

THE LAND SURVEYORS (REGULATIONS) ORDER No. 3 OF 1985

To provide for the Land Surveyors Regulations and for matters connected therewith.

IN EXERCISE of the powers contained in section 27 of the Land Surveyors Act No. 11 of 1984 I hereby make the following regulations:-

PART 1 - INTERPRETATION

1. In this Order, unless the context otherwise requires -
- "Act" means the Land Surveyors Act No. 11 of 1984;
- "Board" "Director", "plan", "public survey", "survey", and "surveyor" shall have the meaning ascribed to them in the Act.

PART 2 - REGULATIONS AFFECTING ALL LAND SURVEYS
MADE UNDER SECTION 18 OF THE ACT

DISPUTES

2. If a dispute arises between a surveyor who is not employed in the public service and the Director over the application of the regulations, either party may refer the matter to the Board. The Board shall hear and determine such dispute, and its decision shall be final.

UNITS OF MEASUREMENT

3. (1) All distances shown on plans shall be in metres and decimals of a metre.
- (2) All angular measurements shall be in degrees, minutes and seconds of arc.
- (3) For purposes of conversion the following standards have and shall be used:

Epi and Islands to the South

1 metre = 4.971058 links
1 link = 0.20116442 metre
1 hectare = 247114.176 links²

Malekula and Islands to the North

1 metre = 4.97097373 links
1 link = 0.20116783 metre
1 hectare = 247105,798 links²

SYSTEMS OF CO-ORDINATES AND PROJECTIONS

4. The figure of the earth and the projection to be used in the computation of co-ordinates of any survey shall be the International (Hayford) (1924) figure having elements: semi-major axis 6378388 international metres, flattening 1/297.0, and the Transverse Mercator Projection for the island on which the survey is carried out. Details are obtainable from the Director for the Transverse Mercator Projection which are currently authorised.

MAINTENANCE OF MEASURING INSTRUMENTS

5. (1) Every surveyor shall maintain his theodolite and EDM equipment along with all other equipment in good order, and the Director may refuse to authenticate any survey which has been made with defective equipment.
- (2) Every measuring band, tape, thermometer and spring balance shall be submitted to the Director before use and thereafter not less than once in every twelve months for comparison with the official bases.
- (3) The Director may at any time require any surveyor to submit any measuring equipment for his inspection.

PRESENTATION OF SURVEYS

6. (1) Every surveyor shall be personally responsible for the accuracy, fidelity, and completeness of every survey presented by him for the approval of the Director.
- (2) It shall be the duty of every surveyor making any survey under these regulations to record all the relevant information that may aid in securing the accuracy and completeness of every such survey.
- (3) Every surveyor shall perform sufficient work to enable him to apply a thorough check to every part of his survey.
- (4) Every surveyor shall present his plan, computations and connected documents of every survey in such a manner as the Director may require, and if any surveyor forwards to the Director any plan computation or connected document which does not conform substantially with the appropriate requirements, the Director may, at his discretion, return the plan, computation and connected documents to the surveyor and may refuse to authenticate such plan, computation or connected document until it has been made to conform with the appropriate requirements.
- (5) All surveys returned to a surveyor shall be resubmitted to the Director without undue delay.

PERMISSIBLE ERRORS OF MEASUREMENT

7. All measurements must be made in accordance with regulations 32, 33 and 36 and the Director may refuse to authenticate any survey which contains errors in excess of those that can be expected from measurements properly carried out in the manner specified.

CHECKING OF SURVEYS

8. The Director may at any time direct any surveyor to check in the field any survey made by any other surveyor, and such check may include the verification of any information recorded in connection with such survey mark established under the Act or any regulations made thereunder.

INFORMATION PRIOR TO SURVEY

9. (1) Before carrying out any survey, every surveyor shall be provided, or shall provide himself with all available information in respect of any previous survey of the parcel of land to be surveyed and of any adjoining parcel.
- (2) The Director shall make available to any surveyor all technical information under his control or in his possession.
- (3) There shall be paid in respect of information received under this regulation the appropriate fee.

PRIOR APPROVAL OF STATUTORY AUTHORITIES

10. Before submitting any survey to the Director a surveyor shall ensure that approval has been obtained for a subdivision or other transaction of any parcel of land in any case where such approval is required by a law and that the survey submitted conforms with such approval.

AUTHORITY FOR ENTRY UPON LAND

11. (1) In pursuance of section 20 of the Act the Director shall furnish every surveyor with an official letter of authority which shall be in the form as set out in Form B of Schedule II.
- (2) Every surveyor shall present his letter of authority to any owner or occupier of land who demands proof that such surveyor is fully authorised to enter upon his land.

EMPLOYMENT OF UNQUALIFIED ASSISTANTS

12. (1) No surveyor shall employ an unqualified survey assistant without the written approval of the Board:

Provided that the Director may give provisional approval pending the decision by the Board.

- (2) When such approval is given it shall be for a period of not more than two years in the first instance and may thereafter be renewed for further periods at the discretion of the Board.
- (3) The work done by any such assistant shall be under the direct personal control of the surveyor, who shall himself carry out a sufficient check to ensure that the work done by his assistant is correct. The surveyor shall accept full personal responsibility for all work performed by his unqualified survey assistant.
- (4) The surveyor shall furnish the Director or the Board with a certificate which shall be in the form as set out in Form A in Schedule II.

FEES

13. There shall be paid in respect of the several matters specified in Schedule III the several fees specified therein.

FEES CHARGEABLE BY PRIVATE SURVEYORS

14. The fees in respect of private surveys shall be recommended by the Board and shall serve merely for guideline purposes.

PART III - SURVEY MARKS, BOUNDARY MONUMENTS AND BOUNDARIES

DESIGN AND SPECIFICATION OF SURVEY MARKS

15. (1) The design of survey marks shall be as specified by the Director, except in special circumstances which shall be set out in the report on the survey.
- (2) Every new triangulation or trilateration station other than a purely auxiliary station shall be permanently marked.
- (3) In third order traverses as defined in regulation 36 all traverse stations shall whenever possible be permanent points.

PLACEMENT OF SURVEY MARKS

16. (1) Monuments placed to define accurately the boundaries of a parcel shall be of such type as the Director may require.
- (2) Where a boundary is inadequately defined and it is necessary to place a monument to define the approximate position of the boundary such monuments shall conform to the requirements of paragraph (1) of this regulation.
- (3) With a view to facilitating the location of isolated boundary monuments, such monuments shall be referenced to any nearby telephone pole, suitable tree or other prominent physical feature.

LINE MONUMENTS AND RIVER BEACONS

17. (1) (a) Where a rectilinear boundary intersects a curvilinear boundary and a monument as required by regulation 16 cannot be placed at the intersection, a monument shall be placed on the rectilinear boundary as near as possible to the intersection. Such monument shall be known as a line monument.
- (b) Where the rectilinear boundary continues on both sides of the curvilinear boundary, line monuments shall be placed on both sections of the rectilinear boundary.
- (c) Where the curvilinear boundary falls within a river or swamp the line monument shall be placed above flood level and shall be known as a river monument.
- (2) When a line or river monument has been placed in accordance with regulation 16 (1) the distance from the line or river monument to the actual boundary shall be measured to the precision required by regulation 71 (2).
- (3) All subdivisions of a parcel, the boundaries of which have been fixed, which is situated across a road reserve shall be fully monumented as self contained units.
- (4) Where a curvilinear feature is adopted as a subdivisional boundary of a parcel, the boundaries of which have been fixed, the several subdivisions and any remainder shall be fully monumented as self contained units.

PLACING MONUMENT ON BOUNDARY

18. Where a monument is placed on a boundary line that has been fixed, it shall be proved to be on line by establishing either directly or indirectly its relationship with the terminal monuments of the line.

MONUMENTS PLACED FROM COMPUTED DATA

19. Where a monument is placed from computed data, its position shall be proved by an independent field check and calculation.

WHEN MONUMENTS CANNOT BE PLACED

20. When the corner of a parcel, the boundaries of which are required to be fixed, falls within inaccessible ground where a monument cannot be placed, the position of such corner shall be permanently referenced by at least one indicatory monument placed on a boundary line as near as possible to the corner. The details of the situation shall be indicated on the plan.

DAMAGED MONUMENTS TO BE REPAIRED

21. Where an old monument of the parcel under survey is found to be damaged, the surveyor shall repair or renew the monument, and make a record of the repairs in his field notes and notify the Director.

TRIGONOMETRICAL STATIONS TO BE REPAIRED

22. (1) Every surveyor engaged on a public survey who discovers any trigonometrical or traverse station to be damaged and in need of repair shall carry out such repair as may be necessary.
- (2) A surveyor not engaged on a public survey is not required to repair any damaged trigonometrical or traverse station, but he shall report in writing to the Director the name, number and position of such station and the nature of the damage he has observed.

MISSING MONUMENTS

23. Missing monuments shall be noted in the surveyor's report and in order to demonstrate that he has searched in the right place the surveyor shall provide such measurement and observations as may be necessary.

RE-ESTABLISHMENT OF MISSING MONUMENTS

24. If a surveyor is required to re-establish a missing monument, he shall submit his field notes, computations and report to the Director.

REDUNDANT MONUMENTS

25. Where the existence of a visible redundant monument is likely to lead to confusion, it shall be removed and replaced by an underground witness mark.

SURVEYS AND RE-ESTABLISHMENT OF BOUNDARIES

26. In every survey of land where the position of a feature or monument defining the boundary of a parcel is found to differ from that indicated by the relevant previous survey, the surveyor shall exercise the greatest care -
- (a) in establishing that the discrepancy actually exists;
- (b) in collecting all evidence which may have a bearing on the eventual action to be taken.
- (2) A careful search shall be made in the position indicated by the previous survey to ascertain whether or not any evidence of the old boundary feature or monument still exists and the position of any building or other development in the immediate vicinity of the boundary shall be recorded.

**PART IV - SURVEYS PERFORMED BY TRIANGULATION, TRILATERATION,
TRAVERSE AND AIR SURVEYS**

GUIDING PRINCIPLE

27. Every surveyor shall assist, as far as is consonant with efficient and economical survey, in the establishment and increase of permanent control marks of all types throughout the Republic of Vanuatu.

Triangulation And Trilateration

GEODETIC AND SECONDARY TRIANGULATION

28. All geodetic and secondary triangulation and trilateration shall be carried out under the control of the Director, and shall normally be performed by Government surveyors.

LOWER ORDER TRIANGULATION

29. (1) All new triangulation and trilateration of a lower order than geodetic or secondary required to provide general control for cadastral surveys shall be brought into harmony with existing control by methods conforming with current survey practice.
- (2) When issuing survey data for such work to a surveyor, the Director may recommend either a particular sequence in the computation of new work or any special computations which the circumstances may require, and it shall be the duty of a surveyor so informed not to depart from the Director's recommendation without reasonable cause.

TERTIARY AND MINOR TRIANGULATION

30. For the purpose of regulation 31 and 32, tertiary triangulation or trilateration means triangulation or trilateration established to an accuracy which makes it suitable for use as a basis of further triangulation or trilateration; minor triangulation or trilateration means triangulation or trilateration established to a lower accuracy and suitable only as a basis for fixing local traverses and monuments.

INSTRUMENTS USED FOR TRIANGULATION AND TRILATERATION

- 31 (1) A micrometer or electronic theodolite of an approved pattern reading directly to one second of arc, or better, shall be used for tertiary triangulation.
- (2) A micrometer or electronic theodolite of an approved pattern reading directly to twenty seconds of arc, or better, shall be used for minor triangulation.
- (3) Electronic distance measuring equipment of an approved pattern shall be used for trilateration distance measurement.

METHOD OF TAKING TRIANGULATION OBSERVATIONS

32. (1) The minimum requirement for tertiary and minor triangulation shall be two arcs observed on different zeros:

Provided that two rounds observed on different faces and different zeros may be sufficient for observations to points situated at a distance of not more than two kilometres.

- (2) An arc of angular observations for triangulation shall consist of two rounds observed in opposite directions on the same zero, one round being on face left and the other on face right.
- (3) For each arc a suitable reference station shall be selected and both rounds of the arc shall be closed on to it, and the misclosure of each round shall be appropriate to the class of theodolite used.
- (4) The difference between measurements of any angle on different arcs shall be appropriate to the class of theodolite used.
- (5) Where electronic distance measuring equipment is used sufficient observations shall be taken to eliminate any ambiguities and achieve the accuracy required by regulation 7.

FIXING OF MONUMENTS

33. (1) Triangulation, trilateration, or a combination of these techniques for determining the position of monuments shall be carried out in accordance with the procedure laid down in regulations 29 to 32 and the method of computation shall conform with current survey practice.
- (2) Survey Marks may also be fixed by -
- (a) intersection, provided at least three suitable rays are observed on to the point to be fixed;
 - (b) resection, provided at least four points in favourable positions for such fixing are observed;
 - (c) any other method which is capable of fixing a point with no less accuracy than that of the methods of intersection and resection:

Provided that no point fixed by any of the methods specified in subparagraphs (a), (b) and (c) of this paragraph shall be used to form the basis of further triangulation or trilateration.

ISOLATED SURVEYS

34. In areas where no triangulation exists a surveyor shall request instructions from the Director as to the datum and method of survey to be used.

Traverse Surveys

GEODETTIC AND SECONDARY TRAVERSES

35. All geodetic and secondary traverses shall be carried out under the control of the Director and shall normally be performed by Government surveyors.

LOWER ORDER TRAVERSES

36. (1) (a) All main control traverses shall be observed to third order standard;
- (b) where such lines are measured by means of a measuring band all such lines shall be double-chained;

- (c) where such lines are measured by means of electronic distance measuring equipment sufficient observations shall be taken to eliminate any ambiguities;
 - (d) all such field operations shall be appropriate to a standard of accuracy of not less than 1:20,000.
- (2) (a) All other control traverses for the survey of rectilinear boundaries shall be observed to fourth order standard;
- (b) field operations for such surveys shall be appropriate to a standard of accuracy of 1:10,000, but computational misclosures shall be allowed to the same degree of accuracy as the datum supplied by the Director;
 - (c) no surveyor shall use a loop traverse closing on his starting point if it is practicable to traverse between two previously fixed stations;
 - (d) when a surveyor is unable to close his work within the limits prescribed by the Director, the Director may at his discretion authorise or instruct the surveyor, to accept a lower order of misclosure, otherwise the surveyor shall close his new work by a loop traverse, orientation being confirmed in a satisfactory manner.
- (3) (a) The survey of curvilinear boundaries such as roads, rivers, mean high water marks, etc., shall be made by subsidiary traverse or by air-survey methods. Provided that this regulation shall not preclude any more accurate method.
- (b) Such surveys of curvilinear boundaries shall be carried out to a standard of accuracy appropriate to the plotting scale of the plan of the survey.
- (4) Where traverses are very short, a reasonable misclosure shall be allowed irrespective of the minimum requirements under these regulations.

ANGULAR MEASUREMENT OF TRAVERSES

37. (1) A theodolite permitted by regulation 31 (1) shall be used for all third order traverses where the distances are measured with electronic distance measuring equipment.
- (2) A theodolite permitted by regulation 31 (2) shall be used for all other third and fourth order traverses.
- (3) At every traverse station of third and fourth order traverses; not less than two rounds of angular measurements on different faces and different zeros shall be measured.
- (4) Angular measurements for subsidiary traverses, may be made either with a theodolite or a compass of approved pattern, subject to the necessity to achieve the standard of accuracy required by regulation 36 (3) (b). If a compass is used, both forward and back observations must be observed at each station.
- (5) It is not necessary to close rounds of traverse observations onto a reference station.

LINEAR MEASUREMENT OF TRAVERSES

38. (1) (a) All linear measurements of third and fourth order traverses shall be measured using equipment and methods appropriate to the standards of accuracy specified in regulation 36 (1) and (2).
- (b) Slopes shall be determined by a theodolite, with a degree of precision appropriate to the standards specified in regulation 36 (1) and (2), and where the slope is in excess of 10° the theodolite shall be read on both faces.
- (c) All measurements shall be reduced to the horizontal at mean sea level. In addition measurements made with a measuring band shall be corrected for temperature and, where appropriate, sag.
- (2) (a) All linear measurements of subsidiary traverses shall be measured using equipment and methods appropriate to the standards of accuracy specified in regulation 36 (3).
- (b) Slopes shall be determined by a theodolite or abney level with a degree of precision appropriate to the standards specified in regulation 36 (3).
- (c) All measurements shall be reduced to the horizontal.

SURVEYS OF CURVILINEAR BOUNDARIES

- 39 (1) In every survey of curvilinear boundaries by the tacheometric method, distances determined by staff readings shall not normally exceed 150 metres and all three stadia readings on the staff shall be read.
- (2) Offsets to curvilinear boundaries from a traverse line which substantially exceed 50 metres shall be set out instrumentally or geometrically and the method shall be recorded in the field notes.

SWINGING OR HANGING TRAVERSES

40. Swinging or hanging traverses unsupported by independent checks shall not be used.

VERIFICATION OF TERMINALS OF TRAVERSE

41. Where the means exist, every point of departure of a new traverse and every terminating point shall be verified by observations and/or measurements, which shall be recorded in the field notes.

VERIFICATION OF DATUM

42. Where a previously co-ordinated traverse station is converted for use as a boundary monument or where such traverse station is used to place or fix a boundary monument the surveyor shall verify the station by observations and /or measurements which shall be recorded in the field notes.

Air Surveys

AIR SURVEYS

43. (1) Air survey methods may be employed in special cases with prior written approval of the Director.

- (2) All applications for aerial surveys shall be submitted to the Director and shall be in the form as set out in Form B of Schedule I.
- (3) All aerial photography shall be submitted to the Director for his inspection.

PART V - SUBDIVISIONAL SURVEYS

SURVEYOR'S ROLE

44. A surveyor may survey land that is the subject of an application to subdivide but must adhere to the terms and conditions stated in these regulations concerning such applications.

APPLICATION FOR CONSENT TO SUBDIVIDE

45. (1) An application made to the Director in accordance with section 12 (2) (a) of the Land Leases Act No. 4 of 1983 shall be in the form as set out in Form A of Schedule I and shall state whether the subdivision is for -
- (a) agricultural purposes; or
 - (b) the purpose of construction of dwelling houses, industrial or commercial buildings or of any other non-agricultural use.
- (2) There shall be attached a statement of intended usage and a plan on durable paper or other stable medium showing -
- (a) existing boundaries of the land, the subject of the subdivisions;
 - (b) the position of existing buildings erected on the land or less than three metres from the boundaries of the land; and
 - (c) where and as appropriate, the proposed position and width of the principal, secondary and residential roads, lanes, footpaths, gutters and drains and the proposed position of houses, septic tanks, water pipes, telephone and electricity supply lines, vehicle parking spaces, pedestrian pavements and green spaces.

MINIMUM ROAD FRONTAGES AND AREAS

46. (1) In an application submitted for the purposes of regulation 45 (1) (b) of these Regulations in respect of urban land, the minimum road frontage of any lot in a subdivision made in each zone classified in the Port Vila Municipal By-Law No. 9 of 1979 and any amendment thereto, or designated by Luganville Municipality shall be -

for zone A - 25 metres,
for zone B - 20 metres,
for zone C - 15 metres,
for zone D - 15 metres,

and the minimum area shall be -

for zone A - 1,000 square metres,
for zone B - 800 square metres,
for zone C - Residential - 600 square metres,
for zone C - Commercial - 500 square metres,
for zone D - 500 square metres.

- (2) In an application submitted for the purposes of regulation 45 (1) (b) in respect of rural land, the minimum road frontage of any lot in a subdivision shall be 20 metres and the minimum area shall be 1,000 square metres.

MINIMUM ROAD WIDTHS

47. The minimum widths of roads in any land comprising a lease to be subdivided shall be as follows -

- (a) principal roads - 15 metres,
- (b) secondary roads - 10 metres,
- (c) residential roads, being roads primarily used for access to residences - 8 metres,
- (d) lanes, being thoroughfares, primarily used for access to back premises - 4 metres,
- (e) pathways, being thoroughfares primarily for the use of pedestrians - 2 metres.

Provided that the Director, in his discretion may approve roads, lanes and pathways of less than minimum width where it appears to the Director that the land under subdivision cannot otherwise be fully or properly utilised or that such approval will not unreasonably prejudice future development of adjacent land.

RECLAIMED LAND

48. Where an application is in respect of a lease of land including reclaimed land, it shall be subject to the following additional requirements:-

- (a) the land shall be adequately compacted and drained;
- (b) the land shall have a minimum height above mean high water mark of 1.5 metres; and
- (c) all lots in the subdivision shall have vehicular access including access for refuse collection vehicles.

AMENDMENTS, CORRECTIONS, CONDITIONS

49. (1) The Director may require the applicant to amend his application and /or plan to fulfil such requirements as he may consider necessary and may approve the application subject to the completion of such amendments and the fulfilment by the applicant of any condition imposed by him pursuant to these Regulations.

- (2) If the Director is of the opinion that any building or further development is undesirable on the land which is the subject of the application or having regard to the health, amenity or convenience of the neighbourhood, that any subdivision shown on the plan is unsuitable he may refuse the application or he may, in approving the application in whole or in part, impose such conditions as are necessary to give effect to such decision.

PART VI - FIELD NOTES

FIELD NOTES TO BE ON SPECIAL FORMS

50. (1) Field notes shall be made on such forms or books as the Director may from time to time specify.
- (2) Every surveyor shall pay to the Director the cost price of any blank forms or books supplied to him by the Director pursuant to this regulation.

RECORDING OF TRIANGULATION OBSERVATION

51. (1) At each triangulation and trilateration station every surveyor shall, when taking observations, record in his field notes the date, time, weather conditions and degree of visibility.
- (2) When it is necessary, for any reason, for a surveyor to divide his observations at any station into two sets, the second set shall incorporate at least two stations which have been observed in the first set.

RECORDING OF TRAVERSE OBSERVATIONS

52. All traverse observations and measurements shall be recorded in the field notes in the sequence in which they are observed or measured.

DESCRIPTION OF MONUMENTS

56. A full description of every monument and other mark used in the course of the survey, whether placed, found and used or adopted shall be recorded in the field notes.

METHOD OF ENTERING FIELD NOTES

54. (1) All observations and measurements made in the field shall be recorded clearly and legibly in black ink or hard pencil and shall be in such manner as the Director may from time to time specify.
- (2) All entries in field notes, which are not made in the field shall be written in red ink.
- (3) All entries in field notes shall be indexed and referenced in such a way that any competent person may be able to prepare a true plan therefrom and the entries shall be in such form that they have only one reasonable and correct interpretation.

ERASURES AND CORRECTIONS

55. (1) In no circumstances shall any erasure be made in field notes.
- (2) Corrections shall be made by drawing a thin line through the erroneous entry so as to have the original entry legible; the correct entry shall be written outside the erroneous entry and not across it.
- (3) Corrections to field notes shall be made in the field and shall be a true record of actual measurements or reobservation and shall be initialled by the surveyor.

NOMENCLATURE

56. (1) The letters, names or numerals, by which any monument or survey mark is described in field notes shall be written in Roman script.
- (2) In choosing suitable descriptions, every surveyor shall take care to avoid nomenclature which is likely to lead to confusion and the letters I, O, S and Z shall not be used except in pronouncable words.

COVER PAGE AND INDEX

57. (1) The cover page of field note forms or the cover of field note books shall contain such information as the Director may from time to time specify.
- (2) This information shall include the standard temperature and tension for the measuring band used in the survey and where measurements have been made in catenary the weight per 100 M of the measuring band.
- (3) The pages of field notes shall be numbered and an index in alphabetical and numerical order of all observations and measurements in the field notes shall be given on the reverse of the cover or cover page.

UNORTHODOX METHODS

58. When any surveyor is compelled to use unorthodox methods of survey owing to obstructions or difficulties in the field, he shall give explanatory notes and, where necessary, diagrams in the field notes to explain clearly the method he has used and recorded.

TOPOGRAPHICAL FEATURES

59. (1) Sketched topographical features in the vicinity of a monument shall be recorded, where possible, to facilitate its location.
- (2) All developments on any plot such as buildings, wells, boreholes etc., shall be surveyed. Any other development such as pipelines, which in the surveyor's opinion may involve a question of easement, right of way or any prescriptive rights shall also be surveyed.

PART VII - COMPUTATIONS

COMPUTATIONS TO BE ON SPECIAL FORMS

60. (1) Computations shall be made on such forms or computer print-outs as the Director may from time to time specify.
- (2) Every surveyor shall pay to the Director the cost price of any blank forms supplied to him by the Director pursuant to this regulation.

METHOD OF ENTERING COMPUTATIONS

61. Computations shall be clearly and legibly set out in black ink, and the entry of numbers or words to indicate checks on the computatons shall be made in red ink. Green ink will be reserved for the use of the checking staff of the Department of Land Surveys.

TRIANGULATION AND TRILATERATION

62. Every survey carried out by triangulation or trilateration shall be set out and computed by the Direction Method, or in conformity with any other current standard survey method.

TRAVERSES

63. (1) In surveys carried out by traverse methods, each separate traverse shall normally be set out in suitable form so as to demonstrate the initial datum bearing or bearings, the bearing misclosure and the consequent adjustment of bearings.

(2) The positional misclosure, its distribution through the traverse, and the finally adjusted values of all traverse points shall be demonstrated in conformity with current standard survey practice.

INDEPENDENT CHECKS TO BE MADE

64. Before any surveyor forwards any computations to the Director for authentication he shall make an independent and complete check of all his calculations, and such checks shall accompany the computations and be clearly demonstrated.

METHOD OF COMPUTING AREA

65. (1) The rectilinear areas of parcels, the boundaries of which have been fixed, shall be computed mathematically.

(2) When a portion of the boundary of a parcel, the boundaries of which have been fixed, is a curvilinear boundary, the area of the parcel shall be determined partly by computing from co-ordinates and partly by planimeter determination from a drawing of the curvilinear boundary which has been drawn in conformity with regulation 71.

(3) If necessary, the co-ordinates of accurately scaled points on the drawing of the curvilinear boundary shall be used in the computation, in order to reduce to a minimum the area to be determined by the planimeter.

METHOD OF MEASURING AREAS

66. The areas of parcels, the boundaries of which are approximate only, shall be determined by planimeter measurement.

DEGREE OF ACCURACY OF CALCULATING AREAS

67. Areas shall normally be calculated to the nearest square metre and presented in the form of ha a ca.

PRESENTATION OF COMPUTATION

68. The computations of every survey submitted for authentication shall be preceded by -

(a) a report; and

(b) a general index to the computations; and

- (c) a complete list of final co-ordinates of every point adopted or calculated in the survey; this list shall be arranged in groups comprising datum points, new triangulation, trilateration, and traverse stations, old or re-established boundary monuments and new boundary monuments, arranged in alphabetical and numerical order; and on this co-ordinate list a description of every point shall be given, and reference shall be made to the source of co-ordinates including datum plans or pages of computations.

PART VIII - PLANS

PLANS TO BE DRAWN ON SPECIAL FORMS

- 69. (1) All plans shall be drawn in waterproof inks on such plan forms as the Director may from time to time specify.
- (2) Every surveyor shall pay to the Director the cost price of any plan forms supplied to him by the Director pursuant to this regulation.

SCALES TO BE USED

- 70. Plans shall be plotted at the same scale as the cadastral plan of the area in which the parcel is situated:

Provided that in special circumstances plans shall be plotted at such scale as the Director may from time to time specify.

PLOTTING OF CURVILINEAR BOUNDARIES

- 71. (1) Where the consent of the Director has been obtained for the adoption of an existing survey of a curvilinear boundary, the surveyor shall -
 - (a) make an accurate reduction of the larger scale plan for use at a smaller scale; or
 - (b) make an accurate transfer for use at the same scale; or
 - (c) replot from the original field notes and computations for use at a larger scale.
- (2) Where a rectilinear boundary intersects a curvilinear boundary and the provision of regulation 17 is applicable, the distance from each line or river monument to the intersection shall be shown to the nearest decimetre, but the distances between successive monuments along the rectilinear boundary shall be shown to the degree of precision required by regulation 75 (3).
- (3) Where a curvilinear boundary of a parcel has been fixed, such curvilinear boundary shall be distinctively described.

PLOTTING BY CO-ORDINATES

72. All plans shall be plotted by rectangular co-ordinates.

GENERAL RULES

73. (1) All details shown on the plan shall be distinct and the cramping of figures shall be avoided.

(2) The north point on every plan shall be upwards and parallel to the sides of the plan form.

ABUTTING BOUNDARIES

74. All boundaries abutting on any parcel which has been surveyed shall be shown on the plan.

CO-ORDINATES AND NUMERICAL DATA

75. (1) In every survey the co-ordinates of permanent control stations shall be tabulated on the plan.

(2) Where boundaries of parcels have been fixed, the following additional information shall be given on the plan -

(a) the co-ordinates of block corners of regular shaped figures and of all monuments of irregular shaped parcels shall be tabulated;

(b) the length and bearing of every boundary shall, when possible, be inscribed along the line to which they refer and such lengths and bearings shall be deduced from the final co-ordinates tabulated on the plan.

(3) Co-ordinates, and lengths when required by paragraph (2) of this regulation, shall be shown to nearest centimetre.

(4) (a) The area of every parcel shall be inscribed where possible within the figure to which it refers to the degree of accuracy prescribed by regulation 67;

(b) sufficient space shall be left for the title number to be inserted by the Director;

(c) no title number shall be inserted by any surveyor.

(5) All other data which may serve to clarify or complete any survey plan, shall be shown on the plan.

TRIANGULATION PLANS

76. When surveys have been made by triangulation or trilateration or a combination of these techniques, a plan shall be made showing all rays observed or measured or both. Such plans shall show a tabulated list of final co-ordinates of all permanent control points:

Provided that it shall not be necessary to draw a separate plan where the control points have been surveyed by methods permitted in regulation 33 (2).

COLOURS AND STYLE OF PRINTING

77. Every survey plan shall be drawn in accordance with the requirements of the Director, in respect of colours, style of printing and other details.

TOPOGRAPHICAL FEATURES

78. (1) All topographical features that have been accurately fixed by survey, or have been sketched with reasonable precision, in accordance with regulation 59 (1), shall be shown in their correct plotted positions on the plan.

(2) When form lines add nothing of significant value to the plan, they shall not be shown.

(3) Topographical information may be taken from any official map published by the Director or any authority approved by him with due caution in regard to the limitations enjoined by the scale of the map.

(4) Where topographical information is taken from aerial photographs, the source shall be shown on the plan.

ERASURES OR CORRECTIONS

79. (1) No erasures shall be made after a plan has been drawn in ink.

(2) Necessary corrections shall be made by scoring through the incorrect work, letter, or numeral in ink and writing the correct work, letter, or numeral. Every such correction shall be initialled by the surveyor.

CERTIFICATE

80. Every plan shall have on it a certificate as set out on Form C of Schedule II.

AUTHENTICATION BY THE DIRECTOR

81. The Director may refuse to authenticate any plan submitted by a surveyor which, in his opinion, has been drawn carelessly and untidily, or is received by him in a dilapidated or damaged condition.

PART IX - READJUSTMENTS OF BOUNDARIES OF LAND SURVEYED BEFORE THE COMMENCEMENT OF THE ACT

READJUSTMENTS

82. Any boundaries, areas, shapes and positions of any parcels of land surveyed before the commencement of the Act may be readjusted wholly or in part as the Director may specify.

PART X - MISCELLANEOUS

PUBLIC ACCESS TO MAPS AND PLANS

83. (1) Any person shall have access, free of charge, to every map and plan in the possession of the Director.

Provided that the Director or his representative may refuse access as he may deem necessary in the public interest.

- (2) A search fee of 200 vatu per plan shall be paid in advance by any person who is not a surveyor or not on official duty, for access to any unpublished plan and the search fee shall be credited against the price of any print of the plan purchased at the time of the search.

COMMENCEMENT

84. This Order shall come into force on the date of its publication in the Gazette.

MADE at Port Vila this 29th day of January, 1985.



D KALPOKAS
Minister of Lands, Energy and
Rural Water Supply

SCHEDULE I

Prescribed Forms (regulation 45)

FORM A

APPLICATION FOR SUBDIVISIONAL SURVEYS

To: Director of Land Surveys

I, of being registered Land Surveyor No. hereby make application to subdivide a parcel or parcels of land situated at for -

(The purpose and use of the land on which sub-divisional survey is intended to be carried out and the development conditions, if any, in addition to those set out in regulation 45 must be set out herein.)

Date

Singature

SCHEDULE I

FORM B

(regulation 43)

APPLICATION FOR AERIAL SURVEYS

To: Director of Land Surveys

I, of being registered Land Surveyor No. ... hereby make application to carry out aerial survey of -

(Any part or parts, or island or islands of Vanuatu intended to be air surveyed and the purpose or purposes of the air survey, must be set out herein).

Date

Signature

SCHEDULE II

FORM A

(regulation 12)

CERTIFICATE FOR UNQUALIFIED SURVEY ASSISTANTS

I hereby certify that all the work performed in the field and in the office by my assistant, Mr has been carried out under my personal direction, and I take full responsibility for all the work so performed.

Made at, this day of, 19

.....
Registered Surveyor

.../23.

SCHEDULE II

FORM B

(regulation 11)

REPUBLIC OF VANUATU

AUTHORITY TO ENTER LAND

I hereby duly authorise Mr being a registered land Surveyor under and in accordance with the Land Surveyors Act No. 11 of 1984 to enter upon any land to perform any duty which he is required to perform thereon under the said Act.

Made at this day of, 1984.

.....
Director of Land Surveys.

.../24.

SCHEDULE II

FORM C

(regulation 80)

CERTIFICATE FOR PLANS SURVEYED

I, of being a registered Land Surveyor No. hereby certify that the attached plan/plans/ has/have been drawn as a result of a survey carried out by me or under my direction at on (date).

Made at this day of, 19

.....
Registered Surveyor

SCHEDULE III

Prescribed Fees

(regulation 13)

1. For Surveys And Other Services Carried Out By
The Department of Land Surveys

OFFICIAL CHARGES

VATU PER MAN HOUR

Field Survey	-	900
Labour	-	300
Computing	-	800
Draughting	-	700
Materials	-	At cost or by prescribed charges for photo-copying or printing.

2.

Survey Charges

1.

Cadastral extract, copy of official plans

- | | | | |
|--|---|-----|----|
| (a) Certified cadastral map extract, official plan, each | - | 400 | VT |
| (b) Uncertified cadastral map extract | - | 200 | VT |
| (c) Photocopy (A4) of Official A3 plan | - | 100 | VT |

2.

Prints

- | | | | |
|---|---|-------|----|
| (a) Paper print of map or cadastral plan, each | - | 1,000 | VT |
| (b) Other paper print from the Department's documents, per metre | - | 900 | VT |
| (c) As (b) above but on special heavy duty paper, per metre | - | 1,200 | VT |
| (d) Paper print from a tracing supplied by the applicant, per metre | - | 400 | VT |
| (e) Paper print of the aerial photography diagram | - | 600 | VT |
| (f) Film positive of a tracing supplied by the applicant, per metre | - | 1,000 | VT |
| (g) Photocopy of map extract - A4 size each | - | 50 | VT |
| (h) Minimum fee per order | - | 200 | VT |

3.

Survey Points

- | | | | |
|---|---|-----|----|
| (a) Co-ordinates with station description, per point | - | 100 | VT |
| (b) Co-ordinates without station description, per point | - | 50 | VT |

(c) Co-ordinate lists, each list of at least four points, price of the list per point	-	50	VT
(d) Height of bench marks (each)	-	50	VT
(e) Minimum fee	-	50	VT

4. Mapping

(a) 1:2500 maps of Port Vila and Luganville	-	300	VT
(b) 1:50,000 or 1:100,000 maps of Vanuatu per sheet	-	300	VT
(c) 1:1,000,000 maps of Vanuatu (coloured) per sheet	-	500	VT
(d) 1:10,000 maps of Port Vila and Luganville (coloured) per sheet	-	500	VT
(e) 1:10,000 map of Mere Lava (coloured) per sheet	-	300	VT

5. Search Fees

(a) To locate details of plans, aerial photographs, valuations computations or mapping details, per sheet	-	700	VT
(b) Minimum fee	-	200	VT

[NOTE: The Department of Land Surveys may demand advanced costs, payment or deposit for all the services rendered.]