

**THE SURVEY RULES**P.N.  
92 of 1953.*made by the Governor in Council under section 26.*

1. These rules may be cited as the Survey Rules and shall come into force on the 24th day of September, 1953.

**INTERPRETATION.**

2. In these rules—

“beacon” means a permanent survey mark of any kind made of concrete, iron or stone, or of two or more of these materials;

“Colony bearing” means the angle measured clockwise and referred to the twelfth meridian west of Greenwich;

“country lands” means all lands which are not town lands;

“demarcation” means the marking of lines on the ground by means of posts, pillars, beacons or blazed trees, and cognate words shall be construed accordingly;

“Government Survey beacon” means any beacon erected by a Government surveyor or by a licensed surveyor employed for the purpose by Government;

“town lands” means plots of land not exceeding ten acres in extent lying within a health area, the Colony Peninsula, or Sherbro Urban District, or within one mile of the boundary of a health area or the Sherbro Urban District;

“true bearing” means the angle measured clockwise and referred to true north.

**GENERAL.**

3. (1) The survey of any land for the purposes of judgment or order of a court or of any instrument registrable under the Registration of Instruments Ordinance shall be made with theodolite and steel band and each change of direction of the boundary shall be demarcated. The error in the surround shall not exceed one in three thousand in the case of country lands and one in four thousand in the case of town lands:

Provided that the Director of Surveys and Lands at his discretion may in writing authorise any such survey to be made without a theodolite and with such instruments and by such method as he may specify and upon the completion of the plan the Director of Surveys and Lands shall endorse thereon the

instruments and method employed and the degree of accuracy of the plan and shall sign and date such endorsement.

(2) This rule shall not apply to a survey for the purpose of a mining right under the Minerals Ordinance.

4. (1) Wherever possible each survey will be connected by traverse or triangulation to a Government survey beacon. If such a beacon exists within one mile of the survey the connection shall, provided local conditions permit, be made by a theodolite traverse which shall be double chained and, if exceeding twenty traverse stations, a stellar or solar determination shall be taken to confirm the bearings.

(2) When a survey is connected to a Government survey beacon by triangulation no angle of any triangle from which the connection is computed shall be less than twenty-five degrees.

(3) If no Government survey beacon exists to which the survey can be connected by traverse as described in sub-rule (1) of this rule or by the observing of triangles as described in sub-rule (2) of this rule, a local origin, which shall be permanently beacons and the position of which shall be described by reference to the chief local objects, landmarks and topographical features such as hills, rivers and villages, shall be adopted and the bearings of the survey shall be based on stellar or solar determinations of azimuth. Wherever possible the local origin shall be situated on some prominent land mark.

(4) It shall be lawful for the Director of Surveys and Lands at his discretion to allow any modification or departure from this rule in so far as it affects any specific survey subject to his written permission being first obtained. In a case of such written permission being given to a licensed surveyor it may be made conditional on a Government Surveyor carrying out any work from which the licensed surveyor is relieved by such permission and on the licensed surveyor being charged for any such work in accordance with fees prescribed in these rules.

5. (1) In the case of a survey to which rule 3 does not apply, other than a survey of land the subject of an application for an exclusive prospecting licence or mining right, it shall not be necessary to employ more accurate methods than that of compass and steel band, but the error in linear measurement shall not exceed one in one thousand and while such survey is being made a reference to true north shall be obtained either

by solar or stellar observations or by connecting the survey to a line the azimuth of which has already been determined.

(2) The survey of all land, the subject of an application for an exclusive prospecting licence (which has not been exempted from survey under the proviso to section 57 of the Minerals Ordinance), shall be effected by theodolite and steel band, and shall form a closed traverse the linear misclosure of which shall not exceed one in one thousand and shall be carried out, demarcated and plotted on a plan as required by these rules in so far as these rules are not modified by rules under the Minerals Ordinance in force at the date of the application.

(3) The survey of the portion of a stream, the subject of a mining right, shall be by compass and steel band traverse and shall be double chained; the linear difference between the two chainings shall not exceed one in one thousand and shall be carried out, demarcated and plotted on a plan as required by these rules in so far as these rules are not modified by rules under the Minerals Ordinance in force at the date of the application. The traverse shall be fixed or tied to a permanent beacon or natural feature as shall be in accordance with rule 4 or as may otherwise be directed by the Director of Surveys and Lands.

#### METHODS OF SURVEY.

6. (1) Subject to any modifications contained elsewhere in these rules, the survey shall be a closed traverse on a true bearing or Colony bearing which shall be determined by stellar or solar observations, or by connection to a line the azimuth of which is known.

(2) Within the Colony Peninsula, Colony bearings shall be used in all surveys connected to the main triangulation framework of the Colony of Sierra Leone. In all other areas, true bearings shall be used.

(3) Licensed Surveyors when in doubt as to whether a survey shall be carried out on true bearings or Colony bearings shall apply for information to the Director of Surveys and Lands.

7. The angular measurements shall be made with a Micro-meter Theodolite, or with a Vernier Theodolite the horizontal plate of which has a diameter of not less than four and a half inches with direct reading to not more than thirty seconds of arc. One Face Left and one Face Right observation of each angle will be made and both micrometers or verniers read.

8. The bearings of traverses shall be controlled by solar or stellar observations for azimuth. An azimuth observation shall comprise three separate determinations the total range of which shall not exceed thirty seconds. Such astronomical determinations of azimuth on a traverse shall be taken at intervals not exceeding thirty stations, and the maximum misclosure of the bearings of the traverse between astronomical determinations shall not exceed two minutes and thirty seconds.

9. All linear measurements shall be measured and recorded in feet and decimals of a foot to two places of decimals.

10. Measurements shall be made with a steel band of 100 feet, 200 feet, 300 feet or 500 feet and the usual corrections for standard, sag, slope, and, when necessary, temperature shall be made. A spring balance shall be used with a pull of fifteen pounds and the angle of slope determined by one Face Left and one Face Right observation on the theodolite.

11. Where a survey begins or ends on beacons erected in the course of a previous survey the accuracy of the origin shall be verified by reference to Surveys and Lands Department and by angular and linear measurements. On long lines of framework or primary traverse the linear measurement may be dispensed with, but the accuracy of the position of the beacons shall be checked by angular measurement. When such beacons are found to be out of position, a full report shall be made to the Director of Surveys and Lands so that inquiry may be made and steps taken if necessary and possible to correct their positions. A new origin or datum from another beacon whose position is known to be correct shall then be selected or astronomical observations taken to establish a correct bearing.

12. Where a boundary side of a new survey is coterminous with a longer boundary side of an area previously surveyed, the boundary beacons of the new survey shall be placed exactly on the line between the boundary beacons of the previous survey.

13. Boundaries of land surveyed under rule 3 shall be laid out with as few angular points as local conditions and the requirements of the survey demand.

14. Where a boundary is irregular, compass or theodolite traverse lines shall follow approximately the course of the boundary and offsets shall be taken at suitable points along the traverse lines to determine the exact position of the boundary.

## FIELD BOOKS.

15. All linear and angular measurements necessary for the survey or demarcation of boundaries shall be entered in a field book in ink as they are made. Each field book shall be fully indexed and referenced, with a table of contents on the inside of the cover or at the beginning of the book, together with the surveyor's name, the title of the survey, the district and province, the kind of survey and the instruments used. No erasures shall be made nor shall pages be torn out of any field book. If a wrong figure is written or it is necessary to alter an entry, the erroneous entry shall be crossed out and the correct one written above. Simple diagrams shall be drawn on a page of the field book so as to make the measurements readily understood. The description of each beacon shall be given and the description shall state *inter alia* whether the beacon is "found," "replaced," or "newly emplaced." Measurements which are taken to fix the position of physical features, structures, and other features adjacent to the boundaries shall be shown on the diagrams in a clear and legible fashion. The date shall be entered against all work done on that date. The error of the field tape compared with the standard tape kept by the Director of Surveys and Lands and the date on which it was last compared with the said standard tape shall also be recorded. On the last page of the notes of each survey the following certificate, signed and dated by the surveyor, shall be entered—

"THIS IS TO CERTIFY that the figures contained in the foregoing field notes are the actual figures recorded by me as the result of my observations and measurements in the field, and that the survey has been made in accordance with the provisions of the Survey Ordinance, and the rules made thereunder."

16. The recorded measurement of each surveyed line shall be made separately in the order in which it is measured. Diagrams shall not be substituted for the recorded measurement, but shall be used for the elucidation of detail.

17. Topographical features shall be shown with special care in the vicinity of beacons. The field notes shall be lucidly kept so as to enable a draughtsman without other information to draw a true plan of the survey.

18. A surveyor submitting a plan under section 15 of the Ordinance if so required by the Director of Surveys and Lands shall also submit, for inspection by the Director of Surveys and

Lands, the field book and computation files relating to the observations made to determine the azimuth of the survey or, if observations have been dispensed with, a description of the means employed to determine the azimuth.

#### COMPUTATIONS.

19. All computations shall be made on the forms approved by the Director of Surveys and Lands which may be purchased from the Survey and Lands Department, or on good quality foolscap paper similarly ruled and tabulated.

20. The measurements of each portion of land to be surveyed under rule 3 shall be mathematically computed to the nearest 30 seconds in bearing and the nearest hundredth of a foot in length. The closing error of the bearings and the closing linear error of the surround shall be clearly shown on the computation forms. The position of each permanent mark shall be rigorously computed and adjusted for the linear close, and where a mark has been placed by offset its position shall be computed from two stations on the main traverse. In all computations trigonometrical tables of not less than five figures shall be used.

21. The area of a piece of land surveyed under rule 3 shall, if bounded by straight lines, be mathematically computed from the co-ordinates of the corners. In the case of a piece of land having an irregular boundary, such as a stream, the area enclosed by straight lines shall be computed as above and added to the part contained between such irregular boundary and the straight lines, which part shall be computed as a series of triangles.

22. The area of a piece of land surveyed by a method other than that mentioned in rule 3 may be obtained by planimeter or computing scale, and shall be shown on the plan correct to within two per centum of the area of the figure as plotted.

#### DEMARICATION.

23. (1) For the demarcation of the boundaries of all areas surveyed under rule 3, other than areas the subject of applications made under the provisions of the Minerals Ordinance, from time to time in force, beacons or pillars of concrete mixed in the proportions of five parts of sand or sand and rubble to one of cement being not less than six inches square and being



three inches above ground and one foot nine inches below and having an iron pin or spike in the centre of the top shall be used:

Provided that in the case of plots of land forming part of a general lay-out a plan or copy of plan of which has been deposited in the office of the Survey and Lands Department, beacons not being less than four inches square in section and being three inches above the ground and one foot nine inches below the ground level may be used.

(2) The symbol  $\uparrow$ , the letters P.B. (denoting Property Beacon) and an identification letter and number shall be stamped upon beacons used to demarcate boundaries of land surveyed by a Government Surveyor.

(3) An identification letter and number shall be stamped upon beacons used to demarcate the boundaries of land surveyed by a licensed surveyor and the symbol  $\uparrow$  shall also be stamped thereon when such demarcation is made on behalf of Government.

24. (1) For the demarcation of the boundaries of all lands the subject of applications made under the provisions of the Minerals Ordinance, from time to time in force, boundary beacons shall be constructed as prescribed in the Minerals Ordinance or rules made thereunder.

(2) A surveyor appointed or approved by the Director of Surveys and Lands to carry out a survey of a mining application shall before making the survey obtain a written statement from the applicant or his duly authorised agent as to whether or not the applicant will provide all beacons or materials for it.

(3) A line of stones or a trench not less than one foot deep and one foot wide shall be made along the boundary lines for a distance of eighteen feet on each side of a boundary beacon.

25. (1) The area as finally marked and beacons under the direction of the surveyor shall conform as nearly as possible with the area beacons before application made under the provisions of the Minerals Ordinance, from time to time in force, the beacons erected before such application being adjusted by the surveyor where necessary. The ruling of the surveyor as to the position of beacons shall be final, subject to any other ruling for this purpose prescribed in rules under the Minerals Ordinance. The area of the land covered by an application

made under the provisions of the Minerals Ordinance, from time to time in force, shall be accepted as determined by the survey, and the plan made by the surveyor shall be accepted as the correct plan.

(2) If the area of the land in respect of which an application under the provisions of the Minerals Ordinance, from time to time in force, has been made is found by the surveyor to exceed the area allowed under that Ordinance the Director of Surveys and Lands shall have entire discretion to alter the position of the beacons in order to bring the area within the limit allowed.

(3) The surveyor shall report to the Director of Surveys and Lands if the area applied for cannot be identified on the ground by means of the plan.

26. The demarcation or the marking of all boundaries shall be prepared prior to, or simultaneously with, the measurements which determine their position. The substitution of permanent for temporary marks in the few cases in which marking after measurement is permissible shall in all cases be done under the direct supervision of the surveyor himself.

27. Where boundaries of surveys carried out under rule 3 abut on roads, all boundary marks shall be placed to conform with such regulations and bye-laws defining the building lines or width of roads as may be in force in that place.

28. When a beacon is placed in accordance with computed data the position of such beacon shall, after placing, be determined by measurement as if it had been an existing beacon.

29. When a beacon is to be placed on a line between two other beacons, proof must be shown by angular and linear measurements in the field book that the beacon has been so placed.

30. No property beacon shall be placed in such a position that it will interfere with or be inconvenient to traffic.

31. Where objection is made by the owner of the adjoining land to the position of a boundary as pointed out by the person for whom a survey is being made, or as located by the surveyor from the documents of title under which the land is claimed, the surveyor shall survey the position of this boundary and show the same on his plan, but may decline to survey that portion to which objection has been made. In such case the survey and



demarcation shall not be regarded as incomplete, so far as the surveyor is concerned.

**32.** The Director of Surveys and Lands may cause notices in accordance with Form 1 in the Schedule to be served upon the owners or occupiers of any land the boundaries of which have been defined by boundary marks under the Ordinance, and may cause similar notices to be served upon Native Authorities and Chiefs within the local limits of whose jurisdiction any trigonometrical station, survey beacon, mark or pole or boundary mark is situated.

**33.** Beacons shall be placed at the points where the boundaries intersect roads and streams of importance. On straight lines of more than 660 feet, beacons shall be placed at intervals of not more than 660 feet.

**34.** (1) Where a railway reserve forms a boundary of a property being surveyed, the positions of all tangent points shall be beacons and the radii of the curves and the lengths of the chords shall be recorded.

(2) Where a road forms a boundary of country lands that are being surveyed, beacons shall be placed not nearer than 50 feet from the centre line of the road at all turning points of the road and the boundary will be defined by the chords joining such beacons.

(3) Whenever possible, the use of curves as boundaries shall be avoided, straight lines from point to point being used as boundaries instead of curves.

**35.** In the re-survey of land a surveyor shall observe the principle that the beacons originally placed on the ground mark the true boundary, even though the data of such boundary may not be found on re-survey to agree with the data recorded on the original plan within the limit prescribed by rules made under the Ordinance, provided always that the beacons have not obviously been disturbed.

**36.** Survey marks shall on no account be moved unless it is clearly established that they have been tampered with or have become displaced. In that case the surveyor shall transmit to the Director of Surveys and Lands an accurate record of the position in which they were found, together with a sketch.

37. The removal, obliteration or defacement of any survey mark which comes to the notice of a surveyor shall be reported by him in writing to the Director of Surveys and Lands.

38. When surveys have to be amended on instructions from the Director of Surveys and Lands, all erroneous beacons shall be removed or re-sited and the surveyor shall report in writing to the Director of Surveys and Lands when this has been done.

39. To prevent the perpetuation of errors in the original survey, and to guard against fraud, in every case where material disagreement is found to exist between new and old surveys the surveyor shall forward to the Director of Surveys and Lands a full report thereon accompanied by—

- (1) a sketch showing the position of all old survey marks;
- (2) descriptions of such marks; and
- (3) particulars of all development on or near the boundary lines and of any other evidence bearing on the matter.

The surveyor shall make a careful search and inquiry for evidence of original survey marks.

40. The Director of Surveys and Lands shall allot to licensed surveyors a distinctive letter or letters for their use as a prefix to the consecutive numbers to be stamped on all property beacons they may put up.

41. Licensed surveyors shall forward to the Director of Survey and Lands, by the 10th day of each month, a list of all the numbered beacons put up by them during the previous month. If no beacons have been put up a "nil" return shall be rendered.

#### SPECIAL PROVISIONS WITH REGARD TO DEMARCATION OF COUNTRY LANDS.

42. Rules 42-49 shall apply to surveys of country lands only.

43. In the demarcation of country lands, beacons shall be placed at all changes of direction of the boundary, except where the point of change of direction is obstructed by a building standing in a town or village plot, in which case the procedure prescribed in regulations 52 and 53 shall be followed.

44. Where a river constitutes a boundary, beacons shall only be placed at the points between which such river is the boundary.

These beacons shall be placed on the river bank above flood level and the distance from the beacons to the river shall be shown on the plan.

45. (1) Where a beacon cannot be placed at a corner, two beacons shall be placed, one on each of the lines which would intersect at the corner, and as near as possible to the corner.

(2) In forest or scrub country, boundary lines shall be cleared to a width of four feet of all undergrowth and trees of no economic value of less girth than two feet six inches.

46. Trees within two feet of the line, provided their economic value is not impaired thereby, shall be blazed on both sides in the direction of the line, and those through which the line passes shall be double blazed on each side in the direction of the line.

47. In open country, at every boundary pillar, a trench or lockspit six feet long and one foot deep shall be dug on each side of, and not nearer than three feet from, the pillar in the direction of the line, or where this is impossible, owing to the presence of rock, a line of stones six feet long shall be placed to indicate the direction.

48. For the demarcation of lands surveyed otherwise than by theodolite and steel band and not surveyed for the purpose of a judgment or order of a court or any registrable instrument or an application for an exclusive prospecting licence, mining right or mining lease, hardwood pegs or angle irons shall be placed at all changes of the general direction of the boundary, and, where the boundary is other than a stream or well-defined road, they shall also be placed at the intersections of the boundary with principal roads or streams, provided that it shall not be necessary to place two such additional hard-wood pegs or angle irons less than 660 feet apart.

49. For the demarcation of lands surveyed other than by theodolite and steel band and not surveyed for the purpose of a judgment or order of a court or any registrable instrument or application for an exclusive prospecting licence, mining right or mining lease, each mark shall be connected by compass bearing and distance to two trees, blazed and marked with the same distinguishing letter or number shown on the marks, or, if trees are not available, to two mounds of earth or stones three feet high.

SPECIAL PROVISIONS WITH REGARD TO DEMARCATION  
OF TOWN LANDS.

50. Save as otherwise provided in rule 43, rules 50 to 53 shall apply to surveys of town lands only.

51. (1) In the demarcation of town lands beacons shall be placed at every change of direction in the boundaries.

(2) If for any reason it is not convenient to place a beacon at a point where there is a change of direction of the boundary, a beacon shall be placed on each of the boundary lines that would intersect at that point and as close as possible thereto.

52. Where, owing to an obstacle, the beacon cannot be placed in the correct position, an iron pin shall be set in concrete in the obstacle, and the identification number stamped near the pin, and if the obstacle is of such material that a pin cannot be sunk, nor the numbers cut or stamped, a dot may be marked thereon, along with identification marks. The position of the pin or dot relative to the true position of the beacon shall be clearly shown in the field book.

53. Where the position for a property beacon falls inside a building, a cross (X) with an identification number shall be cut or painted on the outside of the building at the points where it is intersected by the lines. Surveyors working for the Government will use a double arrow.

PLANS.

54. The original plan of every survey shall be drawn in waterproof ink on mounted drawing paper. The minimum size of a plan shall not be less than thirteen inches in one direction and eight inches in a direction at right angles to the first.

55. Every plan (hereinafter called a cadastral plan) to a scale of not less than 25 inches to one mile and showing the position of buildings shall bear in prominent letters the title of the survey, the description of the land and its locality and the name of the person owning or occupying the land included in the survey or for whom the survey is made. The names of the adjoining owners or occupiers shall also be shown.

56. All plans of theodolite surveys shall be graticuled on the true north or Colony north and shall have a true north and south line and a true east and west line, or a Colony north and south

line and a Colony east and west line, as the case may be, drawn in blue across the length and breadth of the paper. "True north" or "Colony north," as the case may be, shall be written along the north and south line.

57. Plans of surveys made on the magnetic north shall show the variation of the compass from true north.

58. The scale of a plan shall be stated and shown by a graphic representation in feet.

59. All theodolite surveys shall be plotted by means of rectangular co-ordinates from a graticule drawn on the plan. A description of the location of the origin of co-ordinates shall be given in the field books, computation sheets, and on the plan. Detail and irregular boundaries may be plotted by bearing and distance. There shall be no disagreement within limits of the scale used between the numerical data and the plan.

60. Demarcated boundaries shall be shown in firm red lines, except where they follow the frontages of buildings, when they shall be shown by a red verge. Traverse lines not intended as boundaries, connections, and bearings to trigonometrical points, shall be shown in blue. Offsets shall be shown by figures in black between arrows.

61. Where boundaries of surveys carried out under rule 3 abut on roads to which legislation relating to a building line has been applied, the building line shall be clearly shown on the plan by a fine blue line marked "Building Line."

62. When the survey is carried out under mileage rates as defined in Appendix A, topographical and other features occurring on any line run by the surveyor in connection with the survey shall be shown. Such detail within the boundaries of the area under survey as may be required by the person for whom the survey is made shall be shown except that in the case of the survey of land the subject of an application for a Mining Lease all interior topographical details shall be shown. The positions of all beacons and boundary marks, temporary or otherwise, shall, in all cases, be shown, and the nature of the marks clearly indicated.

63. The position of all Government survey beacons to which connection has been made, or the co-ordinates of some point on the plan referred to such beacons, shall be shown.

64. The following shall be the scales for ordinary plans made to show the boundaries of property—

Surveys in Freetown Municipality ...  $1/240$ ;  $1/480$ ;  $1/1250$  and  $1/2500$ .

Surveys elsewhere ... ...  $1/240$ ;  $1/480$ ;  $1/1250$ ;  $1/5000$ ;  $1/10,000$  and  $1/25,000$ .

Mining Surveys—

Areas the subject of application for exclusive prospecting licence ... ...  $1/25,000$

Areas the subject of application for mining licence ... ...  $1/6,250$

Areas the subject of application for mining rights ... ...  $1/5,000$

65. The numerical data on cadastral plans shall include—

(a) the bearing and distance of each boundary line, connecting line, and controlling traverse line. Such bearings and distances shall be given to the nearest minute and the nearest tenth of a foot respectively;

(b) the area of each lot—

Areas of ten acres and under ... ... to three places of decimals of an acre.

Areas of from ten acres to 100 acres ... ... to two places of decimals of an acre.

Areas of from 100 acres to 1,000 acres ... ... to one place of decimals of an acre.

Areas over 1,000 acres ... to the nearest acre.

The area of building lots and sites, if under two acres, to four places of decimals of an acre;

(c) any measurement to permanent structures which will assist in locating marks or pillars on the ground;

(d) adjacent lot names or numbers if ascertainable;

(e) the initial bearing adopted for the survey marked "I.B." Calculated bearings and distances shall be distinguished from direct measurements by the addition of the letters "Cal," and bearings and distances adopted from a previous survey shall be shown by the addition of the letters "P.O." (Per Original).

66. Copies of plans may be made on drawing paper or tracing cloth, but in all cases the copies shall be faithful reproductions of the originals, and details represented in colour on the originals shall be similarly represented on the copies.

67. Copies of plans sent by a licensed surveyor to the Director of Surveys and Lands under section 15 of the Ordinance shall bear the following certificate signed by the surveyor and dated—

“Certified true copy of original plan made by me on  
.....19.....”

#### FEES AND CHARGES BY LICENSED SURVEYORS.

68. (1) The charges prescribed in the Second Schedule will be made by the Survey and Lands Department, and may be made by licensed surveyors for surveys carried out by themselves.

(2) These charges shall not apply to surveys made for the purpose of the Minerals Ordinance.

69. Notwithstanding the scale of charges prescribed in the Second Schedule it shall be lawful for any licensed surveyor to enter into an agreement with a client to make any survey (including any work connected therewith) for him for any agreed charge, provided that every such agreement shall be in writing and signed by the licensed surveyor and the client, and, if the agreed charge exceeds the amount prescribed in the Second Schedule, shall be witnessed by an Administrative Officer or a Justice of the Peace.

#### APPLICATION FOR SURVEY BY A GOVERNMENT SURVEYOR.

70. Applications for survey or demarcation of land by a Government surveyor shall be made to the Director of Surveys and Lands, giving particulars as to locality, ownership, area of the property and the nature of the work required, and shall be accompanied by a sketch of the land to which the application relates.

71. Upon receipt of an application, the Director of Surveys and Lands shall inform the applicant whether or not the survey or demarcation can be undertaken by a Government surveyor and, if it can be undertaken by a Government surveyor, the Director of Surveys and Lands shall assess the cost of the work required and shall inform the applicant who shall thereupon deposit the amount at the nearest Treasury Office.

72. As soon as may be, after satisfying himself that the deposit has been paid, the Director of Surveys and Lands shall acquaint the applicant with the approximate date on which it is intended to make the survey or demarcation, and shall later, if necessary, appoint a date and place at which the owner or his representative shall be required to meet the surveyor for the purpose of pointing out the boundaries.

73. If the applicant, having in his application expressed willingness to clear the boundaries, or to provide boundary marks, shall cause delay to the surveyor by insufficient clearing, or by an inadequate supply of beacons or by the supply of beacons not of the prescribed construction or dimensions, the surveyor shall make good the deficiencies, and the cost estimated in accordance with the provisions of the Second Schedule shall be charged to the applicant.

74. If, after reasonable notice has been given, the applicant shall delay the surveyor by failing to send a representative or by giving erroneous information as to boundaries, the cost occasioned by the delay, estimated in accordance with the provisions of the Second Schedule, shall be charged to the applicant.

75. If the deposit shall, owing to the fault of the applicant or underestimation of the cost or from any reasonable cause, be insufficient to cover the cost of survey, the balance shall be recovered from the applicant, and if the deposit exceeds the total cost of the survey, the balance shall be refunded to the applicant on the completion of the work.

76. The Director of Surveys and Lands may, in his discretion, supply information from his records to any licensed surveyor to enable him to connect a survey he is making to Government survey beacons in the neighbourhood.

77. When in the opinion of the Director of Surveys and Lands it is desirable for the purpose of a survey he may give a licensed surveyor permission in writing to uncover a buried or covered Government survey beacon and may give him directions for the restoration of the covering.

78. Upon application at the Cadastral Branch of the Director of Surveys and Lands' Office any person shall be allowed to inspect during the hours of public business a copy of any plan submitted under section 15 of the Ordinance. The fee for



inspection for each period of half-an-hour or part thereof shall be two shillings and sixpence.

79. A plan made by a Government surveyor shall, at the discretion of the Director of Surveys and Lands, be available for inspection by the public, on payment of the fee prescribed in the last preceding rule.

80. No information or certificate shall be copied from a plan so open to inspection except at the discretion of the Director of Surveys and Lands.

81. Copies of plans made by Government surveyors shall, at the discretion of the Directors of Surveys and Lands, be available for the public on payment of the fees prescribed in the Second Schedule.

82. Copies of plans deposited by licensed surveyors under section 15 of the Ordinance shall on payment of the fees prescribed in the Second Schedule be available for issue to persons having an interest in the land surveyed.

#### GENERAL DUTIES OF LICENSED SURVEYORS.

83. (1) The Licensed Surveyors Register and the Pupil Surveyors Register shall be kept at the office of the Director of Surveys and Lands at Freetown. Every licensed surveyor shall, before the 15th day of January in each year, make a return in writing to the Director of Surveys and Lands at Freetown of the following matters, that is to say, his full name and postal address and the full name and postal address of each pupil surveyor who is being trained under him and shall likewise make a return of any subsequent change in the above-mentioned matters whenever a change occurs.

(2) Every licensed surveyor who engages a pupil surveyor to work with him shall make a return in writing of the engagement to the Director of Surveys and Lands for entry in the register, and shall likewise give notice of any subsequent change of engagement whenever a change occurs.

84. Licensed surveyors shall obtain a certificate of standardisation of their tapes at least once a year. For the certificate of standardisation, the fees specified in the Second Schedule shall be paid in advance. Whenever a tape is repaired it shall be standardised before use. Standards of length shall be maintained at the office of the Director of Surveys and Lands at

Freetown where tapes will be standardised during office hours after giving one day's notice.

**85.** Examinations for enrolment as a pupil surveyor and for a licence to practise surveying shall be conducted as provided for in the Third Schedule.

#### MISCELLANEOUS.

**86.** A Government or licensed surveyor shall, wherever practicable, give notice of his intention to enter upon occupied land. Such notice may be given in accordance with Form 2 in the First Schedule.

**87.** No excavation for the purpose of burying or uncovering a beacon shall be made in any street or road unless a red flag is provided and displayed on each side of the excavation to warn approaching traffic, and no such excavation shall be left unfilled after sunset.

**88.** Copies of plans made by Government surveyors and of plans or copies deposited under section 15 of the Ordinance shall bear the following certificate signed and dated by the Director of Surveys and Lands.

CERTIFIED true copy of plan No.....of 19.....,  
           made           by   Government           Surveyor on.....19.....  
 deposited           by   Licensed

**89. (1)** If any person complains to the Director of Surveys and Lands that a plan made by a surveyor is inaccurate the Director of Surveys and Lands shall, upon the complainant depositing a sum sufficient to cover the cost, make such inspection or re-survey of the land as may be necessary to discover inaccuracies or to prove the correctness of the plan and shall make a full report to the Governor.

(2) If, after such further enquiry as he may think fit, the Governor decides that the plan is not inaccurate, the cost of the inspection or re-survey made by the Director of Surveys and Lands assessed on the scales laid down in the Second Schedule shall be deducted from the sum deposited and the balance thereof shall be refunded to the person entitled thereto; but if it is found that the plan was made by a Government Surveyor and was inaccurate the sum deposited shall be refunded in full.

90. Notwithstanding the provisions of rule 89, the Director of Surveys and Lands may investigate and report to the Governor on any survey which he has reason to believe is erroneous, without a complaint being lodged.

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FIRST SCHEDULE.

FORM 1.

THE SURVEY RULES.

(Notice under rule 32.)

To.....

Take notice that you are required to report to the Director of Surveys and Lands or to the District Commissioner of your district if any of the trigonometrical stations, survey beacons, marks, poles or boundary marks on the land described below are obliterated, removed or injured or in need of repairs.

SITUATION AND DESCRIPTION OF LAND.

(Signed).....

Director of Surveys and Lands.

Date.....

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FORM 2.

THE SURVEY RULES.

(Notice of entry on land under rule 86.)

To.....

Take notice that on the..... day of..... 19....., between the hours of..... and....., I shall enter on your land situate at..... for the purpose of a survey.

I shall cause as little inconvenience as is consistent with my duties.

(Signed).....

*Government*  
*Licensed* Surveyor.

Date.....

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## SECOND SCHEDULE.

## FEES AND CHARGES FOR SURVEY SERVICES.

*(Other than those rendered for Surveys under the Minerals Ordinance.)*

## 1. PRELIMINARY CHARGES.

*Nature of Survey.*

(a) Single plots for residential or business purposes.

(b) Plots surveyed in conformity with a design or layout before the land is taken up.

(c) Other contiguous plots surveyed by theodolite and steel band.

(d) Plots of Crown Lands for settlement, surveyed in accordance with a design or layout and shown on plan or copies of same deposited in the Survey and Lands Department.

Provided that these charges shall be made by the Survey and Lands Department on each and every occasion that the lease is transferred or renewed, and that no other survey charges will be made.

(e) Plots of land in the Protectorate for settlement surveyed in accordance with a design or layout and shown on plans or copies of same deposited in the Survey and Lands Department:

Provided that these charges shall be made by the Survey and Lands Department on each and every occasion that the lease is transferred or renewed, and that no other survey charges will be made.

(f) Re-establishing boundary marks.

Check Surveys.

Boundaries of land in dispute.

Surveys for investigation of title.

(g) Traverse connections.

(h) Compass Surveys of town or country lands.

*Basis of Charges.*

(i) Preliminary fee of £2 12s. 6d. for town lands, or £5 5s. for country lands.

(ii) Mileage rates, subject to a minimum of £2 12s. 6d.

(iii) Charges for detail, if surveyed, subject to a minimum of £1 11s. 6d.

As for paragraph (a) above but only one preliminary fee for all plots surveyed at the same time. Common boundaries between plots only charged for once if surveyed for the same owner or occupier.

As for paragraph (b) above.

(i) Leases not exceeding seven years—10s. per plot.

(ii) Leases exceeding seven years but not exceeding twenty-one years—£1 per plot.

(iii) Leases exceeding twenty-one years—£3 per plot:

As for paragraph (d) above.

Time rates.

Time rates.

Time rates.

Mileage rates.

(i) Preliminary fee of £2 2s. for town lands, or £4 4s. for country lands.

(ii) Mileage rates.

(iii) Detail survey rates for any detail surveyed, when required:

Provided that only one preliminary fee will be charged for two or more contiguous surveys carried out at the same time.

## 2. MILEAGE RATES.

(i.e. Rates of survey charges based on the mileage of traces cut when little or no interior detail is shown.)

*Rigid Surveys of Boundaries by Theodolite and Steel Tape.*

*Rates are per Mile.*

Nature of Country.	Open Country.	Thick Grass or Patches of Trees.	Light Forest.	Heavy Forest.	Secondary Bush.	Secondary Bush with Heavy Timber.
	£	£	£	£	£	£
Level ... ..	4	7	10	25	35	60
Broken ... ..	6	10	15	30	40	80
Rugged ... ..	8	15	30	35	50	100

For work done by chain and compass, half of the above rates.

For work done by theodolite if all traces or lines are cut by the applicant to the satisfaction of the surveyor, half of above rates.

For work done by compass if all traces or lines are cut by the applicant to the satisfaction of the surveyor, quarter of the above rates.

All lines necessary for the survey will be charged for.

The decision of the Director of Surveys and Lands as to the nature of the country shall be final.

For the survey of boundaries which require to be fixed by frequent offsets, a surcharge at the rate of 6d. per 100 feet, measured along the length of the boundary, will be made.

All lines necessary for a survey will be charged for, but no charges will be made for random or trial lines unless such lines are required by the applicant, or are made as the result of wrong information supplied by the applicant.

## 3. ACREAGE RATES.

(i.e. Rates of survey charges based on acreage when all necessary interior detail is shown.)

*Scale of Survey.*

*Charge per Acre or part Acre.*

	s.	d.
Exceeding 1/3,000 ... ..	5	0
Exceeding 1/4,000 but not exceeding 1/3,000 ... ..	3	6
Exceeding 1/6,000 but not exceeding 1/4,000 ... ..	2	6
Exceeding 1/8,000 but not exceeding 1/6,000 ... ..	1	9
Exceeding 1/13,000 but not exceeding 1/8,000 ... ..	1	3
Exceeding 1/24,000 but not exceeding 1/13,000 ... ..	0	9
Not exceeding 1/24,000 ... ..	0	6

These rates are subject to an addition for the nature of vegetation and a further addition for the character of country as follows—

Vegetation—						per cent.
Medium forest	...	...	...	...	...	10
Heavy forest, or dense undergrowth	...	...	...	...	...	33½
Character of Country—						
Broken or swampy	...	...	...	...	...	10
Rugged	...	...	...	...	...	20

#### 4. TIME RATES.

(i.e. Rates of survey charges based on time spent on the survey.)

For charges calculated on a daily basis: at the rate of £5 5s. per day for a 7½ hour day and *pro rata*.

#### 5. CHARGES FOR MISCELLANEOUS SERVICES.

In addition to the charges already defined, the following charges, when incurred, will be made by the Survey and Lands Department, and may be made by Licensed Surveyors for surveys carried out by themselves—

(a) Astronomical observations for surveys made at mileage rates.

£10 for a set of accepted astronomical determinations at one traverse station, from which a mean bearing to or from the station is deduced and accepted.

(b) Transport charges.

Where surveys are done by Government surveyors, the cost of transport of the surveyor, survey party and stores to and from the survey shall be charged to the applicant at actual cost. This charge shall include the salary of the surveyor and the wages of his gang for the time necessarily spent in travelling.

Where surveys are done by licensed surveyors, the surveyor shall be entitled to first class transport, when available, for himself and third class transport for his survey gang, and the actual cost of transport of the survey party and stores to and from the survey shall be charged to the applicant. The surveyor shall in addition be entitled to remuneration at the rate of £3 3s. whichever is less, for the time agreed to for travelling. Such charges shall be arranged between the surveyor and his client before the survey is begun.

(c) Delay to the surveyor caused by the applicant.

Daily time rates.

*(d) Beacons—*

(i) when the survey is paid for at mileage rates (see paragraph 2).

Property beacons, 10s. each: if cement supplied by the applicant, 5s. each. Small layout or cemetery type beacons, not exceeding 384 cubic inches, 2s. each: if cement supplied by the applicant, 1s. 6d. each.

(ii) When the survey is paid for at acreage rates or time rates (see paragraph 3 and paragraph 4).

Property beacons 1s. 6d. each: if cement supplied by the applicant, no charge. Small layout or cemetery type beacons, 6d. each: if cement supplied by the applicant, no charge.

In layouts and other contiguous surveys where the same beacons are common to adjoining properties the full charge will be made to each owner or occupier.

*(e) Professional work not otherwise specified.*

13s. per hour or part of hour.

*(f) Plans—*

(i) Finished drawings on mounted paper.

According to the amount of work involved. The cost of making the original drawing, when it is the representation of a survey charged for at the regulation rates, is incorporated in those rates and no additional charge will be made for it.

(ii) Tracings of single plots.

At the rate of 30s. a square foot of tracing.

Other tracings.

According to the amount of work involved, but in no case more than 50 per cent. of the cost of the original drawing.

(iii) Lithoprints and sunprints.

At the rate of 1s. 6d. a square foot of print.

*(g) Tape standardisations.*

First 100 feet, £1 1s. Each additional 100 feet, 5s.

The cost of postage shall be added to the above charges.

*(h) Inspection by the public of plans or prints deposited in the Survey and Lands Department.*

2s. 6d. for each period of inspection of half an hour or part thereof.

*(i) Scrutiny of licensed surveyors' plans where the Director of Surveys and Lands accepts such plans for scrutiny—*

(i) township plots or small plots of up to 2 acres ... .. £ s. d.  
0 5 0

(ii) township plots or plots exceeding 2 acres but not exceeding 10 acres ... .. 0 10 6

	£	s.	d.
(iii) farm or country plots exceeding 10 acres ... ..	1	1	0
(j) Certification of true copies of plans and diagrams—			
(i) areas of up to 100 acres ... ..	0	2	6
(ii) areas over 100 acres	0	5	0

r. 85.

## THIRD SCHEDULE.

1. (1) The examination for enrolment as a pupil surveyor will consist of four three-hour papers in the following subjects—

- (a) Arithmetic and mensuration.
- (b) Algebra including quadratic equations.
- (c) Geometry of the point, line, rectilinear figures and circles.
- (d) Plane trigonometry up to and including the solution of triangles.

A knowledge of the use of logarithms is essential and penmanship, orthography and neatness will be taken into account in marking the papers.

- (e) A general knowledge paper will also be set. Time—two hours.

(2) The Board may exempt any applicant for enrolment as a pupil surveyor from any subject, on his producing evidence that satisfies the Board that he has reached the required standard in that subject in a public examination.

2. A candidate will not be deemed to have passed the examination for enrolment as a pupil surveyor unless he has obtained at least sixty per centum of the possible marks in each paper.

3. The examination for a licence to practise surveying shall consist of two parts, namely—

Part I—Elementary Mathematics and Theory of Surveying. The Laws of Sierra Leone and the Rules and Regulations made under them in so far as they relate to survey.

Part II—Practical Surveying.

4. A candidate may take Part I and Part II at the same examination or may take Part II at a subsequent examination to that at which he takes Part I:

Provided that the whole examination must be completed not later than the examination in the corresponding month of the next ensuing year to that in which the candidate took Part I.

5. (1) The following three-hour papers will form Part I of the examination—

- (a) Geometry of the point, line, rectilinear figures and circles; co-ordinate geometry.



(b) Plane trigonometry up to and including the solution of triangles; spherical trigonometry up to and including the solution of triangles and its application to surveying.

(c) The elements of astronomy and their practical application to the determination of latitude, longitude, time and azimuth.

(d) Survey computations.

(e) Topographical and tacheometrical surveying; levelling by theodolite or level and contouring; minor triangulation in so far as it relates to the connection of surveys to the control surveys of the country; the principles of the construction and adjustment of the following instruments: theodolite, tacheometer, plane table, level, compass, clinometer, barometer, thermometer, steel band, abney level, planimeter and pantograph.

(f) Theodolite traverses including reduction of measured distances for standard, sag, slope, temperature and height above sea level; measurement of angles and reduction of bearings; astronomical observations for latitude, time and azimuth.

(g) Setting out roads and curves; descriptions of lands by measurement and bounds for title; an elementary knowledge of map projections.

(h) Knowledge of—

(a) the Survey Ordinance;

(b) the Minerals Ordinance;

(c) the Building Lines Ordinance;

(d) the Freetown Improvement Ordinance;

(e) the Town and Country Planning Ordinance;

(f) and the rules and regulations in force under the above Ordinances.

Penmanship, orthography and neatness will be taken into account in marking the papers.

(2) The following subjects may form Part II of the examination—

(a) Survey of an area by closed theodolite traverse, including connection by traverse or triangulation to control survey, observation for latitude, time and azimuth, simple topography, traverse of an irregular boundary and re-establishment of a lost beacon.

(b) Survey of a town area, including boundary beacons, buildings and natural features.

(c) Levelling and contouring.

(d) Lay-out of plots.

(e) Chain survey and compass traverse.

(f) Adjustment of instruments.

(g) Drawing which will normally be marked on the plans submitted in connection with the other subjects of Part II.

The original field books, in which records must be made in ink, computations and finished plan shall be submitted in all cases.

6. (1) A candidate will not be deemed to have passed Part I of the examination unless he shall have obtained at least fifty per cent of the possible marks in each of papers (a), (b), (c), (d), (e), (f) and (g) and at least seventy per cent of the possible marks in paper (h).

(2) A candidate will not be deemed to have passed Part II of the examination unless he shall have obtained at least sixty per cent of the possible marks in each subject.

7. A candidate who fails to obtain the requisite number of marks in any one paper of Part I or in any one subject of Part II may be allowed, in the discretion of the Board of Examiners, to be re-examined in such paper or such subject only, or in both, if he has obtained at least sixty per cent. of the marks possible in Part I of the examination:

Provided that such re-examination will be allowed on only one occasion and that the whole examination must be completed not later than the examination in the corresponding month of the next ensuing year to that in which he took Part I of the examination. In such cases no further examination fee will be charged.

8. A reasonable time limit will be allowed within which each subject of Part II must be completed.

9. The examination will normally be held in January for licensed surveyors and December for pupils in each year.

10. An examination fee of ten shillings will be charged for the examination for enrolment as a pupil surveyor and an examination fee of £2 will be charged for the examination for a licence to practise surveying. The above fees shall be paid to the Chairman of the Board of Examiners at the office of the Survey and Lands Department, Freetown, by candidates on each occasion when they make application to be allowed to take the examination.

11. Fees payable under section 10 shall be paid at least one month before the proposed date of the examination.

12. Examination fees shall be divided in equal proportion among the examiners.

#### EXEMPTIONS FROM EXAMINATION.

13. The Board of Examiners may without any examination give a licence to practise as a surveyor to any person who is licensed to practise as a surveyor in a country other than Sierra Leone and who has any of the following qualifications—

(1) A degree of a British University with Honours in any of the following subjects—

- (a) mathematics;
- (b) physical science;
- (c) engineering; or
- (d) geography (provided the course leading up to the degree has included geodetic and trigonometrical surveying); or

(2) The special diploma in land surveying issued by the Royal Institution of Chartered Surveyors.