

# **THE KIAMBU COUNTY SURVEY AND MAPPING BILL, 2015**

## **ARRANGEMENT OF CLAUSES**

*Clause*

### **PART I—PRELIMINARY**

- 1- Short title.
- 2- Interpretation.
- 3- Purpose of Act.

### **PART II –ADMINISTRATION**

- 4- Directorate of Surveys.
- 5- Functions of the Directorate.
- 6- Director of Surveys.
- 7- Powers of the Director.
- 8- Officers.

### **PART III- CONDUCT OF SURVEYS**

- 9- Duties of surveyors.
- 10- Indemnity.
- 11- Surveys of land to be conducted under direction of Director
- 12- Units of measurement.

- 13- Systems of co-ordinates and projections.
- 14- Maintenance of measuring instruments.
- 15- Presentation of surveys.
- 16- Permissible errors of measurement.
- 17- Checking of surveys.
- 18- Information prior to survey.
- 19- Prior approval by statutory authorities.
- 20- Power of entry.
- 21- Refusal of entry.
- 22- Employment of approved assistants.
- 23- Fees chargeable by the Director.
- 24- Application to have plan prepared from existing records.
- 25- Survey control points.
- 26- Maps Registry.
- 27- Survey of land not surveyed.
- 28- Issuance of share certificates
- 29- Registration of land.
- 30- Survey by unqualified persons.
- 31- Approval of survey.
- 32- Conversion of boundaries.

33- Survey below prescribed size.

34- Application to have plan prepared from existing records.

#### **PART IV- SURVEY MARKS, BOUNDARY BEACONS AND BOUNDARIES**

35- Design and specification of survey marks.

36- Placement of survey marks.

37- Referencing of boundary beacons.

38- Line beacons and river beacons.

39- Placing beacons on boundary line.

40- Beacons placed from computed data.

41- Boundaries adjoining trust land or forest areas.

42- Fixing of beacons in corner plots.

43- Repair of damaged beacons.

44- Trigonometrical station to be repaired.

45- Missing beacons.

46- Re-establishment of missing beacons.

47- Redundant beacons.

48- Surveys and re-establishment of boundaries.

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

49- Guiding principle.

***Triangulation and Trilateration***

50- Geodetic and secondary triangulation.

51- Lower order triangulation.

52- Tertiary and minor triangulation.

53- Instruments used for triangulation and trilateration.

54- Method of taking triangulation.

55- Fixing of beacons.

56- Isolated surveys.

***Traverse surveys***

57- Geodetic and secondary traverse.

58- Lower order traverses.

59- Angular measurement of traverses.

60- Linear measurements of traverses.

61- Surveys of curvilinear boundaries.

62- Road and railway reserves.

63- Swinging or hanging traverses.

64- Verification of points of departure and termination of traverses.

65- Verification of datum stations.

66- Aerial Surveys.

## **PART VI- FIELD NOTES**

67- Field notes to be on special forms.

68- Recording of triangulation observations.

69- Recording of traverse observations.

### ***Topographical Features***

70- Topographical features.

71- Method of entering field notes.

72- Erasures and corrections.

73- Nomenclature.

74- Cover and page index.

75- Unorthodox methods.

## **PART VII- COMPUTATIONS**

76- Computations to be in special forms.

77- Method of entering computations.

- 78- Triangulation and trilateration.
- 79- Traverse computations.
- 80- Independent checks to be made.
- 81- Method of computing areas.
- 82- Degree of accuracy for computing areas.
- 83- Presentation of computation.
- 84- Plans to be drawn on special forms.
- 85- Scales to be used.
- 86- Plotting of curvilinear boundaries.
- 87- Plotting by co-ordinates.
- 88- General rules for plotting.
- 89- Abutting boundaries.
- 90- Co-ordinates and numerical data.
- 91- Triangulation and trilateration charts.
- 92- Colour and style of printing.
- 93- Topographical features.
- 94- Erasures and corrections.
- 95- Certificates.
- 96- Refusal to authenticate by Director.

## **PART VIII- DEED PLANS**

97- Deed plans to be drawn on special forms.

98- General rules for deed plans.

99- Numerical data.

100- Topographical features.

101- Abutting boundaries.

102- Areas.

103- Erasures and corrections.

104- Locality index number.

105- Name of surveyor.

106- Authentication.

107- Cancellation of deed plan.

### ***Public Land Surveys***

108- Tidal river reservations.

109- Defining swamp boundaries.

## **PART IX – THE PRESERVATION OF SURVEY MARKS**

110- Boundary marks to be shown on plan.

111- Sites of trigonometrical stations and fundamental benchmarks.

- 112- Blasting of rock.
- 113- Duty of grantee to ascertain survey marks.
- 114- Responsibility for protection of survey marks.
- 115- Penalty for tampering with survey marks.

### **PART X – SURVEY PLANS AND RECORDS**

- 116- Deposit of survey plans and records.
- 117- Inspection of survey works.
- 118- Correction of errors.
- 119- Authentication of plans.
- 120. Cancellation of authentication of plan.
- 121- Sufficiency of authenticated plans.
- 122- Distribution of photographic or lithographic copies of plan authenticated.
- 123- Provisions regarding authenticated plans.
- 124- Proof of plans.
- 125- Inspection of plans.
- 126- Unqualified persons forbidden to survey.
- 127- Obstructing a Surveyor.
- 128- Public access to maps and plans.
- 129- Government copyright.

## **PART XI GENERAL PROVISIONS**

130- Regulations.

131- Savings.

132- Transition.

## THE KIAMBU COUNTY SURVEY AND MAPPING BILL, 2015

A Bill for

**AN ACT** of County Assembly of Kiambu to provide for land survey and mapping, and for connected purposes.

**ENACTED** by the County Assembly of Kiambu, as follows –

### *Clause*

#### **PART I – PRELIMINARY**

- Short title.                    **1.** This Act may be cited as the Kiambu Survey and Mapping Act, 2015.
- Interpretation.                **2.** In this Act, unless the context otherwise requires-
- Cap 299.                        “Board” means the Land Surveyors’ Board established under the Surveyors’ Act;
- “Director” means the Director of Surveys appointed under section 6;
- “Directorate” means the Directorate established under section 4;
- “Executive Member” means the County Executive Committee member responsible for land;
- “grantee” a recipient of any grant;
- “plan” includes a map, diagram or aerial photograph approved by the Director as suitable for survey purposes;
- Cap 299.                        “Surveyor” means a surveyor duly licensed as a surveyor under the Survey Act;

“survey mark” means any trigonometrical station, fundamental benchmark, bench mark, boundary beacon, peg, picket mark or pole, whether above or below the surface of the ground, which is fixed, placed or set up by, or under the direction of a surveyor for the purpose of any survey under this Act.

Purpose of Act.

**3.** The purpose of this Act is to provide for a legal framework for land survey and mapping as provided for under section 8 of Part 2 to the Fourth Schedule of the Constitution of Kenya in order to –

- (a) promote efficiency, accountability and transparency land survey process;
- (b) promote integration of land survey with land registration;
- (c) promote organized administration of land survey and mapping; and
- (d) ensure proper land survey governance.

## **PART II –ADMINISTRATION**

Directorate of Surveys.

**4.** There is established in the Directorate of Surveys which shall be an office in the county public service.

Functions of the Directorate.

**5.** The Directorate shall be responsible for -

- (a) coordinating and regulating land survey in the county;
- (b) conducting land survey as may be

directed by the Director;

- (c) receiving and reviewing all the survey plans, maps and related documents;
- (d) maintaining safe custody of all records, maps, plans and documents related to land survey in the county;
- (e) providing liaison with national government on any matter related to this Act;
- (f) carrying out any other function for effective realization of objectives under this Act; and
- (g) advising the executive member generally on any policy to be adopted or matter necessary to effective achievement of the objectives.

Director of Surveys.                      of                      **6.** (1) There shall be a Director of Surveys who shall head the Directorate.

(2) The Director shall be appointed by the County Public Service Board in consultation with the Executive Member.

Powers of the Director.                      of                      the                      **7.** (1) Subject to the direction by the Executive Member, the Director shall have powers to-

- (a) regulate land survey and mapping;
- (b) make, supervise or direct any survey;
- (c) inspect, examine any document related to survey;

- (d) approve any survey;
- (e) alter, repair, move or remove any survey mark;
- (f) direct for a survey conducted to be carried out again;
- (g) alter any survey plan, map or marks in accordance with this Act or any written law; and
- (h) perform any other act in furtherance of the objectives of this Act.

(2) The Director may delegate in writing any of his powers under this Act generally or specially to officers appointed under section 7 or to any person.

Officers.

**8.** The County Public Service Board shall appoint such number of surveyors and officers to serve in the Directorate for effective carrying out of its functions under this Act.

**PART III- THE CONDUCT OF SURVEYS**

Duties of surveyors.  
Cap 299.

**9.** (1) A surveyor shall carry out the survey undertaken by him in such manner as will ensure that the survey accords in all respects with the provisions of this Act and the Survey Act and shall be responsible for the correctness and completeness of the survey.

(2) Notwithstanding sub section (1), the Director may, by notice in writing to the surveyor, direct that the prescribed standards of accuracy be relaxed in such manner and conditions as he may specify.

Indemnity.

**10.** Neither the county government nor any public officer shall be liable for any defective survey or any

Cap 299. work appertaining thereto, performed by a surveyor, notwithstanding that any plan relating to such survey or work has been authenticated in accordance with the requirements and provisions of this Act, the Survey Act or accepted for registration under any written law for the time being in force relating to the registration of transactions in or of title to land.

Surveys of land to be conducted under direction of Director. **11.** Any survey of land for the purposes of any written law for the time being in force relating to the registration of transactions in or of title to land (other than the first registration of the title to any land made in accordance with the provisions of the Land Consolidation Act or the Land Adjudication Act) shall be carried out under and in accordance with the directions of the Director.

Cap 283.

Cap 284.

Units of measurement. **12.** (1) All distances shown on plans shall be in international metres and decimals of a metre.

(2) All angular measurements shall be in degrees, minutes and seconds of arc.

(3) For purposes of conversion from imperial feet to international metres, the relationship to be used shall be one international metre = 3.280 840 feet, or one foot = 0.3048 metres.

Systems of co-ordinates and projections. **13.** (1) The figure of the earth and projection to be used in the computation of coordinates of any survey shall be one of the following, as the Director may specify, that is, either-

(a) the Universal Transverse Mercator Projection zones 36 or 37 using the Clarke 1880 (modified) figure having elements; semi-diameter-major 6,378.249 international metres ellipticity 1/293.465; or

(b) the Cassini-Soldner Projection calculated from origins at the intersections of odd-numbered-degree meridians with the equator and extending over successive zones of two degrees of longitude, using the Clarke 1858 figure having elements –

semi-diameter-major (6,378,351 metres)      20,926,348 imperial feet

ellipticity      1/294.26

(2) All co-ordinates required by section 85, 92 and 93 shall be listed in the same units as the datum points.

Maintenance of measuring instruments.

**14.** (1) Every licensed surveyor shall maintain his theodolite, measuring bands and all other equipment in good order, and the Director may refuse to authenticate any survey which has been made with defective equipment.

(2) Every measuring band, tape, thermometer and spring balance shall be submitted to the Director before use and thereafter not less often than once in every twelve months for comparison with the official standard in the custody of the Director.

(3) Every surveyor shall record in his field notes the manufacturer's name and number of the model of the theodolite used for each survey.

(4) The Director shall assign a unique official number to every measuring band submitted to him for comparison with the official standard of length, and shall keep a record of all particulars of every measuring band so submitted.

(5) Whenever any measuring band is broken, the breakage shall be recorded in the field notes.

(6) Every surveyor shall record in his field notes the official number of the measuring band used for each survey.

(7) The Director may require any licensed surveyor to submit any measuring equipment for his inspection, and he may refuse to authenticate any survey which has been made with measuring equipment which is thereby found to be defective.

Presentation of surveys.

**15.** (1) Every licensed surveyor shall be personally responsible for the accuracy, fidelity, and completeness of every survey presented by him for the approval of the Director.

(2) It shall be the duty of every surveyor making any survey under this Act to record all the relevant information that may aid in securing the accuracy and completeness of every such survey.

(3) Every surveyor shall perform sufficient work to enable him to apply a thorough check to every part of his survey.

(4) Every surveyor shall present his plan, computations and connected documents of every survey in such a manner as the Director, after consultation with the Board, may require.

(5) Where a surveyor submits to the Director any plan, computation or connected document under this section which does not conform substantially with the appropriate requirements, the Director may-

(a) at his discretion, return the plan, computations and connected documents to the surveyor; and

(b) and may refuse to authenticate any such plan, computation or connected document until it has

been made to confirm with the appropriate requirements.

(6) All surveys returned to a surveyor shall be re-submitted to the Director without undue delay.

(7) The Director shall not release the final documents for registration of title without express authority from the licensed surveyor who carried out the survey.

Permissible errors of measurement.

**16.** (1) All measurements must be made in accordance with section 54, 55, and 58.

(2) The Director may refuse to authenticate any survey which contains errors in excess of those that can be expected from measurements properly carried out in the manner specified.

Checking of surveys.

**17.** The Director may at any time depute any surveyor to check in the field any survey made under the Act by any other surveyor, and such check may include the verification of any information recorded in connection with such survey and may also include the inspection of any survey mark established under this Act.

Information prior to survey.

**18.** (1) Before carrying out any survey, every licensed surveyor shall be provided, or shall provide himself, with all available information in respect of any previous survey of the plot of land to be surveyed and of any adjoining plot.

(2) Applications to the Director for this information shall be in writing, and shall state whether the land is freehold or leasehold, and shall, whenever applicable, make reference to the approval for sub division, or other transaction.

(3) The Director shall make available to any licensed surveyor all technical information in his possession.

(4) Where the licensed surveyor extracts the information provided under subsection (3) by personal search, no fee shall be payable.

(5) Where the information provided under subsection (3) is extracted by the Director on behalf of the surveyor, the surveyor shall pay the prescribed fee.

Prior approval by statutory authorities.

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

Power of entry.

**20.** (1) The Director, a surveyor, or any person authorized in writing by the Director, may enter upon any land, as may be necessary, for the purpose of-

- (a) making or supervising any survey or resurvey; or
- (b) affixing or setting up thereon or therein any survey mark; or
- (c) inspecting any survey mark; or
- (d) altering, repairing, moving or removing any survey mark; or
- (e) examining or inspecting the conduct of any survey; or
- (f) doing anything necessary for carrying out any of the aforesaid purposes.

(2) Every surveyor shall present his letter of authority issued under this section to any owner or occupier of land who demands proof that such surveyor is duly authorized to enter upon his land.

(3) Every surveyor so authorized shall, whenever practicable, give reasonable notice to the owner or occupier of the land of his intention to enter thereon.

(4) Whenever any tree or crops are cut or damaged by any surveyor in the exercise of any of the powers conferred by this section, compensation shall be calculated and paid in accordance with the following-

(a) the surveyor and the owner or occupier of the land shall agree upon a fair compensation for the damage done by the surveyor, and a statement of the damage done and of the compensation which is agreed upon shall be duly signed by both the owner or occupier of the land and the surveyor; or

(b) where the surveyor and the owner or occupier of the land are unable to agree upon the amount of compensation payable, the surveyor shall apply to an officer of the Forest Department or of the Agricultural Department to inspect the damage done to the tree or crops, as the case may be, and to assess the amount of compensation which shall be paid;

(c) if the owner or occupier of the land thereupon agrees with the amount of compensation proposed under paragraph (b), both the owner or occupier and the said officer of the Forest Department or the Agricultural Department, as the case may be, shall sign a statement of the amount of compensation duly agreed upon; or

(d) where the owner or occupier of the land and the officer of the Forest Department or

of the Agricultural Department, as the case may be, are unable to agree upon the amount of compensation payable, a statement to this effect shall be forwarded to the Director, and the Director shall apply for the case in dispute to be referred to arbitration under the Arbitration Act (Cap. 49).

(5) Before so entering upon any land, the Director or other surveyor or person duly authorized shall, whenever practicable, give reasonable notice to the owner or occupier of the land of his intention to enter thereon, and shall, on so entering, produce any proof of his authority to any person reasonably requiring the same.

(6) When the amount of compensation has been determined in accordance with subsection (4), the agreed amount shall be paid by the county government surveyor, or by the licensed surveyor himself when he has caused the damage in question to the owner or occupier of the land: Provided that compensation shall not be paid for damage to trees or crops within any reservation for a trigonometrical station or fundamental benchmark which is made in accordance with section 113.

(7) A person whose trees, crops or property is damaged while the powers conferred under this section are being exercised shall be compensated in accordance with the prescribed manner.

Refusal of entry.

**21.** If any person refuses to allow a surveyor or person authorized in accordance with section 20 of entry, the act to enter upon any land, the surveyor or authorized person shall in no circumstances use force to gain entry upon the land, but the surveyor or authorized person shall immediately report all relevant details of the obstruction to the Director.

Employment of approved assistants. **22.** (1) No licensed surveyor shall employ an approved assistant without the written approval of the Board:

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

(2) When such approval is given it shall be for a period as indicated by the licensed surveyor in the first instance and may be cancelled or renewed at the discretion of the Board.

(3) Such approval shall normally be limited to such number of assistants as the Board may determine in each case.

(4) The work done by any such approved assistant shall be under the director personal control of the licensed surveyor, who shall himself carry out a sufficient check to ensure that the work done by such assistant is correct. The licensed surveyor shall accept full personal responsibility for all work performed by the approved assistant.

(5) The approved assistant shall certify all field notes and computations made by him, and those field notes and computations shall be signed by the approved assistant and countersigned by the licensed surveyor.

(6) The surveyor shall supply a certificate in the prescribed form.

(7) If the Director finds that an approved assistant has performed any work which has not been supervised and checked by the licensed surveyor he may suspend approval for the employment of the approved assistant, and the case shall be referred to the Board whose decision on the matter shall be final.

Fees chargeable by the Director. **23.** (1) The Director shall charge fees for-

- (a) all surveys carried out by the Directorate in accordance with the prescribed charges;
- (b) authentication undertaken under section 121;
- (c) documents issued or services rendered.

(2) A surveyor shall charge the prescribed fees for any work undertaken.

Application to have plan prepared from existing records.      **24.** A person who applies to the Director to have a plan prepared from existing survey records in respect of his land shall provide a beacon certificate from a surveyor to the effect that the beacons exist or have been re-established in accordance with this Act.

Survey control points.      **25.** The Directorate shall establish survey control points in the designated areas across the county in accordance with the established national standard and policy.

Maps Registry.      **26.** (1) The Directorate shall maintain a registry for preparation, maintenance, preservation and amendments of survey maps and records.

(2) The maps and records referred under subsection (1) shall be maintained in digital format.

Survey of land not surveyed.      **27.** (1) Upon coming into force of this Act, the Directorate shall survey each land and holding not previously surveyed, if it ought to have been surveyed prior to the commencement of this Act.

(2) The Directorate shall ensure that persons holding interests in land or holdings stipulated under subsection (1) are involved in the survey process.

Issuance of share      **28.** (1) A person shall not issue a share certificate in

certificates. respect to any land or holding unless such land is surveyed by a registered surveyor and the survey is approved by the Directorate.

(2) A person who contravenes subsection (1) commits an offence and is liable to a fine of one million shillings.

Registration of land. **29.** Upon coming into force of this Act, no new registration of land shall be undertaken unless such registration is in accordance to the amended survey map in respect to the land or holding being registered.

Survey by unqualified persons. **30.** Any survey purportedly undertaken by an unqualified person shall be null and void and not registrable under this Act or any other written law.

Approval of survey. **31.** (1) Each survey conducted under this Act shall be registered and approved by the Directorate.

(2) A person seeking registration and approval of survey under subsection (1) shall apply to the Directorate in the prescribed form upon payment of the prescribed fees.

Conversion of boundaries. **32.** (1) The Directorate shall, convert all general boundaries into fixed boundaries.

(2) Notwithstanding subsection (1), the directorate shall ensure that all boundaries are mathematically ascertainable.

Survey below prescribed size. **33.** No land or holding shall be surveyed below the prescribed size in the respective area.

Application to have plan prepared from existing records. **34.** A person who applies to the Director to have a plan prepared from existing survey records in respect of his land shall provide a beacon certificate from a surveyor to the effect that the beacons exist or have been re-established in accordance with this Act.

**PART IV- SURVEY MARKS, BOUNDARY BEACONS AND BOUNDARIES**

Design and specification of survey marks.

**35.** (1) The design of survey marks shall be as specified by the Director, except in special circumstances which must be set out in the report on the survey.

(2) When an original grant is being re-surveyed or subdivided, any beacon which does not constitute a permanent and fine mark shall be replaced by a new beacon or be referenced to a nearby witness mark.

(3) Every new triangulation or trilateration station other than a purely auxiliary station shall be permanently marked.

(4) In third order traverses as defined in section 58, all traverse stations shall whenever possible be permanent points.

(5) Where conditions do not permit the establishment of permanent traverse stations, the surveyor shall provide an alternative form of referencing, and the reason shall be stated in the surveyor's report.

Placement of survey marks

**36.** (1) Boundary beacons shall be of such type as the Director may require, and shall normally be surmounted by a cairn of stones or a mound of earth.

(2) The primary consideration in placing all survey beacons is their durability, having regard to the fineness of the mark required for the purpose.

Referencing of boundary beacons

**37.** (1) All boundary beacons for which no adequate reference mark already exists, the co-ordinates of which

are required by section 91 to be tabulated on a plan, shall, except as provided below, be referenced by the establishment, with adequate check, of a permanent underground mark in the vicinity of the beacon and in a position where it is least likely to be disturbed.

(2) The underground mark referred to under subsection (1) may be a permanent control station established under section 35:

Provided that two existing nearby beacons may be used instead of one underground mark.

(3) The guiding principle in the placing of reference marks is the necessity to provide a ready and accurate means of re-establishing the beacons of the property as well as to provide the basis for any future survey, and the surveyor shall ensure that this requirement is met in a reasonable manner.

(4) The beacons referred to under this section shall be referenced to any nearby telephone pole, suitable tree or other prominent physical feature in order to facilitate the location of isolated boundary beacons.

(5) The surveyor shall –

- (a) verify the position of any previously placed reference marks at beacons involved in his survey;
- (b) record the appropriate measurements in the field notes;

in such manner that will facilitate maintenance of a record of reference marks.

Line beacons and river beacons.

**38.** (1) Where a rectilinear boundary intersects a curvilinear boundary, and a beacon cannot be placed at the intersection, a beacon shall be placed on the rectilinear boundary as near as is practicable to the

intersection. Such beacon shall be known as a line beacon.

(2) Where the rectilinear boundary continues on both sides of the curvilinear boundary, a line beacon shall be placed on both sections of the rectilinear boundary.

(3) Where the curvilinear boundary falls within a river or swamp, the line beacon shall be placed above flood level and shall be known as a river beacon.

(4) Distances from line or river beacons shall be measured to the precision required by section 87(3).

(5) All subdivisions of a property (including any remainder) which are situated across a road or railway reserve shall be fully beacons as self-contained units.

(6) When a curvilinear feature is adopted as a sub divisional boundary the several subdivisions and any remainder shall be fully beacons as self-contained units.

Placing beacons on boundary line.

**39.** (1) Where a beacon is placed on a boundary line, it shall be proved to be on line by establishing either directly or indirectly its relationship with the terminal beacons of the line.

(2) Where no rectilinear boundary of a subdivision coincides in whole or in part with any perimeter boundary of the land being subdivided, the relationship of the sub-divisional beacons to at least two of the perimeter beacons shall be directly or indirectly established.

Beacons placed from computed data.

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

Boundaries adjoining trust land

**41.** (1) Where any area of land which shares a common boundary with an area of trust land is surveyed,

or forest areas.

that common boundary shall be defined by intervisible beacons.

(2) Where any land adjoining any boundary of a forest area is surveyed, the common boundary shall be surveyed and defined by beacons placed thereon at reasonable intervals, so that the boundary can be easily identified.

(3) Where the common boundary surveyed as aforesaid has been cut through forest, beacons need not be intervisible, but they shall be intervisible when the boundary passes through glades or scattered bush.

When beacons cannot be placed.

**42.** (1) When the corner of a plot of land coincides with the corner of a permanent building, such corner shall be surveyed and it may be adopted as the beacon.

(2) Where the corner of a plot of land does not coincide with the corner of a permanent building but is in such close proximity to it that a standard boundary beacon cannot be established, such corner of the building shall be surveyed and its position relative to the plot corner established.

(3) When the corner of a plot of land falls within inaccessible ground, where a beacon cannot be placed, the position of such corner shall be permanently referenced by at least one indicatory beacon placed on a boundary line as near as possible to the corner.

(4) In all the above situations details shall be indicated on the plan.

(5) When the corner of a plot of land is occupied by a permanent and easily recognized mark, such as a substantial fence-post and fencing or a tree, such corner shall be referenced by at least one permanent underground mark.

Damaged beacons cannot be repaired. **43.** Where an old beacon of the plot of land under survey is found to be damaged, the surveyor shall repair or renew the beacon, and shall make a record of the repairs in his field notes.

Trigonometrical station to be repaired. **44.** (1) Every surveyor engaged on Government work who discovers any trigonometrical station to be damaged and in need of repair shall carry out such repair as may be necessary.

(2) A licensed surveyor not engaged on Government work is not required to repair any damaged trigonometrical station, but he shall report in writing to the Director the name, number and position of such station and the nature of the damage which he has observed.

Missing beacons. **45.** (1) Missing beacons shall be noted in the surveyor's report prepared under section 85(a).

(2) In order to demonstrate that the surveyor has searched in the right place, the surveyor shall furnish such measurements and observations as may be needed.

Re-establishment of missing beacons. **46.** (1) If a surveyor is required to re-establish a missing beacon he shall submit his field notes, computations, and report, to the Director.

(2) The survey under subsection (1) shall be carried out in conformity the provisions of this Act covering the determination of new beacons, having regard to all other evidence.

Redundant beacons. **47.** Where the existence of a visible redundant beacon is likely to lead to confusion, it shall be removed or replaced by an underground witness mark.

Surveys and re-establishment of boundaries. **48.** (1) In every survey of land, where the position of an existing beacon is found to differ materially from that indicated by the relevant previous survey, the

surveyor shall exercise the greatest care-

- (a) in establishing that the discrepancy actually does exist; and
- (b) in collecting all evidence which may have a bearing on the eventual action to be taken.

(2) A careful search shall be made in the position indicated by the previous survey to ascertain whether or not any evidence of an old beacon or its reference marks still exists, and the position of any buildings or other development shall be recorded.

(3) Where the situation allows, the surveyor, before taking further action, shall provide the Director with a full report, and shall request instructions.

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

Guiding principle. **49.** All surveyors shall assist, as far as is consonant with efficient and economical survey, in the establishment and increase of permanent control marks of all types throughout the county.

*Triangulation and Trilateration*

Geodetic and secondary triangulation. **50.** All geodetic and secondary triangulation shall be carried out under the control of the Director, and shall normally be performed by county government surveyors.

Lower order triangulation. **51.** (1) All new triangulation and trilateration of lower order than geodetic or secondary required to provide general control for cadastral surveys shall be brought into harmony with existing control by methods conforming with current survey practice.

(2) When issuing survey data for such work to a licensed surveyor, the Director may recommend either a particular sequence in the computation of new work or any special computations which the circumstances may require, and it shall be the duty of a licensed surveyor so informed not to depart from the Director's recommendation without reasonable cause.

Tertiary and minor triangulation.

**52.** For the purpose of section 53 and 54, tertiary triangulation means triangulation established to an accuracy which makes it suitable for use as a basis of further triangulation; minor triangulation means triangulation established to a lower accuracy and suitable only as a basis for fixing local traverses and beacons.

Instruments used for triangulation and trilateration.

**53.** (1) A micrometer theodolite of an approved pattern reading directly to one second of arc, or better, shall be used for geodetic, secondary, or tertiary triangulation.

(2) A micrometer theodolite of an approved pattern reading directly to twenty seconds of arc or better, shall be used for minor triangulation.

(3) Electronic distance measuring equipment of an approved pattern shall be used for trilateration distance measurement.

Method of taking triangulation.

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

Provided that two rounds observed in different zeros may be sufficient for observations to points situated less than two kilometres distant.

(2) An arc of angular observations for triangulation shall consist of two rounds observed in opposite directions on the same zero, one round being on face left

and the other on face right.

(3) For each arc a suitable reference station shall be selected and both rounds of the arc shall be closed on to it, and the misclosure of each round shall be appropriate to the class of theodolite used.

(4) The difference between measurements of any angle on different arcs shall be appropriate to the class of theodolite used.

(5) Where electronic distance measuring equipment is used, sufficient observations shall be taken to eliminate any ambiguities, and achieve the accuracy required by section 16.

Fixing of beacons.

**55.** (1) Triangulation, trilateration, or a combination of these techniques for determining the position of beacons shall be carried out in accordance with the procedure laid down in section 51 and 54 and the method of computation shall conform with current standard survey practice.

(2) Beacons may also be fixed by-

- (a) intersection, provided at least three suitable rays are observed on to the point to be fixed;
- (b) re-section, provided at least four points in favourable positions for such fixing are observed;
- (c) any other method which is capable of fixing a point with no less accuracy than that of the methods of intersection and re-section:

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

triangulation.

Isolated surveys

**56.** (1) In areas where no triangulation exists, the datum shall consist of an astronomically determined position and azimuth, but in special circumstances the Director, may give written approval for the adoption of local origin and bearings based on a magnetic orientation.

(2) The isolated surveys shall, wherever possible, be made by triangulation, and a base-line shall be measured to provide the length of the first side.

(3) The base-line shall be in length not less than one fourth of the greatest distance across the area to be surveyed.

(4) Where a measuring band is used, such base-line shall be measured at least twice, and in two or more sections not necessarily in one straight line and the several sections shall be compared with one another through subsidiary triangles

(5) If, after all appropriate corrections have been made, the difference between any two measurements exceeds one part in 12,000 of the measured distance, the base shall again be measured until the resultant difference between any two measurements does not exceed this limit.

(6) When electronic distance measuring equipment is used, the measurements shall conform with the requirements of regulation 54.

### ***Traverse Surveys***

Geodetic and secondary traverse.

**57.** All geodetic and secondary traverses shall be carried out under the control of the Director and shall normally be performed by county government

surveyors.

Lower  
traverses.

order

**58.** (1) (a) All main control traverses in built-up areas shall be observed to third order standard.

(b) All such lines shall be double-chained, and field operations shall be appropriate to a standard of accuracy of not less than 1:20,000.

(2) (a) All other control traverses shall be observed to fourth order standard.

(b) Field operations for such surveys shall be appropriate to a standard of accuracy of 1:10,000, but computational misclosures shall be allowed to the same degree of accuracy as the datum supplied by the Director.

(c) A surveyor shall not use a loop traverse closing on his starting point if it is practicable to traverse between two previously fixed stations.

(d) When a surveyor is unable to close his work within the limits prescribed by the Director, the Director may at his discretion authorize or instruct the surveyor to accept a lower order of misclosure, otherwise he shall close his new work by a loop traverse, orientation being confirmed in a satisfactory manner.

(3) (a) The survey of curvilinear boundaries such as roads, railways, rivers, highwater marks, etc., shall be made by subsidiary traverse or by air-survey methods: Provided that this regulation shall not preclude any more accurate method.

(b) Such surveys of curvilinear boundaries shall be carried out to a standard of accuracy appropriate to the plotting scale of the plan of the survey.

(4) Where traverses are extremely short, a reasonable misclosure shall be allowed irrespective of the minimum requirements under stipulated under this Act.

Angular measurement traverses.

**59.** (1) A theodolite permitted by section 53 (2) shall be used for all traverses other than subsidiary traverses.

(2) Angular measurements for subsidiary traverses may be made either with a theodolite or a compass of approved pattern, subject to the necessity to achieve the standard of accuracy required by regulation 58 (3) (b).

(3) Where a compass is used under subsection (2), both forward and back observations must be observed at each station.

(4) At every traverse station in other than subsidiary traverses, not less than two rounds on different faces and different zeros shall be observed. It is not necessary to close the rounds on to a reference station.

(5) The first round at each station shall be set, when possible to the general orientation which is to be used throughout the survey.

Linear measurements traverses.

**60.** (1) All linear measurements of third and fourth order traverses shall be measured using equipment and methods appropriate to the standards of accuracy specified in section 58.

(2) Slopes shall be determined by a theodolite, with a degree of precision appropriate to the standards specified in 58 and where the slope is in excess of  $10^\circ$  the theodolite shall be read on both faces.

(3) All measurements shall be reduced to the horizontal at mean sea level and corrected for temperature and sag.

Surveys of curvilinear boundaries.

**61.** (1) In survey of curvilinear boundaries by the tacheometric method, distances determined by staff readings shall normally not exceed 200 metres and all three stadia readings on the staff shall be recorded.

(2) Offsets substantially exceeding 75 metres in surveys of plots over 10 hectares in area, and exceeding 50 metres in surveys of smaller plots, shall be set out instrumentally and the method recorded in the field notes.

(3) If a surveyor wishes to adopt an existing survey of a curvilinear boundary for a sub-divisional survey, he shall first obtain the consent of the Director.

Road and railway reserves.

**62.** (1) A road or railway reserve boundary shall be taken as a line parallel to the centre line of the road or railway at such distance from it as may be specified.

(2) When an area fronts on to a railway reserve, and the approved scheme of subdivision or grant demands that the boundary between the property and the railway reserve be demarcated by straight lines, this boundary shall be defined by one or more straight lines, not exceeding 30 metres each in length, beacons being placed at the specified distance from the centre line:

Provided that the Director may relax this requirement where he considers that such relaxation will not materially affect the definition of the reserve.

Swinging or hanging traverses.

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

Verification of points of departure and termination of traverses.

**64.** Where the means exist, every point of departure of a new traverse and every terminating point shall be identified and verified by observations and measurements, and these observations and measurements shall be recorded in the field notes.

Verification of datum stations.

**65.** Where a traverse station is converted for use as a boundary beacon, or where a previously co-ordinated traverse station is used to place a boundary beacon, the surveyor shall verify the station by observations and measurements, and shall record them in his field notes.

### **Air survey**

Aerial Surveys.

**66.** (1) Any person who intends to carry out any aerial photography for use in mapping or similar purpose shall, before carrying out the same, give to the Director in writing not less than one month's notice of his intention so to do.

(2) Any person who has carried out any aerial photography for use in mapping or similar purpose shall, if the Director so requires in writing—

(a) produce to the Director for his inspection all of the photographs thereby produced or such of them as the Director may specify; and

(b) supply to the Director, at the Director's cost, such copies as the Director may require of such photographs:

Provided that the supply of photographs to the Director under this section shall not in any way affect the copyright therein of the person supplying them or other than the owner of such copyright.

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

(4) Any person who fails to comply with the provisions of subsection (1) or subsection (2) shall commit an offence and shall be liable to a fine not exceeding ten thousand shillings.

### **PART VI- FIELD NOTES**

Field notes to be on special forms.

**67.** (1) Field notes and field note cover pages shall be made on such forms as the Director may require.

(2) Licensed surveyors shall pay to the Director the cost price of any blank forms supplied to them by the Director.

Recording of triangulation observations. **68.** (1) At each triangulation station every surveyor shall, when taking observations, record in his field notes the date, the time, the weather conditions and the degree of visibility.

(2) When it is necessary, for any reason, for a surveyor to divide his observations, at any station into two sets, the second set shall incorporate at least two stations which have been observed in the first set.

Recording of traverse observations. **69.** (1) All traverse observations and measurements shall be recorded in the field notes, in the sequence in which they are observed or measured.

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

***Topographical Features***

Topographical features. **70.** (1) Sketched topographical features shall be recorded where possible, and with special care in the vicinity of a beacon to facilitate its location.

(2) All developments on any plot, such as buildings, wells and boreholes, and any other development, such as pipelines which in the surveyor's opinion may involve a question of easement, right-of-way or any prescriptive rights, shall be surveyed.

Method of entering field notes. **71.** (1) All observations and measurements made in the field shall be recorded clearly and legibly in hard pencil, and shall be in such manner as the Director may require.

(2) All entries in field notes, which are not made in the

field shall be written in blue or blue-black ink.

(3) All entries in field notes shall be indexed and referenced in such a way that any competent person may be able to prepare a true plan therefrom, and they shall be in such form that they have only one reasonable and correct interpretation.

Erasures and corrections. **72.** (1) In no circumstances shall any erasure be made in field notes.

(2) Corrections shall be made by drawing a thin line through the erroneous entry, so as to leave the original entry still legible; the correct entry shall be written outside the erroneous entry and not across it.

(3) Corrections to field notes shall be made in the field, and shall be a true record of actual measurements or re-observation, and shall be initialed by the surveyor.

Nomenclature. **73.** (1) The letters, names, or numerals, by which any beacon or survey mark is identified in field notes shall be in plain roman or italic script.

(2) In choosing suitable descriptions, surveyors shall take care to avoid nomenclature which is likely to lead to confusion, and the letters, I, O, S, and Z, shall not be used.

Cover and page index. **74.** (1) The cover page of field notes shall be completed with such information as the Director may require.

(2) This information shall include the standard temperature and tension for the measuring band used in the survey and, where measurements have been made in catenary, the weight per 100 feet (or other standard length) of the measuring band.

(3) The pages of field notes shall be numbered, and an index in alphabetical and numerical order of all

observations and measurements in the field notes shall be given on the reverse of the cover page.

Unorthodox methods.

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

## **PART VII- COMPUTATIONS**

Computations to be in special forms.

**76.** (1) Computations shall be made on such forms as the Director may require.

(2) A surveyor shall pay to the Director the cost price of any blank forms supplied to them by the Director

Method of entering computations.

**77.** Computations shall be clearly and legibly set out in ink, and the entry of numbers or words to indicate checks on the computations shall be made in pencil or in a different coloured ink; provided that red ink shall be reserved for the use of the Director. Where computer facilities are used, the print-out must conform to the requirements of the Director.

Triangulation and trilateration.

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

Traverse computations.

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

(2) The linear error of closure, its distribution through the traverse, and the final adjusted values of all traverse

points, shall be demonstrated in conformity with current standard survey practice.

Independent checks to be made. **80.** Before any surveyor forwards any computations to the Director for authentication he shall make in independent and complete check of all his calculations, and such checks shall accompany the computations and be clearly demonstrated.

Method of computing areas. **81.** (1) Rectilinear areas shall be computed mathematically.

(2) When a portion of the boundary of a property is a curvilinear boundary, the area of the property shall be determined partly by computing from co-ordinates and partly by planimeter determination from a large scale drawing of the curvilinear boundary, in conformity with section 87.

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

Degree of accuracy for computing areas. **82.** Areas shall normally be calculated to the degree of accuracy specified in the following table:

<i>Hectares</i>	
Plots not exceeding 1 hectare.....	0.0001
Plots over 1 hectare and up to 10 hectares.....	0.001
Plots over 10 hectares and up to 1,000 hectares.....	0.01
Plots over 100 hectares.....	0.1

Presentation of computation. **83.** The computations of every survey submitted shall be preceded by-

- (a) a report; and
- (b) a general index to the computations; and

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

Plans to be drawn on special forms.      **84.** (1) All plans shall be drawn in waterproof inks on such plan forms as the Director may require.

(2) A surveyor shall pay to the Director the cost price of any plan forms supplied to them by the Director.

Scales to be used.      **85.** (1) Plans shall be plotted at one of the standard scales tabulated in section 87.

(2) The scale shall be selected so that all essential detail is clearly shown, and the plan area of any parcel shall not be less than 5 square centimetres:

Provided that, in a survey comprising both large and small parcels, enlargements of the small parcel(s) may be shown in inset(s) at a larger scale than that of the main plan

Plotting of curvilinear boundaries.      **86.** (1) Curvilinear boundaries of any property not exceeding 1,000 hectares in extent, being boundaries which have been fully surveyed, shall be plotted accurately on scale not smaller than 1 in 5,000; for larger areas the Director shall specify the scale to be used.

(2) Where the consent of the Director has been obtained

to the adoption of an existing survey of a curvilinear boundary, the surveyor shall-

- (a) make an accurate reduction of the larger scale plan for use at a smaller scale; or
- (b) make an accurate transfer for use at the same scale; or
- (c) re-plot from the original field notes and computations for use at a larger scale.

(3) Where a rectilinear boundary intersects a curvilinear boundary and the provisions of section 38 (1) and (2) are applicable, the distance from each line or river beacon to the intersection shall be shown to the nearest metre, but the distances between successive beacons along the rectilinear boundary shall be shown to the degree of precision required by section 90(3).

(4) A curvilinear boundary shall be distinctively described.

Plotting by co-ordinates.

**87.** (1) All plans shall be plotted by rectangular co-ordinates.

(2) A plotting grid of squares covering the surveyed area shall be drawn in blue or such other colour as the Director may require as such, that grid line values shall be multiples of the metric intervals shown in the following table:

Provided that where section 13 (2) requires co-ordinates to be expressed in feet, the line values shall be multiples of the foot intervals in the table.

INTERVAL			
<i>Scale</i>			<i>Metres</i>
<i>Feet</i>			
1:	250 .....	25	100

1:	500 .....	50	200
1:	1,000 .....	100	500
1:	2,500 .....	250	1,000
1:	5,000 .....	500	2,000
1:	10,000 .....	1,000	5,000
1:	25,000 .....	2,500	10,000
1:	50,000 .....	5,000	20,000
1:	100,000 .....	10,000	50,000
1:	250,000 .....	25,000	100,000

(3) Every plan shall contain at least one complete grid square and no square shall have sides exceeding 20 cm. in length.

General rules for plotting.

**88.** (1) Every detail shown on a plan shall be distinct, and the camping of figures shall be avoided.

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

Abutting boundaries.

**89.** (1) All boundaries abutting on any property which has been surveyed shall be shown on the plan.

(2) Where the plot or plots adjoin a surveyed road or railway reserve, and when the scale of plotting permits, the boundaries abutting on to the opposite side of the reserve shall be shown.

Co-ordinates and numerical data.

**90.** (1) In every survey the co ordinates of block corners of regular shaped figures, of permanent control and numerical stations, and of all beacons of irregular-shaped figures shall be shown on the plan.

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

(3) In surveys of all properties the lengths and co-ordinates shall be shown to two decimal places of a metre



Topographical features. **93.** (1) All topographical features have been accurately fixed by survey, or have been sketched with reasonable precision, in accordance with section 70 shall be shown in their correct plotted positions of the plan.

(2) When roads have not been surveyed with the same accuracy as other features, they shall be marked “approximate only”.

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

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

(5) Where topographical information is taken from aerial photographs or other remotely sensed data, the source shall be quoted on the plan.

Erasures and corrections. **94.** (1) No erasures shall be made after a plan has been drawn in ink.

(2) Necessary corrections shall be made by scoring through the incorrect word, letter, or numeral, in ink, and every such correction shall be initialed by the surveyor.

Certificates. **95.** The certificate on every plan form shall be signed and dated by the surveyor who has made the survey.

Refusal to authenticate Director. **96.** The Director may refuse to authenticate any plan submitted by a licensed surveyor which, in his opinion, has been drawn carelessly and untidily, or is received by him in a dilapidated or damaged condition.

#### **PART VIII- DEED PLANS**

Deed plans to be **97.** (1) Deed plans shall be drawn in waterproof ink

drawn on special forms. on such forms as the Director may require, and shall be used by every surveyor.

(2) Surveyors shall pay to the Director the cost price of any forms supplied to them by the Director.

(3) Deed plans for initial grants of public land shall normally be prepared by the Director.

(4) Printed deed plans may be used in such circumstances as the Director may decide.

(5) Except where the contrary is expressly stated in the documents of the case issuing from the National Land Commission, deed plans for the purpose of surrender, regrant, change of user, or consolidation, may be prepared by a surveyor.

(6) Section 42(4), 85, 86, (3), 88(1), and 96 shall apply to deed plans.

(7) The director shall specify the quality of the deed plan material to be used.

General rules for deed plans **98.** All deed plans shall be drawn in accordance with the requirements of the Director.

Numerical data **99.** The Director shall specify the nature of the numerical data to be shown on the deed plan.

Topographical features. **100.** Topographical features and details of development, except as prescribed by section 42(4) and 87(3) shall not be shown on deed plans.

Abutting boundaries. **101.** Abutting boundaries shall be shown in the manner laid down in section 89.

Areas. **102.** (1) Areas shall be shown in the manner specified in section 90(4).

(2) When two or more properties are combined in one Certificate of Title, the total shall be given as in regulation 91(4) (a) and (b), and beneath such total each area must be

tabulated separately as follows—

L.R. No. ....area ..... ha.  
(approx.)

L.R. No. .... area ..... ha.  
(approx.)

L.R. No. .... area .. ..... ha.  
(approx.)

Total area ..... ha.  
(approx.)

(3) All the areas shall be quoted to the precision for the total area by regulation 82.

Erasures and corrections.

**103.** (1) No erasures shall be made on a deed plan.

(2) Corrections shall not exceed three in number on any one deed plan, and shall be effected by scoring through the incorrect letter, word, or numeral.

(3) Such corrections shall be initialed by or on behalf of the Director and not the surveyor.

Locality index number.

**104.** The general locality of any plot of land shall be given by reference to the nearest urban area or railway station and to the standard topographical sheet.

Name of surveyor.

**105.** Deed plans prepared by or on behalf of a surveyor shall have his name printed on the bottom left-hand corner of each copy.

Authentication

**106.** (1) Deed plans shall be prepared in duplicate.

(2) One copy shall be authenticated by bearing thereon the signature of the Director or of a person authorized by him, together with the date of signature. The other copy shall bear the printed name of the person who signed the

authenticated copy, together with the date of signature and the imprint of the official seal.

(3) The signed copy of every deed plan shall be deposited with the Director, and shall be the official copy, and the evidence contained in his official copy, read with the authenticated survey plan upon which it has been based, shall prevail in every case.

(4) The Director may at his discretion prepare and issue a duplicate copy of a deed plan that has been mislaid or lost. Such copy shall bear the signature of the Director or of a person authorized by him, together with the date of signature and the imprint of the official seal and the words "Certified True Copy".

Cancellation of deed plan

**107.** (1) In accordance with section 120, any deed plan which is withdrawn by the Director shall be cancelled by him, and evidence of the cancellation shall be the word "Cancelled" inscribed on the deposited copy supported by the signature of the Director, or of a person authorized by him.

(2) The duplicate and triplicate copies of a cancelled deed plan shall, whenever available, be withdrawn from the person in whose custody they are kept, and shall be destroyed.

### **Public Land Surveys**

Tidal reservationz. of river

**108.** On all tidal rivers a reservation of not less than 30 metres in width above high-water shall be made for public purposes in accordance with the national policy.

Defining swamp boundaries.

**109.** (1) Where an area fronts on a swamp, a give-and-take straight line boundary shall be adopted wherever possible.

(2) Indefinite median lines, which cannot be re-established by survey, shall be avoided.

(3) Swamps of an average width of 150 metres or more shall be excluded from farms, and a straight line boundary along the edge of the swamp shall be surveyed and beacons.

## **PART IX – THE PRESERVATION OF SURVEY MARKS**

Boundary marks to be shown on plan.      **110.** Every trigonometrical station, fundamental benchmark and boundary beacon erected or placed for the purpose of defining the boundaries of any holding or land shall be shown on the plan attached to, or referred to in, any document or instrument purporting to confer, declare, transfer, limit, extinguish or otherwise deal with or affect any right, title or interest, whether vested or contingent to, in or over such holding or land, being a document or instrument which is required to be registered, or is ineffectual until registered, under any written law for the time being in force relating to the registration of transactions in or of title to land.

Sites of trigonometrical stations and fundamental benchmarks.      **111.** Every trigonometrical station or fundamental benchmark shall be deemed, for the purposes of this Act, to comprise the land within twenty feet of the centre-mark of such station or within twenty feet of the centre of the pillar or of such fundamental benchmark, as the case may be, together with a right-of-way to and from the same.

Blasting of rock.      **112.** (1) No person shall carry out rock-blasting operations within the area of the land reserved for any fundamental benchmark.

(2) Any person who contravenes this section commits an offence and shall be liable to a fine not exceeding three thousand shillings or to imprisonment for a term not exceeding six months or to both.

Duty of grantee to      **113.** (1) It shall be the duty of every grantee to

ascertain survey ascertain, within sixty days after he has received his marks. marks. grant, that the survey marks shown on any plan attached to his grant or referred to therein are in place as shown on the plan.

(2) If a grantee notifies the Director in writing that he is unable to find the survey marks shown on the plan attached thereto and referred to therein, and deposits with the Director a sum which, in the estimation of the Director, is sufficient to cover the cost of the inquiry, the Director shall inquire into the matter.

(3) If as a result of any such inquiry the Director finds that the survey marks are not in place as shown on the plan, he shall cause survey marks to be erected or placed in accordance with the plan, and, in such case, the sum deposited shall be refunded to the grantee.

(4) If as a result of such inquiry the Director finds that the survey marks are in place as shown on the plan, the sum deposited, or such portion thereof as shall be sufficient to cover the cost of such inquiry, shall be forfeited and paid into the county revenue fund.

Responsibility for 114. (1) Every owner and occupier of land shall protection of take all reasonable measures to protect every survey survey marks. mark erected or placed on the land owned or occupied by him.

(2) The owner and occupier of land shall pay to the Director the cost of restoring any survey mark erected or placed on the land owned or occupied by him (including the cost of any survey made for that purpose) which has been removed, destroyed, displaced, defaced, mutilated, obliterated or broken, or the position of which has been altered, unless any other person has been convicted of an offence under section 113 in respect of that survey mark; and such cost shall be a civil debt recoverable

summarily.

(3) Where a survey mark is common to the land of two or more owners and occupiers, the cost of restoring any such survey mark, as provided by subsection (2), shall be divided equally between them.

Penalty for tampering with survey marks.

**115.** Any person, not being duly authorized so to do, who takes away, is found in possession of, removes, destroys or displaces, or alters the position of, any survey mark, or willfully defaces, mutilates, obliterates or breaks any survey mark, commits an offence and shall be liable-

(a) if such act was done with intent to defraud, to imprisonment for a term not exceeding three years; or

(b) in any other case, to a fine not exceeding three thousand shillings or to imprisonment for a term not exceeding six months or to both such fine and such imprisonment,

and, in addition to or instead of any such penalty, the court convicting a person of any such offence may order that person to pay to the Director the cost of restoring such survey mark (including the cost of any survey made for that purpose).

## **PART X – SURVEY PLANS AND RECORDS**

Deposit of survey plans and records.

**116.** (1) Every surveyor who executes any survey in accordance with the provisions of this Act shall submit to the Director all plans, field notes and computations relating thereto.

(2) The plans, field notes and computations submitted

under sub section (1) shall be deposited in the Directorate and shall become the property of the government.

(3) No plan deposited in the Directorate under this section shall be altered or amended in any way without the permission of the Director.

Inspection of survey works. **117.** The Director, or a county government surveyor authorized in writing by the Director in that behalf, may at any time undertake such field and office checks on the survey work of a licensed surveyor as he thinks fit.

Correction of errors. **118.** (1) The Director, or a county government surveyor duly authorized to authenticate a plan under section 119 of this Act may, by notice in writing, instruct any surveyor to correct at his own expense within a time specified in such notice any error made by him in the survey represented by the plan submitted for authentication:

Provided that such notice shall not be sent more than twelve months after the date on which the plan was sent to the Director under section 119.

(2) In the event of such surveyor refusing or neglecting within the time specified to correct such error, it shall be lawful for the Director to undertake such correction and to recover the whole cost of such correction from the surveyor concerned.

Cap 299. (3) If such surveyor refuses or neglects to pay the cost of the correction referred to in subsection (2) within fourteen days of the same having been demanded of him, the Director may report the facts to the Board for disciplinary action in accordance with the Surveyors Act.

Authentication of plans. **119.** No land shall be deemed to have been surveyed or resurveyed until the plan thereof has been authenticated by the signature of the Director or of a

Government surveyor authorized in writing by the Director in that behalf, or by the affixing of the seal of the Survey of Kenya.

Cancellation of authentication plan. of **120.** (1) Where, before a document or instrument to which an authenticated plan is attached, or in which reference to such a plan is made, is registered-

- (a) the plan is found to be inaccurate by reason of any error or omission in the survey; or
- (b) the plan does not conform with the terms and conditions subject to which permission to subdivide the land to which the plan relates has been given,

the Director may cancel the authentication of such plan and may recall any copies which may have been issued, and in every case the provisions of section 30 shall apply.

(2) The Director shall forthwith upon the cancellation of the authentication of any plan notify in writing -

- (a) the registered owner of the land to which such plan relates or, in the case of Government land, the National Land Commission; and
- (b) the surveyor by whom the survey was executed; and
- (c) the registrar.

No. 3 of 2012. (3) For the purposes of this section, “the registrar” means –

- (a) the registrar appointed under the Land Registration Act; or
- (b) in the case of any document registered under the Registration of Documents Act,

Cap 285.

the Principal Registrar of Documents.

Sufficiency of authenticated plans. **121.** Where the provisions of any written law require that for the purposes of any written law a notice shall be published in the *Gazette* or otherwise-

- (a) specifying the boundaries of any land or area; or
- (b) the situation and extent of any land or area; or
- (c) particulars necessary to identify any land or area, or defining or designating the boundaries or limits of any land or area, it shall be sufficient if such land or area is described by reference in such notice to a plan of such land or area authenticated, identified and deposited in the Directorate in accordance with the provisions of section 123.

Distribution of photographic or lithographic copies of plan authenticated. **122.** The authority giving a notice which refers to a plan authenticated, identified and deposited in the Directorate may direct that so many photographically produced (or, if a larger number are required, lithographically produced) copies of such plan as he may require shall be made and distributed to the Governor, sub-county administrator of the sub-county in which the land or area to which such plan refers is situated, to the National Land Commission and to such other public officer or officers as he shall specify.

Provisions regarding authenticated plans. **123.** (1) A plan shall be deemed to be authenticated and identified for the purposes of sections 121 and 122 if—

- (a) it is authenticated, by the signature of the Director or of a surveyor authorized in writing by the Director in that behalf and by the signature of the authority by whom the notice is given, to be the land or area to

which the notice refers; and

- (b) it is identified by a reference number (2)  
Every such authenticated and identified plan shall be deposited in the Directorate.

(2) Every such authenticated and identified plan shall be deposited in the Directorate.

Proof of plans.

**124.** All plans authenticated under this Act, purporting to be signed by the Director, or by a surveyor authorized by the Director in that behalf, or to be sealed with the seal of the Survey of Kenya, shall be presumed, until the contrary is proved, to have been signed by the Director or by a surveyor authorised as aforesaid, to have been sealed with the seal of the Survey of Kenya, as the case may be.

Inspection of plans.

**125.** Any person may, at such times as may be notified by the Director, inspect any boundary plan, referred to in any notice in the *Gazette*, which is in the possession of the Directorate.

Unqualified persons forbidden to survey.

**126.** (1) No person, other than a surveyor, shall -

- (a) survey any holding or land for the purpose of preparing any plan which is attached to, or is referred to in, any document or instrument purporting to confer, declare, transfer, limit, extinguish or otherwise deal with or affect any right, title or interest, whether vested or contingent to, in or over any holding or land, being a document or instrument which is required to be registered, or is ineffectual until registered, under any written law for the time being in force relating to the registration of transactions in or of title to land; or

(b) perform any survey which affects or may affect the delimitation of the boundaries, or the location of survey marks, of any holding or land registered or to be registered under any written law for the time being in force relating to the registration of land or of title to land.

(2) Any person who contravenes any of the provisions of subsection commits an offence and shall be liable to a fine not exceeding three thousand shillings or to imprisonment for a term not exceeding six months or to both.

Obstructing Surveyor.                    a            **127.** Any person who wilfully obstructs or hinders any surveyor, or any assistant or servant of such surveyor, in the performance of any duty or the exercise of any power under this Act commits an offence and shall be liable to a fine not exceeding one thousand shillings or to imprisonment for a term not exceeding two months or to both.

Public access to maps and plans.                    **128.** (1) Swamps of an average width of 150 metres or more shall be excluded from farms, and a straight line boundary along the edge of the swamp shall be surveyed and beacons.

(2) A search fee of one hundred shillings per plan shall be paid in advance by any person who is not a licensed surveyor or not on government duty, for access to any unpublished plan.

County government copyright.                    **129.** (1) The county government copyright of all maps published by the Director and of all plans deposited with the Directorate under this Act is vested in the Director.

(2) No person shall publish or cause to be published a copy of any map or plan of which the copyright is vested

in the Director without payment of such royalty as the Director may determine in each case.

## **PART XI GENERAL PROVISIONS**

- Regulations.                   **130.** (1) The executive member may make Regulations generally for the better carrying out of the objects of this Act.
- (2) Without prejudice to the generality of subsection (1), the Regulations may-
- (a) prescribe the fees and charges payable under this Act; and
  - (b) prescribe the forms applicable under this Act.
- Savings.  
Cap 299                       **131.** (1) All surveys undertaken and registered under the Survey Act prior to the commencement of this Act, shall be deemed to have been conducted under this Act.
- (2) Any matter or proceeding commenced under the Survey Act and pending or in progress immediately before the commencement of this Act, may be continued, completed and enforced under this Act.
- Transition.                   **132.** A person who prior to the commencement of this Act was a holder of an allotment letter as proof of ownership of any land or holding shall, where the land was not surveyed, apply for survey within nine months after the commencement of this Act.

## **MEMORANDUM OF OBJECTS AND REASON**

Firstly, this Bill aims at providing for a regulatory framework for surveying and mapping in the county. The Bill is in line with the national policy for surveying as provided for under the Survey Act.

Secondly, this Bill seeks to implement section 8 or Part 2 of the Fourth Schedule to the Constitution, which assigns the county government the function of surveying and mapping.

**PART I** of the Bill provides for preliminary provisions. It provides for the purpose of the Act, which includes promoting efficiency, accountability and transparency land survey process, promoting integration of land survey with land registration, promoting organized administration of land survey and mapping among and ensuring proper land survey and governance.

**PART II** of the Bill provides for the administration. It provides for the establishment of the Directorate of Surveys which is responsible for coordinating and regulating land survey in the county, conducting land survey and maintaining data, maps, and survey related documents and information among others. It also provides for the appointment of a director who is empowered to supervise and direct surveying in the county.

**PART III** of the Bill provides for the conduct of surveys. It provides for the duties of surveyors, standards of conducting surveys, maintenance of measuring instruments, presentation of surveys, the management of beacons and boundaries and the powers of surveyors among others.

**PART IV** of the Bill provides for management of survey maps, boundary beacons and boundaries which relates to placement of survey marks and beacons and the manner of handling missing beacons.

**PART V** of the Bill provides for surveys performed by triangulation, trilateration, traverse and air survey. It provides geodetic and secondary triangulation, tertiary and minor triangulation, instruments used for triangulation and trilateration and measurements of traverses and air surveys.

**PART VI** of the Bill provides for field notes, which relates to recording of triangulation and traverse observations as well as method of entering field notes.

**PART VII** of the Bill provides for computations which deals with method of entering computations, method of computing areas, presentation of computation, plotting of curvilinear boundaries and co-ordinates, handling of data and use of scales.

**PART VIII** of the Bill provides for deed plans which includes the general rules of deed plans, numerical data, abutting of boundaries, erasures and corrections, authentication and public land surveys.

**PART IX** of the Bill provides for the preservation of survey marks which includes showing of boundary maps on the plan, blasting of rocks and the responsibility of preserving survey maps.

**PART X** of the Bill provides for survey plans and records which deals with deposit of survey plans and records, inspection of survey works, authentication of survey maps and provisions related to authentication of plans and access and inspection of plans.

**PART XI** of Bill provides for general provisions which includes the power of the Executive Member to make Regulations and the savings and transition provisions.

Dated the 9<sup>th</sup> May 2015.

XXXXXXX

Chairman, XXXXXX Committee.