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WESTERN AUSTRALIA.

RULES AND DIRECTIONS FOR THE GUIDANCE OF SURVEYORS UNDER THE DEPARTMENT OF LANDS AND SURVEYS.

Department of Lands and Surveys, Perth.

16th September, 1910.

HIS Excellency the Governor in Executive Council, under Section 161 of "The Land Act, 1898," has been pleased to make the following Rules and Directions providing for the mode in which surveys under the said Act shall be executed, and fixing rates of payment for such surveys, to take effect on and after 1st October, 1910.

R. CECIL CLIFTON,
Under Secretary for Lands.

In these Rules and Directions, unless the context otherwise indicates, the following terms shall have the meanings set against them respectively:—

"Department": The Department of Lands and Surveys.

"Inspecting Surveyor": A Surveyor on the permanent staff of the Department of Lands and Surveys, or a Surveyor deputed by the Surveyor General to examine surveys.

"Minister": The responsible Minister of the Crown for the time being administering the Department of Lands and Surveys.

"The Regulations": The general Regulations for the guidance of Surveyors under the Licensed Surveyors Act, 1909, in addition to the Rules and Directions of the Department of Lands and Surveys.

"Surveyor General": The permanent head of the Survey Branch of the Department of Lands and Surveys, or the officer for the time being authorised to act on his behalf.

"Surveyor": A Surveyor licensed under the Licensed Surveyors Acts of 1886, 1895, or 1909.

PART I.—GENERAL.

1. The Regulations for the Guidance of Surveyors gazetted 7th October, 1902, are hereby cancelled; provided, however, that such cancellation shall not in any way invalidate anything heretofore done under or in conformity therewith.

2. In all questions arising in connection with the Regulations or the established practice of the Department, not provided for in the Regulations, the Surveyor General's decision as interpreting such Regulations or practice shall be accepted as final.

3. No surveys will be accepted by the Department unless the same are in accordance with the Regulations, and such amendments thereof as may from time to time be authorised.

4. All surveys shall be performed under the direction of the Surveyor General, or other officer duly authorised by him, and must be carried out by Surveyors licensed under the Licensed Surveyors Acts of 1886, 1895, or 1909.

5. In the absence of special instructions from the Surveyor General to the contrary, every block of land surveyed shall be in the form of a rectangle, with boundaries in the direction of the true meridian and at right angles to it, and the proportion of depth to breadth shall not exceed three to one, except the block be bounded by a frontage line, when the proportion of depth to breadth shall be as two to one; but if this regulation in respect of form cannot be observed from the interference of natural features, boundaries of other lands, or other causes, the form of the block shall be determined as nearly in accordance therewith as circumstances permit.

6. Surveyors performing surveys which are to be dealt with by the Department will be supplied with numbered blank field-books, in such quantities as the Surveyor General considers necessary.

7. As a general rule, one field-book should be completed before another is commenced. Notes should be consecutively entered according to the dates of the surveys.

8. A Surveyor shall endeavour to avoid conferring undue advantage on individuals, or to in any way act so as to bring discredit on the Department. He should avoid effecting surveys in such a manner as to render any portion of land waste.

9. Should a Surveyor, when defining the boundaries of a selection, have to run unnecessary lines for the benefit of any selector, he shall obtain an undertaking from such selector that he will recoup the Department the actual cost of surveying the lines, and furnish a full report to the Surveyor General.

10. A Surveyor shall not accept a fee from any person or persons for the performance of surveys, the cost of which is to be or has been paid by the Government.

11. All plans, diagrams, and field-books, etc., in connection with work done, must be lodged with the Surveyor General within a period not exceeding one month from the date of the completion of the field work, and the instructions to undertake the work must in all cases accompany the diagram or plan showing such survey.

12. The "date of survey" of any work is the date the plan or diagram showing it is approved by the Surveyor General, or other duly authorised officer, and the date the survey is completed by the Surveyor in the field shall be the "date of marking."

13. All instructions shall be acted upon at once, and in the order fixed by the Surveyor General. Instructions not acted upon within three months of their issue shall be specially reported on and returned, and if not carried out or returned at the expiration of three months, may be cancelled by the Surveyor General and all charges in connection therewith disallowed.

14. Any unfulfilled instructions which a Surveyor may hold for work for the Department may be withdrawn or cancelled at any time by the Surveyor General. Upon the receipt by the Surveyor of notice to that effect, the instructions shall be forthwith returned.

15. If, in the opinion of the Surveyor General, any Surveyor wilfully or carelessly disregards the Regulations, or any departmental instructions he may receive from time to time, or be guilty of undue delay in making a survey for which he has instructions, or of carelessness in the execution of such survey, the Surveyor General may disqualify such offending Surveyor from being further employed as a Surveyor by the Department.

16. The Surveyor General shall not be obliged to accept any surveys performed under the Regulations unless he is satisfied with the accuracy of the work done, and he may instruct a Surveyor to test it. In the event of the work proving inaccurate, the Surveyor General may reject the whole or any portion of it, and charge the cost of inspection to the Surveyor.

17. In defining the boundaries of railway reserves between tangent points, two-chain chords on the centre line of the railway shall be accepted as a *datum*, and the boundaries of the reserved area made parallel to the two-chain central chords.

18. The boundaries of land fronting on the ocean, sea, or any sound, bay, or creek, or any part thereof affected by the ebb or flow of the tide, shall be right lines, marked in the same manner as other permanent boundaries, approximately parallel to and not less than two chains inland from high-water mark. When the conditions are favourable, and in view of probable traffic, a road should be left along high-water mark, which in such case may form the boundary of the land to be marked. High-water mark shall be defined as the ordinary high-tide mark at high-water spring tides.

19. Certain indefinite riparian rights being conferred by the alienation of Crown land with frontages to rivers, creeks, lagoons, swamps, lakes, or main streams, the banks of such rivers, creeks, lagoons, swamps, lakes, or main streams should not be treated as boundaries, but the land to be alienated shall be defined by right lines; such lines must be approximately parallel to and about 50 links inland from the ordinary high-water marks of such rivers, creeks, lagoons, swamps, lakes, or main streams, and shall be marked, posted, and pegged in exactly the same manner as other permanent boundaries.

20. The strip of land between the frontage lines and high-water mark shall be deemed a reserve, and should not be shown as a road unless there is a special reason.

21. On the banks of rivers, lakes, creeks, or other watercourses access to water and necessary reserves should, if practicable, be provided at frequent intervals. When such reservations are made, the Surveyors shall report to the Surveyor General his reasons for providing such reserves. In any case in which a road, right-of-way, or reservation is considered necessary along the bank of a river, the land fronting thereon shall, if possible, be marked with such road or reservation as a boundary.

22. Whenever a Surveyor, in the course of his duty, may observe any land which it may appear desirable to withhold from sale, or reserve for townsites, public water supply, or for any of the special purposes provided for under "The Land Act, 1898," or other Acts relating to the disposal of Crown lands, he shall at once bring the matter under the notice of the Surveyor General by a separate and comprehensive report, with a sketch annexed defining the area recommended to be reserved.

23. No permanent natural surface water should be alienated, unless special instructions to include it in the land being measured have been given by the Surveyor General.

24. In the subdivision of land, and in view of future settlement, the Surveyor should exercise judgment in selecting and recommending for reservation for public use permanent water-holes, springs, and parts of rivers desirable for water supply which may be necessary for the beneficial use of the surrounding country or for the benefit of travellers and stock. All reservations must be provided with convenient means of access by a suitable road or roads.

25. As it is essential for the upkeep of roads and streets that provision for quarries and gravel-pits should be made wherever settlement takes place, Surveyors should recommend suitable areas for reservation for these purposes.

26. Surveyors shall recommend for reservation areas covering prominent points, which may now or hereafter be useful in the trigonometrical survey of the country, or other localities which, in the interests of the State, should be reserved for any special purpose, whenever in the course of their surveys the necessity for such reservations may present itself. All such recommendations shall be accompanied by a sketch showing the boundaries of the proposed reservations.

27. Timber being one of the most valuable assets in the State, Surveyors should be careful that no valuable jarrah or other timber is wantonly destroyed by parties under their control; and should they observe localities containing valuable timbers, they should forward to the Surveyor General a sketch showing the boundaries of any area that they consider should be reserved for the purpose of protecting the timbers. A full report should accompany the sketch.

28. All known names of rivers, creeks, hills, lakes, localities, etc., shall be recorded in the field-book, care being taken to ascertain and adhere to the correct orthography. Wherever native names can be ascertained, they should be most carefully recorded, especial care being taken to ascertain the correct pronunciation. For recording native names, the system of orthography adopted by the Royal Geographical Society (*see* Appendix No. 6) should be followed.

29. A Surveyor shall forward his standard band to the Surveyor General during June or July in each year and at such other times as the Surveyor General may direct, in order that it may be compared with the Departmental standard.

30. Before undertaking any surveys for the Department, the Surveyor shall submit for the approval of the Surveyor General, or other duly authorised officer, the theodolites, steel bands, and other instruments to be used on such surveys, and during the performance of any surveys the Surveyor General, or other duly authorised officer, may inspect the instruments being used. Any instrument or band condemned by the Surveyor General, or other duly authorised officer, shall not be used upon any work entrusted to the Surveyor.

31. The magnetic bearing must be recorded on at least one line of each isolated block surveyed, or at intervals of about ten miles on continuous surveys.

32. In dealing with previous surveys made by the Government, the Surveyor must adhere to the principle of the unchangeableness of the position of the boundary marks; and where they have been originally established on the ground by a Government Surveyor in accordance with the survey system at that time in force, they must be regarded as the true positions, even if found by the new survey not to be in the exact position assigned to them. But to prevent the perpetuation of patent errors in original surveys, and to guard against fraud, in every case where a material disagreement is found to exist between a new and old survey, the Surveyor shall forward to the Surveyor General a full report on the subject, accompanied by a sketch showing the position of, and describing all old survey marks that have been found, and also any improvements on or near the boundary line. In such cases the Surveyor shall not re-mark the boundaries until instructions have been given by the Surveyor General as to the manner of re-establishing them. In cases where original intermediate marks are not truly aligned between the corners, the Surveyor may correct the alignment of the same, provided no improvements are affected by such alteration. The original and amended positions of the marks must be clearly recorded in the field-book, and a full report on the matter made to the Surveyor General.

33. Except for the purpose of locating errors, producing or intersecting on lines, the Surveyor should not re-mark any old line that has been marked upon the ground for a less period than 10 years, unless specially instructed to do so by the Surveyor General.

34. All old posts or pegs found must be recorded in field notes thus "O.P.;" if renewed, thus "O.P.R.;" and if the old posts or pegs are gone, thus "O.P. gone."

35. The date of marking, location number, district, applicant's name, and the C.P. number should be recorded in the field notes of each selection surveyed; every other survey should have a proper title entered in the field-book.

36. If, in the course of a survey, the line being run intersects the boundary of any surveyed blocks, or road, or any railway, telegraph, or other surveyed line, the Surveyor shall note the point of intersection with the former surveyed line, observe the

included angle and bearing at the point of intersection, and measure the distance from it to an angle post or other fixed point on the line intersected.

37. No payment will be allowed for ranging old lines for the purpose of verifying the alignments if they have been marked within the previous two years, and in no case will payment be allowed unless the lines have been ranged and chained.

38. In order that each block of land surveyed may be definitely described, it is necessary to connect it with some previous survey; connection should be made with the nearest measured block in preference to feature and road surveys, where there is no very considerable difference in distance; when the connection is made with another block it should be made to a corner, and the particulars of angle and bearing and distance to the reference tree or pegs shall be noted. The angle from the traverse to the old survey should in all cases be observed and noted in the field-book.

39. When an isolated block is measured in a remote locality, bearings should be observed from one or more corners or defined points on the survey to prominent hills or other conspicuous natural features, upon which, if necessary, permanent cairns should be erected.

40. In the survey of several blocks measured contemporaneously, and separated by a road or a river from others previously measured, connections shall be made near the commencement and the termination of the survey, and at intervals of about a mile.

41. Before surveying any block of land the Surveyor shall in all cases re-calculate the area in order to check the computations furnished to him on the diagram accompanying the instructions to mark the land, and on all practicable occasions the area given in the application is to be adhered to, save in special cases, on the request of the applicant, and when land is available.

42. Before surveying any selection the Surveyor shall communicate with the selector and give him every opportunity of being present when the survey is being effected. If a Surveyor fails to give the selector sufficient notice, charges in connection with any block surveyed during the selector's absence may be disallowed by the Surveyor General.

43. In no case shall a block be surveyed containing a greater area than that allowed by the Land Act.

44. If a Surveyor holding instructions for the survey of a block is informed by the selector that it is his intention to abandon it, the Surveyor shall refrain from surveying it. A written statement to that effect, signed by the selector and duly witnessed, shall be forwarded to the Surveyor General with the instructions for survey.

45. If the area of a block as surveyed does not agree with the area applied for, an "Amendment of Boundary" form, duly signed by the applicant, shall be forwarded to the Surveyor General at the earliest opportunity.

46. A Surveyor may alter the boundaries of Conditional Purchase land which he is marking, on the application of the selector, provided the selector or his approved agent signs a requisition on the prescribed form (*see* Appendix No. 3). Such form shall be forwarded by the Surveyor to the Surveyor General at the earliest opportunity. Any alteration made must not interfere with the rights of other persons, must be in accord with the laws in force relating to the disposal of Crown lands, and the Surveyor must be careful to inform the selector that it is subject to the approval of the Surveyor General. The starting point referred to in the application shall be shown on the "Amendment of Boundary" form and in the field-book.

47. An "Amendment of Boundary" form (*see* Appendix No. 3) must in every case show the applicant's name, location number, clause number of holding, all measurements of external boundaries, the area, all adjacent holdings, and a connection to a fixed point.

48. When surveying a grazing lease, poison lease, or a selection within a mineral district, or timbered areas, the Surveyor should not materially depart from the boundaries as shown on the copy for survey; but if the applicant desires the boundaries amended, the Surveyor shall in such case furnish a report and sketch, showing the description of soil and timber within the proposed extended boundaries, and advise the Surveyor General whether the amendment sought should be allowed.

49. The diagram form of keeping field notes should be adopted when practicable. Surveyors who have been accustomed to and prefer other forms of recording notes should also provide a diagram in illustration; in all cases continuous chainages shall be recorded in addition to intermediate distances.

50. The actual measurements made in the field must be entered in the field-book, notwithstanding that they may not agree with data determined by others, or supplied to the Surveyor. In all cases of material disagreement the line must be measured twice, in order to ensure accuracy.

51. "Improvements" should be shown, and particulars as to ownership, date of erection, description, and value, entered in the field-book.

52. Private surveys of the boundaries of Pastoral Leases or other holdings under the Land Regulations or the Land Act cannot be recognised by the Department unless they are carried out in accordance with the Regulations, and the original plans and field notes lodged with the Surveyor General for examination and retention. In no case should such surveys be made without making application to the Surveyor General for the information necessary to enable the boundaries to be correctly defined on the ground.

53. The removal, obliteration, or defacement of any survey mark is a misdemeanour coming under Act 4 & 5 Viet. No. 20. Any such misdemeanour coming under the notice of a Surveyor should be reported to the Surveyor General.

PART II.—SALARIED SURVEYORS.

54. Surveys performed by salaried Surveyors are required to be subject in all respects to the Regulations, except in so far as the payment for work performed is concerned.

55. The inspection of the field work performed by Surveyors shall be entrusted to Inspecting Surveyors, or, in special cases, to such other Surveyors as shall be specially deputed by the Surveyor General.

56. Inspecting Surveyors shall, when instructed by the Surveyor General, examine and test the accuracy of survey work on the ground, and shall in every case make a special report of the inspection to the Surveyor General.

57. All Surveyors shall be personally responsible for the safe custody and care of all instruments and equipments entrusted to them by the Department, and shall, prior to the departure of any survey party under their command, furnish the Surveyor General with a complete lists of the instruments and various articles comprising their outfit, and upon the return of such party shall return all stores, instruments, and equipments, giving a detailed account of any that may have been damaged or otherwise disposed of.

58. Salaried Surveyors shall furnish continuous consecutive monthly diaries on the prescribed forms (*see* Appendix No. 2), giving full details of their daily work, whether in the field or office, and a summary of the work performed shall be given on the back of the form. The diaries and statements must be signed by the Surveyor employed, both at the foot of the diary and of the summary, and posted in time to reach the Surveyor General not later than the 23rd day of each month, except for the month of June, when diaries should close on the 30th, and reach the Surveyor General's office not later than the 3rd day of July or as soon thereafter as postal facilities permit.

59. Except in cases of payment of very small amounts, as, for instance, cab hire, all accounts against the Department shall be made out in the name of the public creditor; that is, the person who performs the service, not the officer who pays for it. The public creditor's receipt for moneys paid must either appear at the foot of the account or be attached thereto. The officer should certify to the correctness, etc., of the account before rendering same, and on the voucher must be enfacéd by rubber stamp or otherwise the method of payment, such as "Paid by Cash Order No. ." If the account has not been paid and is merely forwarded to Head Office for payment, the public creditor should show on the procurement order form forming part of the voucher how he desires payment to be made, whether to a bank or otherwise. Officers holding authority to issue Cash Orders must make themselves acquainted with and strictly observe the instructions relating thereto. Copies of these instructions are obtainable from the Departmental Accountant.

60. A salaried Surveyor must not leave his camp without having first obtained the written consent of the Surveyor General.

61. With the permission of the Surveyor General, diagrams or plans, showing surveys carried out by salaried Surveyors, may be drawn by the office staff, but it shall be the duty of such Surveyors to check and sign all diagrams or plans so drawn at the earliest opportunity.

PART III.—CONTRACT SURVEYORS.

62. Surveyors temporarily employed and paid at the schedule rates under the Regulations are called Contract Surveyors, and are subject to the Regulations.

63. A contract Surveyor shall provide, at his own cost and charge, all instruments, tools, labour, materials, stores, and everything necessary for the proper execution of the work undertaken by him, excepting such drawing and tracing paper, field-books, diagram forms, tabulation and account forms, etc., as may, in the opinion of the Surveyor General, be requisite.

64. Any specified district may be assigned to a Surveyor, who will generally be entrusted with the survey operations required therein; but such assignment shall not confer on him an exclusive claim to all the work in his district. Any other Surveyor may also be employed therein, should circumstances render such a course expedient.

65. Surveyors employed in districts assigned to them are expected, as far as may be practicable, to so arrange their work as to minimise the charges for "travelling."

66. No survey will be paid for by the Department unless instructions to perform the work have been issued by the Surveyor General, or he is satisfied that the cost should be borne by the Department.

67. Surveys discovered to be erroneous, or surveys in contravention of the Land Regulations, or any laws relating to the disposal of Crown lands, or surveys not in accordance with the practice of the Department, may be rejected by the Surveyor General, and the fees charged for the same may be struck out of the accounts; or if such fees have been paid, the amount may be surcharged against any moneys which may be due or may become due to the Surveyor; or if another Surveyor be employed to amend or re-measure, then the cost of his services at the authorised rates (but not exceeding the fee for the original survey) may be surcharged to the accounts of the Surveyor who made the original erroneous survey.

68. When a survey is rejected by the Surveyor General, the marking of the same shall be effaced by the Surveyor who performed the survey, or at his cost.

69. Every Surveyor working for the Department, or performing surveys which may be submitted to it for acceptance, may, at any time, be required, with his own men

and instruments, to run, in the presence of an Inspecting Surveyor, any check lines which such Inspector may require. If the work be found correct, such check lines shall be paid for by the Department according to the rates of traverse survey per mile.

70. If the Regulations be not strictly adhered to, the Surveyor General may stop advances on Surveyor's accounts or refuse to give employment in future.

71. Under certain circumstances, such as when a Surveyor fails to complete surveys according to the Regulations, or where plans have been inaccurately or badly drawn, or areas have been incorrectly computed, and when it may not be expedient or desirable to reject the survey, a discount, which shall not exceed 50 per cent. on the authorised fees, may be imposed by the Surveyor General as compensation for additional professional labour involved in examination and amendment, or as a fine; or in the event of the account for such imperfect surveys or incomplete plans, etc., having been paid, such discount or a fine may be surcharged against any moneys which may be due or may become due for services rendered.

72. A contract Surveyor must not leave his work without having first obtained written permission from the Surveyor General.

73. On the completion of a contract, if instructed to do so by the Surveyor General, the Surveyor shall attend personally at the Surveyor General's Office, Perth, and hand in all plans, diagrams, field-books, and computations.

74. Payment will not be made in full for the survey of any block of land, the boundaries or area of which have been altered as allowed by Clauses 41, 45, and 46, until the Surveyor furnishes the necessary alteration of boundary form therein referred to and the Surveyor General has approved the same.

75. A "contract Surveyor," while employed as such by the Department, shall not publicly criticise the administration of the Department or Government. Any breach of this regulation may lead to the cancellation, at the discretion of the Minister, of any instructions for work held by such contract Surveyor.

PART IV.—ROAD SURVEYS.

76. The subject of the selection of roads being one of vital importance, the attention of all Surveyors employed by the Department is specially directed to the following instructions in reference thereto. As soon as a Surveyor arrives in a district in which he is likely to undertake the survey of any roads, he shall communicate with the Chairman of the Road Board of the district, and request his co-operation and advice in selecting the best routes for lines of road through the portions of the district in which his work is to be performed.

77. Roads should be designed in the most suitable positions, and may be of various widths, according to the conditions of the ground; but in no case, unless specially instructed, shall the width be less than one chain, or the grade steeper than 1 in 12.

78. The objective points, as towns, railway stations, fords, bridges, gaps, etc., to which roads are directed should always be kept in view, and the route selected should be that which combines an easy ruling grade with economy in construction and straightness in direction.

79. Existing tracks should be maintained unless an examination of the country discloses a more suitable route, and all road improvements should be kept well within the limits of the road as defined by survey.

80. As far as possible roads should form boundaries of blocks to be measured, but in all cases where the reservation of a road through any section of land is necessary the Surveyor shall run one side line on the ground, offset and clear the opposite side, and post, peg, and trench both sides, as well as the intersections with the external boundaries of such section; he must also observe the angles of intersection and measure the distance from the intersections to the nearest angles or other fixed marks on the boundaries.

81. It is expected that the directions in reference to the survey of roads will be faithfully and intelligently observed. Failure in this respect will be regarded as evidence of the Surveyor's inability to select roads satisfactorily, and as just cause for refusing him further employment in that description of work.

82. In all cases where roads intersect the boundaries of locations or lots, the closure of one side of the road with the boundaries must be computed.

83. Where roads are to be surveyed through alienated lands, Surveyors should make a careful inspection of the country along the proposed route. In selecting the road, the first consideration should be public requirements and the conditions favourable to traffic; the second, the least possible interference with, or injury to private property.

84. The area taken by a road out of each block must in all cases be computed.

85. When a road along a railway reserve forms a boundary of a block, only one side of such road must be marked, *i.e.*, the block boundary: this boundary must be marked along the straights by lines parallel to the centre line of the railway, and when following the curves by the longest practicable chords or tangents, in such a manner that the minimum width of the road shall be that approved or declared, and the maximum, except in special cases, shall not exceed this width by more than 25 links.

86. In cases where three or more streets or roads meet at different angles, such streets or roads shall be surveyed, if practicable, in such a manner that the centre lines thereof shall meet at one common point.

87. On road surveys exceeding two miles in length, the angle posts on the "run" side shall be numbered consecutively with the addition of a distinctive letter. The letter

and number shall be placed immediately under the letter "R," care being taken that the combination of letters and numbers does not lead to confusion. Mile posts shall also be placed on the "run" side of the road and numbered consecutively.

88. In all surveys of land it is necessary that proper road access shall be provided for every location or lot if held by different owners.

PART V.—TOWN AND SUBURBAN LANDS.

89. Extreme care must be exercised in the selection of sites for town or suburban lands. The probable extent of population and settlement must be duly considered, and provision made for future extension and requirements.

90. Whenever the nature of the country and other conditions will admit of it, townsites should be laid out in rectangular sections 8 chains by 5 chains 25 links, each section to be intersected centrally by a lane 25 links wide, parallel to its longer side, and subdivided into allotments of a quarter of an acre each, with a frontage of 100 links and depth of 250 links. (*See Appendix No. 10.*)

91. The streets which are likely to become the main thoroughfares of a large and populous centre should have a width of not less than two chains, but others should be 100 links wide.

92. Before proceeding to subdivide a townsite the Surveyor shall (unless otherwise instructed) forward, for the approval of the Surveyor General, a preliminary design; report on the suitability and general characteristics of the site selected; and if a departure from the before-mentioned directions relating to the manner of laying out townsite is necessary, the reason for such departure must be given.

93. Open spaces should be reserved where necessary, and sites are to be provided for schools (about five acres), public buildings, recreation grounds, and other public purposes.

94. The quarter-acre lots should be confined to the portions of the townsite deemed likely to become the business or more thickly populated centres. Sufficient space having been provided for these, the size of the allotments should be increased to afford sites for residences, etc., away from the central parts. The size of allotments and width of streets in the outlying portions must be determined by the physical features, nature of soil, climatic conditions, and probable increase of population.

95. Where conditions are favourable, ample provision should be made for park lands within or in the immediate vicinity of the town.

96. Suitable sites should be selected near the town for hospitals, abattoirs, camping places, commonages, sanitary depôts, cemeteries, etc.

PART VI.—MARKING.

97. All boundary lines shall be cleared to a width of not less than one foot by the removal of all scrub, and trees (if on the line) of a less diameter than two feet shall be cut down, and the trees on each side within two feet shall be blazed on the sides facing the line. If the boundary line passes through a tree which is too large to remove, the tree is to be marked on each side with a triangular mark cut into the wood, and the apex of the triangle shall be on the boundary line. Rocks which may be on the boundary line are to be marked in suitable places with a pick, wherever the character of the rock will admit of it. If after running a line it is found necessary to offset the posts or pegs, the true line shall in all cases be cleared out and marked.

98. The lines in feature surveys and connections shall be cleared to a width of not less than one foot by the removal of all scrub and trees (if on line) of a less diameter than two feet. At every angle of a traverse a short peg is to be driven in the ground in order to show (for a few months) the exact angular point for the use of the Inspector. At intervals of about two or three miles a conspicuous tree shall be selected for reference, connected with the traverse and marked with a broad arrow and a distinguishing letter

and number thus $\begin{matrix} \wedge \\ K \\ 20 \end{matrix}$ deeply cut into wood after the removal of the sap. The broad arrow

on all trees must be the reference mark, and its bearing and distance from the adjacent traverse or boundary line noted in the field-book.

99. In localities where stone is available for cairns, posts should be substituted for marked trees; such posts to be not less than 6 inches square, pointed on the top, placed firmly in the ground and protected by a cairn of stones three feet in diameter and three feet high. Each post shall have a broad arrow and distinguishing letter and number deeply cut in it; such numbers to be distinctly visible above the top of the cairn. If hills or rises are in the vicinity of the traverse lines, the cairns should be erected on the summits thereof and connected, either by direct measurement or well-conditioned cross bearings, to the traverse survey.

100. If the lines of traverse should pass within a reasonable distance of a prominent hill commanding an extensive view of the surrounding country, the summit of such hill shall (if necessary) be cleared and marked by a post not less than 6 inches square sunk flush with the natural surface of the ground, and a substantial pole and cairn erected over it. The native or English name, or both if ascertainable, shall be cut upon the pole, which shall in all cases be connected to the traverse either by direct chainage or well conditioned cross bearings. An observation for azimuth shall (if possible) be

obtained at the cairn, and a round of angles taken to all points visible, and their distances estimated.

101. In the event of the survey being in the vicinity of stations of the Trigonometrical Survey, it is imperative that connections be made, either by well-conditioned bearings or by direct chainage. The azimuth of the feature survey should, if possible, be connected by angular measurement with the azimuth of the triangulation.

102. Observations for azimuth shall be obtained at intervals of not more than five miles and all features comprehensively shown, so that a draftsman may be able to represent the general aspect of the country.

103. In selecting features for a connection survey, preference shall be given to rivers and watercourses or tracks. Where there are no leading features the connecting survey shall be as direct as possible.

104. In the marking of surveys that will come under the Department of Lands and Surveys, the broad arrow shall be recognised as the "Departmental mark" referred to in the general Regulations for the guidance of Surveyors.

105. At every post or peg, trenches with perpendicular sides shall be cut in the direction of all boundary lines, of the following dimensions:—

Rural Lands.

At angles and mile posts	{	7 links long, 9 inches wide, and 9 inches deep, commencing 7 links from the post or peg. At all posts the earth taken out of the trenches shall be heaped up round the post, but in such a manner that the figures are not hidden.
At intermediate pegs and at angles on boundary lines which are 5 chains or less in length	{	5 links long, 9 inches wide, and 9 inches deep, commencing 3 links from the peg. The earth taken out of the trenches shall be heaped up round and over an intermediate peg.

Town and Suburban Lands.

At corners or angles of streets or rights-of-way	{	5 links long, 9 inches wide, and 9 inches deep, commencing 3 links from the peg.
At corners of allotments	{	4 links long, 9 inches wide, and 9 inches deep, commencing 3 links from the peg.

106. The boundaries of pastoral and timber leases, when surveyed for private individuals, shall be marked in a similar manner to other rural lands, with the exception that the intermediate pegs may be placed at intervals of not more than 40 chains. These pegs shall be flat-topped, 3 inches square, and 15 inches long, sunk 12 inches in the ground, with consecutive numbers clearly cut or stamped thereon. A North and South boundary shall be laid off on the true local meridian and an East and West boundary as a chord of a parallel of latitude, with its terminal points in the same latitude and bearing true East and West at its middle point. Observations for azimuth shall be taken at intervals of not more than 5 miles measured along the boundaries.

107. At each road frontage corner of every block of rural land, and each corner of an isolated block, the nearest sound tree (if within two chains of the corner) shall be marked with a broad arrow, and under it the number of the block, cut into the solid wood (the sap-wood having been first removed) at least three quarters of an inch. The bearing and distance of the broad arrow (which is the point of reference) from the corner must be carefully recorded in the field notes and on the diagram or plan.

108. The positions of all reference marks shall be shown in the field notes, and if distant more or less than 5 links from the posts shall be shown on all plans and diagrams. If on account of rock these marks cannot be sunk to the specified depth, a cross should be cut on the rock in the true alignment, and a note made in the field-book.

109. In any place where, on account of rock or other causes, a hole or trench cannot be sunk or cut, a cross shall be cut in the rock to indicate the exact position of the corner post or intermediate peg, and the post or peg must be placed exactly over the cross and protected by a cairn of stones, with neat pointers of stones, seven links long in the direction of the boundary lines.

110. All old boundaries resurveyed should, when necessary, be remarked, posted, pegged, and trenched in the same manner as new boundaries.

111. In connecting with old surveys, the Surveyor must renew the posts and pegs, if at all decayed, and also clear out the trenches.

112. When an old survey is superseded by a new survey, with amended boundaries, the old posts, pegs, trenches, and other marks must be removed or obliterated by the Surveyor carrying out the new survey.

113. In marking town or suburban lands, the street, road, and subdivision lines are to be cleared in precisely the same manner as other boundary lines.

114. When additional sections are being surveyed in a town or suburban area, the reference marks inserted in connection with a previous survey shall (if possible) be found, and the alignment indicated by them adopted as the datum for the new survey work.

115. When defining the boundaries of holdings or roads near which fences exist in a good state of preservation and tolerably straight, such boundaries should follow the fences as far as practicable, provided that the rights of interested persons are not adversely affected thereby. When fences are adopted as boundaries, the lines must be marked in the usual manner.

PART VII.—PLANS, DIAGRAMS.

116. Blank diagram and plan forms will be supplied to Surveyors by the Department, free of cost, in such quantities as the Surveyor General deems necessary; but a record of the number issued to each Surveyor will be kept and compared with the number returned by each Surveyor, who may be charged with the value of all forms not accounted for.

117. In special cases where the area of the block is so large or the shape so irregular as not to permit of its being plotted on a diagram form to a scale of 20 chains to an inch, plan forms must be used of mounted paper, size 40in. x 27in.

118. Each plan shall have a title neatly printed upon it, clearly setting forth what it represents.

119. With the exception of town, suburban, and subdivisional surveys, every block of land surveyed shall be plotted and drawn on a separate diagram or plan form.

120. Plans or diagrams shall be supplied by surveyors employed by the Department showing every survey performed; and shall, as far as practicable, be drawn in accordance with Appendices Nos. 9 and 10.

121. Should plans or diagrams be below the departmental standard in plotting and draftsmanship they may be redrawn at the Surveyor's expense or rejected.

122. All known names of rivers, creeks, hills, lakes, localities, etc., should be written on the plans or diagrams, care being taken to ascertain and adhere to the correct orthography. In recording native names of new places, the system of orthography adopted by the Royal Geographical Society (*see* Appendix No. 6) should be adhered to.

123. The widths of roads should be written along them, and it should also be stated "from where" and "to where" each road runs (when possible); if a road has been "declared," the number of the road and the date it was gazetted should also be shown.

124. On all plans or diagrams units of minutes and perches must be written without prefixing an 0, e.g., 1 min. or 1 perch, not 01 min. or 01 perch.

125. The bearings of all boundaries, road or other survey lines, shall be stated relatively to the true meridian; all bearings must be recorded on the plans or diagrams to the nearest minute from zero through the whole circle to 360 deg.

126. The scale to which every plan or diagram is plotted shall be expressed in writing upon such plan or diagram.

127. Boundary lines and the marked sides of road lines are to be firmly ruled in black, with bearings and lengths written along them; the sides of roads not marked are to be ruled in broken black lines.

128. When a road is provided through a block while its boundaries are being surveyed, the area of the block should be shown thus:—100 acres *ex* road, 200 acres *ex* road, etc. etc., but if a road is surveyed through an old block, the area taken by the road out of each block must be clearly shown.

129. Plans of road surveys shall, when practicable, show the full boundaries of all blocks through which the roads pass, and should be drawn to a scale of not less than 10 chains to an inch.

130. When there are a number of short lines on a survey, and the bearings, etc., cannot be conveniently written along them, the lines should be numbered and the necessary information given in tabular form on the plan or diagram.

131. The included angles actually read must be shown on the plan or diagram of every survey whenever the scale on which they are plotted will permit of this being done.

132. The bearings and lengths of all road secants shall be neatly shown upon plans and diagrams when practicable.

133. All data obtained in the field and recorded in the field-notes should, as far as possible, be clearly shown on plans or diagrams.

134. All posts and pegs must be shown by circles when centred, and, as shown in Appendix No. 10, when the outer faces have been placed on the street alignments. In no case should either of these symbols be shown where no post exists.

135. All unsurveyed or obliterated boundaries shall be shown by ruled broken black lines. In the latter case "obliterated" should be written along the line.

136. Traverse lines, road, river, or other surveys connecting any block with a previous survey, shall be plotted on the face of the diagram showing the survey of such block, on a scale not less than 40 chains to an inch; when the vacant space on the diagram is not sufficient for this purpose a plan (in lieu of the diagram), drawn in accordance with the Regulations, must be supplied.

137. The number and dates of gazettal of reserves should be shown, when practicable, upon the plans or diagrams showing their boundaries.

138. Fences should be distinctly indicated on plans or diagrams, and their descriptions expressed in words.

139. A plan or diagram must be drawn by the Surveyor who performed the survey, or under his direct supervision, and must be thoroughly checked by him before being signed.

140. When an irregular boundary is defined by offsets measured thereto from traverse lines, such traverse lines must form part of the geometrical figure used in computing the area, and the areas of the portions lying between the traverse lines and the boundary are to be computed from such offsets.

141. The area of every block not being a rectangle shall be calculated by double longitudes, and the particulars of such calculations shall be clearly shown in the proper columns on the face of the diagram or plan form. In any case, when the diagram will not admit of such computations being recorded on its face, the calculations shall be supplied on a traverse sheet.

142. For all surveys of roads, rivers, tie lines, etc., the Surveyor shall supply "traverse sheets" on the prescribed forms (*see* Appendix No. 4), properly completed in accordance with the printed headings and signed by the Surveyor. The latitudes and departures of each line must be calculated from its true mean bearing and recorded to one decimal of a link. The total latitudes and departures between permanent marks on the survey, situate about three miles apart, must be inserted in the proper columns.

143. All plans or diagrams showing the survey of lands held or to be held under Parts V, VI, and VIII of "The Land Act, 1898," shall be accompanied by classifications and valuations on the prescribed form (*see* Appendix No. 7). The boundaries of each location shall be carefully plotted on a separate form, which shall also show the internal classification traverses, and the various classes of land in the following colours:—

- 1st class land coloured Blue.
- 2nd class land coloured Red.
- Inferior land uncoloured.

Careful consideration must be given to the detailed particulars on the form. The classification and valuation shall be personally performed by the Surveyor and treated by him as confidential information not to be disclosed.

144. Calculated connections should (if practicable) be shown to a trigonometrical station, marked tree, or to a corner of a location, town lot, or any alienated block.

145. Lines of coasts, rivers, creeks, swamps, lakes, and watercourses are to be shown, where the position is determined with precision, by firm blue lines, and where otherwise, by broken blue lines; both sides of rivers are to be shown, also an arrow, pointing in the direction of the current. Trigonometrical stations must be correctly shown when they are adjacent to surveys represented on a plan.

146. Full particulars of corners and reference trees are to be clearly indicated on plans and diagrams in the columns provided for the purpose.

147. The numbers of all adjoining blocks are to be written in black ink on plans or diagrams.

148. The scales that may be used for plans or diagrams are 1, 2, 3, 4, 5, 6, 8, 10, 16, 20, 30, 40, 50, 60, and 80 chains to an inch.

149. Plans of town allotments are usually to be plotted to a scale of two chains to an inch, but may be varied in certain special cases with the consent of the Surveyor General. Plans of rural blocks are usually to be plotted to a scale of 10 chains to an inch, but diagrams are to be plotted on the largest scale which the size of the form is capable of, leaving a reasonable margin.

150. Suggested names of townsites, streets, and roads should only be shown on plans or diagrams in pencil.

151. The Working Plan No. and Division shall be shown by the Surveyor on plans and diagrams in the space provided for that purpose.

152. Field notes of each survey shall be sent to the Surveyor General, with the diagrams or plans, etc., to which they refer.

153. Plans or diagrams should not be folded for transmission through the post, but should be sent flat or on rollers, and protected from damage. Should plans or diagrams be damaged through want of proper care in transmission, the Surveyor will be required to furnish others at his own cost.

154. Any plan, diagram, field-book, or field notes which may have been, or may hereafter be registered in the Surveyor General's office shall be the property of the Government.

155. Plans, diagrams, or field-notes that are rejected for any cause, after having been registered in the Surveyor General's office, shall not be returned to the Surveyor, neither will payment for them be made.

PART VIII.—FEES AND ACCOUNTS.

156. It shall be competent for the Surveyor General, with the approval of the Minister, to let, under special contract, surveys such as the subdivision of large areas, laying out townsites or roads, or other topographical surveys, at such rates as shall appear to him sufficient, and the schedule of rates given herein may be subject to discount or augmentation by special approval of the Minister. In any question arising out of accounts or charges made by a contract Surveyor, the Surveyor General's decision shall be final.

157. Payments may be made to the extent of 25 per cent. on the work certified to by the Surveyor as having been performed. When the plans, diagrams, field-books, etc., are received, a payment to the extent of 75 per cent. on the work performed may be made, and the balance shall be paid on the certificate of the Inspecting Officer that the whole of the accounts for the work charged for have been examined and passed, and the plans, diagrams, etc., are in accord with the Regulations or instructions issued by the Surveyor General.

158. Except in cases of subdivisions such as townsites, surveys before selection, etc., not more than six blocks or distinct surveys shall be charged for in each account. Surveys in different Land Districts must not be charged for in the same account. Accounts should be furnished regularly each month as the surveys are completed, and must be dated and numbered consecutively for each year, thus:—1/10, 2/10, 3/10, 1/11, 2/11, 3/11, etc. Care must be bestowed on the preparation of accounts, which cannot be accepted if vitiated by erasure or interlineation.

159. Accounts rendered for surveys before selection, when not accompanied by plans and field notes, shall have sketches on the back thereof showing clearly the lengths of all lines charged for. Accounts for all work performed during the month of June in each year shall reach the Surveyor General's office not later than the 3rd of July.

160. An account for any service to be paid for under the daily rates shall be rendered upon printed forms provided for that purpose (*see* Appendix No. 5). Such account must be accompanied by a diary on the prescribed form (*see* Appendix No. 2), giving full particulars of the service performed, the time occupied in the field and the time occupied in office work.

161. The charge for special service will be subject to consideration, and if, in the opinion of the Surveyor General, the amount charged is excessive, it may be reduced. Particulars of such reduction will be intimated to the Surveyor by returning to him particulars of such account as passed and paid.

162. No claim in respect of any correction or reduction in account will be entertained after the expiration of six months from the date on which the Surveyor was notified of such correction or reduction.

163. Procurement orders will not be accepted, except as an order to pay to the Surveyor's credit, at a recognised bank, moneys due.

164. If in the opinion of the Surveyor General the rates prescribed by the Regulations are not applicable for surveys to be carried out in any part of the State, such rates or parts thereof may be increased or decreased, or special rates allowed as shall be decided upon by the Surveyor General with the approval of the Minister.

165. Before an account is passed for payment errors will be corrected, omissions supplied, and over-charges reduced. Persistent over-charging is severely deprecated, and will impair a Surveyor's claim for further employment.

166. When accounts are passed, Surveyors will be furnished with statements which will show all alterations.

167. Surveyors shall furnish supplementary accounts for items that have been struck out of original accounts, when the causes for which they were struck out have been removed by such Surveyors.

168. The fees payable to contract Surveyors for surveys carried out under the Regulations will be at the following rates:—

- (a) Five shillings for each complete set of observations for the true meridian (including latitude, if necessary), where not more than one complete set is taken on an isolated block, at intervals of about five miles on a continuous survey, or for checking patent discrepancies.
- (b) Seven shillings per mile for the obliteration of permanently-marked boundary lines or road lines.
- (c) Three shillings for each permanent "reference mark" referred to in Clause 47 of the General Regulations.
- (d) For the actual length of all new boundaries surveyed and marked, 9d. per chain; and 1s. for each tree referred to in Clause 107.
- (e) For the actual length of all old boundaries or portions of old boundaries ranged and chained, 6d. per chain, when in the opinion of the Surveyor General, it is considered necessary to range and chain these lines. Where, in the opinion of the Surveyor General, it is necessary to completely re-mark old boundaries, they may be paid for at the same rate as new ones.
- (f) For each new angle post or peg, or old post or peg renewed and trenched on rural surveys and on suburban lots over 5 acres:—
 - 4 inches square and 30 inches long—2s. 6d.
 - 3 inches square and 15 inches long—1s. 6d.
 - 2 inches square and 15 inches long—1s.
 - 2½ inches square and 12 inches long—1s.
 No payments to be made for reference marks on rural lands or new intermediate (ten chain) pegs.
- (g) For tie lines, feature surveys, river, and all other traverses, 6d. per chain. For each marked tree on such surveys only, 2s. 6d.; and for each post and cairn in lieu of a tree (*see* Clause 99), 5s.
- (h) For trial lines run with theodolite and chain, 6d. per chain may be allowed when, in the opinion of the Surveyor General, it has been necessary to clear

- both the trial line and the permanent boundary; and 2d. per chain for the verification chainage referred to in Clause 50.
- (i) For travelling from Perth, or the Surveyor's headquarters, to the first block marked, and from block to block, if more than four miles apart, 2s. per mile. The distance in a direct line only will in each case be allowed. If a survey is in any way continuous or connected, no travelling allowance will be allowed.
 - (j) For roads, 10d. per chain when marked on one side only, and 1s. 6d. per chain when marked on both sides in the same manner as other boundaries. No charge will be allowed for secant or other distances necessary in setting off the posts and pegs on the opposite side of a road: payments for angle and mile posts will be made in accordance with Subclause (f).
 - (k) The sum of £3 will be allowed for clearing a hill, marking, erecting a cairn and pole, and taking a round of angles therefrom, when in the opinion of the Surveyor General such work was necessary (*see* Clause 100).
 - (l) For a Surveyor and party, including three axemen and outfit, when employed at daily rates, for each full working day in the field, £3 10s.; and for each full working day the Surveyor is employed in office work, £1 5s.
 - (m) For preliminary traverse surveys of timber areas, roads, natural or other features effected with the chain and prismatic compass, 3d. per chain may be allowed when, in the opinion of the Surveyor General, such traverses were necessary and field notes of same are lodged.

169. The following scale of fees will be paid to Contract Surveyors for the classifications and valuations as prescribed in Clause 143 of the Departmental Rules and Directions:—

Where the area does not exceed 500 acres	20s.
Where the area exceeds 500 but does not exceed 1,000	27s.
Where the area exceeds 1,000 but does not exceed 1,500	33s.
Where the area exceeds 1,500 but does not exceed 2,000	47s.
Where the area exceeds 2,000 but does not exceed 3,000	53s.
Where the area exceeds 3,000 but does not exceed 4,000	60s.
Where the area exceeds 4,000 but does not exceed 5,000	73s.

On blocks that have been applied for before survey, a further increase of 10 per cent. may be allowed at the discretion of the Surveyor General.

170. When a Surveyor, after consulting the applicant, on arriving on the ground for the purpose of effecting the survey of a selection, shall be unable to proceed with the survey because the boundaries as applied for do not include the land required, and when it is impracticable to amend the selection to include the desired area, such Surveyor may be paid for the loss of time entailed, at the rate of £2 10s. per diem, or *pro rata* for any portion of a day.

171. The sum of £2 10s. per diem, or *pro rata* for any portion of a day, may be allowed to a Surveyor for surveying short lines, etc., which, if paid for at schedule rates, will not recompense him for actual outlay and loss of time.

172. Town and suburban lots may be paid for by special arrangement, or at daily rates, but if no special terms are arranged, they will be paid for at the following rates:—

	£	s.	d.
For each block not exceeding $\frac{1}{4}$ acre	0	8	0
" " " $\frac{1}{2}$ acre	0	10	0
" " " 1 acre	0	17	0
" " " 2 acres	1	2	0
" " " 5 acres	1	12	0

Over 5 acres, 1s. per chain for the actual length of all new boundaries surveyed and marked.

173. It is essential that details of all charges made by a Surveyor should be shown on the prescribed account forms (*see* Appendix No. 5), and if he fail to do so, such charges may be struck out of the accounts.

PART IX.—OFFICE INSPECTION, REPORTS, ETC.

174. The inspection of all plans, diagrams, field-books, computations, and accounts shall be entrusted to the Inspector of Plans, or to such other officers as shall be specially deputed by the Surveyor General, and such Inspector or other officers shall be responsible that the Regulations have been adhered to, and that the accounts are correct.

175. All official letters and reports should be addressed to "The Surveyor General," written upon the forms or the cut foolscap paper provided for the purpose, the left hand margin being left blank to a depth of not less than one inch.

176. All official communications should be written clearly and legibly, the lines must not be too close, the paragraphs should be numbered, and the respective ranks of the officers should be stated after their signatures.

177. Surveyors employed by the Department should address all communications and parcels containing plans, diagrams, field-books, accounts, diaries, traverse sheets, or other matter in connection with their work to "The Surveyor General."

178. In conducting correspondence with the Surveyor General, officers should write on one side of the paper only, write a separate letter on each distinct subject, and in replying to letters invariably quote the number of the one being answered.

179. Memoranda relating to errors, omissions, or other deficiencies, and all other communications from the Surveyor General, or an officer duly authorised, must be replied to by the Surveyor with the least possible delay. Neglect in this respect may jeopardise further employment.

180. Reports on road surveys should give a general description of the route traversed, and (if practicable) be accompanied by a letter from the chairman or secretary of the Road Board of the Road District in which the road is situate, stating that the survey was carried out in accordance with its wishes.

181. Reports on town and suburban lots should contain recommendations respecting the numbers of the lots suitable for reservation and the purpose for which they should be set apart, names for new streets, upset prices and the conditions under which the lots should be thrown open, and the descriptions and values of any improvements thereon.

182. A report shall be immediately furnished in all cases where a Surveyor makes a material difference with another Surveyor's work, and he must state therein that his own work has been checked and verified.

183. Every Surveyor employed by the Department shall furnish on the prescribed form (*see* Appendix No. 1) a monthly statement, giving a complete list of the unfulfilled instructions in hand, and such statement must be forwarded to the Surveyor General by contract and salaried Surveyors at the end of each month.

184. Surveyors should inform the Surveyor General every week of the locality in which they are at work, and their probable movements for the ensuing week.

Appendix No. 1.

(Place).....
(Date).....

THE SURVEYOR GENERAL,
PERTH.

I beg to report that the undermentioned Blocks, or other Surveys for which I have received instructions, have not yet been completed.

.....
Surveyor.

District.	Date of Receipt of Instructions.	Number of Block or other Surveys.	Date of expected Completion.

NOTE.—This Form to be filled up once a Month, and forwarded to the Office. (See Clause 188.)

Appendix No. 2.

SUMMARY OF WORK performed from.....to....., 19 .

District.	Locations.		Conditional Purchases.		Reserves.		Traverses.	Roads.	Rivers.	Travelling.	Special and Re-surveys Re-marks, etc.
	No.	Area.	No.	Area.	No.	Area.	Miles and Chains.	Miles and Chains.	Miles and Chains.	Miles.	

..... Licensed Surveyor.
Date.....

[ON BACK.]

DIARY of SURVEYOR from
to 19 , in the District.

19 .

..... Licensed Surveyor.
Date.....

NOTE.—This Form to be filled up once a Month, and forwarded to the Office. (See Clause 58.)

Appendix No. 3.

AMENDMENT OF BOUNDARY.

Location No.	District.	Conditional Purchase No.	Name.	Area.	Diagram No. Standard Plan No.	Remarks.

I hereby agree to accept the land contained within the boundaries of the above holding as marked by Mr. Surveyor , and as shown hereunder.

Signature.....

Date.....

The Surveyor General,
Perth, W.A.

Approved by order of the Minister for Lands,

.....
Surveyor General.

Plan amended.....Date.....

Application amended.....Date.....

Appendix No. 4.

..... District.

Traverses from.....to.....

Field Book.		Angle Numbers on traverse lines from and to—	True Bearing.			Measured Distance.	Traverses of each Distance.				Total Traverses from				Remarks.
No.	Page.						On Meridian.		On Perpendicular		On Meridian.		On Perpendicular.		
							N.	S.	E.	W.	N.	S.	E.	W.	
		deg.	min.	sec.	Links	Links	Links	Links	Links	Links	Links	Links	Links	Links	

....., Surveyor.

Date.....

[S. 45.]

[Outside of Form.]

APPENDIX No 5.

....., Licensed Surveyor.

Account No.....

[N.B.—The addition of all lines charged for at per chain must be shown hereunder.]

DETAILED STATEMENT OF BOUNDARIES :

DETAILED STATEMENT OF TRAVERSES :

DETAILED STATEMENT OF ROADS :

DETAILED STATEMENT OF MILEAGE ALLOWANCE :

Appendix No. 6.

THE FOLLOWING SYSTEM OF ORTHOGRAPHY FOR NATIVE NAMES OF PLACES adopted by the Council of the Royal Geographical Society, the Foreign and Colonial Offices, Admiralty, and War Office is to be adhered to in all Intelligence Division Publications :—

1. No change is made in the orthography of foreign names in countries which use Roman letters ; thus, Spanish, Portuguese, Dutch, etc., names will be spelt as by the respective nations.
 2. Neither is change made in the spelling of such names in languages which are not written in Roman character as have become by long usage familiar to English readers : thus, Calcutta, Cutch, Celebes, Mecca, etc., will be retained in their present form.
 3. The true sound of the word as locally pronounced will be taken as the basis of the spelling.
 4. An approximation, however, to the sound is alone aimed at. A system which would attempt to represent the more delicate inflexions of sound and accent would be so complicated as only to defeat itself. Those who desire a more accurate pronunciation of the written name must learn it on the spot by a study of local accent and peculiarities.
 5. *The broad features of the system are :—*
 - (a.) That vowels are pronounced as in Italian and consonants as in English.
 - (b.) Every letter is pronounced, and no redundant letters are introduced. When two vowels come together, each one is sounded, though the result, when spoken quickly, is sometimes scarcely to be distinguished from a single sound, as in *ai, au, ei*.
 - (c.) One accent only is used, the acute, to denote the syllable on which stress is laid. This is very important, as the sounds of many names are entirely altered by the misplacement of this "stress."
 6. Indian names are accepted as spelt in Hunter's *Gazetteer of India*, 1881.
- The following application of these rules explains their application :—

Letters.	Pronunciation and Remarks.	Examples.
a	<i>ah</i> , <i>a</i> as in <i>father</i>	Java, Banána, Somáli, Bari.
e	<i>eh</i> , <i>a</i> as in <i>fate</i>	Tel-el-Kebir, Oléleh, Yezo, Medina, Levúka, Peru.
i	English <i>e</i> ; <i>i</i> as in <i>ravine</i> ; the sound of <i>ee</i> in <i>beet</i> . Thus, not <i>Feejee</i> , but	Fiji, Hindi.
o	<i>o</i> as in <i>mote</i>	Tokyo.
u	long <i>u</i> as in <i>flute</i> ; the sound of <i>oo</i> as in <i>boot</i> , <i>oo</i> or <i>ou</i> should never be employed for this sound. Thus, not <i>Zooloo</i> , but <i>All vowels are shortened in sound by doubling the following consonant</i>	Zulu, Sumatra. Yarra, Tanna, Mecca, Jidda, Bonny.*
	Doubling of a vowel is only necessary where there is a distinct repetition of the single sound	Nuulúá, Oosima.
ai	English <i>i</i> as in <i>ice</i>	Shanghai.
au	<i>ow</i> as in <i>how</i> . Thus, not <i>Foochow</i> , but	Fuchau.
ao	is slightly different from above	Macao.
aw	as in <i>law</i> .	
ei	is the sound of the two Italian vowels, but is frequently slurred over, when it is scarcely to be distinguished from <i>ey</i> in the English <i>they</i>	Beirút, Beilúl.
b	English <i>b</i> .	
c	is always soft, but it is so nearly the sound of <i>s</i> that it should be seldom used. If <i>Celébes</i> were not already recognised it would be written <i>Selébes</i> .	Celébes.
ch	is always soft as in <i>church</i>	Chingchin.
d	English <i>d</i> .	
f	English <i>f</i> ; <i>ph</i> should not be used for the sound of <i>f</i> . Thus, not <i>Haiiphong</i> , but	Haifong, Nafa.
g	is always hard. (Soft <i>g</i> is given by <i>j</i>)	Galápagos.
h	is always pronounced when inserted.	
hw	as in <i>what</i> ; better rendered by <i>hw</i> than by <i>wh</i> , or <i>h</i> followed by a vowel, thus <i>Hwang ho</i> , not <i>Whang ho</i> , or <i>Hoang ho</i> .	Hwang ho, Ngan hwi.
j	English <i>j</i> . <i>Dj</i> should never be put for this sound	Japan, Jinchuen.
k	English <i>k</i> . It should always be put for the hard <i>c</i> . Thus, not <i>Corea</i> , but	Korea.
kh	The Oriental guttural	Khan.
gh	is another guttural, as in the Turkish	Dagh, Ghazi.
l	} As in English.	
m		
n		
ng		has two separate sounds, the one hard as in the English word <i>finger</i> , the other as in <i>singer</i> . As these two sounds are rarely employed in the same locality, no attempt is made to distinguish between them.
p	As in English.	
ph	As in <i>loophole</i>	Chemulpho, Mokpho.
th	stands both for its sound in <i>thing</i> , and as in <i>this</i> . The former is most common	Bethlehem.
q	should never be employed ; <i>qu</i> (in <i>quiver</i>) is given as <i>kw</i>	Kwangtung.
	When <i>qu</i> has the sound of <i>k</i> as in <i>quoit</i> , it should be given as <i>k</i> .	
r	} As in English.	
s		
sh		
t		
v		
w		
x	} is always a consonant, as in <i>yard</i> , and therefore should never be used as a terminal, <i>i</i> or <i>e</i> being substituted as the sound may require	Kikúyu.
y		Thus, not <i>Mikindány</i> , but <i>Kwaly</i> , but
z	English <i>z</i>	Zulu.
zh	The French <i>j</i> , or as <i>s</i> in <i>treasure</i>	Muzhdaha.
	Accents should not generally be used, but where there is a very decided emphatic syllable or stress, which affects the sound of the word, it should be marked by an <i>acute</i> accent	Tongatábu, Galápagos, Paláwan, Saráwak.

*The *y* is retained as a terminal in this word under Rule 2 above. The word is given as a familiar example of the alteration in sound caused by the second consonant.

N.B.—These Rules were revised and approved by the Council, Royal Geographical Society, 11th December, 1891.

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