

THE SURVEYORS (CONDUCT OF TITLE SURVEYS) REGULATIONS, 1962

In exercise of the powers conferred upon it by section 19 of the Surveyors Ordinance, 1960 [Ord. No. 22 of 1960.], the Surveyors Board has made the following Regulations:-

Citation.

1. These Regulations may be cited as the Surveyors (Conduct of Title Surveys) Regulations, 1962.

Interpretation.

2. In these Regulations –

“Board” means the Surveyors Board established under section 3 of the Ordinance;

“Director” means the Director of Lands and Surveys Department in the State and includes any officer duly authorised to act in that behalf;

“District surveyor” means the District surveyor of the Lands and Surveys Department in the District and includes any officer duly authorised to act in that behalf;

“Doppler Satellites Equipment” means an equipment for ascertaining the position on ground by receiving signals from Navy navigations satellites systems;

“E.D.M.” means an electronic distance measuring equipment;

“Global Positioning System (GPS) Surveying Equipment” means an equipment for ascertaining the position on the ground by receiving signals from Satellites System;

“Licensed surveyor” means a registered surveyor licensed in accordance with section 10 of the Ordinance;

“Ordinance” means the Surveyors Ordinance, 1960;

“R.S.O.” means Rectified Skew Orthomorphic projection;

“R.S.P.” means the Registered Survey Paper containing instructions by the District Surveyor to carry out the survey by licensed surveyors.

Ord. No. 22 of 1960.

3. Every licensed surveyor shall be conversant with the Ordinance and the regulations made thereunder, with all legislation in respect of title to land, land tenure and land use, with all rules and regulations made under such legislation in so far as they affect the work of a surveyor, and with the regulations of the Lands and Surveys Department.

Personal direction and supervision and registration of assistants.

4. (1) Every title survey shall be made under the immediate personal direction and supervision of a licensed surveyor and in strict accordance with these Regulations.

(2) Every survey technician employed by a licensed surveyor shall be notified to the Board by the licensed surveyor who employs him. The licensed surveyor shall notify the Board when any such survey technician ceases to be employed by him.

(3) Every survey technician employed by a licensed surveyor shall have qualifications acceptable to the Board.

The minimum qualifications prescribed for acceptance are –

- (a) Diploma/Certificate in Surveying issued by any recognised Polytechnic/Institution; or
- (b) Sijil Pelajaran Malaysia (SPM) Certificate with Credit in Mathematics and a pass in the prescribed Survey Board Examination; or
- (c) a Certificate in Land Surveying from the Lands and Surveys Training School of Sabah:

Provided that any Survey Technician serving with a Licensed Surveyor and notified to the Board before coming into force of this Regulation is required to pass a *viva-voce* test prescribed by the Board.

Existing survey data to be obtained.

5. Every licensed surveyor shall:-
- (a) before commencing a survey for title consult the records of Lands and Surveys Department or of any other authority to which he may be directed by an officer of that Department, and obtain therefrom all relevant information available which may be necessary to effect the survey;
 - (b) obtain from the Lands and Surveys Department the R.S.P. in connection with the survey he is to carry out and shall not carry out the survey without the express sanction of the District Surveyor.

Notice of intention to survey.

6. A licensed surveyor shall give notice of intention to commence a survey for the purpose of marking a title boundary to the District Surveyor and such notice shall set out the purpose and extent of the proposed survey.

Compliance with Lands and Surveys Department's and other's requirements.

7. Licensed surveyors shall ensure that their proposed title surveys comply with all the legal requirements of the Director, the Town Planning Authority and the local authority before work is commenced on such surveys.

Compliance with District Surveyor's requirements.

8. (1) The licensed surveyor shall comply promptly with any requisition made by the District Surveyor in respect of any survey he has made.

(2) If compliance with such a requisition has not been made, nor a satisfactory reason for non-compliance therewith given, within sixty days of a notification having been posted by registered mail to the licensed surveyor's last known address, the matter may be reported to the Board.

(3) All survey matters requiring clarification or requisition by the District Surveyor shall be clarified or dealt with by the licensed surveyor personally.

Errors in previous surveys.

9. A licensed surveyor discovering an apparent error in a previous survey which would materially affect its accuracy shall supply the District Surveyor with a full report and all available evidence, but will not attempt to rectify the error until he has received a detailed requisition to do so from the District Surveyor.

General field practice.

10. Methods of survey and of recording results will conform with these Regulations.

Standard pattern of field books etc.

11. Field books, calculations forms and other documents of a design approved by the Director shall be used to record all information relating to any title survey.

Field equipment.

12. Every licensed surveyor engaged on surveys for title shall make angular observations with a transit theodolite which meets with the Board's approval and is in good adjustment and he shall measure all distances with a continuous or compound steel tape or approved E.D.M. equipment.

Permanence of boundaries.

13. The extent of the land alienated under title is defined as that marked on the ground at the time of survey for alienation, consequently –

- (a) the extent must be adequately marked at the time of such survey; and
- (b) marks found on the ground during the course of survey may not be disturbed unless there is clear evidence that they are no longer in the position in which they were emplaced at the time of the original survey.

Origin of co-ordinates.

14. Title surveys shall be finalized in terms of R.S.O. system of rectangular co-ordinates and the meridian of reference in force in the locality where the land under survey is situated.

Datum and closing of traverses.

15. (1) Every Licensed surveyor making a title survey shall take all reasonable care to verify the datum adopted and shall furnish full details thereof in his field notes. Such datum shall be two marks of a former survey of adequate technical value proved by measurement (or by traverse and calculation) and by astronomical observation for azimuth, or by angular and linear measurement to a third such mark, to be in their original positions.

(2) All bearings shall be closed at intervals of not more than twenty-five stations, either on proved marks as for datum above or on a line whose bearing has been determined by astronomical observations.

(3) A hanging traverse shall not consist of more than one line. The line shall not exceed fifty metres in length and independent measurements to check bearing and distance shall be made and recorded in the field books.

Angular observations.

16. Angular measurements shall be made by reading both faces of the theodolite at each survey station.

Linear measurements.

17. (1) In making linear measurements E.D.M. equipment or the steel tape at standard tension shall be used and distances shall be read to the nearest three decimals of a metre.

(2) The steel tape when used in catenary shall be supported at intervals such as to ensure that it is clear of all obstructions throughout its length, with the additional proviso that for first class work they shall not exceed forty metres.

(3) The zero end of the readerband shall always be supported unless the reading on the band is less than three metres.

Surveying of boundaries.

18. (1) Boundary lines shall be measured direct wherever possible. The survey of boundaries by long radiations shall be avoided. In any case the length of radiation shall not exceed twenty five metres in town areas and fifty metres in village areas.

(2) All boundary points shall be marked unless they fall in inaccessible positions.

(3) Where boundary points cannot be marked permanent marks shall be emplaced nearby to facilitate determination of the actual boundary point; the best position for such marks being on the intersecting boundaries as near as possible to the obstructing feature.

(4) Every boundary mark emplaced shall be at a station on a closed traverse or else its position shall be determined by two independent measurements.

(5) [Deleted]

(6) Previously surveyed boundaries need not be fully remeasured provided that the original marks are intact and that the original survey had an adequate technical value.

(7) In a subdivisional survey, the re-survey of boundaries not affected by the subdivision may be confined to the measurement of the lines required for datum and for the closing of traverses.

(8) Consecutive marks on a straight boundary shall be intervisible and shall not be more than three hundred metres apart.

(9) Boundaries following a regular curve shall be marked at the extremities of equal chords such that no point on the curved boundary shall be at a distance of more than twenty centimetres perpendicular to the chord.

(10) Except for such curved boundaries, boundaries shall normally follow straight lines.

(11) In re-surveying boundaries which follow irregular natural features, a closed traverse shall be surveyed near to the feature and rectangular offsets shall be taken to the feature at sufficiently close intervals to ensure that the position of the feature is recorded throughout its length without material discrepancies. No offset distance shall be more than fifty metres.

(12) In town or village surveys, licensed surveyors shall emplace permanent reference marks to facilitate the identification or re-fixation of the boundary points of lots.

(13) Where boundary lines cannot be measured direct or where the lots are not exceeding thirty square metres in area, the boundary can be calculated from measurements made by closed traverses provided that the extremities of every boundary are marked in conformity with this regulation.

Topographical details.

19. Measurements shall be made to determine, with sufficient precision for the purpose of plotting them accurately at the scale of the final plan, the positions of such natural and artificial features and of limits of cultivation adjacent to boundaries as may affect title.

Road and access reserves.

20. (1) Road reserves and reserves for access shall be laid out with parallel sides unless the District Surveyor otherwise directs. Reserves for existing roads shall be laid off from one side or from centre-line marks if such marks are stable.

(2) For the survey of reserves along traces for projected roads through State land, particular instructions as to dimensions shall be issued by the District Surveyor. The licensed surveyor shall not be relieved thereby from the responsibility for making additional provision to include embankments, cuttings, drains and abutments, and for constructional requirements such as borrow pits.

(3) Survey shall be delayed until road construction is complete, unless the District Surveyor otherwise directs.

(4) If, in the course of a survey for alienation of State land, a well-used vehicle track or foot-path is found to pass through the land under survey, details shall be reported to the District Surveyor forthwith so that action can be taken to protect the track or path by the survey of a reserve.

Land severed by a reserve.

21. Land severed by a railway, public road, canal, stream, or by a reserve for a public purpose, shall not be surveyed as one lot "ex reserve", but as two or more separate lots.

Surveyors to study Government interests.

22. In carrying out surveys for the first alienation of land, every licensed surveyor shall have regard to the interests of the Government in all his operations and shall avoid effecting surveys in such a manner as to render any portion of land waste, or as to confer under advantage on individuals.

Boundary marks. Confirmation of standard patterns.

23. Boundary marks used for title surveys shall conform to Government standard patterns.

Emplacement before survey.

24. Permanent survey marks shall be emplaced prior to or simultaneously with but never after the making of the measurements which determine their positions.

Stability of marks.

25. Every precaution shall be taken to ensure that marks are permanent and stable. Concrete marks shall be planted with not more than ten centimetres of the mark projecting above ground, and the earth around the mark shall be firmly rammed while planting the mark. Iron pipes shall be driven in to the ground leaving not more than one-tenth of their length projecting. Spikes, pipes and any other survey mark planted in roadways or pavements, when not protected by a metal road-box shall be sunk flush with the surface, their heads set in concrete, and the road or pavement disturbed by the operation shall be made up with concrete to withstand all traffic wear.

Authorised marks.

26. The following marks are authorised for use –

- (a) Iron pipes not less than seventy-five centimetres long and two to five centimetres in diameter preferably tarred or galvanised. For general use.
- (b) Reinforced cylindrical concrete marks seventy centimetres long with a diameter of ten centimetres carrying a punched impression for the actual station point and the serial number of the mark. For general use.

- (c) Hard wood pegs no less than sixty centimetres long and seven centimetres square, or re-inforced concrete pegs not less than sixty centimetres long with a diameter of ten centimetres carrying a mark or nail head at the centre of the peg to show the actual station point. For general use.
- (d) Iron spikes twenty to forty centimetres long and one to two centimetres in diameter, generally protected in roadways by metal road-boxes. For use in road pavements and other hard surfaces.
- (e) In masonry, brick-work and formed pavements, nails or spikes set in concrete.
- (f) On large rocks or stone surfaces, a punched hole with a punched or chiselled broad arrow pointing to it.

Use of Government Field Books.

27. (1) All surveys carried out for the alienation of State land or otherwise on behalf of Government shall be recorded in field books supplied by the District Surveyor to whom they shall be returned on completion of the survey.

(2) All surveys for title related to subdivisions, transfers, relocations of boundaries and other land transactions shall be recorded in field books of an approved pattern.

Certificate to be signed.

28. The first page of the field notes of every survey shall bear a certificate signed by the licensed surveyor in the following form –

“I certify that these field notes consisting of
pages are a correct and complete record of the observations and
measurements made by me or under my immediate personal direction and
supervision in the field, that the survey was effected in strict conformity with
the Surveyors (Conduct of Title Surveys) Regulations, 1962, that the
standard of accuracy of the survey is class as
defined in those Regulations, and that the survey was completed on the
..... day of 19 ,
and I undertake to accept full responsibility for the correctness of the survey.

.....
Licensed Surveyor.”

Entries in ink.

29. (1) All entries in field books shall be clearly recorded in permanent ink, except red ink which shall be used exclusively for subsequent entries by the Lands and Surveys Department.

(2) The type of equipment including the number of the measuring band used for the survey, and in the case of E.D.M. or G.P.S. equipment, the make, model and number of the equipment shall be entered in the field books together with calibration report.

Cancellation of incorrect entries.

30. No entry shall be altered, defaced or obliterated. Every wrong entry shall be cancelled by one line drawn through it, initialled and dated.

Chain calibrations results.

31. A record of the results of every relevant test made on the steel tapes and reader bands used in the course of a survey recorded in a field book shall be permanently attached to the inner cover of that field book, and a further copy of the results shall be attached to any copies made of the field notes.

Adjustment of bearings and correction of linear measurements, etc.

32. (1) A statement of the magnitude of a bearing misclose shall be entered following the entries of the last observations of the relevant traverse.

(2) Adjustments of bearings resulting therefrom, and the final adjusted bearings, shall be entered in the appropriate columns.

(3) Corrections to linear measurements for slope, sag, temperature and calibration shall be entered below the field entries in their respective columns and the reduced distance shall be entered in the last column.

Diagrams.

33. (1) Sufficient diagrams shall be drawn on the right-hand pages to make the measurements recorded in the field book readily interpretable.

(2) Diagrams shall show a North Point and shall be clearly referenced with respect to other diagrams.

Boundary mark numbers.

34. If numbered marks are found or emplaced in the course of survey, their numbers shall be recorded once at an appropriate place in the observation pages and again at each position in which they occur in the diagrams.

Representation of boundary lines, etc.

35. In diagrams, boundary lines shall be represented by firm lines, traverse lines by broken lines and offsets by dotted lines.

Indication of datum.

36. The words "Adopted Azimuth" and "Bearings closed" shall be entered against the appropriate bearings both on the observation pages and on the relevant diagrams.

Numbering of stations.

37. (1) Station marks other than boundary stones shall be numbered consecutively in the order in which they are observed. No letters or accentuated numbers for stations shall be used.

(2) No number may be used more than once for any particular type of mark emplaced during a survey.

Abbreviations.

38. The following abbreviations may be used in field notes:

C.P.	concrete peg	N.S.	new stone (emplaced)
O.C.P.	old concrete peg	N.P.	new peg (emplaced)

O.S. old stone (found)	Bg. bearing
O.P. old peg (found)	Ad. Az. adopted azimuth
Pkt. picket	
Dist. distance	

Standards of surveys.

39. The classification of surveys under these Regulations is based on the degree of accuracy required and is as follows:-

- (1) First class – comprising major control traverses, surveys for title in town lands and villages and surveys for titles for large lots adjacent to town limits.
- (2) Second class – comprising minor control traverses and connections and all surveys for title other than (1) above and for Temporary Occupation Licence.

Special instructions for control surveys.

40. The Director shall issue specific instructions for subsidiary triangulation, standard traverses in extension of the triangulation and other major control traverse, if such work is required.

Closing errors.

41. First class surveys.

- (1) Permissible closing errors are:
 - (a) Angular: Ten seconds of arc per station with a maximum accumulation of one minute and a quarter of arc.
 - (b) Linear: 1:8000 and that the length of any line shown on the plan shall not differ from its true length by more than 0.01 metre plus 0.0001 for each metre.

- (2) Angular observations shall be made by either (a) the "Horizon Close" method or (b) the "Bearing" method or (c) the "Repetition" method, the observed values being recorded to the nearest ten seconds of arc.
- (a) The "Horizon Close" method consists of observing by repetition each angle between successive stations round the horizon, the sum of the resulting angles being adjusted to three hundred and sixty degrees.
- (b) The "Bearing" method consists of setting the back bearing on the theodolite when pointing to the back station, and observing the bearings of the forward stations.
- (c) The "Repetition" method consists of observing an angle, once on each face of the theodolite, the final reading being twice the angle required after allowing for index setting.

Linear measurements.

- (3) (a) Linear measurements shall be recorded to the nearest three decimals of a metre.
- (b) The steel tape shall be supported at intervals of not more than forty metres.
- (c) Field tape slopes are to be read on both faces of the instrument and recorded to the nearest ten seconds of arc for slopes of more than three degrees, or to the nearest minute of arc for lesser slopes.
- (d) Temperatures shall be recorded for all measurements.

Adjustment of bearings.

- (4) Bearings shall be adjusted to the nearest second of arc and entered as final bearings on the observation page and on diagrams to the nearest ten seconds of arc, except that for lines of less than ten metres final bearings shall be entered to the nearest minute of arc.

Reduction of linear measurements.

- (5) Linear measurements shall be corrected for slope, sag, temperature, calibration, scale factor and height above mean sea level, each such correction to be to

the nearest three decimals of a metre. Corrected distances shall be entered on observation pages and on diagrams to the nearest three decimals of a metre.

Closing errors.

42. Second class surveys.

(1) Permissible closing errors are:

- (a) Angular: Twenty seconds of arc per station with a maximum accumulation of two and a half minutes of arc.
- (b) Linear: 1:4000 and that the length of any line shown on the plan shall not differ from its true length by more than 0.02 metre plus 0.0002 for each metre.

Angular observations.

(2) Angular observations shall be made by either (a) the "Horizon close" method or (b) the "Bearing" method or (c) the "Repetition" method, the observed values being recorded to the nearest ten seconds of arc.

Linear measurements.

- (3) (a) Linear measurements shall be recorded to the nearest three decimals of a metre.
- (b) Field tape slopes are to be read on both faces of the instrument for slopes of more than three degrees; for lesser slopes they shall be read on one face only. For slopes of more than fifteen degrees they shall be recorded to the nearest ten seconds of arc, and for lesser slopes only to the nearest minute of arc.
- (c) Temperatures shall be recorded only if they differ from standard by more than five degrees celcius.

Adjustment of bearings.

(4) Bearings shall be adjusted to the nearest second of arc, entered in the "Adjusted bearing" column on the observation page to the nearest ten seconds of arc,

and shown on diagrams and plans to the nearest thirty seconds of arc except for lines less than twenty metres long for which they will be shown to the nearest minute of arc.

Reduction of linear measurements.

(5) Linear measurements shall be corrected for slope, scale factor, sag and calibration, each such correction to be to the nearest three decimals of a metre. Corrected distances shall be entered on observation pages and on diagrams to the nearest two decimals of a metre, except for work which is to be used for a control traverse when they shall be entered to the nearest three decimals of a metre. Corrections for temperatures and for height above mean sea level shall not normally be applied unless they are of sufficient magnitude to affect the final corrected distance.

Purpose of calculations.

43. The calculations required to be submitted with the field notes and plan of a title survey shall be such as will –

- (1) prove the accuracy and adequacy of the field work;
- (2) determine the areas of the lots surveyed; and
- (3) relate the position of the lots surveyed to that of other existing surveyed lots in the neighbourhood.

First class surveys.

44. For first class surveys, the required calculations shall include –

- (1) Calculation of the misclose of the work and of its separate parts.
- (2) Calculation of bearings from astronomical observations, if any.
- (3) Calculation of the direct bearings and distance of boundaries which have been traversed.
- (4) Computation of the direct bearings and distances of all new boundaries which have not been surveyed.
- (5) Calculation of the area of each new lot.

- (6) Calculation of the co-ordinates of such a proportion of the boundary points as may be required by the District Surveyor.

Second class surveys.

45. For second class surveys, the required calculations will be the same as for first class surveys.

Scaling of areas.

46. [Deleted]

Limits of area.

47. Areas shall be calculated in square metres and shall be entered on the relevant plan in the units and approximation thereof shown in the First Schedule hereto.

Area approximations.

48. Areas of building lots including residential lots shall be entered on the relevant plan to the nearest one decimal of a square metre and shall not be adjusted to the tables referred to above.

Scaled areas.

49. [Deleted]

Plan forms.

50. Plan forms of standard quality and dimensions approved by the Director shall be used for all plans to be deposited in accordance with the provisions of the Ordinance. Such forms may be obtained from the District Surveyor.

Permanence of information on plans.

51. All information shown on plans shall be drawn and printed in permanent ink and colour of a good quality approved by the Director.

Plotting of plans.

52. Plans for first class surveys shall be plotted by co-ordinates; plans for second class surveys may be plotted principally by protractor and scale provided sufficient points are plotted by co-ordinates to ensure that there are not more than twelve successive lines plotted without such control and meridian and perpendicular plotting lines are drawn at ten centimetres intervals.

Plan scales.

53. (1) Except under unusual circumstances, plans shall be plotted at the following scales –

- (a) For country lots, at a scale of 1:500, 1:1000, 1:2500, 1:5000 and 1:12500.
- (b) For town lots, at a scale of 1:100, 1:250, 1:500 and 1:2500.

(2) If on any part of any plan, measurements or details would otherwise be illegible or difficult of interpretation, a diagram on a larger scale than that of the plan, or not to scale, may be added as an inset.

Cancellation of incorrect entries.

54. (1) Erasures on certified plans are prohibited.

(2) The correction of printed information shall be made by drawing a line through the incorrect entry, without obliterating it, and printing the correct entry nearby.

(3) The correction of a wrongly drawn line shall be made by one or more crosses on the incorrect line and by redrawing the line in its correct position.

(4) Each correction shall be initialled and dated by the licensed surveyor responsible for the plan.

Purpose of survey (shown by colour)

55. The purpose of a survey will be indicated by the colour of 3 millimetres in width used for edging the boundaries as detailed below:-

- | | | | |
|--------|--|-----|---|
| (i) | Town and agricultural lots for leases. | ... | Windsor Red. |
| (ii) | Lots to be held by entry in the Native Titles Register. | ... | New Gamboge. |
| (iii) | Railway, riparian, forest and other Government Reserves. | ... | Light Hookers Green. |
| (vi) | Watercourses, lakes, swamps, sea etc. | ... | Prussian Blue. |
| (v) | Roads, streets and public rights of way (the word "metalled", "formed" or "unformed" should be endorsed on the plan). | ... | Burnt Sienna. |
| (vi) | Excised road reserves. | ... | Green. |
| (vii) | Existing tracks and rights of way. | ... | Burnt Sienna.
(peck line of 2 mm in length and 1 mm apart) |
| (viii) | Undefined rights of way. | ... | Green
(peck line of 2 mm in length and 1 mm apart) |
| (ix) | Land required to be taken for road deviations, rendered necessary by the existing road reserves being closed, are to be coloured green, or if portions of such deviations are taken from adjoining sections, then such areas so taken from each section shall be coloured successively sepia, orange and purple. | | |

Conventional signs on plans.

56. The conventional signs in permanent ink set out in the Second Schedule shall be used in the preparation of plans.

Plan headings.

57. The heading of each certified plan shall include –
- (1) A description of the survey, town or village name and the district name.
 - (2) Scale stated in natural scale notation as described in regulation 53.
 - (3) Number of the previous certified plan in the case of a resurvey.
 - (4) Original certified plan number and title number in the case of a subdivision.

Plan serial number.

58. Every certified plan shall be allowed a serial number, after it has been accepted for deposit in the office of the District Surveyor. The serial number shall be added towards the bottom right-hand corner of the plan, consequently space should be left in that area for the number.

Numerical data.

59. The numerical data on certified plans shall include –
- (1) The bearing and lengths of each boundary, connection and traverse line. In this connection refer to the Second Schedule hereto.

The lengths of the boundaries of building lots shall be shown to the nearest three decimals of a metre.
 - (2) The area of each lot shall be shown below the lot number or tabulated with the lot number.

The areas of building lots shall be shown in decimals of a square metre.
 - (3) Lot numbers of lots under survey, clearly printed, near the centre of the respective lots to which they refer, as well as in the plan heading.
 - (4) Adjacent title numbers and certified plan numbers.
 - (5) Co-ordinate values of each meridian and perpendicular plotting lines.
 - (6) Standard sheet numbers, standard sheet reference code and Geocodes.

Other information.

60. The following information and references shall be shown on certified plans:

North Point.

- (1) The North Point. The plan shall be orientated as that the North Point points to the top edge of the plan form.

Field Book.

- (2) A reference to the field book in which the survey represented in the plan was made. Such reference shall identify the relevant field book.

Classification.

- (3) The classification of the survey under regulation 39.

Administrative boundaries.

- (4) Such District, or Town boundaries and Forest Reserve boundaries as may lie in the area shown in the plan.

Co-ordinate lines, etc.

- (5) Co-ordinates lines with their values, and such standard sheet lines as may lie in the area shown on the plan.
- (6) The datum adopted for the survey and its initial bearing.

Survey marks.

- (7) By means of conventional signs and abbreviations, the nature of each survey mark and an indication of whether it has been refixed or found. Refer to Second Schedule.

Topographical information.

- (8) Topographical details determined by measurement at the time of survey, together with place names, street names and direction of flow of rivers.

- (9) Any other information, numerical or otherwise, which might be of value in locating boundaries.

Certificate.

61. Every plan shall bear a certificate in the following form:

"I,, a surveyor licensed under the Surveyors Ordinance, 1960, certify that the survey from which this plan has been prepared was carried out and marked on the ground by me or under my immediate personal direction and supervision in the field in strict accordance with the Surveyors (Conduct of Title Surveys) Regulations, 1962, and that this plan correctly represents the survey completed on the day of, 19.....

Dated thisday of, 19.....

I undertake to accept full responsibility for the correctness of the survey.

.....
Licensed Surveyor.

FIRST SCHEDULE
(Regulation 47)

1. Unit of area and measurement
- | | | |
|---------------|---|----------------------|
| 1 hectare | = | 10,000 sq metres. |
| | = | 2.4710624 acres. |
| 1 acre | = | 0.4046842 hectare. |
| 10 sq. chains | = | 1 acre. |
| 1 chain | = | 100 links = 66 feet. |
| 1 metre | = | 4.97097815 links. |
| 1 link | = | 0.20116765 metre. |

2. Area approximation.

The following table gives area approximations:-




Area not more than:	but exceeding:	
five hectares	-	third decimal place
one hundred hectares	five hectares	second decimal place
one thousand hectares	one hundred hectares	first decimal place
	one thousand hectares	one hectare







SECOND SCHEDULE
(Regulation 56)






1. CONVENTIONAL SIGNS

- (a) Boundary stone number (in black) - $\frac{16}{506}$
- (b) Trigonometrical/Geographical Positioning System and Doppler Stations

Old/New Stations

- | | | | |
|-------|-------------------------|---|---|
| (i) | Primary
(1:100,000) |  | - Two concentric red circles of 1.5 mm and 3.0 mm diameter respectively within a blue equilateral triangle of sides 7.0 mm each with its vertex up and description of station marks. |
| (ii) | Secondary
(1:50,000) |  | - Two concentric red circles of 1.5 mm and 3.0 mm diameter respectively within a blue equilateral triangle of sides 7.0 mm each with its vertex down and description of station marks. |
| (iii) | Tertiary
(1:25,000) |  | - Two concentric red circles of 1.5 mm and 3.0 mm diameter respectively and an outer concentric |

- blue circle of diameter 4.5 mm and description of station marks.
- (iv) GPS (Global Positioning System) Station (+Sub.cm accuracy)  - Solid blue circle of 1.5 mm diameter with one concentric red circle of 3.00 mm diameter and outer concentric blue circle of 4.5 mm diameter and description of the station mark. The number of the GPS station shall start with the letter "G" followed by six digits, the first two digits stand for the District code and the next four digits for the serial number of the station in that District (e.g. G.079999 means GPS station number 9999 in Sandakan District).
- (v) Doppler Station (\pm sub metre accuracy)  - Solid red circle of 1.5 mm diameter with one concentric red circle of 3.0 mm diameter and an outer concentric blue circle of 4.5 mm diameter and description of station mark. The number of the Doppler Station shall start with the letter "D" followed by **five** digits, the first two digits stand for the District Code and the next three digits for the serial number of the station in **that** District, (e.g. D01999 means Doppler Station number 999 in Kota Kinabalu District).
- (c) New Peg  - One red circle of 1.5 mm diameter, "NP" and its number.
- (d) Old Peg adopted  - One black circle of 1.5 mm diameter, "OP" and its number.
- (e) Old peg found and chained or observed to  - Solid black circle 1.5 mm diameter "OP" and its number.
- (f) Old peg found/gone and replaced by a new peg  - Solid black circle of 1.5 mm diameter with one outer red circle of 4.5 mm diameter and description of station marks.

- 3.0 mm diameter, "OPFR/OPGR" and its number.
- (g) Old peg found/gone and replaced by a new boundary stone  - Solid black circle of 1.5 mm diameter with one concentric outer red circle of 3.0 mm diameter, "OPFR/OPGR" and its number.
- (h) (i) Iron spike, post nail and other authorised marks o - One blue circle of 1.5 mm diameter with abbreviation:-
I.S. – Iron spike
Nail – Nail
Post – Boundary Post.
- (ii) Old Iron Spike, Post, Nail and other authorised marks found and chained or observed to ● One solid blue circle of 1.5 mm diameter with the abbreviation "OIS/OPT/ON".
- (iii) Old Iron Spike, Post, Nail and other authorised marks found/gone and replaced ● One solid blue circle of 1.5 mm diameter with the abbreviation "OISFR/OISGR, OPTFR/OPTGR, ONFR/ONGR".
- (i) New boundary stone  - Two concentric red circles of 1.5 mm and 3.0 mm diameter respectively with "NS" and its number.
- (j) Old boundary stone adopted  - Two concentric black circles of 1.5 mm and 3.0 mm diameter respectively with "OS" and its number.
- (k) Old boundary stone found and chained or observed to  - One solid black circle of 1.5 mm diameter and one outer black circle of 3.0 mm diameter with, "OS" and its number.
- (l) Old boundary stone found/gone and replaced by a new boundary stone  - One solid black circle 1.5 mm diameter and one concentric outer red circle of 3.0 mm diameter with the abbreviation "OSFR/OSGR" and its number.

	<i>Line</i>	<i>Colour of Distance</i>	<i>Bearing</i>
(m) Measured and observed	Red	Red	Blue
(n) Observed only		Blue	Blue (obs. only)
(o) Observed, distance calculated	Blue	Black (calc)	Blue (obs. only)
(p) Calculated	Black	Black (calc)	Black
(q) Adopted	Black	Black (adopt P. No. ...)	Black
(r) Ranged	Blue	Black (Ranged)	Blue
(s) Scaled	Black	Black (Sc)	Black
(t) Fenced boundary lines		- Single black slashes (of line gauge 0.10 mm to 0.20 mm) and about 2 mm in length and 1 cm apart along the boundary line.	
(u) Line gauge		All boundary lines shall be 0.50 mm and traverse lines 0.35 mm in width.	

Abbreviations used in the conventional signs:-

F = Found

G = Gone

R = Replaced

Pkt = Picket.