section at the top end;
 - (b) drill hole in rock, concrete, or other similar material;
 - (c) a chisel mark or nail in fixed timber; or
 - (d) otherwise suitably marked.
- (6) All pegs shall be pointed for approximately two-thirds of their length and shall be bevelled at the top
- (7) The centre of the top of all pegs shall represent the survey point, provided that where conditions prevent the correct centring of pegs a tack shall be placed eccentrically to represent the survey point
- (8) All pegs are to be placed upright point downwards so that the top is not more than 75 mm above the ground level in the case of a rural survey and 40 mm above the ground level in the case of an urban survey and the surrounding earth shall be securely rammed
- (9) Lockspits shall consist of trenches 1.5m long, 200mm wide at the surface and 150 mm deep dug in the direction of the boundary lines and commencing 300mm from each corner or angle or may consist of packed stones of similar dimensions.

(10) Where any corner, angle or other point is marked other than with a peg, where practicable wings shall be cut in solid rock, concrete or fixed timber, 75mm long 20mm wide and 10mm deep commencing 50mm from the corner or where the surface renders it desirable lines may be painted at least 300mm long and 20mm wide.

*Description of
Reference Marks*

35. (1) Where a surveyor is required to place reference marks in accordance with these Directions - they shall consist of:
- (a) a reinforced concrete block in the form of a truncated pyramid at least 375mm long, 150mm square at the lower end and 100mm square at the upper end with a galvanised nail or other suitable metal plug not less than 75mm long inserted therein;
 - (b) a galvanised iron pipe at least 300mm long and 10mm internal diameter with a wall thickness of not less than 3mm;
 - (c) a galvanised iron spike at least 100mm long driven into fixed timber with a wing 75mm long cut into the timber and directed to the galvanised iron spike,
 - (d) a drill hole cut into a kerb or other substantial structure at least 5mm in diameter and 10mm deep with a wing 75mm long and directed thereto;
 - (e) a drill hole at least 10mm in diameter and 25mm deep cut into bedrock with a wing 75mm long and directed thereto where such bedrock exists within 300mm of the natural surface of the ground;
 - (f) an appropriate chisel mark cut into the sound wood of a suitable tree; or
 - (g) a mark of a durable character or a specific point on a permanent or substantial structure.
- (2) Where a surveyor has placed or has found a reference mark referred to in sub-clause (1)(a) and (1)(b) of this Direction or a control mark more than 400mm below the natural surface of the ground the depth shall be indicated on the plan

*Description of
CRMs*

36. A CRM shall be either:
- (a) a non-corrosive metal plaque set in a concrete kerb;
 - (b) a deep driven stainless steel rod; or

(c) such other mark as approved by the Chief Surveyor.

*Placement of
Reference Marks
and CRMs*

37. (1) Where these Directions require a surveyor to place reference marks the surveyor shall place them adjacent to the corner, angle or line mark, in selected positions designed to preserve them from disturbance, excepting that where a tree or other monument is used it should not be more than 25m from the corner, angle or line mark to which it is connected.
- (2) Where a reference mark is placed in a road it shall be placed at a suitable distance from the existing road boundary, such distance shall be determined at the discretion of the surveyor having regard to the existence of any water, lighting or other services for which provision is or has to be made.
- (3) CRMs of a type described in Direction 36(b) or (c) are required to be placed at a ratio of at least 1 such CRM per one 100 parcels of land or part thereof
- (4) Where a CRM is installed it shall be located in such a position that it is not more than 150m distant from at least one other CRM and if possible shall have clear line of sight to adjacent CRMs.
- (5) Where a CRM is installed in such a position that it has, or the surveyor may have reason to consider that it may have in future, clear line of sight only to one other CRM then the surveyor shall place nearby a reference mark and shall connect the CRM to it by closed traverse.

*Connections to be
Shown*

38. Where a surveyor is required to place a reference mark the requirement shall include the connection by measurement from the mark to the survey made by the surveyor

39. *Deleted*

Part VIII - Accuracy of Surveys

Angular Checks

40. A surveyor who makes a survey which exceeds a length of 10km on level or undulating country, 8km on steep country or 6km on mountainous country shall check the surveyor's angular work by astronomical observations, by GPS observations or by a complete angular close and shall not, for this purpose, interpolate any angular measurement made by another surveyor

Angular Closure

41. Wherever practical a complete angular close shall be obtained. The observed angular misclose shall not exceed

30 seconds plus twenty $20\sqrt{n}$ seconds where 'n' is the number of traverse angular stations either for the whole surround or between and including stations at which astronomical or GPS observations for azimuth have been made; provided always that any misclose shall not exceed 3 minutes.

Closure of Surround

42. (1) A surveyor shall check all measurements and where the nature of the survey permits, the check shall be by the mathematical closure of the lines in all surrounds in the survey.
- (2) The closure of any survey must be such that the length of the misclose vector must not exceed:
- (a) 15mm + 100 ppm of the perimeter for boundaries, crossing or level or undulating country; or
 - (b) 15mm + 150 ppm of the perimeter for boundaries crossing steep or mountainous country
- (3) The misclose vector shall be determined as $\sqrt{a^2+b^2}$ where 'a' is the misclose in eastings and 'b' is the misclose in northings.

Accuracy of Measurement

43. (1) When making a survey, a surveyor must measure all lengths to an accuracy of 6 mm + 30 ppm or better.
- (2) Where lines in a survey are so short that the above standard would demand precision ordinarily unattainable such lines shall be so measured as to maintain the best possible standard consistent with the nature of the land measured.

Classification of Country

- (3) For the purposes of Directions 39 and 41, country shall be deemed to be:
- (a) level, where slopes do not exceed 3 degrees;
 - (b) undulating, where slopes vary between 3 and 10 degrees;
 - (c) steep, where slopes vary between 10 and 15 degrees; and
 - (d) mountainous, where slopes are greater than 15 degrees.

Part IX - Identification Surveys and Remarkings

Identification Surveys

- 44 (1) A surveyor may make:
- (a) a survey (commonly known as an Identification

Survey) of a previously measured parcel of land for the purpose of re-identification of the boundaries thereof, or of its location in relation to adjoining interests in such a manner as may be required by the nature of such survey; and

(b) a survey requiring the remarking of a previously surveyed parcel of land in such a manner and with such marks in such position as may be specially required by the client, but such survey shall not include one required in connection with any disposition of land or of any interest in land

(2) Where such a survey is made in accordance with this Direction, the provision of Directions 6, 8(a)(i), (ii), (iii), (b), 43 and 46 to 51 both inclusive (but no other provision of these Directions) shall apply in respect thereof.

Surveys of Lesser Accuracy

45 (1) A surveyor may make a survey for a purpose not requiring strict accuracy under arrangement made between the surveyor and the surveyor's client and in such a manner and with such marking as may be agreed upon between them. A sketch made in accordance with this Direction shall show monuments as approximately located.

(2) Where a survey is made in accordance with this Direction the surveyor shall endorse on the sketch a certificate in or to the effect of Form 2 in the Schedule to these Directions

(3) Where a survey is made in accordance with this Direction no other provision of these Directions shall apply in respect thereof

Lodging of Plans

46. Plans or sketches prepared in association with surveys made under Directions 44 and 45 may be lodged with the Chief Surveyor who shall keep a register of all such plans.

Part X - Field Notes

Field Notes

47 (1) A surveyor shall make neat, precise, complete and readily intelligible field notes of every survey in accordance with the usage of surveyors.

(2) The field notes shall show in a distinctive manner any supplementary information such as references to official documents and measurements not made by the surveyor as considered necessary for clarity.

(3) Indices and cross-references shall be used in such a manner as would facilitate the preparation of a complete and accurate plan from the field notes without reference to any additional records and without further explanation.

(4) No erasures shall be made and all amendments shall be initialled by the surveyor.

Information to be Shown

48. The field notes shall show:

(a) all the facts, readings and observations immediately they are ascertained by the surveyor, together with coefficients of standardisation and calibration of measuring equipment;

(b) the date, station and latitude thereof, and full particulars of all astronomical observations made in the course of the survey;

(c) the datum line of the survey and the origin of the azimuth adopted and, where a level is required, will clearly state the datum of levels and bench marks used to establish that level.

(d) all angles or bearings observed, recorded in degrees, minutes, and seconds of arc or decimal parts thereof and all such bearings shall be recorded and expressed clockwise from zero to 360 degrees; and

(e) the names of estates, houses, roads, streets, lanes, rivers, creeks, lakes and the like, and house numbers as far as material to the survey and ascertainable by the surveyor.

Alternative Methods of Recording Information

49. If a survey has been recorded in whole or in part by electronic methods, field notes and a paper copy of the reduced and formatted electronic data must be retained in a manner which facilitates the preparation of a complete and accurate plan from the data without recourse to other records and without verbal explanation.

Disclosure of Difficulties

50. A surveyor shall disclose any doubt, discrepancy or difficulty suggested by or encountered in a survey in the field notes.

Field Notes to be Signed

51. A surveyor shall sign as evidence each page or sheet of the field notes and shall indicate thereon.

(a) whether the work shown in the field book was performed personally or under supervision as defined in these Directions; and

- (b) the date on which the work recorded on such page was performed.

Part XI - Plans

- Standards for Plans* 52. The "Standards and Specifications for Plans" shall be approved by the Board and promulgated by the Chief Surveyor.
- Datum to be Shown* 53. A surveyor shall show the datum line of the azimuth of a survey in the plan by distinguishing letters placed at the terminals thereof and the nature of the marks defining the datum line shall be noted therein.
- Description of Marks and Connections to be Shown* 54. A surveyor shall indicate on the plan
- (a) the nature of any corner, angle or line mark placed which is not a peg;
 - (b) the nature of any reference mark placed together with the relevant essential measurements; and
 - (c) the nature of any reference mark or CRM found and connected to, together with the relevant measurements.
- Information to be Shown on Plan* 55. A surveyor shall show in a plan of re-survey or of a subdivision:
- (a) (i) the nature of all boundaries at the time of the re-survey or the subdivision irrespective of how they are marked or defined; and
 - (ii) if a wall is on a boundary, the boundary shall be described in the plan as 'face of wall' or 'passing through wall', or otherwise, as appropriate. A wall shall not be described as a 'party wall' except in accordance with Section 32 of the City Area Leases Ordinance 1936 and/or Sections 27 and 28 of the Common Boundaries Act 1981;
 - (b) the description and width of all walls used in common and the position of the boundary therein;
 - (c) offsets to all physical objects relevant to the survey within 1m of the boundaries; and
 - (d) offsets to all physical objects relevant to the survey and suitable for use as monuments to redefine a boundary within 3m of the boundaries.

- Certification*
56. (1) Where a surveyor is required to furnish a plan of a survey for lodgement at the Registrar-General's Office the surveyor shall endorse thereon a certificate in or to the effect of Form 1 in the Schedule to these Directions.
- (2) Such certificate may be incorporated in any certificate required by any law to be endorsed on such plan.
- (3) A surveyor shall disclose any doubt, discrepancy or difficulty suggested by or encountered in a survey in the plan thereof or in an annexure thereto or in an accompanying report.

- Requisition*
57. (1) On receipt of a requisition from the Chief Surveyor or the Registrar-General to amend a survey plan or to supply information concerning a survey or plan and which amendment or information is necessary to complete the plan in terms of these Directions, the surveyor concerned shall promptly comply with the requisition.
- (2) After certification of the plan by the Chief Surveyor such amendments shall be made by striking through the erroneous matter and inserting the correct information.
- (3) Amendments and additional information added to a plan shall be initialled and dated by the surveyor.

Part XII - Stratum Surveys

- Requirement for Stratum Surveys*
58. Where a plan of survey of a stratum is required the surveyor shall:
- (a) mark at ground level the projection of the extremities of the block and relate it to existing boundaries and occupations;
- (b) define the stratum by dimensions of regular surfaces;
- (c) show on the plan elevations and sections sufficient to delineate the stratum using reduced levels based on the Australian Height Datum;
- (d) relate the reduced levels to a permanent survey mark, the reduced level of which is recorded in the office of the Chief Surveyor,
- (e) show on the plan the position and reduced level of at least 2 permanent physical objects adjacent to the stratum; and

- (f) delineate on the plan any easement and fully describe its purpose and limitations.

Part XIII - Units Title

*Survey and Plan
Requirements*

59. (1) Where a surveyor is required to carry out a survey for the preparation of a Units Plan (within the meaning of the *Unit Titles Act*) it shall be done in accordance with Direction 44.
- (2) Standards, specifications and/or guidelines for the preparation of Units plans may be approved by the Board and promulgated by the Chief Surveyor.

SCHEDULE

Form 1 Direction 56
SURVEY PRACTICE DIRECTIONS

Surveyors Act 1967

I of
a surveyor registered under the Surveyors Act 1967 hereby certify that the
survey represented on this plan is accurate and has been
made in accordance with the Survey Practice Directions and was completed on
.....

(Signature).....
Surveyor, Registered under the
Surveyors Act 1967

Form 2 Direction 45
SURVEY PRACTICE DIRECTIONS

Surveyors Act 1967

I of ..
a surveyor registered under the Surveyors Act 1967 hereby certify that the
survey represented in this sketch being a survey which does not require strict
accuracy was made in accordance with Direction 45 of the Survey Practice
Directions.

(Signature)
Surveyor, Registered under the
Surveyors Act 1967

Form 3 Direction 7
SURVEY PRACTICE DIRECTIONS

Surveyors Act 1967

To the owner of.....
(here insert reference to land proposed to be entered)

In pursuance of Section 47 of the Surveyors Act 1967, notice is hereby given that
I, the undersigned registered Surveyor, intend to enter the abovementioned land
on for the purpose of making a survey.
(here insert dates of proposed entry)

Dated this day of 19

..... (Signature).....
Registered Surveyor

.....(Address)