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REGULATIONS

FOR

ENGINEER SERVICES—PEACE.

1910.

PART I.

SCHOOL OF MILITARY
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These regulations are issued by command of the Army Council for the guidance of all concerned. They are to be read reasonably and intelligently and with due regard to the public service.

No attempt has been made to legislate for matters of common sense, for exceptional cases, or for special circumstances, which are to be dealt with on their merits as they arise.

Except where uniformity of practice is necessary, details are left to be settled by those immediately concerned.

E. W. D. Ward

War Office,

1st June, 1910.

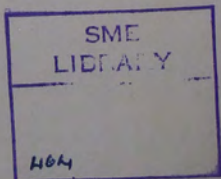


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LIST OF ABBREVIATIONS USED THROUGHOUT.

A.B.	Army Book.
A.F.	Army Form.
A.O.	Army Order <i>or</i> Army Ordnance.
A.O.B.A.E.	Army Ordnance Buildings Annual Estimate.
A.O.D.	Army Ordnance Department.
App.	Appendix.
A.S.C.	Army Service Corps.
B.A.E.	Barrack Annual Estimate.
C.E.	Chief Engineer.
C.O.	Commanding Officer.
C.O.O.	Chief Ordnance Officer.
C.P.	Command Paymaster.
C.R.A.	Officer Commanding Royal Artillery.
C.R.E.	Commanding Royal Engineer.
D.F.W.	Director of Fortifications and Works.
D.O.	Division Officer.
F.A.E.	Fortification Annual Estimate.
F.W.	Foreman of Works.
G.O.C.	General Officer Commanding.
G.O. i/c Adm.	General Officer in charge of Administration.
i/c	In charge of.
I.W.	Inspector of Works.
K.R.	King's Regulations.
L.A.	Local Auditor.
M.F.W.	Military Foreman of Works.
M.O.	Medical Officer.
N.C.O.	Non-Commissioned Officer.
O.C.	Officer Commanding.
O. i/c	Officer in charge of.
Para.	Paragraph.
P.M.O.	Principal Medical Officer.
P.W.	Royal Warrant for Pay and Promotion.
R.A.	Royal Artillery.
R.A.M.C.	Royal Army Medical Corps.
R.E.	Royal Engineers.
R.E.S.	Regulations for Engineer Services.
S.I.W.	Superintending Inspector of Works.
S.R.E.S.	Staff for Royal Engineer Services.
S. of S.	Secretary of State for War.
T.C.	Triennial Contract <i>or</i> Contractor.
T.F.	Territorial Force.
Vocab.	Vocabulary.
W.D.	War Department.
W.O.	War Office.

REGULATIONS

FOR

ENGINEER SERVICES—PEACE.

PART I.

SECTION I.—GENERAL PRINCIPLES.

1. This section contains a brief summary of the general system of conducting engineer services. No attempt is made in it to mention all the exceptions and special cases which occur. Its aim is to shew the object, intention, and spirit of the detailed instructions given hereafter and thereby to assist officers in interpreting those instructions and in applying them to special cases.

2. The system on which all Government services are administered is based on the principle that Parliament directs what is to be done and provides the necessary funds.

The ultimate aim of the detailed instructions in these Regulations is to ensure that the orders of Parliament are carried out and that the money provided is used economically and solely in furthering the objects aimed at.

3. The total sum sanctioned by Parliament to be expended on Army Services is voted in various Estimates and under various votes and sub-heads in each Estimate. The Comptroller and Auditor General is responsible to the Public Accounts Committee of the House of Commons that no public money is spent on anything but the particular service for which Parliament has authorized it. The accounts therefore for all expenditure must be kept in such a way as to shew to what particular part, sub-head, vote, and estimate, previously sanctioned by Parliament, any expenditure is chargeable. An excess on one sub-head can in no case be set off by a saving on another without sanction from the W.O. No local transfer of funds between the sub-heads in the parliamentary estimates is ever permissible. Detailed instructions are contained in Section XIII, Control of Expenditure. The maximum strength of each class of the personnel authorized by Parliament for Army services is given in the Army Estimates, and no increase in the fixed establishments can be made. Further instructions are contained in Section III, Personnel.

4. The expenditure sanctioned by Parliament each year is intended to carry on the services for which the money is voted for one year only, viz. from the 1st April of one year to the 31st of March of the next. Any money remaining unexpended on March 31st is by law diverted to other uses.

5. In the conduct of engineer services various sums become payable to the public, such as the proceeds of the sale of produce and old materials, rent of W.D. lands, and sums recovered from the occupants of barracks on account of wilful damages. The sums expected to be received from such sources are shewn in the parliamentary estimates at the end of each Vote as "Appropriations in Aid" and deducted from the total of the Vote, leaving a net sum to be provided by the public. Such sums therefore on receipt must be paid in to the Treasury to make up the total necessary to carry out all the various services authorized. In no case are they available for expenditure locally.

6. The cost of engineer services generally is defrayed out of the funds provided in Vote 10, Works and Buildings, of the Army Estimates. It is the duty of the personnel to ensure that the money entrusted to them is not expended (i) on services provided for in other votes of the Army Estimates, (ii) on services provided for in the estimates of other public departments, (iii) on services not chargeable to the public at all.

7. The services chargeable to Vote 10 are given generally in Section VI, Estimates. The following are general rules. (*See also* para. 35.)

The supply of fixtures is an engineer service but the supply of furniture and movable fittings is not; the latter articles are chargeable to the votes for Stores.

The repair of stores not supplied as an engineer service is not an engineer service.

Routine services in and about occupied barracks not requiring skilled labour are not engineer services but a duty of the troops.

For convenience of reference a table is given on page 93 shewing all the miscellaneous services mentioned in these Regulations as being either not engineer services at all, or only to a limited extent, and under the circumstances named in the paragraphs quoted.

8. Particular Army works estimated to cost £2,000 or more are of sufficient importance to be laid before Parliament individually for sanction or otherwise. Smaller services are too numerous to be enumerated by name. They are classed under the sub-heads and parts referred to in Section VI, Estimates, and Parliament is asked to provide a lump sum for each class.

9. Such lump sums when sanctioned are divided up at the W.O. among Commands. The sums allotted to each Command are divided up by the G.O. i/c Adm. among the engineer Districts of the Command. In the case of capital expenditure every important service to be executed is specified individually by the G.O. i/c Adm. In the case of maintenance expenditure, services estimated to cost £500 or more are specified by the C.E., but services estimated to cost

under £500 are not named; a lump sum is allotted to each District and its expenditure on such services is at the discretion of the C.R.E. The C.R.E. names the maintenance services costing £50 or more which are to be carried out in the District, and allots lump sums to Divisions to be expended on maintenance services costing less than £50 each at the discretion of the D.Os.

10. Unless special provision has been made in the estimates, an allotment greater than that of the previous year can only be made to a Division by a reduction of the amounts allotted by the C.R.E. of the District to the other Divisions of the District, and similarly an increase in the amount allotted by Command Headquarters to a District can only be made at the expense of other Districts of the Command.

11. When an allotment of funds is made in a lump sum for several services, the officer to whom the sum is allotted is responsible for its subdivision. In subdividing it he must bear in mind that any part of it unexpended on the 31st of March of any year ceases to be available until revoked by Parliament, with the result that the saving is devoted to other than Army purposes, and the cost of the Army shewn in the Estimates appears greater than it really is. On the other hand it is rarely wise to sub-divide the whole of the lump sum allotment early in the financial year, as in that case no funds are left available for unforeseen services which become urgent later on in the year.

12. In the execution of a number of services in Commands, Districts, and Divisions, savings on the estimated costs are likely to be made in some cases, while in other cases it may be difficult to avoid excesses. The rules to be observed in the transfer of such savings to meet excesses, and as to local allotments generally, are given in Section XIII, Control of Expenditure.

13. The maintenance of existing works and buildings is the business of the D.O., whose duty it is to bring to the notice of the C.R.E. all necessary services which he is unable to undertake with the funds placed at his disposal by the C.R.E.

14. The principles on which the new engineer services to be executed are selected are as follows:—

- (i) When the C.O. of a unit or the head of a department desires the execution of some new work, the proposal is forwarded through the specified channel to the C.R.E.
- (ii) When the C.R.E. receives a proposal for new works he either
 - (a) carries it out, charging the cost against the funds allotted to him for expenditure in his District, or
 - (b) if estimated to cost under £100, notes it in the Estimates Book, for consideration when the next Annual Estimates for the Command are being prepared, or
 - (c) refers it to the C.E.
- (iii) When the C.E. receives a proposal he lays it before the G.O. i/c Adm., who either

(a) orders it to be carried out, the cost to be charged against the funds allotted to him for expenditure in the command, or

(b) orders it to be noted in the Estimates Book (kept by the C.R.E.) for consideration when the next Annual Estimates for the Command are being prepared, or

(c) refers it to the W.O., or

(d) disapproves of the service.

- (iv) When the Annual Estimates are being compiled, the C.R.E., after consultation with C.Os. and heads of departments, selects from among the services entered in the Estimates Books a limited number of the more important services for consideration by the G.O. i/c Adm. This officer after considering the requirements of the Command as a whole submits his proposals to the W.O.

15. After the Annual Estimates are sanctioned the G.O. i/c Adm. receives a notification from the W.O. of the larger services to be undertaken and a lump sum allotment which he is at liberty to allocate at his discretion among the smaller services. He will usually, but not necessarily, select these smaller services from among the services already entered in the Estimates Books of the Districts. He may allot a small lump sum to each District, and will usually retain temporarily at his own disposal part of the sum allotted to the Command, in view of the likelihood of urgent services cropping up during the course of the financial year. The C.R.E. acts similarly with regard to the allocation of his lump allotment among Divisions.

16. The principle on which repairs, renewals, and maintenance services are dealt with is similar, except that proposals are forwarded to the D.O. instead of to the C.R.E. Detailed instructions on this subject are given in Section IX, Repairs. As the maintenance of existing buildings is the business of the Engineers, the D.O. must keep a record of any such services which he considers necessary but cannot at once execute, whether asked for by anyone or not.

17. The actual conduct of engineer services divides itself into three heads.

1. Maintaining existing works and buildings.
2. The execution of such new works, alterations, and improvements as may be sanctioned.
3. The current working of various services, such as Army telegraphs, pumping stations, etc.

18. The efficient performance of all work under these three heads is ensured by Inspection. It is the duty of all officers to ascertain by personal inspection that the system laid down in these Regulations is understood and carried out by those under them. Certificates in writing from subordinates that some duty has been performed are of little value; the proper performance of the duty should be ensured by occasional personal inspection by the superior. Certain rules as to inspections are laid down in Section IV, Inspections.

19. To secure the most economical execution of the various works which have to be performed they will usually be carried out by contract based upon competition among the persons or firms willing to tender for the work.

20. To obviate the necessity of making a separate contract for every petty repair and new service, a system of contracts exists in most engineer Districts for the execution of such work by measurement at fixed prices laid down in the contracts. In such Districts the C.R.E. keeps a "Schedule of Prices for Works and Repairs to W.D. Buildings," and a contract is made every three years, under which a contractor selected by competition undertakes to do all the work given to him, either at the rates named in the Schedule or at a fixed percentage above or below those rates. These contracts are known as Triennial Contracts. Detailed instructions are given in Sections VII, Contracts, and IX, Repairs.

At stations where such contracts are not made, work is carried out as laid down in Sect. VIII, Execution of Works.

21. Stores and materials for use in the conduct of engineer services are obtained—

- (1.) From the A.O.D.
- (2.) Under general contracts made at the W.O.
- (3.) Under special contracts made locally or at the W.O.
- (4.) Under the local Triennial Contract.

22. Stores used by the Army generally are obtained wholesale by the A.O.D. and issued to the departments using them.

All such articles are shewn in the "Priced Vocabulary of Stores," and no article named therein may be obtained elsewhere, unless purchased from the T.C. (*see* para. 24), or included in a lump sum or measurement contract (*see* para. 329 (a) and 341). Such articles are chargeable to the votes for Stores, and cannot therefore be purchased out of funds provided in Vote 10. (*See* para. 544.)

23. General contracts are made at the W.O. for the supply of numerous materials and articles largely used on engineer services, such as Portland cement, slates, glass, etc. By the terms of these contracts the W.D. binds itself to obtain the whole of the articles required by the W.D. and enumerated in these contracts, from the holders of the contracts, subject, however, to the right of submitting to competition any supply of the articles the value of which exceeds £300, and, in the case of articles also included in the T.C. Schedule, to the right of obtaining any supply of the articles from the T.C. Some of the articles covered by these contracts are of a specified pattern, and in such cases the right is retained to use, if necessary, other patterns.

24. Prices for various building materials and for many other articles such as screws, red lead, &c. are shewn in the T.C. Schedules. The main object of this is to show the price at which the T.C. is to be paid when in the course of his work he supplies and fixes such articles; if the T.C. is ordered to fix an article for the supply of which provision is made in his contract he can claim the right to supply such article as well as fix it. (*See* para. 324.)

Articles included in the Schedule and required for the use of, or for fixing by, soldiers or W.D. workmen may be obtained from the T.C. except such of them as are supplied by the A.O.D. (*see* para. 22) or are also included in the general contracts made at the W.O. (*see* para. 23).

If they are obtained from the T.C. he must (unless he consents to supply a part only) be given the order for the whole of the articles required, provided that they are shown in the Schedule and that their total value does not exceed the limit of £400.

25. Owing to the very great variety of articles required for engineer services there are many which are not obtainable in any of the three ways mentioned in paras. 22-24. These are obtained by special contracts. Such special contracts must be made in accordance with the general system of competition to ensure the article required being obtained at the lowest possible rate. Patent or proprietary articles and articles of registered design, in the supply of which there is no competition, should be avoided. Rules for the making of such special contracts are given in Section VII, Contracts.

26. Proposals are constantly being made to improve the accommodation and fittings provided by the W.D. for the housing and general convenience of the troops. To secure everywhere a uniform standard tables have been drawn up shewing (1) the accommodation, *i.e.* the buildings and the rooms in those buildings and the accessories, to be provided for different units, (2) the fittings to be supplied by the Engineers in those various rooms and accessories. This information is contained in the "Barrack Synopsis" (issued to officers employed on engineer services only).

27. New buildings should therefore be designed in accordance with the Synopsis and each room of a new building provided with the authorized fittings. When buildings are altered or adapted to fresh purposes the scales laid down in the Synopsis for the purpose to which the building is being adapted, should be followed. Money should rarely be spent on providing accommodation or fittings not authorized by Synopsis.

28. Particulars as to the general style of building to be erected and as to the convenient planning of such buildings are contained in the "Handbook of Design and Construction of Military Buildings," and the "Standard Plans" issued by the D.F.W.

29. Every existing building in barracks is appropriated to some particular purpose recorded in the Accommodation Record (A.F. K 1251) kept by the A.S.C. This "appropriation" is the authority for the fixtures supplied by the Engineers to that building in accordance with the Synopsis. The actual use to which the troops put the buildings is an A.S.C. matter, not an engineer question; but it may be desirable to bring any misuse to notice with a view to the building being reappropriated to some other use (K.R. para. 1030). Until however its reappropriation has been sanctioned no alteration in the fittings can be made by the Engineers or by the occupants (K.R. para. 999).

30. It is obviously undesirable that the accommodation in any barrack should be permanently reduced without due consideration,

even though at some particular time it may be more than sufficient. Reappropriation proposals affecting quarters therefore require reference to the W.O. (K.R. para. 1031) and in all cases the estimated cost of the proposal must include taking down the existing fittings which will no longer be authorized, and fixing the fittings to which the building will be entitled if the reappropriation is sanctioned.

31. The various fittings and fixtures provided by the Engineers in each room are recorded on "inventories," one being kept by the unit in whose custody the room is (K.R. para. 998) and a duplicate in the engineer office.

32. Every building and room is in the custody of some unit which is responsible for its care and for the engineer fixtures in it. In case of wilful misuse or damage the cost of repairs is chargeable to that unit. To say whether an injury is or is not wilful is the duty of the D.O. If a unit disputes his decision the O.C. has the right of appeal to the G.O. i/c Adm. But no one but the G.O. i/c Adm. can relieve the unit of payment. The O.C. the station may assemble a Board to collect evidence, and the Board may report that the injury does not appear to be fairly chargeable against the troops and may recommend that the cost of repairs be charged to the public, but such a Board cannot decide that the public is to pay for the repair. To do so would be to assume a local financial authority which only the G.O. i/c Adm. possesses. The latter may base his decision on the evidence collected by the Board, but the finding of a Board alone does not authorize a D.O. to expend public money on a repair which the D.O. himself considers is not so chargeable.

33. In case of dispute as to who should pay for an acknowledged damage the decision is a matter of discipline and does not rest with the D.O. He should ask the local Commander to decide which unit is responsible and should charge that unit. Which particular individual of that unit is responsible is a purely regimental matter, which does not concern either the D.O. or the local Commander.

34. The general distinction between the duties of the A.S.C. and of the Engineers is on the following lines.

The Engineers deal with the construction of buildings. They do not deal direct with the troops, but only through the A.S.C. The A.S.C. deal with the occupation of buildings and receive them from, and hand them over to, the troops. When a new building is erected the Engineers hand it over on completion to the A.S.C.; its allotment to some unit is an A.S.C. duty (*see also* paras. 188 and 207). When a building is required by the Engineers for alteration or repairs application for it is made to the A.S.C., whose business it is to cause it to be vacated and handed over to engineer charge and to find other accommodation for the occupants dispossessed. This general principle does not prevent direct dealings between the Engineers and the troops in minor matters when no question of shortage of accommodation or custody of the equipment of barracks is concerned. (*See* paras. 383-4.)

35. The broad dividing line between articles of engineer supply, (fixtures), and of A.S.C. supply (furniture), has already been given in para. 7.

In the case of light and water supply services the Engineers provide the fixtures by which the troops obtain their light and water but the A.S.C. are responsible for their use and for seeing that the supplies are not wasted. Thus the Engineers are responsible that the gas pipes or electric light leads in each barrack room will supply the light to which the troops are entitled by Synopsis, but the A.S.C. are responsible for the size of the burners or lamps and the times at which the gas is turned on and off at the stopcocks to buildings; the Engineers are responsible for the number and convenience of the fire hydrants protecting a building, the A.S.C. that the occupants take precautions to prevent the hydrants freezing. (For detailed instructions see Section XI, Illuminants, Water, &c.)

36. In addition to the instructions contained hereinafter further general instructions bearing on the conduct of engineer services are contained in other books of Regulations.

The *King's Regulations* contain instructions affecting engineer services which require to be known to all branches of the Army, such as on inventories, working parties, reappropriations, sites for new buildings, &c. They also contain orders which apply to the Engineers equally with other branches of the Army, such as on Army organization generally, delegation of financial authority, the loss of stores, correspondence, &c.

The *Royal Warrant for Pay and Promotion* contains instructions as to the appointment and pay of the personnel employed on engineer services, official holidays and leave, working pay, &c.

The *R.E. Corps Memoranda* contain instructions as to various classes of the subordinate military personnel.

The *Regulations for Civilian Subordinates in Army Departments* contain detailed instructions as to the employment of civilian clerks, artificers, and other subordinates.

The *Regulation for Supply, Transport, and Barrack Services* contain instructions as to gas and water services, the opening of tenders, &c.

The *Regulations for Army Ordnance Services* contain instructions as to the supply of the stores provided for under the vote for Stores and enumerated in the *Priced Vocabulary of Stores*.

The *Financial Instructions* contain instructions as to cash and other payments.

The *Allowance Regulations* contain instructions as to fuel and light for engineer services, the conveyance of stores, postage, telegrams and parcels, stationery and Army books, &c.

Other instructions affecting engineer services are contained in the *Regulations for the Army Medical Service*, *Army School Regulations*, *Regulations for Magazines and Care of War Matériel*, and others.

37. Detailed instructions and information affecting particular engineer services are contained in the following books and pamphlets published by authority:—

The *Barrack Synopsis*.

The *Handbook of Design and Construction of Military Buildings*.

The *Drainage Manual*.

The *Water Supply Manual*.

The *Synopsis of Cost and Construction of W.D. Buildings*.

The *Instructions for the Provision and Maintenance of Electrical Communications in Fortresses, Garrisons, and on Ranges*.

The *Instructions in the Care of Barracks*.

The *Musketry Regulations, Part 2*.

38. Various series of circulars on engineer services are issued from the W.O.

D.F.W. Circulars deal with a great variety of technical matters of detail of permanent importance connected with engineer services.

D.F.W. Contract Circulars notify contracts which have been made at the W.O. for general building stores and materials.

D.F.W. Circular Memoranda deal with a variety of matters of temporary importance which do not require to be embodied in the permanent circulars.

39. The circulars are illustrated by three *W.O. Pattern Books*.

No. 1 contains drawings of articles obtainable under D.F.W. Contracts of which the pattern varies somewhat according to the particular contract in force at the time, *e.g.* grates, iron fencing, etc.

No. 2 contains drawings of articles of permanent pattern used as fittings in barracks, *e.g.* cupboards, shelves, &c.

No. 3 contains drawings of articles used in fortifications, *e.g.* magazine fittings, etc.

SECTION II.—ORGANIZATION, DUTIES, AND POWERS.

1.—ORGANIZATION.

40. Engineer services in peace comprise such Army services as are dealt with by the D.F.W. under the orders of the M.G.O. and also the charge of W.D. estate. See App. IV, K.R.

41. Engineer services are carried on by a personnel consisting of:—

- (a) Officers of the R.E.
- (b) Officers of the S.R.E.S.
- (c) Warrant officers and N.C.Os. of the R.E.
- (d) Civilian employees.

Duties involving military considerations will be entrusted to R.E. officers: officers of the S.R.E.S. will be employed on duties of a partially civilian character.

42. To each Command at home and to certain stations abroad is appointed an officer of the R.E. as C.E. of the Command.

To each engineer District of a Command is appointed an officer of the R.E. as C.R.E. of the District.

As all branches of military engineering and the command of R.E. units are dealt with in the office of a C.R.E., arrangements are to be made for R.E. officers to take charge of such offices during the absence of the C.R.E.

Districts are divided into areas, each area being in the immediate charge of an officer of the R.E. or of the S.R.E.S. called the "D.O.....Division."

43. Other officers employed on engineer services are detailed for special duties, viz.:—Staff Officers to C.Es, Superintending Inspectors of Works, Officers for Machinery duties, Quartermasters for the charge of Stores, Division Officers for charge of W.D. Lands, Electric Light Duties, Telegraphs, and others.

44. The military and civilian establishment consists of Military Mechanists, Military and Civilian Foremen of Works, Clerks, Draughtsmen, Ledger Keepers, Storemen, and others.

2.—DUTIES OF THE PERSONNEL. GENERAL.

45. In addition to the particular duties hereinafter laid down every officer is to make himself acquainted with civil building and engineering operations, proposed or in progress, in the area to which he is appointed, and to consider their effect upon W.D. interests.

46. Officers and subordinates when taking up the duties of any position are to ascertain that the accounts have been kept by their predecessors in the prescribed manner and are to verify the balances handed over to them. The outgoing official is responsible for all transactions prior to the handing over, and the incoming official for the balances and all subsequent transactions until he is himself relieved. Should the incoming official fail to verify the balances or

to report to superior authority cases in which the accounts have not been kept in the prescribed manner, he renders himself liable to be called upon to account for errors of a date prior to his taking over.

47. The officer directly and personally responsible for a design and its engineering details, and for the estimate of its cost, is the officer hereinafter authorized to approve of that design or estimate. Such officer is to sign and date the plans and estimate.

Designs for new or alterations to existing rifle ranges are to be dealt with as laid down in the Musketry Regulations, Part 2.

48. No person employed by the W.D. is to take W.D. property when let by public competition, or to tender for or bid at auctions of W.D. property.

49. No person employed by the W.D. is permitted to do any work whether clerical or other, and whether for recompense or not, for any W.D. contractor, other than as stated in para. 661.

50. No testimonial or document admitting of being used as such is to be furnished to any contractor or to his agent.

3.—DIVISION OFFICERS.

51. A D.O. is responsible for every engineer duty in his Division, viz.:—

1. Maintaining in proper repair and working order all existing W.D. lands, buildings, works, and machinery in engineer charge.
 2. Bringing forward for consideration in the Estimates new works, alterations, and improvements required to keep his Division abreast of engineer requirements.
 3. The design (if not done by higher authority), execution, measurement, and billing of all building and engineering works.
 4. The carrying on of his work in accordance with all regulations and instructions for the conduct of engineer services.
 5. The matters specified in detail in Table A, page 22, as the duty of a D.O.
52. 1. He will be allotted a proportion of the personnel at the disposal of the C.R.E. and is responsible for its employment to the best advantage.
2. He will be allotted a proportion of the funds at the disposal of the C.R.E. and is responsible for its proper expenditure.
3. He will be allotted funds for the execution of particular services and is responsible for their proper expenditure.

53. A D.O. is empowered to approve of:—

1. Designs, engineering details, and estimates of schemes estimated to cost less than £50.
2. Expenditure within the sum allotted to him on individual items for maintenance services of which the detailed cost is less than £50.

3. Expenditure within the sum allotted to him on trifling alterations and improvements of the nature of capital expenditure of which the cost is less than £10.

4.—COMMANDING ROYAL ENGINEERS.

54. A C.R.E. is responsible primarily that the D.Os. and Os. i/c stores under him perform their duties. In addition, in connection with engineer services he has certain normal duties of his own, viz.:—

1. The selection of the larger maintenance services to be executed in his District.
2. Settling the conditions of contracts for works.
3. The upkeep of record plans.
4. The duties of a C.E. in a Command where there is no C.E.
5. The matters specified in detail in Table B, page 23, as the duty of a C.R.E.

55. 1. He will be allotted a proportion of the personnel at the disposal of the C.E. and is responsible for its distribution in his District.

2. He will be allotted a proportion of the funds at the disposal of the C.E. and is responsible for its allotment to Divisions.

3. He will be allotted funds for the execution of particular services and will arrange for their execution by the D.Os.

4. He is responsible that every article received for engineer services is taken on charge and dealt with in accordance with the regulations as to stores and store accounts.

56. A C.R.E. is empowered to approve of:—

1. Designs, engineering details, and estimates of services of which the estimated cost is less than £500.
2. Any expenditure within the sum allotted to him for maintenance.
3. Expenditure within the sum allotted to him on items of the nature of capital expenditure of which the individual cost is less than £50.
4. The matters delegated to him by App. V. K.R.
5. The transfer of subordinates between Divisions in his District. (*See also* paras. 106, 111, and 112.)

5.—CHIEF ENGINEERS.

57. A C.E. of a Command is primarily responsible that the C.R.Es. under him perform their duties. In addition, in connection with engineer services he has certain normal duties of his own, viz.:—

1. He supervises and controls all engineer services in the Command and affords such assistance in the training of troops in field engineering as commanders may require. K.R. para. 194.

2. He considers the engineering side of all defence questions, including any amendments required in the reserves of engineering war material ordered to be maintained.
3. He keeps the command correspondence on engineer services.

58. He is responsible :—

1. For the employment of Fortress units of R.E. to the best advantage.
2. For the distribution of the personnel among the Districts of the Command.
3. For the distribution among the Districts of the funds allotted to the Command for maintenance services.
4. For land questions and property transactions concerning the Regular Forces and Special Reserve.
5. For the matters specified in detail in Table C, page 25, as the duty of a C.E.

59. A C.E. is empowered to approve of :—

1. Designs, engineering details, and estimates of services of which the estimated cost is less than £1,000.
2. Transfers of officers employed solely on engineer services and of subordinates between Districts in the Command. (See also paras. 106, 111, and 112.)

60. In Commands where there is a C.E. Coast Defences the duties, responsibilities, and powers detailed in the three preceding paras. are allocated between him and the C.E. of the Command by the G.O.C.

6.—GENERAL OFFICERS I/C ADMINISTRATION.

61. The duties of a G.O. i/c Adm. are laid down in paras. 160-170 K.R.

The following matters connected with engineer services must be referred to him for decision :—

The provision of funds for new services involving capital expenditure estimated at £50 or more.

All matters in which legal assistance is required.

Questions as to stores to be held as reserves for war or for defence purposes.

The transfer of savings not delegated by App. V. K.R. or by these Regulations.

Land questions and property transactions.

The suspension of services authorized by the W.O.

The undertaking of any service in spite of the fact that funds are not available. (*But see* para. 649.)

The matters specified in detail in Table D, page 26.

62. He is empowered to approve of :—

Contracts for works amounting to less than £2,000.*

Contracts for stores amounting to less than £100.*

* As regards foreign stations see paras. 352-4.

Transfers of savings. (*But see* Section XIII.)

Deviations in schemes approved by the W.O. involving increased cost but within the sum available locally. (*But see* Section XIII.)

Relettings of W.D. property when the annual rent is under £100.

Hirings as authorized in para. 212.

Minor and military encroachments.

Services involving additional expenditure for gas or electric light current not exceeding £10 per annum. (*See* para. 513.)

The matters enumerated in detail in Table E, page 27.

7.—CONTROL BY WAR OFFICE.

63. Any action taken in certain matters authorized to be settled locally must be reported to the W.O. A list of such matters is given in Table F, page 28.

64. The following matters must be referred to the W.O.:—

All new fortification services connected with works of defence and all new hospital services.

All Part 2 and Part 3 Major services. (*See* para. 258.)

Designs and engineering details of services estimated to cost £1,000 or more.

Contracts for works estimated at £2,000 or more.*

Contracts for stores estimated at £100 or more.*

The purchase, sale, or exchange of land.

The hiring and letting of property on lease.

Annual lettings and relettings where the rent is £100 or more.

Increases in the personnel.

The matters enumerated in detail in Table G, page 29.

8.—PERSONNEL FOR SPECIAL DUTIES.

Machinery Officers.

65. In particular cases officers trained in machinery and military mechanists are posted to Commands and Districts to assist generally in machinery duties. Their duties and responsibilities will be laid down locally on the following lines.

66. The Division Officer is responsible for every engineer service in his Division, but the Machinery Officer is to furnish him with such expert advice on steelwork, machinery, and boiler questions as may be required. The Machinery Officer may be employed at the discretion of the C.E. as an executive officer in the erection of important machinery and of extensive iron and steel structures, and also in the preparation of drawings, estimates, and demands for stores for such services. He may also be required to keep the records and prepare the returns of machinery and boilers.

67. The Machinery Officer is not under the orders of D.Os. unless expressly so placed by the C.E. for the execution of some particular work.

* As regards foreign stations see paras. 352 to 354.

Officers i/c Electric Lights and Telephones.

68. Specially trained R.E. officers are appointed by C.Es. as Os. i/c Electric Lights and Telephones. Their duties include:—

The maintenance of electrical communications and defence electric lights.

The distribution and training of the personnel (Regular and Territorial) allotted to the defences for electric lights and telephones.

The affording of such expert advice on electrical matters as may be called for by C.R.Es.

Staff Officers to Chief Engineers.

69. To assist C.Es. in their duties officers are appointed to Commands as Staff Officers to the C.E. Their duties and responsibilities will be laid down locally.

Superintending Inspectors of Works.

70. Superintending Inspectors of Works are appointed to the more important Commands for the performance under the orders of the C.E. of certain technical duties. In the smaller Commands Inspectors of Works are appointed to the engineer headquarters for the same duties, in addition to their duties as D.Os.

71. Their duties are:—

1. To make test examinations of bills, as to technical matters, before payment is made on the bills.
2. To make test checks of the measurements made throughout the Command at any time before the final bills are passed. (*See para. 409.*)
3. To prepare estimates, specifications, and bills of quantities for services the estimated cost of which exceeds the limit of a C.R.Es. power of technical approval. (*See para. 56.*)
4. To prepare contract documents for such services and the advertisements for tenders.
5. To advise the C.E. on all matters connected with the T.C. Schedules.
6. To advise the C.E. on matters in dispute with contractors.
7. Such other duties as the C.E. may direct.

72. They will have access to all engineer contract documents and measurement books throughout the Command.

73. They are responsible for:—

1. The accuracy of all abstracts and bills examined and passed by them.
2. The measurements and prices in bills for works measured by them.
3. The accuracy and completeness of plans, estimates, specifications, bills of quantities, tenders, and contract documents prepared or examined by them.
4. The revision of the T.C. Schedule. (*See para. 325.*)

Officers i/c Stores.

74. In every District an officer is appointed to take charge of all engineer stores. Such officers will be under the direct orders of the C.R.E. or in certain cases of the C.E. All demands on the A.O.D. and orders on contractors for stores are to pass through the O. i/c Stores.

The duties of an O. i/c Stores are :—

1. To exercise general superintendence over all engineer store charges in his District.
2. To take charge of all engineer stores received for works in progress or which become surplus during the execution of new works, alterations, and repairs.
3. To keep the prescribed accounts of all such stores.
4. To conduct correspondence in connection with stores with the officers and departments concerned.
5. To verify all bills for stores.
6. To bring to the notice of the C.R.E. all cases in which it appears that engineer stores have been misapplied.

75. The O. i/c Stores is responsible :—

1. That the store accounts are accurately kept in the prescribed manner.
2. That the stores are kept in safe custody and only issued on the written demand of a person authorized to requisition for them.
3. That stores in his charge are not lent to contractors or private persons.
4. That the authorized establishment of stores is maintained.
5. That the stock maintained or accumulated is not excessive.
6. That stores are not demanded or ordered of which a sufficient available stock exists convenient for issue.
7. That all stores in his charge are preserved in good and serviceable condition.

76. To perform his duties efficiently it is essential that at frequent intervals he should personally :—

1. Verify a proportion or all of the entries in vouchers and books.
2. Compare the actual stock in the storehouses with the ledger remains.
3. Consider the various ways in which errors and irregularities may arise and how they may be prevented.

9.—MILITARY AND CIVILIAN SUBORDINATES.

Military and Civilian Foremen of Works.

77. Foremen of Works are allotted to Divisions to assist D.O's. in carrying on the work in their Divisions and to enable them to supervise effectively the details of the work.

78. The duties of a F.W. are :—

1. The preparation of estimates and working drawings for small services.

2. The immediate control and supervision of workmen directly employed by the W.D. and checking the time and the work of workmen supplied by contractors when employed on day labour.
3. Checking the supply and consumption of stores and materials used on the works.
4. The superintendence of the details of works in progress.
5. The measurement of incidental repairs and small services.
6. The preparation of abstracts from measurements.
7. Such other duties as the officer under whom he is employed may direct or as may be required for carrying on the engineer services of the Division.

79. He is responsible :—

1. That his estimates and working drawings are complete and provide for everything necessary for the satisfactory execution of the respective services.
2. That the working hours of all workmen employed directly under him are fully and accurately accounted for.
3. That the approved plans and estimate for any work he supervises are not departed from.
4. That all stores drawn at his instance from store or from a contractor are used economically and solely on the public service, and that all stores that become surplus during the execution of any work are immediately returned to the engineer store.
5. For the quality of the work executed under his superintendence.
6. That in his measurements his detail or description omits nothing and adds nothing, that his dimensions are exact, and that he quotes the right item and price.
7. That his abstracts are true summaries of the measurements.
8. That the alterations in fixtures made during the execution of works or repairs are noted in both copies of the inventories concerned. (*See para. 31.*)
9. For the upkeep of the records and books connected with his duties.

80. The principal duty of a F.W. is to carry out the engineer services in his charge promptly, economically, and satisfactorily, and with a minimum of friction and correspondence. While safeguarding the interests of the W.D. he must endeavour to act harmoniously with all officials with whom he comes in contact. He is not entitled to give orders to the workmen of contractors. In matters of detail he should communicate with the contractor's foreman; in important matters he should report to the D.O.

81. When called upon to do anything beyond his power or contrary to his orders he should undertake to refer the matter to his D.O. When directly ordered by a superior to do any such act he is entitled to request that the order be given him in writing. He must report any such orders to his D.O.

82. He is not authorized to incur any liability on behalf of the W.D., but he is justified in doing so, reporting his action to his D.O., in cases of fire, leakage of gas and water, and in similar circumstances where delay would entail increased expense.

83. The normal working hours of a F.W. are those of the workmen employed on engineer services; he is not entitled to any extra pay for overtime when his duties require him to work outside the usual working hours.

84. To perform his duties satisfactorily it is important that he should:—

1. Visit works in progress at frequent and uncertain intervals.
2. Make himself thoroughly acquainted with the boundaries of and encroachments on the W.D. property in his charge and inspect them periodically.
3. Make himself thoroughly acquainted with all works and buildings in his charge, including the systems of water and gas or electric light supply, drainage, and fire protection.
4. See that unoccupied buildings in engineer custody are securely fastened, gas and water shut off, boilers emptied, etc.
5. Keep a memorandum book in which to enter every repair, renewal, alteration, or improvement which he may observe to be required with a view to them all being considered by his D.O. and not overlooked.

85. The duties of a temporary Civilian or Pensioner Foreman of Works are the same as those laid down above.

Mechanists (Machinery).

86. Mechanists (Machinery) are allotted to engineer Districts to assist in the erection, repair, and maintenance of machinery, and in the absence of a Machinery Officer to perform such of his duties as may be required.

87. Their duties include:—

1. The superintendence and training of N.C.Os. and men (Regular and Territorial Forces) employed with machinery, including that for defence electric lights.
2. Assisting in the preparation of estimates for machinery and of drawings of machinery details.
3. Keeping the machinery records (A.Bs. 335-6-7) and compiling returns.
4. Attendance at inspections of boilers by the independent boiler inspector.
5. In the absence of a Machinery Officer, inspection and test of steam boilers for which independent examination is not provided, *i.e.*, those with a working pressure of less than 16 lbs. per square inch.
6. Triennial inspection and test of hot water boilers.
7. Checking the reports of fuel and engine time and the calling attention to excessive consumption.

8. The erection and testing of new machinery and its repair and maintenance, as may be directed by the C.R.E.
88. The instructions laid down in paras. 78 to 84 for foremen of works apply generally to Mechanists (Machinery).

Mechanists (Electrician).

89. Mechanists (Electrician) are allotted to engineer Districts for work in connection with the provision and maintenance of electrical communications, defence electric lights, and other electrical work.

90. Their duties include the superintendence and training of N.C.Os. and men (Regular and Territorial Forces) in electrical work, assisting in the preparation of estimates, and the keeping of records connected with electrical communications and defence electric lights.

Military and Civilian Clerks.

91. The duties of a clerk in an engineer office include:—

1. The writing, copying, and registration of documents.
2. Squaring and checking the squaring of dimensions.
3. Making and checking money calculations.
4. The making out of periodical returns.
5. The upkeep of the books kept in engineer offices.
6. Any duties of a clerical nature which the officer under whom he is employed may direct.

92. He is responsible:—

1. For the correct preparation of documents from instructions.
2. For the accuracy of his computations.
3. That periodical returns are ready for signature punctually.
4. That the office books are kept written up to date.

Military and Civilian Draughtsmen.

93. The duties of a draughtsman in an engineer office include:—

1. Tracing and copying plans.
2. Making plans from measurement, including chain surveying and levelling.
3. Preparing designs from sketches and instructions.
4. Keeping record plans and skeleton record plans amended to date.

94. Military Draughtsmen are Engineer Clerks employed as Draughtsmen and drawing additional pay as such under the P.W.

Military and Civilian Ledgerkeepers.

95. Ledger Keepers and Assistant Ledger Keepers are appointed to assist Os. i/c Stores in the details of their work and are directly under their orders. Their duties are purely clerical.

96. They are responsible:—

1. For the safe custody of the books and documents entrusted to them.
2. For the correctness of the entries.
3. That such entries are in accordance with the prescribed procedure.
4. That the entries are not divulged to unauthorized persons.
5. That the books and documents are kept entered up to date.

Storemen.

97. The actual handling of the stores is done by storemen. Under the orders of the O. i/c Stores they shift stores, clean stores and storehouses, attend to ventilation and heating, etc.

98. The duties of a storeman are:—

1. To receive and issue stores.
2. To preserve them in good order and condition while in store.
3. To keep the prescribed record of all transactions.

99. He is responsible:—

1. For the actual quantities of the stores on charge.
2. For their condition.
3. For their safe custody.
4. That they are only received and issued in accordance with the prescribed procedure.
5. That all receipts and issues are correctly entered on the tally cards.
6. That the O. i/c Stores is kept informed of all actual or prospective requirements.
7. That the precautions against fire are observed and that the fire appliances are always in good order.
8. For the further carrying out of the instructions for the custody of stores contained in Section XII.

Surveyors' Clerks.

100. The duties of a temporary Surveyor's Clerk (1st Class) are:—

1. To square dimensions and to abstract them under the respective trades and technical headings.
2. To prepare bills of quantities from the abstracts.
3. To price and money out bills of quantities.
4. To prepare estimates for small services.
5. To measure up small services.
6. To compare the quantities in the bills with those in the abstracts, and to check the items and prices in the bill.
7. Such other duties of a technical nature as they may be called upon to perform.

101. The duties of a temporary Surveyor's Clerk (2nd Class) are those enumerated under sub-paras. 1, 3, 6 and 7 of para. 100.

Civilian Clerks of Works.

102. The duties of a temporary Clerk of Works are:—

1. To superintend works in progress, and to keep up any purely technical records in connection therewith.
2. To attend at quarterly or other inspections as may be directed.
3. To prepare estimates as directed.
4. To prepare plans or designs and specifications as directed.
5. To measure services as directed.
6. Such other duties of a technical nature as the officer under whom he is serving may direct.

He is to make himself acquainted with the duties detailed in paras. 78 to 85.

Other Subordinates.

103. The duties of other subordinates such as Range Wardens, Boiler Attendants, and others will be settled by the officer under whose immediate orders they are.

104. Range wardens employed on artillery or rifle ranges and land wardens employed on camping grounds, manœuvre areas, or W.D. lands, who may in the execution of their duties require to exercise the powers of arrest and removal conferred by bye-laws made by the Secretary of State for War upon the officer commanding and such of his subordinates as may be entrusted with the exercise of such powers are to be appointed by name to their office in writing under the hand of an officer authorized by the bye-laws to make such appointment.

105. Each warden is to be furnished with a copy of A.F. K 1254, filled in with his name, etc., and signed by an officer authorized by the bye-laws, to be produced for inspection when called for by police officers or other persons in authority.

NOTE.—Tables A to G schedule (for convenience of reference) various duties, instructions, etc., laid down in these Regulations. The tables are not to be considered exhaustive and may be added to locally as found desirable.

Table A.

Miscellaneous Duties of a D.O.

(See para. 51 (5).)

Duty.	Referred to in para.
Selection of maintenance services under £50	9, 53, 635
Brings to notice of C.R.E. necessary maintenance services for which he has insufficient funds ... ..	... 13
Keeps record of all necessary maintenance services ... ..	... 16, 270
Decision as to whether an injury is or is not wilful ... ..	... 32
Frequent inspections throughout his Division ... ..	... 123
Inspection and records of machinery ... ..	... 66, 127
" " lightning conductors ... ..	... 128
Considers agreement before repairing hired premises ... ..	... 210
Inspects hired buildings before expiry of hiring ... ..	... 211
Inspects W.D. buildings in charge of Royal Irish Constabulary ... ..	... 202 (b)
Care of military burial grounds ... ..	... 247
Keeps record of all proposed new services ... ..	... 269
Provision of funds for certain maintenance services ... ..	... 53, 270,
" " new services ... ..	... 53
Makes note on bill when he has not personally taken the measurements ... ..	... 404
Keeps register of measurement books... ..	... 411
Prepares inventories of fixtures ... ..	... 413
" detailed accommodation record ... ..	... 414
Guards duplicate of inventories ... ..	... 420
Periodical examination of eaves gutters, etc. ... ..	... 433
Satisfies himself as to necessity of limewashing ... ..	... 473
Responsibility as to damages ... ..	... 481
Investigates damages repaired regimentally ... ..	... 494
Tests new drainage work... ..	... 520
Signs certificate vouchers ... ..	... 567, 577
Responsibilities for old stores ... ..	... 571-7
Periodically reviews A.B. 43 ... ..	... 603
Subdivides his funds among barracks, etc. ... ..	... 638
Responsibilities for bills ... ..	... 677
Keeps A.B. 198, Check Book ... ..	... 704
Keeps financial records ... ..	... 705
Responsible for office system ... ..	... 718
Keeps certain books ... ..	... 723-4
Makes certain periodical returns ... ..	... 725-6

(Space for local memoranda.)

Table B.

Miscellaneous duties of a C.R.E.

(See para. 54 (5).)

Duty.	Referred to in para.
Selection of maintenance services between £50 and £500	9, 54
First consideration of proposed new services	14 (ii), 266
Keeps Estimates Books	14 (iii), 271
Selects services for consideration for Annual Estimates	14 (iv), 274
Subdivision of funds among Divisions	15
Keeps a "Schedule of Prices for Works and Repairs"	20
Distribution of the engineer establishment in his District	55 (i)
" " " funds	55 (2)
Arranges for articles being taken on charge	55 (4)
Provision of funds for certain new services	56, 268, 635
" " " maintenance services	56, 270, 635
Frequent inspection throughout his District	123
Annual inspection of barracks, etc.	126
Is local custodian of W.D. property	135
At home keeps copies of deeds	143
Keep the "Terrier"	146
Responsible for inspection of boundaries, etc.	149
Compiles perambulation report	151
Guards completed agreements for encroachments	159
Reports, termination of, ditto	160
Supervises maintenance of encroachments	164
Authorizes the fixing of Post Office wires	167
Responsible for the revenue from W.D. property	170
Keeps register of lettings	171
Obtains tenders from prospective tenants	182
Guards agreements for lettings	185
Notifies C.P. of use of ranges by civilian clubs	198
Arranges for sale of produce	199
Guards inventory of property transferred	202
Considers all proposed hirings	208
Takes inventory, etc., of hired property	209
Arranges for certain hirings of land	212
Obtains draft leases from lessors	217
Records completed leases	220
Certifies claims for rent	221
Deals with claims for tithes and other charges	225
Certifies claims for rates	226
Keeps register of interments in military burial grounds	249
Arranges contracts	310, 326
Issues order to contractor to commence	314
Consults contractor re extension of time	317
Submits completion reports	322, 415
Keeps account of sales of schedules	328
Preparation of certain designs and specifications	331
Accepts certain tenders	335, 339
Makes special agreements with T.C.	367
Decides who is to take important measurements	403
Reports completion of Fortification, Ordnance, and certain other services	415, 417
Terminates special appointments	422
Provides for expenditure on linewashing	474
Takes instructions of G.O. i/c Adm. on disputed damages	488

TABLE B—continued.

Duty.	Referred to in para.
Arranges how stores shall be paid for	556
Invoices and damages to stores shipped abroad	563, 565
Stores lost by working parties	597
Keeps the stock of A.B. 43	604
Annual certificate as to stores	618
In connection with old stores	621-2
In connection with war reserve stores	626
Estimates for fuel and light	627
Signs bills in absence of other officer	674
Initials alterations in bills	682
Responsibilities for bills	687
Forwards confidential list of bills	693
Provides for outstanding bills	701
Keeps financial records	705
Obtains returns from divisions	707
Certifies for work done for W.D. by other depts.	711
Responsible for office system	718
Keeps certain books	723-4
Makes certain periodical returns	725-6
Issues advertisements at home	734

(Space for local memoranda.)

Table C.

Miscellaneous duties of a C.E.

(See para. 58 (5).)

Duty.	Referred to in para.
Selection of larger maintenance services	9
Consideration of new services referred by C.R.E.	14 (iii)
Frequent inspection throughout the Command	123
Acts as local representative of the S. of S. in land questions	135
Abroad keeps original deeds	144
Authorizes minor and military encroachments	154, 163
Forwards agreements for encroachments to C.P.	159
Notifies C.P. or L.A. of rents to be collected	176
Deals with tenants in arrear	177
Reports on proposals to let	189
Reports forthcoming expiry of lease... ..	223
Reports on bills, L.G.B. Enquiries, etc.	245
Applies for funds for camps	299
Notifies O. i/c Transport of amount of transport required..	305
Sometimes arranges T.Cs.	326
Supervises preparation of large designs and specifications.	331
Decides whether direct employment of workmen by W.D. is desirable	357
Makes test examination of bills	690-2
Forwards confidential list of bills	693
Calls for returns from Districts	707
Conducts correspondence with Office of Works	716
Keeps certain books	723-4
Makes certain periodical returns	726
Abroad arranges for advertisements	735

(Space for local memoranda.)

Table D.

What must be referred to the G.O. i/c Adm. for his decision.

(See para. 61.)

Subject.	Referred to in para.
Appeals against charges for damages	32, 488
Proposals to erect monuments	251
Cases of doubt as to the estimate to which a service is chargeable	262
Entry of large services in Estimate Books	14 (iii b), 268
Removal of certain uncompleted services from Estimates Books	272
Handing over of certain works	418
Number of coats of paint, etc. in periodical services ...	464
Delay in repair of damages by units	495
Employment of civil labour for limewashing	471
Report of Payment of a mature bill in excess of funds available	700
Repetition of advertisements	731

(Space for local memoranda.)

Table E.

What can be sanctioned by the G.O. i/c Adm. without reference to the W.O.

(See para. 62.)

Proposal.	Referred to in para.
Sub-division of the Command funds among Districts ...	15, 632
Appointments of certain civilian subordinates ...	109
Abroad, temporary assistance	121
Employment of experts	137
Remission of arrears of rent	177
Certain relettings	180
Use of W.D. ranges by civilian rifle clubs	198
Certain hirings	272
Remission of fines	318
The undertaking of periodical services	463-4
Additional artificial light	513
Certain transfers of Part 1 funds	643

(Space for local memoranda.)

Table F.

What must be reported to the W.O. (exclusive of periodical reports and returns, for which see the list on page 140).

(See para. 63.)

Subject.	Referred to in para.
Alterations among the personnel and changes of station or employment	110, 111, 112
The taking over by a C.E. or C.R.E. of confidential books, plans, etc.	113, 114
Temporary assistance obtained at stations abroad ...	121
Employment of experts	137
Completed agreements for encroachments	159
Forthcoming expiry of certain lettings	186
Proposals not to re-let	188
Forthcoming expiry of lease (letting)	193
Certain agreements with T.F. Associations	197
Changes in ownership, hired property	222
Forthcoming expiry of lease (hiring)	223
Refusal by civil authorities to perform services ...	233
Claims for damage to roads	238
Acceptance of tenders	315, 339 (c) (d)
Completion of services	415
Uninhabitable buildings	435
Taking over charge of stores	533
Breakages of goods during sea transit	555
Savings over £50, on Part 2 services over £500 ...	644
Abroad, death or bankruptcy of contractor ...	696
Mature bills unpaid at close of year	701-2

(Space for local memoranda.)

Table G.

What must be referred to the W.O. for sanction or instructions.

(See para. 64.)

Proposal.	Referred to in para.
Reappropriation proposals affecting quarters	30
Rates of pay and casualties, certain civilian subordinates	109-10
Increases of pay to the personnel	110
Issue of pay under Article 880, Pay Warrant	116
Proposals for acquisition or disposal of property	140
Permission to show deeds	144
Alterations to boundary stones	145
Encroachments of long standing	152
Ordinary encroachments	154-5
Refusal to acknowledge encroachment	157
Encroachments by Colonial Government Departments	169
Proposals for certain lettings	179, 189
Difficulties in re-letting	180
Material modifications in agreement forms	181
Offers to hire W.D. property by private treaty	182
Possession before completion of lease	191
Resumption of leased property	194
Terms of occupation of W.D. property by other public departments	201-2
Questions of rights over foreshores	205
Certain hirings of land	212-3
Hirings on lease	215
Proposals to renew leases	223-4
Claims by local authorities for grants	237
Damage by gun fire, etc.	243
Memorials in garrison churches... ..	252
Proposals to make bye-laws	244
Entry of Part I services in Estimates Books	268
Tenders for steam boilers	350
Acceptance of any but lowest tender	315 (d)
Employment of outside surveyors	332
Repayment for work executed privately	423
Provision of funds for construction of football, cricket, or recreation grounds	429
Provision of funds for laying out and planting with trees and shrubs grounds attached to officers' quarters and messes, sergeants' messes, and recreation establishments	429
Transfers of funds between F., A.O.B., and B. estimates...	641
Financial position on Part I items	643
Excess expenditure on Part 2 services over £500	644
Death or bankruptcy of contractor at home... ..	696
Payment of a bill for which there are no funds	700
Expenditure other than normal in barracks in charge of the Office of Works	716

(Space for local memoranda.)

TABLE H.

POWERS OF APPROVING DESIGNS AND ORDERING SERVICES.

Grade.	Subject to paras. 379 and 380, the officers in column 1 can approve of designs for services other than machinery, rifle ranges and electrical estimated to cost less than	Provided they can pay for the service out of funds already allotted to them which are not allocated to particular works, they can sanction services estimated to cost less than	
		In the case of Maintenance Services, Part 3.	In the case of New Services, Part 2.
D.O.	£50	£50	£10
C.R.E.	£500	£500	£50
C.E.	£1,000	The G.O. i/c Adm. can sanction any Part 3 service under £1,000	The G.O. i/c Adm. can sanction any Part 2 service under £100.
	Subject to paras. 379 and 380, the following can approve of the design.	The following can sanction	
		Maintenance Services.	New Services.
Under £10 ...	D.O.	D.O.	D.O.
£10 to £49 ...	D.O.	D.O.	C.R.E.
£50 to £99 ...	C.R.E.	C.R.E.	G.O. i/c Adm.
£100 to £499 ...	C.R.E.	C.R.E.	W.O.*
£500 to £999 ...	C.E.	G.O. i/c Adm.	W.O.*
£1,000 to £1,999	W.O.*	W.O.*	W.O.*
£2,000 and over	W.O.	Annual Estimates.	Annual Estimates.

* When services of these amounts and parts have been submitted to the W.O. in the annual statements of services (*see* para. 379) and have not been vetoed there, the G.O. i/c Adm. can sanction their execution out of the funds at his disposal without further reference to the W.O. (*see* para. 632).

SECTION III.—PERSONNEL.

1.—GENERAL.

106. The total strength of the Establishment for Engineer Services allotted to each Command is decided at the W.O. The allotment of the personnel to Districts and Stations is governed by paras. 56 (5) and 59 (2).

107. The pay of the civilian and military establishment for Works services is voted by Parliament for a fixed establishment of each of a number of classes. No civilian subordinate of any particular class can be taken on anywhere without W.O. authority unless a vacancy has occurred in that class.

108. Vacancies among military subordinates on any of the permanent establishments are filled up by the Officer i/c R.E. Records, on instructions from the W.O., from the list of candidates qualified for that establishment; no appointment, even on probation, is to be made locally.

109. The pay of civilian subordinates not provided for in the P.W. is fixed in the first instance in each case at the W.O.

Subject to para. 107, and to the following provisions, the G.O.C. i/c Adm. (who may delegate his powers to C.Es. or C.R.Es.) is authorized to deal with engagements, discharges, and approved periodical increments in the case of (a) storemen, (b) messengers and office keepers, (c) engine drivers and stokers, (d) range wardens and clearers, (e) staff for electric lighting of barracks, and (f) caretakers, turncocks, sanitary labourers, &c.

The rate first given is not to exceed the initial rate received by the previous holder of the post or the local market rate for the class of appointment concerned. Doubtful cases, and those in which the rate received by the previous holder was personal to himself, are to be referred to the W.O.

110. In the case of civilian subordinates provided for in the P.W. (such as foremen of works, surveyors' clerks, and draughtsmen) and of civilian clerks and ledger keepers and other subordinates not dealt with in para. 109, casualties are to be reported to the W.O. together with the name of the person recommended for the vacant appointment and the proposed rate of pay. At stations abroad, however, an appointment at the same initial rate as that of the previous holder may be made locally pending W.O. sanction.

Applications for increased rates of pay, within the limits laid down in the P.W. or elsewhere, are to be submitted to the W.O. if recommended by the G.O. i/c Adm. with a certificate that the individual has performed his duty with zeal and ability.

2.—MILITARY PERSONNEL.

NOTE.—For Pay, Promotion, etc., see Pay Warrant; for further particulars as to subordinates see the R.E. Corps Memoranda.

111. Alterations among the officers employed on engineer services, including those with units, and changes of station or employment ordered by C.Es. under para. 59 (2) are to be reported by the C.E. to the W.O.

112. Alterations among subordinates (exclusive of those of N.C.Os. and men of units) and changes of a station or employment ordered by C.R.Es. under para. 56 (5) are to be reported by C.R.Es. through the C.E. to the W.O.

C.E.s. and C.R.E.s.

113. When a C.E. or C.R.E. is being relieved he will hand to his successor a list of the confidential plans on his charge. The officer taking over will verify this list and forward it to the W.O., retaining a copy for reference at the station. He will forward with his list a certificate that he has taken over the confidential plans, books, and papers, and a separate list of any such plans, books, or papers as may be missing.

114. A C.R.E. when about to be relieved will apply to the W.O. for the list of station plans and will insert on it any additions or corrections necessary. It is to be returned to the W.O. signed by his successor.

Temporary Military Staff.

115. When additional superintendence on the works or additional clerical assistance in an office is required, N.C.O.s. or sappers of R.E. units at the station may be employed, subject to the requirements of their military duties, at the discretion of the C.R.E. Men so employed will not be supernumerary to the establishment of their units nor are they to be exempted from military training or regimental or company duties. They will move from station to station with their unit and will receive their ordinary Corps rating of engineer pay. (See R.E. Corps Memo.)

116. When a N.C.O. or man so employed is placed temporarily in a position involving special responsibility and it is considered desirable to give him additional pay, the method authorized by article 880 of the P.W. should usually be adopted, viz.: by granting him engineer pay at the rate higher than his Corps rating. Pay under the P.W. as a temporary M.F.W. or Mechanist is only to be granted under W.O. authority.

3.—EX-SOLDIER AND CIVILIAN PERSONNEL.

NOTE.—Some of the personnel in this category come under the provisions of the *Workmen's Compensation Act, 1906*. For further particulars on this and other points see "*Regulations for Civilian Subordinates in Army Departments*."

117. The duties of an ex-soldier or civilian subordinate are the same as those of a military subordinate of the same category; the qualifications required are ability to perform the same duties.

118. In the selection of civilian subordinates ex-soldiers are to have preference.

119. In recommending an ex-soldier to the W.O. for employment on duties previously performed by him while serving under his Army engagement his previous employment is to be stated to enable his record of service to be consulted.

120. When an application by a C.E. to the W.O. for temporary assistance is unavoidable it should be stated on what terms it can be procured on the spot.

121. At stations abroad when circumstances will not admit of the delay of a reference to the W.O. the G.O. i/c Adm. or G.O.C. on the application of the C.E. may authorize such temporary assistance. The circumstances are to be reported by the C.E. to the W.O. immediately.

TABLE J.

SYNOPSIS OF THE SUBORDINATE ESTABLISHMENT.

(Numbers refer to paras.)

			Duties.	Qualifications for appointment.	Selection.	Appointment.	Pay.	Leave and notice.	Promotion or increases of pay.	Remarks.
Mechanists—			86			108				
From R E... ..	...	...	to	A	A	A.B	B	D	B	Electricians, Instrument Repairers, and Machinery.
Specially enlisted	...	...	90	A	A.C	A.B	B	D	B	
Foremen of Works—						108				
Military ... ..	...	...	78	A	A	A.B	B	D	A.B	
Pensioner ... ..	...	...	85	117B	E	H	B	J	B	
Civilian ... ..	...	...	85	117B	E	H	B	J	B	
Clerks—										
Military ... ..	...	...	91	A	A	108	B	D	B	Civilian Clerks should be ex-soldiers.
Ex-soldier ... ..	...	...	91	117	E	H	H	J	K	
Draughtsmen—										
Military ... ..	...	...	93	A	E	108	B	D	B	
Pensioner ... ..	...	...	93	117	E	H	B	J	B	
Civilian ... ..	...	...	93	117	E	H	B	B	B	
Ledger-Keepers and Assistant Ledger-Keepers—										
Military ... ..	...	...	95	A	A	A.B	B	D	B	
Pensioner ... ..	...	...	95	117	E	H	H	J	K	
Civilian ... ..	...	...	95	117	E	H	H	J	K	
Storemen—										
Military ... ..	...	...	98	G	E	H	B	D		
Pensioner ... ..	...	...	98	G	E	E	H	J	K	
Civilian ... ..	...	...	98	G	E	E	H	J	K	
Clerks of Works	...	...	102	G	E	H	B	B	B	
Surveyor's Clerks—										
Class 1 ... ..	...	...	100	G	E	H	B	B	B	
Class 2 ... ..	...	...	101	G	E	H	B	B	B	

TABLE J—continued.

	Duties.	Qualifications for appointment.	Selection.	Appointment.	Pay.	Leave and notice.	Promotion or increases of pay.	Remarks.
Messengers and Office Keepers	103 F	G	E	E	K	J		
Engine Drivers and Stokers	103 F	G	E	E	H	J	K	
Range Wardens and Clearers	103 to 105 F	G	E	E	K	J		See also §92-3 and Musketry Regulations, Part 2.
Staff for Electric Lighting of Barracks.	103 F	G	E	E	H	J	K	
Caretakers, Turn-cocks, Sanitary Labourers and other Subordinates	103 F	G	E	E	H	J	Hor K	

A. See R.E. Corps Memoranda.

B. See P.W.

C. See Recruiting Regulations.

D. Usual military rules.

E. Selected locally.

F. Laid down locally.

G. Ability to perform required duties.

H. Settled at W.O.

J. See Regulations for Civilian Subordinates.

K. Scale laid down by W.O. letter.

SECTION IV.—INSPECTIONS.

122. Local inspections are made from time to time by representatives of the Army Council from the W.O.

C.Es. are to make frequent local inspections throughout their Commands, C.R.Es. throughout their Districts, and D.Os. throughout their Divisions.

123. The following are the main points to which attention will be directed at inspections by representatives of the Army Council; with the necessary modifications they apply equally to inspections by C.Es. and C.R.Es.

(a) The general state of Fortifications, Barracks, and A.O. Buildings, and the progress of new works under the Engineers.

(b) The relative importance of services proposed to be brought forward for consideration with the Annual Estimates, to ensure that each Command obtains a just proportion of the total funds provided for works.

(c) The distribution of the personnel; whether or not it is in keeping with the current needs of each Command.

(d) That junior officers have assigned to them distinct charges, and that they are required to prepare designs and estimates for some of the annual services.

(e) Examination of office books and plans, particularly as to the prompt execution of and payment for works, and as to the keeping up of officers' diaries and record plans.

124. Local examinations will also be made as follows:—

(a) By the S.I.W. as to the correctness of a percentage of measurements and description of work paid for, examination of a percentage of contract documents, measurement books, abstracts, and contractors' bills.

(b) By a member of the Finance Branch of ledgers, check books, imprest accounts, postage books, and accounts in connection with day work; also the methods of accounting for stores.

125. An annual inspection of barracks by the C.E. or his representative is prescribed in the K.R. The following instructions are in amplification of the instructions in the K.R.

126. The officer making the inspection will usually be the C.R.E. He will include in the inspection all buildings or premises belonging to or hired by the W.D. and all fortifications. In barracks he is to pay particular attention to sanitary conditions and in fortifications to magazines.

127. W.D. boilers (including those in A.O.D. charge, but excluding those in (i) the Ordnance Factories, the Royal Dockyard at Woolwich, Purfleet, and Weedon, (ii) the Royal Army Clothing Factory, (iii) the Balloon Factory, (iv) A.S.C. Mechanical Transport tractors), and machinery on engineer charge, will be inspected yearly and records kept as prescribed in R.E.S., Part 2. The D.O. is responsible for compliance unless the C.R.E. directs otherwise (*see* para. 66).

128. Lightning conductors will be inspected and tested once every two years and records kept as described in R.E.S., Part 2. The

records will be kept and the returns compiled by the C.R.E. The D.O. is responsible for this biennial testing, unless the C.R.E. details an officer to supervise the testing of all the conductors in the whole District.

129. An inspection of barracks by an engineer officer once a quarter to ascertain the repairs necessary is prescribed in the K.R. The following instructions are in amplification of the instructions in the K.R.

A similar inspection of Fortifications and A.O. Buildings will be made once a quarter.

Gymnastic apparatus will also be inspected quarterly. The D.O. is to notify to the Superintendent of Gymnasia any repairs considered necessary which are not chargeable to the vote for Works.

130. The dates proposed for the quarterly inspections are to be published in garrison orders.

131. The principal object of quarterly inspections is the noting of the repairs to be effected in the ensuing quarter. They are also to be used to ascertain whether the regulations for the carrying out of which the D.O. is responsible are being observed. (*See Table A, page 22, duties of a D.O.*) The subjects to be enquired into vary in each Division; the following are merely examples:—

(a) The examination generally of the smaller repairs executed either by the Engineers or by the troops.

(b) The noting of wilful damages and unauthorized encroachments.

(c) Enquiry as to the observance by the grantee of the conditions on which authorized encroachments have been sanctioned.

(d) The sufficiency and satisfactory working of drainage and water systems.

(e) The system of fire protection and its efficiency in the case of each building.

(f) The noting of large repairs and renewals for inclusion in the statements of services.

(g) The noting of improvements (such as the provision of authorized conveniences) for insertion in the Division book of suggested services.

(Space for local memoranda.)

132. Numerous minor recurrent engineer services can be conveniently included in the quarterly requisition for repairs. The following are examples only, to be added to or amended as circumstances require in each Division.

(a) Clearing out eaves gutters. Usually in autumn after the leaves have fallen.

(b) Trimming hedges, lopping trees, clipping creepers. Usually in the winter. Not an engineer duty when in connection with quarters and messes.

(c) Test of safety valves and removal of scale from boilers for the supply of hot water.

(d) Clearing out the water jackets of Warren's cooking apparatus.

(e) Test of ventilating pipes for leakage and for blockage.

(f) Flushing of certain drains every 6 months. (See para. 523.)

(g) Washing of window blinds.

(h) Cleaning of tanks.

(i) Painting of manhole covers.

(k) Test of gas and water mains for leakage.

(l) Sweeping of ventilating flues and shafts.

(m) The working of draw-bridges.

(Space for local memoranda.)

Marching in and out inspections.

133. The procedure to be adopted at these inspections is laid down in the K.R.

134. The engineer representative at the inspection is to verify the condition and ownership of any authorized encroachments and to see that transfers are signed for in the Register of Encroachments. (See para. 164 (5).)

SECTION V.—ADMINISTRATION OF W. D. ESTATE.

1.—CHARGE OF LANDS AND BUILDINGS.

135. Under the G.O.C. the C.E. of a Command is the local representative of the Secretary of State as landlord of all lands (including foreshore), works, and buildings the property of the W.D. in the Command; the C.R.E. of a District is the local custodian of any such property within his District.

136. In certain cases civilian Land Agents to the W.D. are appointed to relieve the C.R.E. of direct dealings with civilian tenants and generally to assist the Engineers in dealing with technical questions relating to landed property. The duties of such Land Agents are more specifically defined in R.E.S., Part 2.

137. Professional assistance and advice may be obtained from independent Land Agents or other experts where necessary, by G.O.Cs. under the following conditions:—

- (a) The fee involved in any particular case is not to exceed 10 guineas.
- (b) Such expert advice is not to be held to apply to legal assistance or to opinions on questions of law.
- (c) In each case of the employment of expert assistance under this authority a report shall be made to the W.O. stating the purpose for which such advice was required and the amount of the fee involved.

138. The repair and maintenance of W.D. buildings at all times devolve upon the Engineers, who are also the custodians of buildings when taken over for alterations and repairs, when unoccupied and dismantled, or when no longer required for Army purposes and available for letting or disposal. Barracks and quarters on engineer charge when required for use will be handed over to the O.i/c Barracks; their subsequent allotment and use are not engineer questions.

2.—PURCHASE, SALE, AND RECORD OF PROPERTY.

139. Arrangements for the purchase, sale, or exchange of lands and buildings at home stations, will be carried out under specific instructions from the W.O.

140. Proposals for the acquisition or disposal of lands or buildings for W.D. purposes abroad must be submitted to the W.O. for sanction. The general arrangements in regard to Colonial Military Lands are indicated in the Colonial Office Circulars dealing with the subject (*see* R.E.S., Part 2), and all transactions under these require W.O. authority.

141. A confidential report will be furnished annually to the W.O. not later than August 1st of any lands or buildings recommended for purchase, in the order of military importance, and also of any lands or buildings available for disposal as surplus to

military requirements. The report should be accompanied by illustrative plans, and should contain particulars of acreage, approximate value, and any other details affecting the nature or prospective utility of the property, that may be locally available. It is important that the confidential report should contain the fullest information that circumstances permit, but particular care should be taken locally to avoid special enquiries or any other action calculated to disclose the intentions of the W.D. prematurely.

142. Detailed instructions for the preparation of plans relating to all such transactions and to land matters generally will be found in R.E.S., Part 2.

143. Original deeds relating to property at home are retained in W.O. custody. Copies or abstracts of all such deeds will be kept locally by the C.R.E. in A.B. 22A, Guard Book for Deeds.

The original deeds relating to W.D. property abroad will be kept by the C.E. A certified copy of every deed and its accompanying plan will be sent to the W.O.

144. Deeds, and copies or abstracts of deeds, are not to be shown, nor their contents communicated, to persons outside the W.D., without W.O. authority.

145. Boundary stones are required where their omission might result in encroachments on W.D. property; their use will be limited to cases where the boundary is not otherwise adequately defined.

No alteration is to be made in the position of or the marks on any boundary stone and no new boundary stone is to be fixed without W.O. authority.

146. The C.R.E. will keep in his Office a "Terrier" or complete statement of all W.D. property in the District, specifying its situation, extent, and tenure, whether freehold, copyhold, or leasehold, the payments and conditions on which it is held, and whether the land tax has been redeemed.

The statement will be made out on A.F. K 1304 and will be illustrated by plans. It will include lands, buildings, clearance rights, rights of way, water rights, and all like property which is held for a term exceeding 21 years; and may include property held for 21 years or less, in special circumstances at the discretion of the C.R.E.

147. Property acquired or relinquished will be recorded in the W.O. and station property statement as follows:—

(a) *When the deed is prepared at the War Office.*

Upon completion of every deed the entry necessary for recording it will be made in the W.O. property statement, and in forwarding the copy deed to the G.O. i/c Adm. concerned, a copy of the entry so made will in the case of acquisitions—and, if necessary, in the case of relinquishments also—be sent therewith.

The copy deed and the copy of the entry made in the W.O. property statement are to be compared locally and any discrepancy is to be reported to the W.O. If the copy deed and copy entry are

found to agree, the latter is to be copied into the station property statement, signed by the C.E. as correct, and returned to the W.O.

Relinquishments of which no entry is forwarded are to be noted in the property statement as may be necessary.

(b) *When the deed is prepared at the Station.*

A course precisely similar to (a) above will be followed, but the positions of the W.O. and G.O. i/c Adm. will be reversed.

(c) *When no deed is executed.*

Acquisitions or relinquishments effected without the preparation of a deed will be noted in the property statement and shewn on the plans thereto.

In all the above cases a reference to the W.O. papers dealing with the transaction should be recorded.

3.—PERAMBULATIONS OF W.D. PROPERTY.

148. It is the duty of a C.R.E. as custodian of W.D. property and guardian of W.D. rights to aim at increasing the income from W.D. estates and at preventing any unauthorized encroachments or misuse of W.D. property in his District.

149. The C.R.E. is responsible that the boundary lines of all W.D. property are perambulated and that all lettings and lands subject to clearance rights are inspected by an officer at least once a year.

The officer who makes the inspection will verify the boundaries on the spot with the perambulation plans described in R.E.S., Part 2. He will see that each boundary stone is in its proper place, that no alteration has occurred in the position of the fence or other dividing line running from stone to stone, and that no infringement of the clearance rights has taken place.

150. Roads and paths on W.D. property other than those over which the public have been admitted to have a *right* of "user" (as distinct from public user, *permitted* for convenience), will be closed for 24 hours at the time of making the annual perambulation in order to preserve the rights of the W.D. A record of the roads and paths closed and of the dates will be kept and a certificate that this has been done, stating where the record is to be found, is to be appended to the Perambulation Report.

151. The Report in question will be compiled by the C.R.E. on completion of the annual perambulation and forwarded on A.F. K 1293 (together with the certificate specified above) so as to reach the W.O. not later than October 15th in each year. It will include all encroachments, making separate mention of (a) new encroachments authorized locally. * (See paras. 154 and 163.) (b) all encroachments terminated during the year, (c) any encroachments previously unnoticed, with details and dimensions. The number and date of each W.O. decision already obtained is to be quoted against each entry.

4.—ENCROACHMENTS.

152. No encroachment on W.D. property or rights is to be permitted unless authorized as hereinafter described. All authorized encroachments will be entered by the C.R.E. in A.B. 299, Register of Encroachments, with an appropriate number (*see* para. 172).

If unauthorized encroachments of long standing are discovered, the circumstances are to be reported to the W.O. for instructions before action is taken.

Ordinary Encroachments.

153. The holder of an encroachment under ordinary conditions will be required to enter into an agreement upon A.F. K 1290, and to pay a substantial rent or acknowledgment annually. Any special conditions which may be considered necessary are to be embodied in the agreement, the schedule to which should set forth the nature and extent of the encroachment, and should be illustrated when possible by a plan. The amount of the rent should be based upon the fair commercial value of the advantage accruing to the holder, with a minimum charge of 2s. 6d. annually.

154. Ordinary encroachments as a general rule require the previous sanction of the W.O.; but encroachments of a trivial nature may be sanctioned by the C.E. (without reference to the W.O. otherwise than in the annual perambulation report), provided that A.F. K 1290 is applicable without alteration.

155. Applications for the use of W.D. property on encroachment terms for club purposes, institute sites, church rooms, shops, public conveniences, or any municipal works, and also for the laying of gas and water pipes, drains and sewers, electric cables, or any easements that cannot readily be discontinued, must be submitted to the W.O.

156. In submitting to the W.O. any proposals in connection with encroachments, the C.E. will forward a draft of the agreement proposed, together with his remarks on the military requirements of the case, and suggestions for the assessment of a fair rent.

157. Encroachments affecting rights of light and air require special attention. Windows and apertures in adjoining premises deriving light and air from W.D. property should be dealt with by an agreement on A.F. K 1290.

If the owner declines to enter into an agreement the W.O. is to be informed.

158. Encroachment agreements when completed and signed require stamping with an *ad valorem* embossed stamp at the rate of 2/6 on every £5, or part of £5, of the amount periodically payable.

The grantee is to be required to hand over the value of the stamp to the C.R.E. or his representative at the time of signature.

159. Agreements under which payments to the W.D. become due will be forwarded on completion by the C.E. to the C.P. and thence

169. Encroachments by Colonial Government Departments require the previous sanction of the W.O. in each case and the charge of a rent will depend upon the special circumstances. In addition to any special provisions the following conditions will be observed:—

- (a) The permission shall be liable to be withdrawn at any time.
- (b) No expense in connection with the encroachment shall fall upon the W.D.
- (c) The encroachment shall not be transferred in whole or in part without the previous consent of the W.O.

The Register of encroachments need not be signed; but before the encroachment is authorized an admission in writing will be obtained from the encroaching Department that the whole of the conditions specified by the W.D. are accepted and a reference will be made in the last column of the Register to the number and date of the letter accepting them.

5.—LETTINGS.

170. The C.R.E. is responsible for securing the best possible revenue from any W.D. lands or unoccupied buildings in engineer charge not immediately required for military purposes.

The letting of canteens to civilians and of quarters in equipped barracks is arranged for by the A.S.C., under the Regulations for Supply, Transport, and Barrack Services. Other lettings of W.D. property or of rights over it are engineer duties.

171. The C.R.E. will keep a Register on A.F. K 1286, illustrated by plans, of all lettings of W.D. property. Cases in which the occupation of W.D. property by T.F. Associations or the use of W.D. ranges by civilian rifle clubs has been sanctioned will be included. The register is to shew the extent of each holding, the conditions of the letting, the description and amount of rates, taxes, and other outgoings to which the W.D. is liable on account of the property let, and the amounts derived from easements or by the sale of produce.

172. All lettings and encroachments are to be identified in the Register and on the plans attached to it by one series of consecutive numbers. (*See* para. 152.) The number is not to be altered as long as the letting or encroachment continues unaltered. When lettings or encroachments are divided or consolidated the old numbers are to be cancelled, and new numbers not previously used for any letting or encroachment will be given.

In correspondence on these subjects the number of the letting or encroachment is to be quoted, and the agreement is to be forwarded.

173. Immediately after the 31st December in each year the C.R.E. is to forward a copy of the Register on A.F. K 1286 to the W.O. Plans prepared at the station as described in R.E.S. Part 2, to illustrate the Register will be kept at the W.O. and will be returned to the station for revision as may be necessary.

174. Lettings for periods up to 3 years are made by Agreements for Letting; for periods over 3 years a lease is required. Leases will be prepared by the solicitor acting for the W.D. and will be signed by the S. of S.

175. Proposals and agreements for letting W.D. property will be made on the forms applicable to the particular description of letting in question A.Fs. K 1263, 1264, 1265, 1266, 1267, 1337 (generally); 1266A, 2404 or 2405 (which are special to Ireland); 2412 (which is special to Scotland); and on the printed forms which have been specially approved for use at certain stations.

Provision will also be made in the agreement for any further conditions required by the circumstances of the case.

176. The C.E. is to pass completed agreements and leases to the C.P. and L.A. or W.O. for notation. The C.E. must also give them due notice of any proposed termination of a letting, and keep them supplied with all necessary particulars as to rents, sale of produce, and other revenue yielded by W.D. property. Should the C.P. report that difficulty has been experienced in obtaining payments due, the C.E. must at once cause application to be made to the parties responsible for the payment.

177. In case it becomes necessary to have recourse to legal proceedings for the recovery of any sums due, the C.E. will communicate direct with the Treasury Solicitor, the W.D. Solicitor in Scotland, or the Chief Crown Solicitor in Ireland according to circumstances. (See K.R. App. VIII, and R.E.S., para. 61.) Arrears of rent are to be dealt with as laid down in K.R. App. XXII., if the G.O. i/c Adm. is satisfied that every possible effort has been made to recover the amount and that legal proceedings cannot usefully be instituted.

178. Provision is made in the ordinary agreement forms (except in the case of cottage property held on less than an annual tenancy) for insurance by the tenant against damage by fire. Corresponding provision should also be made in the name of the S. of S. for special insurance by the tenant against damage by explosion, in any case where steam boilers, apparatus for generating acetylene gas, and the like are situate in the letting. In all cases the premium receipts are to be called for annually and a note added to the Register of lettings to the effect that they have been inspected.

179. The previous sanction of the W.O. must be obtained:—

- (a) In all cases of letting for the first time of any W.D. property or rights affecting the same.
- (b) In cases of reletting where the rental exceeds £100 or substantial modifications are proposed to the terms originally approved.

Procedure in case of lettings on agreements.

180. Reletting, where the rental does not exceed £100, may be approved by the G.O. i/c Adm. provided the terms of the original agreement are not substantially modified. Such relettings need not be reported to the W.O. otherwise than in the annual return on A.F.

K 1286; but in the case of any letting where difficulty is experienced in finding satisfactory tenants, or the expenses incurred are incommensurate with the rent received, a special report of the circumstances will be made to the W.O. with a view to reconsideration of the terms of the letting.

181. The agreement is for an annual tenancy in each case (except that of cottage properties) and its renewal from year to year is absolutely subject to the requirement and discretion of the W.D. But where the conditions of such tenancy are properly observed, the tenant will not normally be liable to disturbance nor the general terms of the tenancy to revision for a period of seven years.

Prospective tenants should be so informed in each case, and it should further be explained that the amount of the stamp duty on the agreement is payable by the tenant. But no undertaking as regards material modification of the terms set out in the usual W.D. forms of agreement should be given without reference to the W.O.

182. The C.R.E. will as a general rule take steps to obtain tenants for W.D. lettings by open competition. But in cases where there are military objections to open tender or there is reason to believe that more favourable arrangements may be made by private treaty, individual offers may be submitted for W.O. approval with a report of the circumstances.

183. When recourse is made to competition, forms of tender will be sent to present competent tenants and neighbouring owners or occupiers. The letting is also to be publicly advertised, except in the case of holdings too small to justify the expense. Tenders will be addressed to the C.R.E. and will be dealt with in the manner prescribed in R.E.S., Part 2. The acceptance will be authorized by the W.O., or locally, according to circumstances (*see paras. 179-180*).

184. Agreements for lettings at home stations (other than the Channel Islands) require stamping in accordance with the provisions of the Stamp Act, 1891, copies of which are available at the station. The first Schedule of the Act (under the title Lease 3) gives the scale of duties. The amount payable on the agreement must be handed to the C.R.E. or his representative when possession is taken of the letting. In no case will possession of a W.D. letting be given until the tenant has regularly completed the agreement and paid over the amount of the duty in question (*see para. 181*). Arrangements will then be made locally to have the documents stamped without delay at the Branch Office of the Inland Revenue Department or through the medium of the local Money Order Office.

185. The original agreement when duly stamped will, after notation by the C.P., and L.A. (or W.O.) be retained in the custody of the C.R.E. or the W.D. Land Agent.

186. Tenancies which have been renewed in the ordinary course from year to year will be subject to revision at the end of seven years. A report must be furnished by the C.E. to the W.O. nine months before the expiration of that period, stating whether any and if so what increase of rent may fairly be demanded from the tenant, or whether the property should be relet by competition.

187. When lands or buildings which may at the time be let are required for military purposes, the G.O. i/c Adm. when submitting the question to the W.O. will report the date by which possession should be obtained, and will state the date up to which the property is let, and the amount of compensation, if any, which under the agreement would have to be paid to the tenant for resuming possession at the required period.

188. When notice has been given on either side to terminate a letting agreement, steps must be taken without delay to find a suitable tenant, and arrangements for reletting should be completed well in advance of the expiration of the existing tenancy. It is important that W.D. property should not be allowed to lie vacant, and any case where it is not proposed to relet must be reported to the W.O.

Procedure in case of letting on lease.

189. Proposals to let W.D. property on lease for a term of years require W.O. sanction: no such leases will be renewed without reference to the W.O. In reporting to the W.O. on such proposals the C.E. will give his views as to the amount of rent that should be charged, with any information that may assist in the assessment of a fair rent; but care should be taken not to commit the W.D. in advance as to the amount of the rent or other special conditions of the lease. It is also important that in reporting upon applications for leases, especially on behalf of Institutes, Officers' or Soldiers' Clubs, and the like, he should ascertain by careful enquiry that there is no reasonable prospect of the land in question being required for W.D. purposes within the period of the proposed lease.

190. When W.O. sanction has been obtained to the general conditions of the lease, the C.E. will communicate direct with the Treasury Solicitor, the Chief Crown Solicitor for Ireland, or the Solicitor to the W.D. in Scotland, as the case may be, furnishing all information and plans necessary for the preparation of the lease.

191. Possession is not to be given without W.O. authority until the completed lease has been handed to the lessee. Arrangements for stamping leases will be made by the solicitor acting for the W.D.

192. The counterpart of the completed lease is to be sent to the W.O. for notation and custody, together with a copy of the text and plan. A copy of the text with plan should also be retained locally. Copies of the text are to be obtained from the solicitor acting for the W.D.

193. A report is to be furnished to the W.O. nine months before the expiration of any lease, stating the date of determination and making recommendations for dealing with the property.

194. In any case where it may become necessary through military exigencies to resume possession of land or buildings within the period of a lease, a report of the circumstances is to be submitted to the W.O. for instructions.

Procedure in special circumstances.

195. The instructions for lettings at home stations are to be observed at stations abroad, as closely as local circumstances, customs, and laws permit.

196. When suitable W.D. land can be spared allotments may be made for soldiers' gardens (as provided in the K.R.) and the ground handed over to O. i/c Bks., subject to the following conditions:—

- (a) W.O. sanction is not necessary, but a record of any areas so allotted is to be included in the Register of Lettings on A.F. K 1286 and in the letting plans.
- (b) No rent will be charged, but the land will be liable to resumption at any time by the W.D. without compensation to the occupants.
- (c) The total allotment is not to exceed the area requisite to supply vegetables for the use of the regiment or corps by which the gardens will be cultivated, and no allotment to an individual is to exceed 1/12th of an acre.
- (d) In cases where allotments exceed these dimensions the excess is to be rented at its fair value and will be subject to the same conditions as other W.D. lettings.

197. Territorial Force Associations may be permitted to occupy available W.D. property free of rent under special agreement, the terms of which must be referred to the W.O. in each instance. A record of any such occupation should be included in the Register of Lettings on A.F. K 1286.

198. The use of W.D. rifle ranges will be allowed to civilian rifle clubs at the discretion of G.Os. i/c Adm. (without report to the W.O. otherwise than in the annual return on A.F. K 1286) on the following conditions:—

- (a) No expense is to fall on the public.
- (b) The practice of the Regular and Territorial Forces is not to be interfered with.
- (c) The club to pay a charge of 1/- per member per annum, and to make good any damage not attributable to fair wear and tear, and any working expenses, e.g., markers where provided.

The sums received will be credited to Vote 10, Appropriations-in-Aid, Rent of W.D. Lands. Each permission will be assigned a letting number and notified by the C.R.E. through the C.E. to the C.P. and L.A. or W.O.

199. Timber, grass crops, and all produce of W.D. land, where such land is not let or where the disposal of such produce is not covered by the existing agreement, will be sold, or otherwise disposed of, to the best advantage of Army Votes. The C.R.E. will as a rule take steps to obtain tenders by open competition in accordance with the instructions contained in R.E.S., Part 2. But in the case of trivial sales, where the amount involved is inadequate to justify the labour of the ordinary procedure by open tender, individual offers may be accepted on the certificate of the C.R.E. that the price is fair and reasonable.

6.—TRANSFERS BETWEEN PUBLIC DEPARTMENTS.

200. Transfer of lands between public departments will be effected without payment except in the case of the estate of the Crown. If however the property is in actual use the department to which it is to be transferred may be called upon to reprovide equivalent accommodation in accordance with modern requirements at its own expense.

201. In the case of formal transfers between the W.D. and other public departments, the terms of the transfer will be approved by the W.O. and noted in the property statement. Unless otherwise specified the occupying department will bear all charges and receive all revenues in connection with property so transferred, which will revert to the owning department for disposal when no longer required for the public service.

202. When the property of one public department is temporarily occupied by another, no charge for rent will be made, and such occupation of W.D. property by another department for purely temporary purposes may be treated as an encroachment (see para. 166). The terms of such occupation must be referred to the W.O. in each case; and where buildings are involved the following arrangements will be made:—

- (a) Inventories in duplicate will be taken, signed and retained by the C.R.E. and the representative of the department concerned, giving particulars of the building (with list of fixtures) and its condition at the date of transfer, with a view to its subsequent resumption by the W.D. in the same state, due allowance being made for fair wear and tear.
- (b) The department in occupation will bear all charges and will be responsible for keeping the premises in substantial repair; but they will make no structural alterations without the consent of the W.D., whose representatives will be allowed to satisfy themselves by occasional inspection that these conditions are being carried out. Buildings in charge of the Constabulary in Ireland will be inspected quarterly by the D.O., but any expense necessary for maintenance will be defrayed by the Receiver General of the Constabulary.
- (c) The W.D. will grant such assistance as the department concerned may require in the execution of repairs at the expense of the occupying department; and in the case of Admiralty buildings lent to the W.D. all such repairs and alterations will be carried out by the Works Department of the Admiralty on the requisition of the C.R.E., the cost being borne by the W.D.

203. In transactions with the Crown Revenue Department, the Duchies of Cornwall and Lancaster, the Government of a Colony or any public body supported from local or municipal rates, rent will be paid when claimed and authorized.

Before authorizing the payment of a rent to a Colonial Government, the question whether the property should not be provided free of cost under the Colonial Military Lands Circulars should be considered and, if necessary, referred to the W.O.

204. In the case of Crown property held rent free by the W.D. the following rules will be observed:—

- (a) The W.O. will obtain the assent of the Office of Woods to the alienation, or granting of any permanent rights in respect of such property, and also to any letting for a period of more than 3 years.
- (b) The proceeds of any sale of such property will be credited to the Office of Woods, to whom also any rents derived from the letting of such property will be paid over annually, subject to a deduction of 15% to cover the cost of W.D. management and collection. But any sums received by way of acknowledgment for encroachments will be retained by the W.D.

205. For the due protection of the rights of the Crown in foreshore it is necessary, in transactions with proprietors of lands abutting on the sea, to avoid any tacit or express admission of any claims by such proprietors to the adjoining foreshore or rights thereover, pending reference to the Office of Woods and Board of Trade. Any proposals involving the purchase, lease, or acquisition of any rights over foreshore from a private person must be referred to the W.O. with a report of the circumstances, before any negotiations are commenced, in order that the necessary steps may be taken to investigate and safeguard any Crown rights.

7.—HIRINGS.

206. Lands or buildings temporarily required for W.D. purposes may be hired, subject to the detailed instructions hereinafter laid down, in the following manner:—

- (a) Where the period of the proposed hiring does not exceed three years, arrangements will be made by means of an agreement for hiring.
- (b) Where the period of the proposed hiring exceeds three years, steps will be taken to obtain a formal lease, the counterpart of which will be signed by the S. of S.

207. The hiring of lands is in all circumstances an engineer service. The hiring of buildings to supplement barrack accommodation is administered by the A.S.C. under the Regulations for Supply, Transport, and Barrack Services; but in cases of a hiring for a period of over 3 years the local negotiations will be conducted and the draft lease submitted to the W.O. by the C.R.E.

208. Proposals to hire buildings for the use of the troops are to be referred to the C.R.E., with a view to a technical examination of the premises being made as regards:—

- (a) Their structural suitability for the purpose required;
- (b) The conditions as regards fire protection and the safety of any steam or hot water boilers;
- (c) The cost of any engineer services involved for work or fittings.

The C.R.E. is to report whether the requirements could not be met more economically by the erection of temporary buildings or by resuming possession of land or buildings temporarily let by the W.D.

209. Before any agreement is signed the C.R.E. must cause a list of fixtures to be taken and the state of repair to be recorded, and is to invite the landlord to sign the list of fixtures and the record. Any payment made to the lessor for work done by him at the direction of the C.R.E. to render the premises fit for W.D. purposes is chargeable to the vote for Works, unless payment for such work is to be made by means of an increased rent.

210. Any expenditure on repairs for which the W.D. is liable will be charged to the vote for Works; and before any engineer services are carried out on hired premises, the D.O. must satisfy himself that such services do not contravene any of the conditions of the hiring and that the lessor is not liable for the cost of the work in question under the terms of the agreement. Reference must be made for this purpose to the actual agreement in each case, as the terms in regard to repairs of hired premises must be determined to a large extent by local custom and the particular circumstances of the hiring. In the case of hirings abroad and in Scotland no general rules can be laid down and each case will be considered on its merits; but in the case of hirings at other home stations, endeavour will be made to secure the following provisions as regards the incidence of repairs, unless terms more advantageous to the W.D. can be obtained:—

Nature of Tenancy.	Repairs to be executed by		Damage by fire to be made good by
	W.D.	Landlord.	
Agreement not exceeding 3 years	§	All†	Landlord.‡
Lease not exceeding 21 years ...	*All except Structural	Structural†	Landlord.‡
Lease for over 21 years ...	*All	—	W.D.

* Periodical services to be carried out in accordance with para. 466.

† If the landlord fails to carry out his covenant within a reasonable time, the W.D. to have the right to execute repairs of an essential nature, deducting the cost from the rent.

‡ If the premises are rendered uninhabitable by fire, or any cause not the act or default of the tenant, the payment of rent to cease, pending reoccupation.

§ Periodical services to be carried out by the W.D. only when the landlord refuses to do them and it is not considered desirable to give up the premises.

211. Hired buildings are to be inspected by the D.O. before the expiration of the hiring to ascertain the amount of the dilapidation fairly chargeable to the public. Any payment to the lessor for repairs certified by the C.R.E. to be necessary and for which the W.D. is liable under the agreement will be chargeable to the vote for Works.

Procedure for hiring by Agreement.

212. The hire of buildings to supplement Barrack accommodation for periods of 3 years or less, is an A.S.C. service under paras. 40 and 41, Regulations for Supply, Transport, and Barrack Services. Agreements for the hiring of land and buildings other than those to supplement barrack accommodation for a period of 3 years or less may be arranged by the C.R.E. and authorised locally subject to the following conditions:—

- (a) That the hiring is of an ordinary character and the A.Fs. appropriate to the nature of the hiring, K 1334, K 1341, (England and Wales), and K 1338 (Ireland), are applicable without material alteration.
- (b) That the rent under each separate agreement does not exceed £100 in the case of a new hiring nor £500 in the case of a hiring previously approved by the W.O. and continued on the same terms.
- (c) No payments materially in excess of local market rates will be sanctioned.

213. In all other cases the previous sanction of the W.O. is necessary to proposals for the hiring of land. Any draft agreement containing exceptional terms must be referred to the W.O. for instructions. Local officers should avoid any action liable to commit the W.D. prematurely, and should be careful not to give verbal undertakings on points not covered by the written agreement. It is particularly important to avoid the hiring of land for short periods at a relatively high rental in cases where (owing to the special suitability of the particular area for military purposes) the acquisition of a more permanent tenure may be necessary eventually.

214. A return of new hirings of property (other than buildings to supplement barrack accommodation) for periods not exceeding 3 years entered into during the previous 12 months is to be prepared by the C.R.E. on A.F. K 2413 and forwarded through the C.E. to the W.O. on 1st October in each year, together with a similar return on A.F. K 2414, in respect of hirings surrendered during the same period.

Procedure for hiring by Lease.

215. No land or buildings are to be hired on lease for a term in excess of three years without the specific authority of the W.O.

216. Before submitting to the W.O. proposals for the hiring of lands or buildings on lease the C.E. must take steps to

ascertain full particulars of all outgoing in connection with the property payable by the lessee, and the estimated cost of any accommodation works required by the lessor. It must be made clear that any terms provisionally arranged are subject to W.O. approval; and the W.D. must not be committed in any way. The rateable value of the property is to be reported, with any other facts that may assist in the assessment of a fair rent. The W.D. accepts liability for local rates (met by a Treasury contribution), but does not undertake to bear charges for land tax under ordinary circumstances.

217. When sanction has been received from the W.O. for a hiring on lease a draft lease will be obtained by the C.R.E. from the lessor. Without further negotiation or verbal communication with the landlord, the draft will be forwarded with the C.R.E.'s remarks to the W.O. for consideration. In Scotland the draft is to be referred to the Solicitor to the W.D. in Edinburgh, and in Ireland to the Chief Crown Solicitor, before it is forwarded. (*See* para. 717.)

When a copy draft lease, with notes and queries by the Legal Adviser to the W.D., is received for remarks, the copy draft is not to be parted with, nor its contents disclosed to the other side.

218. When a lease has been completed the original will be kept at the W.O. and the counterpart will be sent to the lessor; a copy of the lease will be supplied for retention locally. In Scotland, this copy lease will be prepared by the Solicitor to the W.D. in Edinburgh, and in Ireland by the Chief Crown Solicitor.

Generally.

219. The agreement, or lease and counterpart, for hirings in England and Wales, should be transmitted for stamping direct to the Treasury Solicitor, Treasury Chambers, Whitehall, S.W.

In Scotland, when the period of the hiring is over a year, both the agreement or lease and counterpart will be stamped. Arrangements for stamping will be carried out by the lessor, or, when necessary, by the W.D. Solicitor in Scotland. The cost of stamping will be borne one half by the lessor and one half by the W.D.

In Ireland, agreements or leases and counterparts will be stamped after execution. They will, unless stamped by the lessor, be sent for the purpose to the Chief Crown Solicitor for Ireland. The W.D. in either case will bear the cost.

At stations abroad the local law of the Colony must be followed as regards the stamping of agreements or leases.

220. Completed agreements are to be guarded by the C.R.E. in A.B. 22A, Guard Book for Abstracts of Leases.

221. Claims for rent of land hired by the W.D. will be certified by the C.R.E. on A.F. P 1953, and forwarded through the C.E. to the C.P. for adjustment under Vote 10. In the case of rents for buildings to supplement barrack accommodation, chargeable to Vote 6, the necessary action will be taken by the A.S.C. in accordance with the Regulations for Supply, Transport, and Barrack Services.

222. Rent in respect of land or buildings hired by the W.D. must not be paid to any person other than the owner for the time being except under the written authority of the latter.

On a change of ownership rent may be paid to the new owner under the written authority of the previous owner. In the absence of such authority a written application from the new owner should be awaited, and, when received, forwarded to the legal adviser of the W.D. for instructions, together with (in the case of a change of ownership caused by the death of the lessor) the probate of the will or letter of administration to his estate, which should be obtained for that purpose.

In all cases of change in the ownership of property hired by the W.D. the name of the new owner is to be reported to the W.O. for notation.

223. Before the expiration of the term for which lands or premises have been hired on lease by the W.D., the C.E. is to forward a report, through the G.O.C., to the W.O. stating the date on which the tenancy of the W.D. will cease. This report must be made in sufficient time to allow of a renewal or a new lease being arranged, if required; and in ordinary cases is to be rendered at least 9 months before the expiration of the existing lease.

224. W.O. sanction is necessary to the renewal of a lease, and in renewing any existing agreement it is not usually advisable to disturb the previous provisions. Should the rent be considered excessive however, or should any of the terms of hiring have proved unsatisfactory, the renewal of the agreement should be made contingent upon obtaining better terms, failing which, the circumstances should be reported to the W.O. for instructions.

8.—TITHES, TAXES, AND RATES.

225. Claims for tithes and other charges on lands and buildings owned or rented by the W.D. (other than buildings hired to supplement barrack accommodation) are to be prepared, certified, and forwarded to the C.P. by the C.R.E. The amounts are to be entered in the Register of Rent Claims, A.B. 62.

226. Claims for rates in respect of lands and buildings owned or rented by the W.D. are dealt with by the Treasury, and if put forward are to be certified locally by the C.R.E. (except in the case of buildings hired to supplement barrack accommodation by the A.S.C.) and forwarded direct to the Secretary to the Treasury, Whitehall.

227. Claims for rates (including water rates) and other charges in respect of buildings hired to supplement barrack accommodation, will be dealt with by the A.S.C. in accordance with the Regulations for Supply, Transport, and Barrack Services.

228. At stations abroad rates and taxes to which the W.D. is liable, as well as any other charges in respect of property owned or rented by the W.D., will be paid locally by the C.P.

Tithes.

229. Tithe rent charge on W.D. land is payable by the public. A return (on A.F. K 2415), made up half yearly to September 30th and March 31st is to be forwarded by C.R.E. through the C.E. to the C.P., showing any changes that have taken place during the half year in the amount of tithe payable by the public.

230. The acreage of land owned by the W.D. which is liable to tithe may be ascertained by inspection of the tithe commutation award in the Parish Church. The net amount payable for tithe varies from year to year, and the current value is given in the recognised tithe commutation tables, which are published annually and can be obtained on requisition from the Stationery Office.

Taxes.

231. Income Tax Schedule A is payable to the Inland Revenue Collector by the occupant of W.D. quarters held rent free for a fixed or practically fixed term; and where such quarters are not situate in barracks, the occupant is also liable (except in Ireland) for inhabited house duty. But no income tax is payable under Schedule A in respect of W.D. lands or buildings let to tenants when the period of letting is less than a year, or, in the case of a dwelling-house, when the annual value of the holding is less than £10. Where the grazing or agistment of W.D. lands alone is let, no Income Tax under Schedule A or B is payable.

In the case of Income Tax Schedule A on property hired by the W.D., and also of Land Tax (where not payable by the W.D. under the terms of the lease), payment will be made locally to the Inland Revenue collector, but the amount will be deducted from the next payment of rent to the lessor. Where property so hired is sublet by the W.D. any deduction allowed to the tenant for Income Tax will involve a corresponding deduction from the rent payable by the W.D. to the lessor, and the C.P. must be notified accordingly.

232. Other claims to taxes made by a collector of taxes, which are not withdrawn locally by the District Surveyor of the Inland Revenue Department, in respect of W.D. premises, whether hired or not, are to be forwarded to the W.O.

Rates.

233. Premises occupied for the public service are exempt from the payment of local rates, but Treasury contributions are made in lieu. The local civil authorities are therefore under the same obligation to the W.D. as to an ordinary ratepayer as regards all services normally discharged out of rates in connection with roads, drainage, sanitary services, water supply and the like; and no special claim rests upon the W.D. to contribute towards capital expenditure by local civil authorities on any other basis than that of a ratepayer through the Treasury contribution. In the event of their

refusal to discharge any such service reasonably demanded by the C.R.E. the correspondence is to be forwarded to the W.O. (See paras. 237 and 505.)

234. Persons making applications regarding the valuation for rating purposes of property in the occupation of the Crown or the amount of the Government contribution in lieu of rates should be referred to the Treasury Valuer and Inspector of Rates, Treasury, London, S.W. Local officers are to decline to be drawn into correspondence or conversation on these subjects.

235. When it is decided, at home stations, to relinquish or vacate lands or buildings or parts of buildings hired or occupied by the W.D., or to dismantle and hand over to engineer charge a barrack which is likely to remain unoccupied for more than six months, a report with illustrative map or plan is to be forwarded by the C.R.E. to the Treasury Valuer on A.F. K 1305 giving particulars of the property and stating, in the case of a barrack, whether any accommodation is retained for the storage of furniture, etc. This return is to be submitted as early as possible and not later than three months before the date on which it is proposed to vacate.

236. A similar report, with map or plan, will be rendered by the C.R.E. to the Treasury Valuer on A.F. K 1319 as early as possible :—

- (a) When it is decided to occupy or reoccupy any land or buildings on behalf of the W.D.
- (b) When grazing tenancies are let or relet for the first time on terms which relieve the tenant of liability for the payment of rates, in which case full particulars of acreage, etc., should be given.

9.—MISCELLANEOUS.

Grants in Aid.

237. Any application for special grants in aid of works proposed by local authorities, Colonial Governments, etc., are to be referred to the W.O. (See para. 233.)

The W.D. is not to be committed in any way without authority.

Claims for Damage to Roads by W.D. Traffic.

238. Claims on account of alleged damage to roads by W.D. traffic will, whatever the immediate cause, be investigated by the Engineers and reported to the W.O. Claims which cannot be settled locally under K.R., App. XXII, are to be referred to the W.O.

239. Local rating authorities are responsible for the maintenance of roads within their jurisdiction to a standard adequate for the requirements of the ordinary traffic of the district, and no claims on account of damage by W.D. traffic can be entertained unless it can be shown that the traffic in question was extraordinary. To

establish a claim in respect of such "extraordinary traffic" as recently defined:—

"It must be shown that the articles carried (in quality or quantity) or the user of the road (in time or mode) were so exceptional as substantially to alter the burden imposed by the ordinary traffic of the road and give rise to special expense directly attributable to these exceptional circumstances. The mere user of the road under ordinary conditions by one person more than others does not of itself constitute extraordinary traffic or establish a special claim in respect of any damage that may arise. If the ordinary traffic on the road be increased by some exceptional cause, such as the inception of building operations on a large scale or the establishment of a considerable camp, the damage and expense arising therefrom could be properly attributed to 'extraordinary traffic.' But any permanent increase to the traffic of the road on the completion of such operations could not be properly regarded as 'extraordinary.'"

240. In order that claims may be properly checked, notice should be given to the local authorities concerned whenever any road is likely to be subjected to extraordinary traffic, so that before the traffic commences the roads may be carefully inspected by an engineer officer and the Surveyor to the local authority, and the condition of the road noted.

241. In the case of building contracts under engineer supervision containing a clause under which the contractor undertakes to indemnify the W.D. against claims for damage to public roads in respect of extraordinary traffic arising out of the contract, the local authorities concerned are to be notified of the existence of the clause before the commencement of the work, and are to be warned that in the event of such damage arising, any claim on their part in respect thereto should be made and enforced against the contractor.

Claims in respect of damage by gunfire, &c.

242. The W.D. does not admit any liability in respect of inconvenience to adjoining owners or damage to adjoining property arising out of the normal and proper use of forts, batteries, and other property of the W.D. for the ordinary purposes of military defence. Every reasonable effort is to be made for the firing of heavy guns in such a manner as to cause the least possible inconvenience or damage to adjoining owners and property, but no claims for compensation in respect of such damage or inconvenience can be entertained in any ordinary circumstances.

243. In cases where damage has been caused by neglect of ordinary precautions, or firing under altogether exceptional conditions, or generally where any nuisance is alleged to have arisen out of the user of W.D. estate due to neglect on the part of W.D.

employees, or circumstances not normally incident to the use of such property for military purposes, a report of the facts is to be submitted to the W.O. for instructions.

By-laws.

244. The S. of S. is empowered under the provisions of the Military Lands Acts, 1892 to 1903, to make By-laws in connection with the formation and use of artillery ranges, rifle ranges, camps, and the like, and for the general regulation of the public user of W.D. lands.

Proposals for the making of By-laws should be submitted to the W.O. with a draft of the By-laws suggested and a plan.

Parliamentary Bills, &c., affecting W.D. interests.

245. In reporting upon Parliamentary Bills, draft Provisional Orders, notices of Local Government Board Enquiries into schemes for local buildings and improvements, and the like, referred by the W.O. for local investigation, the C.E. is to consider whether W.D. proprietary interests are in any way affected, and also whether any provision is necessary to reserve sites or enforce other special conditions in view of actual or contingent military requirements. The report must be furnished expeditiously and be accompanied where necessary by illustrative plans. (*See para. 45.*)

Rifle Ranges.

246. W.D. ranges are on engineer charge, and the provision and maintenance of all appliances is an engineer service.

Further instructions are contained in the Musketry Regulations Part 2.

Military Burial Grounds.

247. The D.O. is responsible that military burial grounds are kept in good order, that the boundary fences are in a state of repair, and that the ground is properly apportioned for the graves.

248. A space of 9 feet by 4 feet is to be allotted for each grave. The ground will in all cases be well drained. The graves are to be dug to allow a minimum of 5 feet of earth between the lid of the coffin and the surface of the ground.

249. A register is to be kept by the C.R.E. of all interments, shewing the name of the deceased, date of interment, name of the officiating chaplain, and the position of the grave.

250. Only (a) officers on full pay, (b) warrant officers, non-commissioned officers and soldiers who die while serving with the colours, and (c) members of their families who die at the station, are entitled to burial in military cemeteries, unless the deed of dedication should otherwise provide.

251. Memorials, monuments, or tombstones are not to be erected in garrison churches or chapels or in military cemeteries without the sanction of the G.O. i/c Adm., to whom the C.E. will report as to the appropriateness of the design after conferring with the senior chaplain of the denomination to which the deceased belonged. (*See also K.R. para. 1040.*)

252. Memorials in garrison churches or chapels should be so designed as to harmonise with the decoration of the interior. Except in special cases their erection should not be sanctioned unless the individual whose memory it is proposed to perpetuate was at the time of his death on full pay on duty at the station to which the church or chapel belonged.

The design and the inscription is to be submitted to the W.O. for approval.

253. Monuments are not to be repaired at the public expense, and if allowed to fall into disrepair are liable to removal.

SECTION VI.—ESTIMATES.

1.—GENERAL.

254. The parliamentary estimates for engineer services are compiled at the W.O. from estimates prepared locally.

Separate estimates will be prepared locally for each engineer District.

255. Vote 10 of the Army Estimates is divided into sub-heads, the principal sub-heads being:—

- Staff for Works and Engineer Services.
- Permanent Telegraph, Telephone, and Signal Services.
- Part 1 Services for—
 - Fortifications and Artillery Ranges.
 - Army Ordnance Buildings.
 - Barracks, Hospitals, and Rifle Ranges.
- Part 2 Services, }
- Part 3 Services, } as above but omitting rifle ranges.
- Miscellaneous Engineer Services.

256. The sub-division into parts is on the following principle.

Part 1 includes every service the total cost of which is estimated at £2,000 and upwards. Each Part 1 service is specifically described in the Army Estimates.

Parts 2 and 3 are for services estimated at under £2,000 each, the distinction being that expenditure on Part 2 services is capital expenditure, and that on Part 3 services is maintenance expenditure. Individual services are not shown in the Army Estimates.

Part 2 includes new works, additions, alterations, and certain replacements (*see* para. 257).

Part 3 includes ordinary and current repairs, renewals, periodical services, and maintenance.

257. The replacement of a fitment by one of a better class will be a Part 2 service if the existing fitment be still serviceable, but a Part 3 service if it be worn out so as to require renewal in any case.

The same rule applies to a building partially renewed; but when a building requires to be rebuilt, whether in the same or different material, the service will be for Part 1 or Part 2, according to the amount of the estimate, and not for Part 3.

258. Parts 2 and 3 are further subdivided into Major and Minor Services.

Part 2 Major services are those estimated at £100 or over.

Part 2 Minor services are those estimated at under £100.

Part 3 Major services are those estimated at £1,000 or over.

Part 3 Minor services are those estimated under £1,000.

As to what these estimates include, *see* para. 263.

259. The estimates for Fortification and Artillery Ranges services include works connected with fortifications, sea walls which form an integral part of a battery or fort, batteries, artillery and store magazines, shell-filling rooms, side-arm sheds,

stores in connection with the armament of batteries, artillery practice ranges, laboratory buildings, tanks in fortresses, buildings in connection with telegraph, fixed telephone, and signal stations, defence electric light establishments, and torpedo installations.

260. The estimates for Army Ordnance Buildings include all buildings, offices, storehouses, magazines, and workshops for A.O.D. use, and quarters at stations where desirable for administrative reasons; also the construction and maintenance of machinery for A.O. services in connection with the above when chargeable to the vote for Works, but not the maintenance of machinery which has on completion been handed over to the charge of, and for maintenance by, the R.A. or A.O.D.

261. The estimates for Barracks and Rifle Ranges include barracks, regimental magazines, hospitals, chapels, schools, recreation establishments, military prisons, gymnasia, platforms for gun exercise in barrack enclosures, sea walls (except as specified in para. 259), rifle ranges, detention barracks, exercising and drill grounds, repository buildings, recreation grounds, military colleges, and works in connection with camps; also officers' residences, quarters, and offices, together with storehouses and workshops, the construction and maintenance of all wells, pumps and reservoirs, and other works for the supply of water, as well as of all machinery and engines chargeable to the vote for works, whether worked by steam or other power, and boilers and other apparatus for heating and hot water supply in connection with the above services, except as provided for in paras. 294 to 296.

262. The instructions in paras. 259 to 261 as to the estimate in which services are to be provided for cannot provide for every imaginable service. Doubtful cases are to be decided locally by the G.O. i/c Adm. in general accordance with the above paras. as such cases arise, the decision being based on administrative convenience.

263. The sums named as approximate estimates will include the cost of—

Clearing the site and levelling ground.

Fencing.

Formation of the necessary roads.

Water supply.

Drainage.

Artificial light supply.

Reprovision of accommodation absorbed or dismantled.

Working pay of military working parties.

Contingencies, 5% on the total (with a maximum of £500).

Cost of:—

(a) Stores obtained under D.F.W. Contracts, or purchased locally.

(b) Carriage of such stores to some engineer store in the United Kingdom, or to Woolwich if to be shipped to a foreign station.

(When unknown this may be estimated at 10% on the cost of the stores.)

(c) Transport chargeable to the vote for Works, viz.:—

- (i) Removal of stores from the store, or other place of deposit, in engineer charge on the site of the work, to their final position in the work.
- (ii) Removal of proceeds of excavation, or demolition, and of stores, taken from the works, to the store, or other place of deposit in engineer charge, on the site of the work.

In the case of estimates for works over £5,000.—In addition—the cost of:—

Maintenance of roads on W.D. property outside the specific area handed over to the contractor, due to the extra traffic involved.

Preparation of Record plans.

264. The following, although included in the gross cost of services when completed (*see* para. 416), will not be included in the sums named as approximate estimates:—

The cost of:—

- (a) Purchases of land and compensation to tenants for disturbance. (These should be made the subject of separate communications.)
- (b) Salaries and allowances for superintendence.
- (c) Transport chargeable to the vote for Transport, viz.,
 - (i) Removal of stores from one Government store to another.
 - (ii) Removal of stores from a Government store to the store, or other place of deposit, in engineer charge on the site of the work.
- (d) Vocab. stores chargeable to the vote for Ordnance stores.

265. The proceeds of all sales are credited to Appropriations in Aid of the vote for Works, and are not available for expenditure at a station (*see* para. 5).

2.—CONSIDERATION OF SERVICES.

266. Officers commanding cavalry, royal artillery (horse and field), and infantry units will submit at any time all proposals for new engineer services, other than electrical, to the general officer (or in the case of artillery units, the officer) commanding their brigade, who will, if he approves, forward them to the C.R.E.

All other commanding officers and heads of departments will forward their proposals direct to the C.R.E.

267. Services involving reappropriations will be dealt with as directed in the K.R.

268. If the C.R.E. is unable to carry out at once the services asked for, whether from lack of funds or authority, or because he does not concur in the desirability of the service, he will refer

the matter, after consulting the officer commanding troops at the station, to the C.E. of the command, giving the approximate cost of the service and other necessary details.

The question will then be considered by the G.O. i/c Adm., who, after consultation with his staff and heads of departments, will, if he thinks that the service is desirable but is unable to sanction its immediate execution, give instructions for it to be included in the Estimates Book as directed in paras. 271 and 272.

All Part 1 services will be referred to the W.O. before being placed in the Estimates Book.

New services under £100 considered by the C.R.E. and the officer commanding troops at the station to be desirable, need not be referred to the C.E. before being placed in the Estimates Book.

Services brought forward by the C.R.E. or his staff will be dealt with in a similar manner.

269. The D.O. must keep a record of all services brought forward, whether they are approved for insertion in the Estimates Book or not.

270. Repairs and maintenance services are to be dealt with on the same principle as new services. When a necessary repair is brought to the notice of a D.O. he will either (1) carry it out, charging the cost to the funds placed at his disposal for the purpose, or (2) refer it to the C.R.E., or (3) note it in a book kept for the purpose, for consideration when compiling the list of services which he proposes should be included by the C.R.E. in the annual district list of maintenance services. When a necessary maintenance service is brought to the notice of a C.R.E. he will either (1) order the D.O. to carry it out and to charge the cost to funds placed at the D.O.'s disposal for the purpose, or (2) refer it to the C.E., or (3) order the D.O. to bring it forward for inclusion in the annual district list.

3.—ESTIMATES BOOKS.

271. Separate Estimates Books are to be kept by each C.R.E. for:—

- (1) Fortification and Artillery Range services.
- (2) Army Ordnance Building services.
- (3) Hospital services.
- (4) Barrack and Rifle Range services.

272. These books are to be amended periodically; completed services, or those which are rendered unnecessary by changes of policy, etc., will be struck out, the reasons for such action being inserted.

No uncompleted service which has been inserted by order of the G.O. i/c Adm. is to be struck out without his sanction.

These books (or the D.O.'s record of services brought forward, *see* para. 269) will be produced at inspections of Barracks, Hospitals, Fortifications, or Army Ordnance buildings, by administrative officers.

4.—SELECTION OF SERVICES FOR THE ANNUAL ESTIMATES.

273. When a proposed service involves an increase in capital or annual expenditure not directly chargeable to Vote 10, care must be taken that the branches which administer the vote or votes affected concur in the proposal before the service is approved or submitted to the W.O.

274. Statements of the services proposed for inclusion in the B.A.E., F.A.E., or A.O.B.A.E. for the ensuing financial year will be rendered by the C.R.E. to command head quarters on such dates as may be prescribed locally. The services proposed will be selected with the concurrence of the commanding officers and heads of departments concerned, the Estimates Books being made the basis of the selection.

275. Precedence is to be given to services the omission of which would be injurious to the health of the troops.

276. Funds are rarely sufficient to provide for more than three or four Part 1 services in any one Command. If the number of such services inserted in each statement of each District is limited to that number the G.O. i/c Adm. will have before him ample services from which to select the three or four he recommends to the W.O. as most urgent in the whole Command. To insert a greater number in a district statement is superfluous.

277. The total expenditure on Major and Minor Part 2 services and the expenditure on Minor Part 3 services ultimately sanctioned is largely based on the actual average expenditure under those heads in the previous three years. These averages, therefore, are to be inserted in the statements.

278. The total allotment requested for all Part 2 services should rarely exceed double the average total Part 2 annual expenditure.

In the case of Fortification and Barracks services the allotment requested for Part 2 Minor services must not exceed the average total Part 2 annual expenditure.

5. PREPARATION OF THE ANNUAL STATEMENTS.

(For stations abroad see also paras. 305 and 306.)

279. Separate statements will be prepared as follows, in each engineer District, for:—

A. *Fortifications and Artillery Ranges.*

Sub-divided into

- (a) Part 1 services.
- (b) Part 2 Major services.
- (c) Part 2 Minor services (lump sum).
- (d) Part 3 Major services.
- (e) Part 3 Minor services (lump sum).

B. *Barracks and Rifle Ranges.*

Sub-divided as above, with separate sub-divisions for Rifle Range services.

Both the above will be rendered on A.F. M 1401, not in duplicate.

C. *Army Ordnance Buildings*
and

D. *Hospitals.*

Sub-divided as for A (*Fortifications*) except that every Minor Part 2 service for which funds are asked should be described separately by name.

Both the above will be rendered on A.F. M 1400 in duplicate.

280. Entries in the forms should be typewritten.

Named services should be entered in order of urgency, the most urgent first.

The names or descriptions should be very concise.

281. Part 3 Minor services (Barracks) include periodical services; barrack damages; minor repairs to barracks, roads and parades, and the other works and buildings enumerated in para. 261; the maintenance of all barrack machinery chargeable to the vote for Works, of drainage, lighting and water supply systems, and of burial grounds; and the winding and repair of exterior barrack clocks.

282. For the procedure as regards Permanent Telegraph, Telephone, and Signal services, see "Instructions for the Provision and Maintenance of Electrical Communications in Fortresses, etc."

283. As regards Fortification services:—

- (a) The views of Coast Defence Commanders will be obtained before the statements are submitted to command headquarters.
- (b) Any alteration or addition to a work of defence affecting the object for which it was constructed will be referred to the W.O. for approval before being placed in the Estimates Book (see also para. 632).

284. The G.O. i/c Adm. will have the statements revised as he may consider desirable, will enter his remarks on the proposals, and will give his recommendation in the column provided for the purpose as to the order of urgency of the various named services.

285. Although separate statements are forwarded for each engineer District the remarks of the G.O. i/c Adm. should be based upon the command requirements as a whole.

286. The G.O. i/c Adm. will then transmit the statements to the W.O. arranging the whole of the above procedure so that they may arrive there by 1st October.

Although Part 1 services (not exceeding four for each command—*vide* para. 276) may be included in these statements with a view to shewing the latest command order of urgency, they must in each case have already received full consideration both locally and at the W.O. All new proposals for Part 1 services, when fully matured, should in the first case be submitted to the W.O. independently of the annual estimates (see para. 268).

287. The statements will be accompanied by an estimate (on A.F. M 1430)

- (i) of the incidental expenses connected with the management and maintenance of the W.D. property from which revenue is derived,
- (ii) of rents payable other than for the hire of buildings to supplement barrack accommodation, and
- (iii) of the anticipated appropriations in aid of the vote for Works (excluding the proceeds of sales of lands and buildings) for the ensuing financial years.

As regards proposals for land purchases *see* para. 141.

288. When it is proposed to incur expenditure in connection with buildings, etc., on land the tenure of which is not freehold, this fact should be brought to notice when submitting the proposal for approval.

289. As soon as the amount likely to be available on the vote for Works has been determined the probable allotments will be notified to the Command.

290. As soon as possible after the probable allotments have been notified, a skeleton estimate (on A.F. M 1426) and sketch plans for all Part 1 services for which funds will probably be provided in the estimates, as well as for such Major Part 2 or Part 3 services as may be specially directed, will be forwarded to the W.O. In order to avoid delay it is necessary that both sketches and skeleton estimates should be prepared beforehand at the various stations for those services which are considered most urgent.

291. Before being submitted, the sketches will be signed by the officer commanding the unit or the head of the department concerned, the P.M.O., and the G.O. i/c Adm., in token of their concurrence with the proposed arrangements.

For rules as to the approval of designs and engineering details *see* paras 379 to 382.

292. The data on which the approximate estimate has been arrived at will be given on the A.F. M 1426. (*See also* paras. 263 and 264 as to what is and is not to be included in the sum named.)

When the "cube" method is adopted, the buildings, etc., are to be cubed up in the manner shewn in App. I, page 143.

When the employment of Royal Engineers and the use of stores not chargeable to the item reduces the cost of a service appreciably below the normal, an explanatory note giving the reason is to be inserted in the statement of services.

6.—PARTICULAR CASES.

Machinery, etc.

293. Machinery supplying power, or structurally part of a workshop or building, (*e.g.*, hoisting gear, cranes, lifts, pumps, smiths' hearths, stationary engines, boilers, dynamos, and main shafting) is provided by the Engineers and chargeable to the vote for Works.

All foundations for machinery are to be similarly provided and charged.

294. Mobile machinery is provided as follows:—

- (a) Traction engines, road rollers, etc., out of the vote for mechanical transport vehicles.
- (b) Railway locomotives, rolling stock, railway travelling cranes, etc., out of the vote for railway stores.
- (c) Travelling cranes in workshop, on wharves, etc., by the Engineers and charged to the vote for Works.

295. Machine tools for use in workshops (from the point where the power is taken) and other special machinery for use in laundries, bakeries, etc., are provided as follows:—

- (a) If required for mechanical transport workshops, ordnance workshops, armament workshops, Royal Army Clothing Factory, Balloon Factory, Ordnance College, or the School of Military Engineering, by the establishment in question and charged to the appropriate vote and subhead.
- (b) In other cases, if a vocab. store, by the A.O.D. If not, by the Engineers and charged to the vote for Works.

296. Maintenance, repairs, and renewals follow provision, except as follows:—

- (a) Materials and stores (including parts of machine tools), which are in the vocab. will be obtained from the A.O.D. At the establishments specified in para. 295 (a), all stores (including vocab. stores), if purchased locally, will be charged to the stores subhead appropriate to the establishment concerned.
- (b) The staff of any workshop or other establishment will carry out any minor repairs which they are competent to perform; materials being provided as directed above and labour charged to the wages vote of the establishment in question.
- (c) The Engineers may be asked to execute major repairs of machinery belonging to the establishments referred to in para. 295 (a), or for the traction engines and railway locomotives, etc., referred to in para. 294. In such cases the cost of departmental labour, or of contracts for the execution of repairs made by the Engineers, will be chargeable against the vote for Works (under the item "Miscellaneous Services performed for other departments") but the cost of spare parts, which it may be necessary to purchase, will be charged to the same vote and subhead as new machinery.

297. Proposals for the supply and erection of machinery chargeable to the vote for Works will be included in the statements of services submitted for the subheads to which they are chargeable. (See para. 279.)

Proposals for the supply of machinery to be erected by the Engineers but not chargeable to the vote for Works will be forwarded separately.

Expenditure on Temporary Camps.

298. Expenditure on water supply and other engineer services of a temporary nature authorized for temporary camps of the Regular forces is chargeable to Vote I, Field Training. (*See* A.F. M 1442.)

Expenditure on such services in connection with camps for "Special Reserve" or "Officers Training Corps" units is chargeable to Vote 10 (Miscellaneous).

Expenditure on similar services of a permanent nature, such as concrete floors for ablution benches, permanent cook house shelters, etc., will however be charged to Part 2 or Part 3 B.A.E., and administered in the usual manner.

The preparation of camps specially for the T.F. is not an engineer service.

299. Immediately after the issue of the annual circular fixing the dates of the trainings of Special Reserve and Officers Training Corps units, application will be made by the C.E. to the W.O. for the funds required, specifying the camps in their Commands, and the nature of the services. The average expenditure on such services for the previous three years should be stated.

Personnel.

300. The forms on which the estimates of the Establishment for Engineer Services will be compiled are sent each year to the G.O.C. from the W.O.

301. The estimate of the establishment for engineer services (A.F. M 1436) will provide for the pay of every individual employed, including storemen, caretakers, engine drivers, stokers, and other subordinates except as regards:—

(a) R.E. officers.

(b) Those whose pay may be charged to any special loan for military works; and

(c) Those serving on army engagement in the R.E., subject to para. 302.

302. The pay of military foremen of works, of engineer clerks and draughtsmen, ledger-keepers, and of probationary military foremen of works will be included in the estimate. The pay of military mechanists will not be included in the estimate.

303. In addition to the salaries for the current year, the estimate will include the annual increases for which any member of the establishment employed may, under the P.W. or other authority, become eligible during the ensuing year.

304. A distribution return on A.F. C 329 will accompany the estimate, and will show the duties proposed to be allotted to each member of the establishment. In this return all officers will be included, as well as every person for whom provision is made in the estimate.

The names in the return should appear in the same order as in the estimate.

Special Instruction for Stations Abroad only.

305. Transport at stations abroad will be furnished by the O. i/c Transport on indent from the C.R.E. At the time of preparing the annual statements of services the C.E. will inform the responsible staff officer of the probable amount of transport required for Works during the ensuing year.

306. The cost of loading and unloading stores and of any other labour in connection with land and inland water transport beyond that which is supplied by the O. i/c Transport, will be provided for in the Works estimate, and the amount will be shown in A.F. M 1426 as a part of the cost of the service.

Joint Services.

307. To the annual statements of services are to be attached separate statements showing:—

- (a) The estimates for works in which the Army is interested but the cost of which should, in the opinion of the G.O.C., be charged entirely against naval or other votes. These will be omitted from the Army Estimates.
- (b) Estimates for works, the cost of which should be divided between Army and Navy Votes. In these cases only the sum which is to be provided out of Army funds should be inserted in the statement, a note being appended to show in each case the amount of the contribution to be provided by the Admiralty or other department.

In these statements the estimates for works should include the value of vocabulary stores, local transport, and all indirect expenditure; the estimates for machinery should be kept distinct from those for works.

SECTION VII.—CONTRACTS.

1.—GENERAL.

308. Contracts at home stations will as a rule be made under the system of competition, from an approved list of contractors, tenders being invited locally.

Lists will be kept in each Command of contractors who have been approved and registered at the W.O. as competent to undertake W.D. contracts. No names are to be removed from or added to the lists without sanction from the Director of Army Contracts.

The G.O. i/c Adm. will report to the W.O. the names of firms locally considered unfit to remain on the lists, with a statement giving the reasons which render their removal desirable.

Separate lists will be kept for :—

(a) Jobbing work, painting, or repairs.

(b) New buildings or works of which the estimated cost is £5,000 or less.

(c) New buildings or works estimated to cost more than £5,000. (Firms on this list will be limited according to their financial standing and capacity.)

(d) New buildings constructed mainly of iron or steel.

Except in such cases as are specified below all the firms on the lists will be invited to tender.

309. No information is to be given to competitors regarding the number or names of other firms who may have been invited to tender.

310. When it is proposed to place a contract, the C.R.E. is to ascertain, on A.F. K 1273, whether the firms which it is proposed to invite are willing to tender, and will then furnish to each intending competitor a "notice," "tender form," and the other necessary documents as specified hereafter, with a covering letter on A.F. K 1260.

The "notice" will be signed and dated by the C.R.E., and the tender form must give the following particulars :—

1. The address to which, and date and hour on which, the tenders are to be delivered.
2. The place where the work is to be carried out.
3. The name of the officer signing the specification, bills of quantities (if any), and drawings, together with the number of the latter. (*See* para. 386.)
4. The percentage of variations.
5. The time for completion.
6. The amount of liquidated damages (fine) for delay (in words).
7. The terms of payment.
8. The amount of the reserve.
9. Information as regards Stamp Duty (*see* para. 316).

Competitors are invariably to be required to sign the tender form. When there are no bills of quantities, competitors are to be required to submit with their tenders a schedule of prices or a statement of variations from the district schedule.

This schedule of prices (or the bills of quantities when supplied) will always be enclosed in a separate envelope, on which the name of the competitor, the title of the service, and the words "Bills of Quantities," are to be endorsed.

The successful competitor is to be required to sign the drawings (if any), specification, and bills of quantities (if any), after his tender has been accepted.

311. Except in the case of tenders accepted locally, as specified in paras. 335, 339, 345, and 349, competitors will forward their tenders, under cover, to the Director of Army Contracts, War Office, Whitehall, London, S.W., a notification on A.F. K 1270 of the fact that they may be expected being furnished by the C.R.E. through the G.O. i/c Adm., 7 days previously.

312. A copy of any advertisement which may have been published with respect to the tenders (*see* para. 326) a list of the newspapers in which it has been inserted, a list of the persons to whom the tender forms have been supplied, and four copies of the tender forms issued (and of the documents other than drawings accompanying them), will be transmitted with the notification referred to in the previous paragraph.

313. In determining the day for the receipt of tenders it is necessary that sufficient time, as a rule not less than 14 days, should be given to permit of candidates who may reside at a distance visiting the ground, and obtaining such information as they may require to enable them to frame their estimates. The day named should be either a Monday, Wednesday, or Friday (Bank Holidays excepted), and the hour for delivery 12 noon.

314. In the case of tenders received at the W.O., notification as to the acceptance of his tender is sent direct to the contractor. The C.R.E., on receipt of instructions and the necessary contract documents from the W.O., then communicates with him as to the commencement of the work. (*See also* para. 310.)

315. The procedure as to receiving and opening such tenders as are dealt with locally (*vide* paras. 335, 339, 345, and 349) will be, generally, as laid down in Regulations for Supply, Transport and Barrack Services, subject to the following modifications:—

- (a) The tenders will be addressed to the C.R.E. (in whose office a "Tender Box" is kept) and opened by two officers appointed by him. After being scheduled, &c. (on A.F. F 715, *vide* the instructions referred to above), they will be forwarded confidentially to the G.O. i/c Adm. for decision as to acceptance.
- (b) In the cases of lump sum contracts, the bill of quantities (if any) of the lowest competitor will be opened for examination. This is to consist of checking the money calculations, seeing whether the rates are generally fair and reasonable, and whether the bill is otherwise in order. Should serious errors be found in the examination of the priced bill of quantities, the competitor will be communicated with to ascertain if he desires to amend his tender, or to abide by it. Should he decide to amend his tender and on so doing lose his place as the lowest competitor, then the bill of quantities of the next lowest competitor will be opened and examined, to decide which is the lower.

- (c) The priced bills of quantities and other documents are to be treated as strictly confidential.
- (d) Except in the cases specified in paras. 335 (d) and 339 (a), when the C.R.E. has authority to select the tender, and in the case of stations abroad (*see* para. 354), W.O. authority is needed for the acceptance of any but the lowest tender.
- (e) After the acceptance of a tender the unsuccessful competitors should be informed that their tenders are declined, and their priced bills of quantities should at the same time be returned unopened, except as in (b).
- (f) On the acceptance of a tender, two copies, complete with all documents, are to be prepared, one set being forwarded to the contractor, and the other retained locally.
- (g) Except as modified by sub-para. (k), of this para., the Schedule of Tenders (on A.F. F 715), the accepted tender, and all the declined tenders, will be forwarded (*vide f*) to the W.O. for review as soon as possible after the contract has been placed.
But if the tenders have been referred to the W.O. before acceptance it will suffice to forward the schedule only and to enter on it the date of acceptance.
- (h) The accepted tender and all declined tenders, together with the accompanying documents, will be returned after review. The declined tenders will be retained until the 15th January of the next financial year after the contract is completed, when they may be destroyed.
- (j) The original of the accepted tender, with accompanying documents, will not be destroyed until the expiration of 7 years after the completion of the contract.
- (k) Contracts for works the cost of which is under £25 or for stores the cost of which is under £100 will not be subject to review at the W.O. (*see* paras. 335 and 339).

316. Contracts of and above the value of £5 are liable at home stations to Stamp duty (6d.) when the work consists of repairs, alterations, or additions to W.D. buildings or machinery. A stamp is not required in the case of contracts for new works.

The contractor will supply the stamp, and is to be so informed when being invited to tender.

317. It is desirable to bear in mind that the contract is between the Secretary of State for War and the contractor. The C.R.E.'s duty is to see to its faithful execution on both sides. He cannot therefore without reference to the W.O. through the G.O. i/c Adm. alter in any way the conditions of the contract, or extend the time fixed for its completion, (except in case of specially inclement weather, or unless extra work is ordered). *See* Regulations for Supply Transport, and Barrack Services.

When the C.R.E. proposes any extra work upon a contract, he will obtain the contractor's consent in writing to the extension of time he proposes to authorize for its execution.

Similar action is to be taken in the case of "star" prices, which may be approved by the C.R.E. for work which cannot be brought under items of the T.C. schedule (*see* paras. 676 and 691).

318. The G.O. i/c Adm. is authorized to modify or remit claims for liquidated damages (fines) when the total sum claimed does not exceed £100, and also, with the concurrence of the L.A. in Commands to which a L.A. has been appointed, to admit compensation for loss due to departure from the terms of the contract if the amount is less than £20. (*See also* K.R. App. XXII.)

319. Liquidated damages (fines) claimed for delay should not be excessive. They should be in direct proportion to the amount of the contract and in inverse proportion to the time for execution. As a rule, a delay equal to the time allowed should entail a claim for damages equal to 10 per cent. of the amount. Thus if the time allowed is 1 month the damages should be about 6s. 8d., and if 10 months 8d., for each £100 estimated cost, for each day's delay.

Sundays and public holidays will not be included in calculating the number of days' delay.

320. Should the G.O. i/c Adm. require legal advice on any contract question, he may refer the matter direct to the Treasury Solicitor in the case of England and Wales, to the Chief Crown Solicitor, Dublin, in the case of Ireland, or to the W.D. Solicitor, Edinburgh, in the case of Scotland.

321. The Commandant, School of Gunnery, has the same powers and responsibilities as a G.O. i/c Adm. as regards placing contracts, remitting claims for liquidated damages, &c.

322. On the completion of a contract the C.R.E. will forward the "Completion Report" (on A.F. K 1255) through the G.O. i/c Adm. to the W.O. (*see also* para. 415).

Should there be no dispute, the certificate given in App. II, page 144 (to the effect that the contractor has no further claim on the W.D. on account of the contract beyond the amount of the reserve), is to be signed by the contractor and attached to the final bill together with an additional copy of the completion report.

323. The reserve which is to be deducted from each payment on account (*see* paras. 662 and 669) is not to exceed 25 per cent. of the value of the work done. The following scale gives the normal amount which should be retained as a total reserve:—

For a service exceeding £50,000, 5 per cent. of the amount.

" " between £10,000 and £50,000, 10 per cent. of the amount, but not exceeding £2,500.

For a service between £2,000 and £10,000, 15 per cent. of the amount, but not exceeding £1,000.

For a service under £2,000, 20 per cent. of the amount, but not exceeding £300.

2.—TRIENNIAL CONTRACTS.

324. Triennial contracts for artificers' work, at a fixed percentage above or below the prices laid down in the district schedule, are usually entered into in each engineer District for:—

(a) The execution of maintenance services and repairs the estimated cost of which in each case does not exceed £400, when not performed by the troops or by direct labour.

- (b) The execution of periodical services when the estimated cost of work to be done at the same time, and in the same barracks, lines, or fort, does not exceed £400 (*see* para. 372).
- (c) New services estimated to cost £400 or less, when not performed by the troops or by direct labour.
- (d) The supply of civilian labour and materials other than those for which a special contract is made (*see* paras. 329, 336, and 373), as specified in his contract.

NOTE I.—The T.C. cannot claim any work under subparagraph (b).

NOTE II.—The T.C. may claim to supply stores and materials of a general nature (if included in the schedule), required for building works carried out by him, even though a special contract for their supply exists.

NOTE III.—If materials are ordered from the T.C. for a service to be executed by the troops or direct labour, he can refuse to supply, unless the whole of the materials, quoted in the schedule, required for such service are included in the order.

NOTE IV.—It is not permissible to divide a service the estimated cost of which exceeds £400, so as to bring it, as two or more separate services, within the T.C. limits.

325. Nine months before the expiration of the triennial contract, copies of the district schedules, revised to conform to the prices of labour and materials in force in the various engineer Districts of the Command, will be submitted to the W.O., in order that the schedules may be reprinted, if the number of necessary amendments make such a course desirable. At the same time the number of copies required for the ensuing triennial period, and the number of bound copies (if any) will be specified.

326. Tenders for triennial contracts will be called for either by the C.Es. of Commands or by C.R.Es. as may be considered desirable.

A notice (on A.F. K 1336) and a form of tender (on A.F. K 1259) will be addressed to each of the firms on the list referred to in para. 308 (a). In addition, advertisements (*vide* Form A, App. III, page 145) will be inserted in the local newspapers (*see* para. 312) and posters (*vide* Form B, App. III) placed in prominent positions in each of the stations included in the respective contracts, giving particulars.

Each candidate may be furnished with a copy of the district schedule of prices on payment of the price marked thereon.

Tenders will be addressed to the Director of Army Contracts, in accordance with the general instructions given above (*see* para. 311).

327. Architects and others may be supplied with copies of the district schedule of prices on payment.

328. The C.R.E. is to keep an account, which will be open to inspection by the C.P., showing the receipt and issue of all schedules of prices, any sales being vouched for by the cashier's receipt.

3.—LUMP SUM CONTRACTS.

329. Lump sum contracts will usually be entered into :—

(a) For all new works and maintenance services, and periodical services other than as specified in para. 324.

(In certain cases these services may be carried out by means of a measurement contract. See subsection 4 below.)

(b) For the purchase of non-vocab. stores and materials which, though included in the district schedule, are not obtained from the T.C. (see para. 324 d).

(c) For the supply of stores and materials of an unusual nature, not included in the district schedule and for which no special contract exists (see para. 336).

A.—*New Works and Maintenance Services and Periodical Services other than as specified in Para. 324.*

330. Before steps can be taken to place a lump sum contract for new works, periodical services, or repairs, it is necessary to prepare drawings (except for periodical services), specifications, and (generally) bills of quantities. These all form part of the contract.

"Periodical services" include external and internal painting, papering, limewhiting, distempering, colouring, staining, and tarring of W.D. buildings and fences, required from time to time to keep them in serviceable condition (see para. 463).

331. Detailed drawings and specifications for services estimated to cost less than £500 will usually be prepared under the supervision of the C.R.E., and those for services estimated to cost between £500 and £1,000 under the supervision of the C.E. (see paras. 53, 56, 59 and 70).

Such drawings and specifications (subject to the reservations in paras. 379 and 380) will not as a rule be referred to the W.O.

Designs and specifications for larger services are prepared either under the supervision of the C.E., subject to W.O. approval, or at the W.O.

332. Bills of quantities are not, as a rule, necessary for new works or repair services, the estimated cost of which is less than £500. Special care must be taken that the drawings and specifications prepared for such services are complete in every particular.

Bills of quantities for services estimated to cost between £500 and £1,000 will usually be prepared in the office of the C.E., who will be responsible that they are carefully examined (see para. 70). They will not, as a rule, be referred to the W.O.

Bills of quantities for services, the estimated cost of which is £1,000 or more, will similarly be prepared in the office of the C.E. whenever possible.

When this is impossible, they will either be prepared locally (with prior sanction from the W.O.) by a selected firm of "outside" surveyors, or under arrangements made at the W.O. (see para. 333).

Provision is to be made in specifications and bills of quantities for unforeseen services. The provision is not to exceed 2% on the

contractor to His Majesty's Stationery Office in Edinburgh or Dublin respectively. Requisitions for printing from stations in England and Wales will be submitted to the W.O. on A.F. L 1384.

Whenever possible, the specification should not be printed till the quantities have been taken out, so that alterations then found desirable may be included.

Bills of quantities and specifications for services exceeding £1,000 will be technically examined at the W.O. before being printed.

335. When the plans, specifications, and bills of quantities (if any) have been prepared, tenders will be called for on A.F. K 1275 for works services, and on A.F. K 1295 for periodical services, "Notices to Candidates" (on A.F. K 1276) being forwarded with the tender forms.

The procedure as regards placing the contract is as laid down in the general instructions given above (para. 310 *et seq.*) modified as follows:—

- (a) In the case of services the estimated cost of which is under £2,000, tenders will be approved by the G.O. i/c Adm. in the Command, and not at the W.O. (*see* para. 315 as regards procedure). This limit of £2,000 will include all provisional sums and such stores as are required for the completion of the work, whether the latter are provided by special contract or purchased locally within the limit assigned by regulations.
- (b) But in the case of services the estimated cost of which is under £1,000, G.Os. i/c Adm. may, if they prefer, and if the number of contractors on the list referred to in para. 308 exceeds 12, select from the list a sufficient number of firms to ensure proper competition; not less than 12 being invited to tender. For larger services tenders will, as a rule, be invited from the whole of the firms on the list.
- (c) And in the case of small services estimated to cost £400 or less which cannot be executed by means of the T.C., the G.O. i/c Adm. will invite tenders from not less than four selected firms.
- (d) The C.R.E. is authorized to deal with all purchases and accept tenders for all services not exceeding £25 estimated cost. (*See* para. 339 and K.R., Appendix V.)

Although competition should be resorted to whenever possible, a single tender may be accepted in cases when he is satisfied that such a course is both necessary and economical. The usual "Tender Forms," &c., should be utilized when practicable. (*See* para. 315 (k).)

336. Special contracts are made at the W.O. from time to time for the supply of certain materials and stores of a special nature, such as ironmongery, grates, baths, target requisites, &c., for a certain period (usually 3 years) at a fixed rate.

The acceptance and particulars of such contracts are notified to the Commands by D.F.W. contract circulars.

Except as modified by the instructions given in para. 324 (d) and so long as the estimated cost does not exceed the limit specified in

each special contract, all articles for which such a contract exists will be omitted from the lump sum contract, and ordered from the special contractor affected.

337. Each candidate will be supplied, free of charge, with an unpriced copy of the bills of quantities, if taken out for the services, the drawings and specifications being open to their inspection at the engineer office. If there are no bills of quantities, a copy of the specification and the drawings must be furnished to each competitor.

B.—Purchase of non-rocab. Stores (not purchased from the T.C. or not included in the district schedule, or for which a special contract does not exist).

338. Before steps can be taken to place a lump sum contract for stores it is necessary to prepare specifications and sometimes drawings. The responsibility for these is as laid down in para. 331. A copy must be furnished to each competitor.

When preparing specifications care must be taken to reserve power to make all necessary inspections and tests during manufacture (*see* under Machinery and Ironwork in R.E.S., Part 2), and to reject any work that is not to the satisfaction of the inspecting officer.

Articles for the sale of which a monopoly exists should not be specified unless their use is absolutely necessary. (*See* para. 387.)

339. Tenders will be called for on A.F. K 1271, following the procedure laid down in the general instructions given above, the responsibilities and powers of the G.Os. i/c Adm. being as laid down in para. 335, modified as under:—

- (a) When the estimated cost of the stores does not exceed £25, the C.R.E. is empowered to accept tenders.

Competition should be resorted to in the case of ordinary commercial articles. But a single tender may be accepted in cases when he is satisfied that such a course is both necessary and economical. The usual tender forms, &c. will be utilized when practicable.

- (b) When the estimated cost of the stores exceeds £25 but does not amount to £100, the G.O. i/c Adm. is empowered to accept tenders, which must be called for as a rule from not less than four selected firms. (*See* para. 315 (k).)

- (c) In the case of patent articles, or if the G.O. i/c Adm. is satisfied that tenders from four firms cannot be obtained, less than this number may be invited to quote a price for stores coming under sub-para. (b) above. After acceptance a report will be forwarded to the W.O. giving the reasons for the limitation in the number of firms.

- (d) When the estimated cost exceeds £100, before tenders are called for, a report will be rendered to the W.O., giving details as to the stores required, and a list of the firms which it is proposed to invite to tender. (*See* para. 353.)

340. When a special contract for stores (*see* para. 336), has expired, pending the promulgation of a new contract, any urgent supply required may be obtained either by purchase in the open market or by making use of the expired contract (provided the contractor agrees to abide by its terms), whichever is most advantageous.

4.—MEASUREMENT CONTRACTS.

341. Measurement contracts are applicable to certain new works and maintenance services to which the triennial contract is not applicable, as follows:—

- (a) When there is difficulty in correctly estimating the quantities beforehand (*e.g.*, for extensive roof or floor repairs, etc., when the work to be done cannot well be estimated till it has been commenced).
- (b) For large external painting and tarring services, when the subsequent measurements present no difficulty.
- (c) When it is imperative to commence work without the delay which the preparation of bills of quantities involves.
- (d) In special cases.

(NOTE.—For (c) and (d) W.O. approval is required.)

342. No bills of quantities are required. The work is paid for at such percentage above or below the district (or special) schedule of prices as the successful competitor may offer, by measurements taken during and after the execution of the work.

343. For services involving a large number of items, or when subsequent measurements are likely to be disputed by the contractor, measurement contracts are not to be adopted. It is essential that the measurements should not be allowed to fall into arrears, otherwise such contracts are likely to prove expensive.

344. The responsibility for the preparation of the specification and drawings (if any) required is as laid down in para. 331.

345. After the specification and drawings (if any) have been prepared, and an approximate estimate of the cost of the service has been made, the procedure as regards calling for tenders (on A.F. K 1333, with notice on A.F. K 1335), and placing the contract, will be as laid down in para. 335, subject to the following conditions:—

- (a) Competitors must be afforded all reasonable facilities for making themselves acquainted with the sites, circumstances, and requirements of the proposed work.
- (b) They may be supplied, on payment, with a copy of the district schedule of prices.
- (c) The specification and drawings (if any) are available for inspection at the engineer office. Copies will not, as a rule, be furnished to competitors.

5.—CONTRACTS FOR MACHINERY.

346. Designs and specifications for the supply of machinery chargeable to the vote for Works, if they cannot be undertaken by the Command, will be prepared at the W.O. (*See para. 293 et seq.*)

347. When demands for new machinery are forwarded to the W.O. it is to be stated whether erection can be undertaken locally or whether it should be included in the contract.

348. Before proceeding to tender the drawings and specification will be forwarded from the W.O. to the G.O. i/c Adm. for any remarks which he may wish to offer. After a tender has been accepted, drawings will be furnished to the station in advance for guidance in preparing the foundations.

349. When it is proposed to place the contract for the supply of fixed machinery locally, the procedure is to be similar to that laid down in para. 339 and subject to the same limitation as to price.

350. The specification accompanying tenders for steam boilers requires most careful preparation, and should comply with the terms of the W.D. specification for boilers (including the inspection by the Manchester Steam Users' Association therein laid down).

Tenders for steam boilers must be referred to the W.O. before acceptance.

351. All fittings required will be included in the specification, which must also show whether the orders for the execution of the work will emanate from the C.R.E. or the D.F.W.

6.—CONTRACTS AT STATIONS ABROAD.

352. The regulations above detailed will apply generally to stations abroad, modified to suit the local conditions.

In deciding on the methods by which engineer services are to be carried out, the G.O. responsible will consider the local customs, and arrange the procedure, having due regard to economy, to meet them.

353. The limit as to local acceptance of lump sum tenders laid down in para. 335 does not therefore apply, except that no purchase of stores (*see para. 339*), for which there is no special contract, and the estimated cost of which exceeds £100, will be made without W.O. authority.

In South Africa this limit is however increased to £200.

354. All contracts entered into will be reported to the W.O. in accordance with para. 315, except that the original of the accepted tender and accompanying documents will be retained in the Command, copies only being forwarded with the declined tenders to the W.O. If the lowest tender has not been accepted, a full explanation of the reasons must be forwarded with the schedule of tenders.

K.

FOR WORKS.

How many tenders required.		To whom tenders are addressed.		Who decides which tender is to be accepted.	
All on W.O. list	308	Director of Army Contracts	311	Director of Army Contracts	314
All on W.O. list	308 335 (b)	C.R.E.	315 (a)	G.O. i/c Adm.	335 (a)
At least 12	335 (b)	C.R.E.	315 (a)	G.O. i/c Adm.	335 (a)
At least 12	335 (b)	C.R.E.	315 (a)	G.O. i/c Adm.	335 (a)
At least 4	335 (c)	C.R.E.	315 (a)	G.O. i/c Adm.	335 (a)
At least 4	335 (c)	C.R.E.	315 (a)	G.O. i/c Adm.	335 (a)
4, but 1 is enough if the C.R.E. is satisfied	335 (d)	Usually to D.O.		C.R.E.	335 (d)

FOR STORES.

At least 4	339 (b)	C.R.E.	315 (a)	G.O. i/c Adm.	339 (b)
At least 4	339 (b)	C.R.E.	315 (a)	G.O. i/c Adm.	339 (b)
4, but 1 is enough if C.R.E. is satisfied	339 (a)	Usually to D.O.		C.R.E.	339 (a)

and list of firms proposed to be invited to tender, para. 339 (d)

SECTION VIII.

EXECUTION OF WORKS.

1.—METHODS.

355. Engineer Works are executed by :—	See paras.
1. Military Labour.	
(a) The troops generally	356, 358-360.
(b) The R.E.	356.
2. A Triennial Contractor.	
(a) As measured work—	
(i) In the normal way	362-5.
(ii) Under special agreement	366-371.
(b) Supplying day labour	361, 375-6.
3. Other Contractors.	
(a) Under lump sum contracts	372-4.
(b) Under measurement contracts	} Section VII.
(c) In the case of large works under contracts based on bills of quantities	
4. Civil Day Labour	357, 375.

356. Military Labour is to be utilized as far as the military duties of the troops permit.

When the execution of engineer services by military labour is impracticable, the normal method of getting work done will be by limited competition (*see* para. 308).

357. The execution of engineer services by civilian day labour directly employed by the W.D., either simultaneously with or in substitution for the execution of such services under contract, may be authorized by the C.E., provided he is satisfied that such method is more economical and satisfactory than the method of contract.

358. Work on engineer services performed by the troops other than R.E. is carried out by day-work at daily or hourly rates. (*See* K.R. and P.W.)

359. In mounted corps an allowance may be issued monthly to cover the cost of labour and materials in small repairs to stable fittings by the regular artificers on the following scale :—

When the fittings are new	5s. per 100 horses.
" " " over 6 and under	
12 years of age	7s. 6d. per 100 horses.
When fittings are over 12 years of age	10s. per 100 horses.
Payments for fractions <i>pro rata</i> .	

Claims will be submitted by units to the D.O. on A.F. P 1922 and charged to the vote for Works.

360. Certain work must in all cases be executed by the troops themselves or at their expense. (*See* Table L, page 92.)

361. The employment on day labour of workmen obtained from the T.C. is uneconomical. Permanent employment of such labour is forbidden; temporary employment is sometimes unavoidable and occasionally is less expensive than the direct employment of workmen by the W.D. (*see* para. 375), but is to be reduced to a minimum.

362. The normal method of executing works under the Triennial Contract is as follows :—

The exact work to be done is to be described either :—

(a) on A.F. K 1315,

(b) on A.F. M 1417, or

(c) by drawings and specification,

before an order is given to the T.C. for the work.

363. On completion the work done is measured (*see* paras. 402-411, 451).

364. When the work has been previously detailed on A.F. K 1315 that form is to be amended as necessary to agree with the work shewn by the measurement to have actually been done, and the form becomes a voucher to the requisition on which the work was asked for and by which the contractor's bill is supported (*see* para. 451).

365. When the work has been described by drawings and specification, an abstract of the measurements is to be made on A.F. K 1291 by which the contractor's bill is checked on receipt.

366. When the work has been detailed on A.F. M 1417, it may either be measured on completion and abstracted as in the case of works not previously detailed, or the C.R.E. may make a special agreement with the contractor before the work is begun.

367. The C.R.E. may enter into such special agreements with Triennial Contractors for carrying out for a fixed sum any work estimated at less than £400; such sum not to exceed the cost given on A.F. M 1417 less the amount provided for contingencies. Advances may be made as contemplated in para. 323.

368. When it is proposed to carry out a service by special agreement with the T.C., the specification and plans, if any, will be shewn to the T.C. and the C.R.E. will call upon him to state in writing the amount for which he will undertake the perfect completion of the work. The estimate may be shewn to the contractor, who is to be warned to satisfy himself as to its general correctness before making his tender, as no claim on account of inaccuracies in the estimate can be admitted after the agreement has been signed. In the event of the contractor's tender being in excess of the estimate or of his being unwilling to resort to agreement the work will be paid for by measurement. The form of agreement to be used is shown in App. IV, page 147.

369. Special agreements made at home stations, except the Channel Islands, require stamping under the same conditions as those laid down for stamping contracts (*see* para. 316), unless under £5 in amount. Adhesive 6d. stamps will be used, the stamp being found by the contractor.

370. If in carrying out works under special agreements, extras, not included in the original estimate, have to be performed, the measurements for such extras will be added to the original estimate. Similarly if part of the work estimated for is omitted the measurements for such omissions will be deducted from the estimate.

371. The estimate so amended then becomes a voucher to the lump sum bill on which the contractor is paid.

372. No service the total estimate for which, including contingencies, but excluding the cost of stores obtained under special contracts, exceeds £400 at contract rates is to be executed under the Triennial Contract.

373 The conditions of the Triennial Contracts permit the execution by other contractors of certain special services even when estimated at under £400. (*See* para. 324.)

374 Such services and services estimated at over £400 are to be executed under lump sum or measurement contracts made in accordance with the instructions in Section VII.

375. In every Division various trifling services have to be performed, such as moving ladders for the inspection of roofs, the erection of barriers at the time of the annual perambulation, etc. The permanent employment of two or three men for such work alone is not economical; in such cases unless the men's whole time can be fully occupied men should be obtained from the T.C. from time to time as required for temporary employment on day work. (*See* para. 861.)

376. Such men must be paid by the contractor, and under the terms of his contract he must find tools and superintendence. The contractor will be paid on a requisition and detail of the work done on A.F. K 1315.

2.—COMMENCEMENT OF WORKS.

377. The following points are to be borne in mind in deciding when to commence an authorized work—

1. Funds lapse if unexpended by March 31st.
2. The public should have the benefit of authorized repairs or improvements as early as possible.
3. Works involving temporary loss of accommodation should be executed when troops are away on furlough, at manœuvres, etc.; in the case of schools during the holidays.
4. Bad weather and frost hamper or put a stop to outdoor building operations and external painting.

378. Prior to work commencing some or all of the following points require consideration—

1. Designs must be prepared. *See* paras. 379-382 below.
2. The site may require to be settled. For the procedure *see* K.R.
3. A reappropriation proposal may need approval. For procedure *see* K.R.
4. The site will require to be taken over. *See* paras. 383-6.
5. Stores may have to be obtained. *See* paras. 387-8.
6. Contracts may have to be made. *See* Table K. on p. 82.

379. Designs for new and alterations to existing rifle ranges must be dealt with as laid down in the Musketry Regulations, Part 2.

380. Designs for Part 2 Fortification services affecting works of defence and for all Part 2 Hospital services must be referred to the W.O.

381. Designs for all services estimated to cost £1,000 or more must be referred to the W.O.

382. Subject to the above three provisos, designs, engineering details, and estimates may be approved as shewn in Table H. on p. 30.

383. As regards para. 378 (4), when no question of shortage of accommodation or custody of barrack equipment is involved the D.O. may arrange direct with the O.C. unit or head of the department in occupation. When such questions arise the D.O. must apply to the O. i/c Barracks, who will arrange for other accommodation for the occupants and if necessary for the dismantling of barrack equipment of the building affected.

384. In the case of large schemes involving the vacating of whole blocks or of a whole barrack the C.R.E. is to confer with the O.C. Troops as to the most convenient time and then forward A.F. K 1250 to the O.C. A.S.C.

385. When a building is handed over to a contractor he is to be required to give a written receipt for all fixtures and glass.

386. In the case of large new buildings, a site plan showing the grounds to be handed over to the contractor is to form one of the marked and signed contract drawings alluded to on page 1 of the Form of Tender. Only the grounds so shown are to be given over to the contractor. In the event of two or more contractors being employed, access must be provided to the ground handed over to each, so that there may be no interference with each other.

387. As regards para. 378 (5), in selecting patterns of stores to be used in the execution of works patent or proprietary articles and articles of registered design are to be avoided unless (a) no additional cost is involved, or (b) circumstances (such as experimenting with new articles or materials, &c.) warrant such extra cost. (See para. 338.)

388. When the conveyance of stores is chargeable to the vote for Transport (see paras. 263-4) application for transport must be made to the O. i/c Transport.

389. Instructions as to cases of sickness or injury to workmen directly employed by the W.D., their entry and discharge, employment of boys, working hours, the Workmen's Compensation Act, &c., &c., will be found in the Regulations for Civilian Subordinates in Army Departments.

390. Artificers and labourers employed by the Engineers are to be required to provide such tools as are usually provided in the locality by workmen employed by civilian employers.

391. Tools the property of workmen or of a contractor are not to be repaired at the expense of the W.D., but in the case of workmen directly employed and paid by the W.D. the cost of sharpening masons' tools, and pickaxes, may be charged against the W.D.

3.—DURING PROGRESS.

392. During the progress of all works, whether current repairs or new works, each superintending officer is to keep a diary in A.B. 194. Important works are to have a diary to themselves.

393. The superintending officer is to record therein daily the nature of the work performed by W.D. labour and by contract, specifying the place (*e.g.* "Incidental repairs, A Block; new stables, building walls; main drainage new outfall, excavating in Military Road," &c.); the points to which the attention of the F.W. has been directed; communications made to contractors; the depth of excavations and the nature of the soil; the dimensions of foundations, sewers, drains, &c., or of any work, either above or below ground, intended to be covered up, in order that correct records and plans may be made of the work as executed. He is also to state the quality of materials received or rejected, complaints of contractors, or of the superintending officer, the date of completion of any building, the date of occupation, and such other points in connection with the work as will afford not only a record of its progress, but of any engineering experience which may have been gained during its execution.

Further particulars are given at the commencement of A.B. 194 itself.

394. During the execution of a service material improvements may suggest themselves to the officer in charge.

Such improvements may be sanctioned locally in accordance with the powers shewn in Table H (page 30) provided that:

(a) Funds are available locally (*see* paras. 641 to 646).

(b) The general design is not affected.

(c) The concurrence of the head of the department or of the O.C. of the unit concerned is obtained.

If these conditions are not fulfilled the proposed alteration must be referred to higher authority.

395. Articles found in the soil of W.D. land during excavations are the property of the W.D.

396. Where a Triennial Contract is in force the contractor is to be required to furnish the daily and weekly returns specified in Clause 11 of his contract (A.F. K 1259).

397. When military working parties are employed the O.C. of the unit supplying the party will furnish the D.O. with a morning distribution on A.F. B 152.

398. When men are directly employed by the W.D. the F.W. or Timekeeper is to make out a return of the men present each morning:

399. From this return, from the A.F. B 152, and from the T.C.'s return, the F.W. will make out each morning the Distribution Return in the Diary. He is also to note against the previous day any alterations or casualties which occurred after the return for that day was made out.

This distribution return is for engineer purposes only ; it is not a voucher to the Check Books. For entries in the Check Books see Section XIII. and the Financial Instructions.

400. Quarterly progress reports on A.F. K 1301 showing the progress made on works and the expenditure upon every authorized service will be transmitted by the G.O. i/c Adm. to the W.O. within fourteen days after the conclusion of each quarter (*see* para. 709).

Full instructions for their preparation are given on the back of the form.

401. This report is the chief source of information at the W.O. as to what Part 2 and Part 3 Services are being carried out in Commands. Full information must therefore be furnished of such services in course of execution.

4.—MEASUREMENTS.

402. A D.O. is personally responsible for the accuracy of all measurements taken in his Division. It is essential for his own protection that he should ensure that there is no delay in taking measurements, and that he should check at least a proportion of any measurements not taken by himself. Test checks of the measurements taken in each Division will be made from time to time by the S.I.W. of the Command.

403. Under normal conditions the measurements of petty repairs may be taken by foremen of works. The measurements of the larger maintenance and Part 2 services are to be taken by an officer ; if this is impossible a portion of such measurements should be checked by an officer. Important works should be measured by an officer of considerable technical experience in measuring. The C.R.E. must arrange in such cases as he considers necessary for the measurements being taken by a specially qualified officer.

404. When a D.O. signs a bill in which appear measurements which have neither been taken nor checked by himself he is to append to his signature a note to that effect.

405. Measurements taken on completion of a work are to be entered in A.B. 199 in ink or in indelible pencil.

406. At the head of each service is to be entered the name of the service, the names of the persons present on behalf of the W.D. and on behalf of the contractor, and the date.

407. At the end of each service or of each day's work the signatures of the representatives of the W.D. and of the contractor, are to be appended.

408. Should the contractor's representative object to any of the measurements a note to that effect is to be entered against them and initialed by the representatives of both sides, the measurements in which both sides agree being signed at the end by both parties as before.

When such objections cannot be settled between the D.O. and the contractor they must be referred to the C.R.E.

409. (i) Should it be necessary, in consequence of any dispute, to remeasure the whole, or any portion, of the work, the expense of such remeasurement shall be borne by the party requiring it, unless the net error discovered on remeasurement exceeds 5 per cent. of the value, as recorded at the first measurement, of the items actually remeasured, or exceeds £50 in total value.

If the net error exceeds either of these limits, the expense shall be borne by the other party.

But if the contractor failed to attend (after due notice) when the first measurement was made, the expense of remeasurement shall in any event be borne by him.

(ii) The amount due to or from the contractor in respect of such remeasurement may be added to or deducted from the amount of his bills when forwarded for payment.

(iii) The accuracy of the measurements is not to be questioned after the date of payment of the final balance due under the contract, or, in the case of work performed under the triennial contract, after payment for the work has been made.

(iv) No surveyor's charges, except as expressly provided under (i), will be allowed to the contractor on account of measurements taken in accordance with the above regulations.

410. When more than one service is included in one A.B. 199 the book is to have an index shewing the services included.

411. Blank copies of A.B. 199 issued for use are to be given numbers and the books when filled up are to be preserved in the Division office. A register is to be kept in the office of the numbers and of what each book contains. Receipts are to be taken for any issued for reference.

5.—COMPLETION.

412. New or altered buildings and works are to be lettered :—

1. In accordance with the authorised appropriation.
2. In the case of :—

- (a) *Works of Defence.* As laid down in App. V, page 148.
- (b) *Magazines and Stores.* In accordance with the nomenclature used for such buildings in the Regulations for Magazines and care of War Matériel.
- (c) *Mobilization Armouries and Storehouses.* As laid down in App. VI, page 151.
- (d) *Barracks and Hospitals.* In accordance with A.F. K 1294.

413. For every new or altered building or work the D.O. is to prepare in duplicate and sign both copies of an inventory on A.F. G 1001, G 1002, or G 1003, of all the engineer fixtures.

414. For every new building intended for barrack purposes and on completion of any alteration affecting the construction return the D.O. is to prepare A.F. K 1251, Detailed Accommodation Record.

415. A Completion Report on A.F. K 1255 is to be forwarded by the C.R.E. to the W.O. for all services, the cost of which is £500 or more

416. In addition to the sum chargeable to the Works vote the completion report is also to shew the amounts chargeable on account of the service against other votes of the Army Estimates. It must therefore shew for all works the value of the vocab. stores used on the work, and also the cost of the sea freight, landing charges, railage, &c., of the non-vocab. stores.

This will be obtained as follows:—

At Home Stations, by adding the cost of local transport (to be obtained from the O. i/c Transport) to the vocab. rates.

At Stations Abroad, by adding 10% to the vocab. rates.

417. The completion of all fortification works affecting works of defence, of all new buildings (other than offices or quarters) for the A.O.D., and of such new buildings, or of such alterations, repairs, or renewals of existing buildings as may be prescribed locally, are to be reported by the C.R.E. to the C.E. for the information of the G.O.C. (see K.R. paras. 1034-5).

418. The handing over by the Engineers of such buildings or works for occupation or use requires authority from the G.O. i/c Adm. The handing over of other buildings or works can be approved by the C.R.E.

419. Works and buildings will be handed over as follows:—

- (a) Buildings in a work of defence for the service and working of artillery, such as expense magazines, shell rooms, etc., to the C.R.A.
- (b) Buildings in an A.O. establishment for use by the A.O.D. to the C.O.O.
- (c) All other buildings to the O. i/c Bks.

Except under (a) and (b) the decision as to what unit shall have the use of new or altered buildings is an A.S.C., not an engineer, question (see para 34).

420. Both copies of the inventories referred to in para. 413 will be signed by the officer taking over the new building; one is to be guarded in the Division office, the other will be retained by the officer taking over (see K.R. 998).

421. In the case of a new fortification work the C.R.A. will furnish the C.R.E. with the certificate as to the true levels of racers, roller paths, and pivots as prescribed in the Equipment Regulations, Part 2, Garrison Artillery.

422 Any special appointments made for the conduct of a particular work are to be terminated at the date of completion. The C.R.E. is responsible that they are not continued without renewed authority.

SECTION IX.

REPAIRS, RENEWALS, AND MAINTENANCE.

1.—GENERAL.

423. No claim from units or individuals for repayment of the cost of repairs or alterations to W.D. property undertaken by them will be entertained unless the work has been previously authorized by the W.O. (*see* K.R. para. 999).

424. General rules as to what are engineer services and what are not are given in para. 7.

The subjoined tables shew decisions given from time to time on a variety of miscellaneous matters.

TABLE L.

What must be done by the troops or at their expense.					Reference to paras.
Routine work in and about barracks not requiring skilled labour, <i>e.g.</i>					7, 522
Clearance of snow and leaves from roofs ...					432
Limewashing					471
Sweeping, weeding, rolling, etc., of barrack roads and parades.					
Cleaning of drains and catchpits					522
Cleaning of cisterns					517, 523
Repair of glass broken in canteens					457
do. do. generally					459
Maintenance of jumps for Mounted Corps. (<i>See</i> Allowance Regulations.)					
Maintenance of cricket, football, or other recreation grounds					429
Maintenance of gardens and grounds connected with officers' messes and quarters, sergeants' messes, and recreation establishments					429
Repair of ordinary damages					485
Repair of platforms and buffers of skittle alleys.					
Repairs to the fitments of billiard rooms other than those required to the lights and benches in consequence of fair wear.					
Minor repairs to butts and firing points of rifle ranges					460

(*Space for local memoranda.*)

TABLE M.

List of matters that are either not engineer services at all or only under the conditions of the para. quoted.

	Reference to paras.
Artillery targets, repair of	7
Boats, repair of	7
Camps, preparation of for the T.F.	298
Contracts for the supply of gas, water, or electric light...	505
Disinfection and cleaning of rooms	478-480
Electric light, provision of certain fittings	508
Floor margins, staining of	476
Gardener's wages and supply of garden tools	430
Gas, provision of certain fittings	508
Glass broken in canteens, repair of	457
do. do. by gunfire, repair of	458
Greenhouses, maintenance of	456
Hirings to supplement barrack accommodation	207
Lettings of canteens to civilians	170
Lime, supply of as disinfectant	480
Limewashing, fortnightly, in stables	475
Machinery, supply and repair of	293-296
Maintenance of polished floors in hospitals	431
Meters, testing of	506
Meters, provision of main	514
Painting or repair of guns, carriages, or platforms.	
Painting or lacquering of shot or shell.	
Skittle alleys, repair of buffers and platforms.	
Tools for the use of fatigue parties, provision of	460
Trimming hedges, trees, etc., in gardens	132
Water, collection of samples and analysis	515
„ charge of tanks for water not obtained from W.D. sources	516

(Space for local memoranda.)

TABLE N.

List of miscellaneous matters which have been decided to be engineer services.

	Reference to paras.
Approach roads to official residences, repair of.	
Clearance of eaves, gutters and downpipes ...	433
Construction of cricket, football, and other recreation grounds ...	429
Planting of trees and shrubs in, and the maintenance of fences round gardens and grounds connected with officers' messes and quarters, sergeants' messes, and recreation establishments. (<i>See also</i> Tables G., L., and M.) ...	429
Custody of W.D. rifle ranges and provision of rifle range appliances ...	246
Disinfection by contract ...	479
Hiring of land, all, and of most buildings ...	207
Lettings of W.D. property or of rights over it...	170
Meters, provision of subsidiary ...	514
„ repair of W.D. ...	506
Provision and repair of beer engines.	
Provision and repair of arc lights.	
Quarterly inspection of W.D. buildings in charge of the Royal Irish Constabulary ...	202(b)
Repair of authorized skittle alleys (not of the platform and buffers).	
Supply of targets, range apparatus, and range stores ...	461
Supply to military prisons and detention barracks of stone for breaking by prisoners.	
Washing of window blinds... ..	425
Water; charge of tanks for water obtained from W.D. sources ...	516
First cost of polishing floors in hospital wards ...	431

(*Space for local memoranda.*)

425. In general :—

- (a) Articles fixed to buildings are supplied and kept in repair by the Engineers.
- (b) Furniture and the majority of movable articles are supplied through the A.S.C. and are not repaired by the Engineers.
- (c) The articles both fixed and movable to be supplied by the Engineers are shewn in the Barrack Synopsis.

426. The majority of the articles supplied by the A.S.C. and a few of those supplied by the Engineers are obtained from the A.O.D. Articles provided by the A.O.D. are shown in the Priced Vocabulary of Stores and must not be obtained elsewhere without reference to the A.O.D.

427. To the general rules given in para. 425 above are certain exceptions.

To (a) :—

Certain semi-fixed fittings connected with artificial lighting are supplied by the A.S.C. O. *if* Bks. (See para. 508.)

To (b) and (c) :—

Certain movable articles not shewn in the Synopsis are supplied by the Engineers, viz :—

Cooking vessels forming part of Deane's, Warren's, or other special apparatus (not baking dishes).

Fonts and pulpits in chapel schools.

Sentry boxes.

Targets, range apparatus, and range stores (*see* para. 461).

428. The maintenance, repair, and renewal of machinery is chargeable to the vote under which such machinery is supplied. If repairs to machinery not supplied at the cost of the vote for Works are undertaken by the Engineers for convenience in special cases, the cost will be charged as indicated in para. 296.

429. The cost of providing recreation grounds by hire or purchase for the use of the troops will, with the sanction of the W.O., be admitted as a charge against public funds. Funds for the formation of recreation grounds and for laying out and planting with trees and shrubs grounds attached to officers' messes, officers' quarters, serjeants' messes, and recreation establishments, will be provided in special cases, with the approval of the W.O.

Funds granted for such purposes will be expended only in payment for materials and labour which the troops cannot provide. The cost of maintaining these grounds will not be borne by the public. Fences will, however, be maintained by the public if on W.D. land. Whether the initial cost be borne by the public or not, the area of ground, and also the initial outlay and the cost of maintenance, should be as limited as possible.

Expenditure under this para. for the benefit of officers is not to be incurred without explicit sanction from the Army Council.

430. Expenses in connection with keeping hospital grounds in order, other than the gardener's wages and tools, will also be charged to the vote for Works, although the responsibility for keeping the

grounds in order will rest with the Army Medical Department in accordance with the Regulations for Army Medical Services.

431. The first cost of polishing new floors, or floors which have been relaid, in hospital wards will be borne by the vote for Works. Thereafter polished floors will be kept in condition by the Army Medical Department who requisition the necessary materials from the A.S.C.

432. The clearance (under the supervision of the Engineers) of snow or leaves from the roofs of barrack buildings is a duty of the troops. In the case of buildings not occupied by troops the clearance is to be effected by men in the employment of the department in occupation. When none are available the work may be undertaken by the Engineers.

433. To prevent damage by damp the D.O. is to have eaves gutters and down pipes examined periodically and in particular in the autumn. The repair or clearance is an engineer service.

434. Houses or quarters specially allotted to officers and other persons, military and civil, so as to render them not liable to be dispossessed of those quarters by superior officers of other branches of the service, will be dealt with in the same way as other barrack buildings.

435. When any building is considered uninhabitable and unfit for repair, a report will be made to the W.O. through the G.O. i/c Adm., who will record his opinion as to whether the accommodation can be dispensed with or otherwise, and his recommendations as to the disposal of the building.

2.—MAINTENANCE.

436. The maintenance of W.D. property in proper repair and working order involves the following classes of work:—

1. Urgent repairs.
2. Ordinary current repairs of minor importance.
3. Larger repairs and renewals.
4. Periodical services.
5. Repair of wilful damages or those caused by carelessness.

437. Urgent repairs, such as escapes of gas or water, are brought to the notice of the D.O. by C.Os. and others by means of an "Urgent Requisition for Repairs" on A.F. K 1306, sent in at any time.

438. Ordinary repairs are brought to notice monthly by C.Os. by means of a "Requisition for Repairs" on A.F. K 1308, following the monthly inspection of barrack buildings prescribed by the K.R.

439. Ordinary repairs and repairs of wilful damages overlooked by the officer in charge of any work or building, together with larger repairs and renewals and necessary periodical services, are to be noted by the Engineers at the quarterly inspections.

440. For periodical services *see* paras. 463 *et seq.* and for damages *see* Section X.

441. Intermediate requisitions on A.F. K 1306 are only to be made for urgent services, the postponement of which would cause serious inconvenience to the occupants or damage to public property.

442. An item which has once been entered in a requisition is not to be entered again in a later one. If it is desired to call attention to its non-execution this should be done by memorandum.

443. On receipt of a requisition in a Division office it is to be given a progressive number, the date of the receipt marked on it, and it is to be entered in A.B. 143, Register of Requisitions. The work asked for is then to be inspected by the D.O. or F.W.; any further repairs considered necessary by the Engineers may be added to the requisition by them.

444. In the case of ordinary requisitions no work asked for is to be ordered on a T.C. until the cost of it has been estimated.

445. In the case of urgent requisitions, if sufficient funds are available such work as may be necessary to prevent increased expense may be ordered by the D.O. (or the F.W., *see* para. 82) without waiting for a previous estimate.

446. Should there be any item in a requisition which—

Is not an engineer service,

Is a duty of the troops,

Should be paid for by the troops,

Is a new service, not a repair (*but see* para. 637),

Involves a re-appropriation,

Can be postponed without harm until the next quarterly inspection, or

Which the D.O. for any reason considers should not be undertaken.

a notification on A.F. K 1310 that the item will not be carried out is to be forwarded to the officer who requisitioned, a note being made on the requisition against the item as to the reason for its non-execution.

447. Where repairs are executed by R.E. units the method laid down in R.E. Corps Memorandum No. 624 is to be adopted.

448. Where repairs are executed by civilian day labour the system by which the actual workmen are detailed to jobs and their work checked is left to the discretion of the D.O. (*See* para. 704.)

449. Where small repairs are executed by contract a detailed description of the work to be done is to be made on A.F. K 1315 in copying ink or copying pencil.

Items of measured work are to be given in detail; items to be carried out by day work are to be described and approximately estimated, space being left for the subsequent insertion of the labour and materials actually expended.

An order on the contractor on A.F. K 1261A is to be made out at the same time.

450. After signature by the D.O. both A.F. K 1261A and K 1315 are press copied. The original of the order on K 1261A to do the work and the press copy of the detailed statement on K 1315 of what is to be done go to the contractor.

The requisition and original detail are retained by the F.W. while the work is in progress.

451. On completion of the work it is to be measured, and the original A.F. K 1315 amended where necessary to agree with the work actually done, the labour and materials expended on items executed by day labour (obtained from the statements furnished by the contractor under clause 11 of the triennial contract) being inserted.

452. The cost at schedule rates given on A.F. K 1315 for each item is then inserted against the item in the requisition and the requisition marked with the item of the Army Estimates to which it is chargeable. An abstract of the cost is made on the requisition, shewing the amounts chargeable for measured work and for day labour respectively.

453. At small stations where there is no resident member of the engineer establishment the local representative of the O. i/c Bks. will, on application by the C.R.E. to the O.C.A.S.C., afford such assistance in engineer matters as can be given. The representative thus acting should be instructed as to how to keep a daily account on A.F. K 1298 of the time worked and materials supplied by the contractor. It will be part of his duty to see that the weekly reports on A.F. K 1298 which he is called on to sign for the contractor correspond with his own daily entries of time and materials.

454. At such stations the subordinate of the O. i/c Bks. under whose superintendence the work is to be executed is authorized on receipt of a requisition on A.F. K 1306 signed by the officer commanding the troops in the barracks, to order the T.C. to execute such repairs as are of a particularly urgent nature, sending at the same time a copy of the order to the D.O. The date of the order to the contractor will be noted on the requisition by the subordinate of the O. i/c Bks., who will report to the D.O. if the contractor delays executing the repairs. The requisitions will be produced at the ensuing quarterly inspection to the engineer officer, who will have them completed in his office.

Orders for quarterly repairs also will be sent to the contractor through the subordinate of the O. i/c Bks.

455. The M.O. i/c a hospital is empowered, where there is no local representative of the engineer establishment at the station and delay would be detrimental to the patients, to order urgent repairs to buildings, such as the repair of broken glass, leakages in roofs, injuries to gas and water pipes and closets, to be executed at once by the T.C. or, in the contractor's default or absence, by some other tradesman. In such cases the M.O. will at the same time send a copy of his order to the D.O. The expense incurred will be dealt with by the D.O. in the ordinary course, and charged against the funds allotted to him.

Repair of Broken Glass.

456. Greenhouses are not to be maintained at the public expense unless:—

- (a) they were originally erected after due authority at the public expense, or,

(b) they formed part of the premises when acquired by the W.D. and their maintenance has been sanctioned by the W.O.

457. Glass broken in canteens is not to be made good at the public expense.

458. Glass broken by concussion due to firing guns is not to be made good at the public expense unless the windows were open at the time. The requisition for the repair is to bear a certificate to that effect.

459. As a general rule the occupants of W.D. buildings are to be regarded as in the position of tenants of a civilian landlord, who expects all broken glass to be made good at the expense of his tenants. Glass is not to be replaced in W.D. buildings at the public expense as a matter of course on the grounds of storm, that the persons who did the damage are unknown, or that they are persons from whom the occupant cannot recover the cost. The unit on whose charge a building is must collect the cost from someone or suffer the loss. Should however the D.O. concur with the O.C. troops at the station that the cost of replacing glass broken in any particular case is not fairly chargeable to the troops, the cost may be charged to the public on a requisition on which appears a certificate to that effect, signed by them both, and the reasons.

Repairs to Rifle Ranges.

460. Regulations for the employment of the troops on minor repairs and maintenance of rifle ranges are contained in the K.R. and in the Musketry Regulations, Part 2. Tools required for such work may be issued by the C.R.E.

461. Other repairs to rifle ranges, and the supply of targets, range apparatus, and range stores, are engineer services.

462. For further instructions see the Musketry Regulations, Part 2.

3.—PERIODICAL SERVICES.

463. External and internal painting, linewashing, colour-washing, distempering, papering, painting, and tarring of fences, etc., both at home and abroad, will be carried out when considered necessary by the G.O. i/c Adm., from the part 3., B.A.E., F.A.E., or A.O.B.A.E., funds at his disposal.

464. The G.O. i/c Adm. will decide the number of coats of paint necessary in each particular case, taking into consideration the climate, the situation, purpose, and the condition of the building.

465. For plastered walls, the use of a washable distemper in preference to paper is left to local decision.

466. The following are the periods (given as a general guide) after which such services are usually required :—

At Home Stations.

External painting.—Once in 4 years.

NOTE.—In the case of new buildings, external wood and ironwork should be repainted not later than the second year after completion.

Internal painting, papering, and washing (or scraping), and stopping prior to distempering, whitening, or limewashing.—Once in 8 years.

Internal colouring in distemper of inhabited buildings.—Once in 2 years.

Limewashing, white or coloured.—Once a year.

Tarring of fences or buildings.—Once in 2 years.

At Stations Abroad.

External painting:—Two coats triennially, except in Africa (West Coast), Barbados, Egypt, Jamaica (Up Park Camp only), Hong Kong, and Malta, where one coat biennially may be preferable.

Internal painting, etc.—distempering and tarring:—As at home stations.

467. In the case of quarters allotted to Classes 1 to 9 (*see Allowance Regulations*), provided the tenure of the appointment be for four years, painting and papering may be carried out at each change of occupancy, the expenditure being limited, as regards internal painting to one-eighth, and external painting to one-fourth, of the respective total costs for each year of occupation by the out-going officer since the work was last done.

468. No part of a barrack, except rooms in which cases of infectious disease have occurred, abattoirs, meat stores, bakeries, grain stores, latrines, urinals, and sick horse boxes, is to be limewashed white or coloured, oftener than once in every six months.

469. The distempering and whitening of wards of hospitals may be executed at intervals of not less than six months on the requisition of the M.O.

470. If internal periodical painting is being carried out by contract or by civilians on day work, distempering, whitening, and limewashing if required are to form a part of the contract, or to be executed by civilian workmen under the same conditions as the painting.

471. Except as provided in para. 470, civilian labour is not to be employed on limewashing (coloured or otherwise) without the previous sanction of the G.O. i/c Adm. and this sanction is to accompany the claim. When practicable the troops are to be employed on this work. For pointing, stopping, or repairs to plastering when required, civilian artisans may be employed.

472. When the troops wish to have limewashed the buildings of which they are in occupation, the O.C. the unit will forward to the D.O. a requisition on A.F.O 1778 for the necessary materials, brushes, etc.

473. The D.O., having satisfied himself as to the necessity for the work, will sign the requisition and return it with the necessary materials, brushes, or plant, to the C.O. On the completion of the work, the C.O. will return the requisition with any

materials remaining unexpended, and the brushes and plant to the D.O. The form when completed becomes the pay list for the limewashing.

474. The C.R.E. must provide in his annual estimate for the whole of the expenditure connected with the limewashing. Two rates of working pay are laid down in the Pay Warrant for troops employed on limewashing, according as the buildings they are employed on are or are not in the occupation of their corps. A soldier employed on limewashing should perform about 80 yards a day, with about half a cubic foot of lime.

475. The walls of stables to the height of 3 feet above the mangers are limewashed fortnightly by the troops, the issue of lime for the service being provided for in Regulations for Supply, Transport, and Barrack Services. The service is not an engineer one.

476. The margins of deal floors in officers' mess establishments and quarters that have been stained by the occupants may be stained, sized, and treated with one coat of boiled oil once in eight years; but the first cost of such staining will in no case be borne by the public.

477. Detailed instructions to secure uniformity of practice in the execution of periodical services are laid down in D.F.W. Circulars. A specification is given in A.F. K 1294. (*See also* para. 412 *re* the lettering of buildings.)

478. Instructions as to the cleaning and ordinary disinfection of rooms after cases of infectious disease and of army schools during the Christmas and summer holidays are contained in the Regulations for the Army Medical Service. Any necessary scraping and redecoration of walls and ceilings is to be executed by the D.O. and charged against his Part 3 Minor Services allotment. In the case of work necessary owing to disease, a certificate from the M.O. as to the necessity is to be attached to the bill for the work.

479. Disinfection involving the use of special machinery or structural alterations and any disinfection which is carried out by contract, will be arranged for as an engineer service and charged against the Part 3 Minor Services allotment. The work is to be carried out by the D.O. in consultation with the M.O.

480. The cost of lime supplied for use as a disinfectant is not chargeable against the vote for Works.

SECTION X.—DAMAGES.

1.—GENERAL.

481. The D.O. is responsible that wilful injuries to W.D. buildings are not made good at the expense of the public except as authorized hereinafter.

482. The whole cost will be borne by the public in the following cases:—

- (a) When the damage has occurred in a building occupied solely by recruits and the cost cannot be brought home to any individual (*see* para. 499).
- (b) When caused by lunatics.
- (c) When the damage has been committed by a prisoner sentenced to be dismissed from the service (*see* para. 502).

483. Part of the total cost will be borne by the public as follows:—

- (a) In the case of loss of or injury to a bath—any excess in the cost of repair over £1.
- (b) In the case of loss of or injury to any of the following fittings—any excess in the cost of repair over 10/-.

W.C. apparatus.	
Urinal pans.	
Slop sinks.	
Lavatory basins	} fixed.
Foot pans	
Glazed stoneware sinks.	

484. The limitation of charge authorized by paragraph 483 does not apply when the damage is chargeable against officers, whether caused by them or their servants.

485. In ordinary cases the repair of damages is to be executed under regimental arrangements.

The O.C. of a unit or detachment is authorized to order the T.C. to repair damages. By the terms of his contract the T.C. is bound to effect the repairs at contract rates. In such cases the O.C. is to pay the T.C. direct.

486. In the following cases the repairs are to be effected by the Engineers, viz.:—

- (i) Damages of which the cost is partially chargeable to the public (*see* para. 483).
- (ii) Damages noted at marching out inspections.
- (iii) Damages to buildings not in regimental charge.
- (iv) Such damages to buildings in regimental charge as may be directed by the G.O. i/c Adm. Damages to drainage, gas, and water fittings, and to any fittings or fixtures of special pattern should usually come under this head.
- (v) Damages to hospitals, military prisons, detention barracks, and recruit barracks (*see* paras. 497 to 502).

487. The cost of repair is to be estimated at triennial contract rates. The amount actually charged is not to exceed the actual cost.

488. If a C.O. or head of a department considers the amount assessed excessive or that the damage is improperly charged he must notify the D.O. of the grounds on which he objects to the charge. The D.O. is to take the instructions of the C.R.E. If the C.R.E. supports the D.O. and cannot settle the matter with the C.O., the C.R.E. must forward the case to the C.E. for the decision of the G.O. i/c Adm. (*see also paras. 32-3*). Appeals not put forward within a reasonable time are not to be entertained.

2.—PROCEDURE.

489. Damages repairable by the Engineers (*see para. 486*) which require immediate attention will be brought to the notice of the D.O. by the O.C. the regiment or corps or the senior officer of the department concerned on A.F. P 1923 in duplicate. When noted first by the Engineers they are to be entered on A.F. P 1923 in duplicate and the forms forwarded to the officer concerned for signature and return.

490. On receipt of A.F. P 1923 the D.O. is to enter on each copy against each item the net cost of repair. In the case of limited damages (*see para. 483*) an abstract must also be made on the forms showing in the case of each item the amounts chargeable against the troops and the public respectively. One copy is retained by the D.O. pending completion of the repairs; the other copy, accompanied by A.F. K 1280, is to be sent to the officer concerned to shew the amount assessed. In the case of joint damages a copy is to be sent to each unit or department concerned. The officer concerned retains the copy of A.F. P 1923 and returns the A.F. K 1280. At the same time the D.O. sends to the C.P. or regimental paymaster a statement on A.F. P 1960 (accompanied by A.F. K 1280) of the amount assessed against each unit or department. Receipt of the A.F. P 1960 is acknowledged on the A.F. K 1280.

491. On the completion of the repairs the copy of A.F. P 1923 retained by the D.O. is to be sent to the officer concerned for his signature to the certificate that the repairs have been effected. In the case of damages noted at marching out inspections the form is to be sent to the officer on whose charge the building is at the date of completion instead of to the officer on whose charge the building was when the damage was noted.

492. An officer to whom A.F. P 1923 is sent for signature to the certificate as to the completion of the repairs is not entitled to decline to sign on the ground that the amounts charged are excessive or for any other reason than that repairs have not been properly effected. Provided the repairs have been properly effected the certificate is to be signed and the form returned at once. For method of appeal *see para. 488*.

493. When repairs are executed by a T.C. the completed A.F. P 1923 is to be billed in the same way as a requisition on A.F. K 1306. (*See para. 667*.)

494. On the first of each month each O.C. is to forward to the D.O. a list on A.F. K 1278 of all damages repaired under his orders.

during the previous month and proposed for repair in the current month, drawing attention to any points which he wishes investigated or which he himself is unable to decide. The prices charged, the quality of the materials used, and the workmanship are to be investigated as may be necessary by the D.O.

495. A list of damages noted by the Engineers but repairable by the unit concerned is to be kept in the Division office. Any damages noted at one quarterly inspection and not repaired at the time of the next are to be reported by the D.O. to the G.O. i/c Adm. through the C.R.E.

496. In Commands where there is no L.A. a monthly return on A.F. K 1279 showing (i) the amounts payable by each unit, department, or individual and (ii) the paymaster by whom the amount will be credited, is to be transmitted by D.Os. direct to the W.O.

3.—SPECIAL CASES.

(a) Hospitals.

497. Damages will be assessed against the M.O. in charge. (See para. 489.) After the cost of repair has been inserted by the D.O. on A.F. P 1923 the form will be sent to the M.O. in charge, who will enter on it the amounts to be recovered from each unit or department, whether patients or R.A.M.C., and return it to the D.O. If any of the damages are chargeable against patients the D.O. will then apply direct to the Garrison Adjutant or other staff officer for a Garrison order to be published notifying the units and departments concerned the amounts to be paid.

498. At Netley Hospital and the Herbert Hospital, Woolwich, every endeavour is to be made to bring home to individuals the responsibility for damages, but when this cannot be done, the cost of repair may be borne by the public. Individual charges and charges against the R.A.M.C. are to be dealt with in accordance with para. 497.

(b) Recruit Barracks.

499. Damages in quarters occupied by the recruiting staff and damages that can be brought home to individual recruits are to be dealt with in the normal way, but the cost of other damages in recruit-barracks and in such portions of other barracks as may from time to time be set apart exclusively for the accommodation of recruits will be borne by the public. Each charge must be supported by a voucher on A.F. P 1923, a certificate signed by the officer in charge being added thereon that all the damages occurred in the part of the barracks occupied by recruits and that none of the items can be brought home to individuals.

(c) Military Prisons and Detention Barracks.

500. On requisition by the D.O. the Governor of a prison or detention barrack will supply such labour for the repair of damages

as can be furnished by the prisoners without interfering with the prison discipline.

501. Damages will be assessed against the Officer in charge. (See para. 489.) After the cost of repair has been inserted on A.F. P 1923 by the D.O. the form will be sent to the O. in charge, who will enter on the form the amounts to be recovered from each regiment or corps and return it to the D.O. The D.O. will then apply direct to the Garrison Adjutant or other staff officer for a Garrison Order to be published notifying the units and corps concerned the amounts to be paid.

502. The cost of damages committed by prisoners sentenced to be dismissed from the service will be borne by the public, a copy of the sentence being attached to the requisition.

SECTION XI.—ILLUMINANTS, WATER, AND DRAINAGE.

1.—GENERAL.

503. The Engineers are responsible:—

- (a) For the provision and efficient maintenance of all E.L. machinery, pumping machinery, accumulators, retorts, gasometers, reservoirs, tanks, wells, and other W.D. works for the supply of water, gas, or electric light.
- (b) That such water, gas, and electric light mains, pipes, wires, and fixtures are provided and maintained in W.D. buildings as may be necessary to supply the authorized amount of water, gas, or current.
- (c) That the number of taps, hydrants, burners, and other fixtures is not in excess of the authorized scale.

504. While the Engineers are directly interested, for financial reasons, in the observance of economy in the consumption of gas, water, or current, supplied from W.D. sources, the responsibility for ensuring economy does not rest with the Engineers but with the A.S.C. and primarily with the C.Os. of units. (K.R. 1037.)

505. When it is convenient to arrange for the supply of gas, water, or electric light or for the disposal of sewage, by private firms or public bodies outside the control of the W.D., the provision and maintenance of mains, service pipes, &c., may be arranged for either by the Engineers or by the firm, as circumstances may dictate, and the agreement drafted accordingly. (*See para. 233.*)

It is for the A.S.C., not the Engineers, to make the agreement with the firm.

506. All meters (whether for water, gas, or electric light) are examined and tested by the A.S.C.

If repairs are required, the A.S.C. may ask the Engineers to carry them out. (*See para. 514.*)

The cost of repairs to W.D. meters is chargeable to the vote for Works.

507. When undetected leakage of gas or water is suspected and the A.S.C. propose to make a special test of the gas or water system, a notification of the proposed test is to be sent to the Engineers, who are to afford such assistance as may be necessary.

508. Flat flame gas burners, gas mantles and props, incandescent electric lamps, carbons for arc lamps, and oil lamps are not chargeable to the vote for works except when included in an engineer contract for a new installation; for instructions regarding the renewal of such articles *see* the Regulations for Supply, Transport, and Barrack Services.

509. The D.O. is to supply the O. i/c Barracks with plans shewing the position of the water or light mains, regulators, syphons, stop cocks, switches, &c., and the number of lights in each building.

510. Full information is to be given to C.Os. of units as to the position of the drains, flushing tanks, manholes, &c., in their charge.

Drainage plans may be supplied if required.

2.—ILLUMINANTS.

511. In preparing schemes for lighting W.D. property it must be arranged that the supply of gas or current can be cut off from roads or buildings where it is only authorized, or required, between certain hours, without affecting other buildings. (*See Regulations for Supply, Transport, and Barrack Services.*)

The possibility that gas rings, stoves and cookers may be required in quarters, messes, supper rooms, and elsewhere must be borne in mind.

512. Proposals for the provision of additional lighting must be referred to the A.S.C. in order that the question of the additional cost of the gas, current, or lamps, &c., required may be considered (*see para. 273*).

513. The G.O. i/c Adm. may approve any extra supply the cost of which does not exceed £10 per annum, provided that funds are available for the necessary engineer services and that the provision is an authorized one.

514. Main meters should be provided, fixed, and maintained by the producers of the current, and remain their property.

Subsidiary meters required to regulate the supply to officers' and serjeants' messes, regimental institutes, &c., are to be provided as an engineer service, and are to be inspected and repaired as laid down in para. 506.

It is convenient to arrange for their purchase from and repair by the producers of the illuminant.

3.—WATER.

515. When it is proposed to supply water to the troops from sources previously unused the opinion of the Army Medical Department as to the quality of the water is to be obtained.

The collection of samples of water and its analysis are duties of the R.A.M.C. (*See Regulations for the Army Medical Service.*)

516. It follows from para. 503 that tanks for storage of water supplied by the W.D. are in engineer charge; tanks for storage of water supplied from other sources are however in A.S.C. charge.

517. C.Os. of units are responsible that storage tanks and cisterns are kept clean and sweet. Cisterns, if accessible, are to be kept clean by the troops (*see K.R. and para. 7*).

4.—DRAINAGE.

518. The provision and maintenance in good order of drainage systems in barracks is an engineer service of the utmost importance.

519. Large schemes for the construction or reconstruction of foul drainage systems are to be placed in the charge of a special F.W. who must devote his whole time to the work and may require an assistant.

If any addition to the Establishment for Engineer Services is necessitated by this regulation, application must be made as laid down in Section III.

520. Every joint and connection is to be tested before the section of drainage to which it belongs is covered up. After being covered the section is to be tested again. Care must be taken that the test is not so severe as to force sound work.

The officer in charge of the work is to be present at the tests, accompanied by a medical officer (*see* Regulations for the Army Medical Service).

A record of the tests, signed by both officers, giving the date, the test applied, and the result, is to be kept in the Division office.

521. Record plans of new drainage schemes or of reconstructions must proceed *pari passu* with the work, the measurements required for them being taken before the drains are covered up.

522. The cleaning of drains and catch pits, and all maintenance services in connection with them which do not require skilled labour, devolve on the troops occupying the barracks (*see* K.R. para. 1005) in accordance with the general principles laid down in para. 7 and Table L, page 92.

523. The following detail of their duties in this respect, though not intended to be comprehensive, indicates what must be done periodically.

Weekly Duties.

1. Inspect all automatic flushing tanks to see that they are working regularly and that the supply does not fill and discharge them more frequently than is specified.
2. Examine all grease traps, slop gullies, and gullies taking the discharge from sinks, and clean them out.
3. Examine all disconnecting manholes, see that the traps and air inlets to them are clear, and that the stopper of the cleaning arm is in its place.
4. Scrub the underside of all lift-up W.C. seats.

Monthly Duties.

5. Test all stop cocks and see that they are in working order.
6. Clear out all surface water gullies and fill up with water those connected with a foul drain.
7. Open all the foul drainage manholes, see that the channels and benching are clean, and notice whether any deposit is taking place in the drains, which must in this case be flushed.

Half-yearly Duties.

8. Under the supervision of the Engineers flush out all principal branch drains not otherwise flushed.
9. Examine the surface water manholes, and draw the attention of the D.O. to any drains in connection with them that appear to be silting up.

Periodically (when required).

10. Clean out all accessible tanks and cisterns (*see* para. 517).
11. Discharge the flushing tanks.

SECTION XII.—STORES, TOOLS, AND MATERIALS.

1.—GENERAL.

524. Engineer store charges exist for the purpose of dealing with stores, tools, and materials for the following services:—

- (i) Defence electric lights, telegraph, and telephone services.
- (ii) Brennan torpedo installations (held in reserve).
- (iii) Instruction in military engineering.
- (iv) Engineer services generally, including railways, camps, &c.
- (v) Machinery (*see* paras. 293 to 296).
- (vi) Surveying, drawing, and photography.
- (vii) Periodical linewhiting of barracks by the troops.

NOTE.—Stores at the School of Military Engineering, and Brennan Torpedo Factory or under the charge of the Superintendents of Building Works, and Balloon Factory are specially dealt with.

525. The stores for certain of the above, *e.g.* defence electric lights, technical stores for instruction in military engineering, &c., are held on charge in accordance with fixed establishments laid down in the Equipment or other Regulations, or by special W.O. authority (*see* para. 548).

526. In other cases the stocks maintained must depend upon requirements. *Stores held on charge should be sufficient, but not more than sufficient, to meet those requirements.*

Insufficiency involves:—

- (i) Delay in execution of services, causing inconvenience and perhaps waste of workmen's time, with consequent loss to the public.
- (ii) A probability that stores will have to be purchased hurriedly at increased cost to the public.

Unnecessary accumulation involves:—

- (i) Congestion in storehouses, and possibly demands for increased accommodation.
- (ii) Deterioration.
- (iii) Increased cost in handling, checking, book-keeping, stock-taking, &c.

527. Any articles or materials in store which are not already specifically allotted to some particular service or work, are to be considered as available for general issue.

528. Stores are classified as follows:—

Class A.—Instruments, tools, plant, and special stores of a permanent character, which are received on charge with a view to being *temporarily* issued on inventory when required.

Class B.—Consumable stores; stores required permanently for, or incorporated in, the work or building to which they were supplied; materials generally; samples to govern supplies.

529. Class A stores, unless transferred to another account, will remain on charge until worn out, condemned by survey, sold, or otherwise authoritatively disposed of. They will be struck off charge when issued to a particular work or service if they can be regarded as fixtures (*see* para. 591). Instructions will be issued from time to time specifying the articles to be regarded as fixtures, such as fixed machinery, shafting, pulleys, stationary boilers, &c.

530. The number of different store houses in an engineer District is to be as small as possible, provided that:—

- (i) Defence stores are in close proximity to the Works to which they are allotted; and
- (ii) All other stores are in such places as to ensure convenient and economical distribution.

The guiding principle as regards (ii) should be to have one central or feeder store charge, usually at the headquarters of the District, where all articles not likely to be required at short notice should be concentrated, and for all other store charges to be expense stores at which should be kept, in addition to any "fixed establishment" stores, only such tools, plants, and materials as may be required for frequent issue to the troops and to direct labour, or to meet sudden emergencies connected with machinery, gas and water supply, &c.

531. Stores delivered for a service in course of execution by contract, which are the property of the contractor, are not taken on W.D. charge.

532. Stores which belong to a contractor are not to be kept in engineer charge or in engineer storehouses.

533. When an officer is placed in charge of engineer stores he will, at the time, take steps to test the accuracy of the stock of such items of stores as have not been recently verified, and will furnish a certificate that he has done so, and has no reason to doubt the general agreement of stock with the ledger balance. This certificate will be forwarded to the L.A. or W.O.

If for any reason it is impossible for the officer taking over to carry out these instructions, he will report accordingly. (*See also* para. 46.)

534. The stock should be arranged, as far as possible, as in a retail shop in civil life, due regard being paid to classification and convenience of issue and of stocktaking.

535. No one, except the personnel employed on store duties, is to have access to the articles stored.

536. Store yards must be enclosed, and no workman or other person allowed therein unless accompanied by one of the staff. It is very desirable that all issues should be made over a counter.

537. Class A stores are to be kept distinct from those of class B.

538. All boxes, drawers, trays, or other portable receptacles are to be marked with their "tare" so as to facilitate weighing for stocktaking.

539. All bins, drawers, shelves, racks, boxes, trays, &c., used in connection with B stores, are to bear identification numbers (called index numbers) corresponding to those on the schedule of B stores. (See paras. 598-9.)

2.—ESTABLISHMENT.

540. The duties and responsibilities of the C.R.E. and O. i/c Stores are laid down in paras. 54, 55, and 74-6.

541. The Subordinate Establishment will consist of:—

- Ledger Keepers.
- Assistant Ledger Keepers.
- Storemen, 1st Class.
- Do. 2nd Class.

Their duties and responsibilities are specified in paras. 95 to 99.

542. It may be necessary at certain out-stations where the store charges are not of sufficient importance to justify the employment of special establishment to place foremen of works or other subordinates in charge of stores. In such cases, whilst the responsibility for the stores still rests with the O. i/c Stores, the subordinates must remain under the direct orders of their immediate superiors. Their services must be regarded therefore as being only partially and temporarily lent for storehouse duties.

3.—SUPPLY.

543. Engineer stores are obtainable as follows:—

- (a) From the A.O.D.
- (b) By purchase.
- (c) Surplus stores arising from completed services.
- (d) Old materials, &c. arising from demolitions, alterations, maintenance services, &c.

From Army Ordnance Department.

544. Articles supplied by the A.O.D. are shown in the "Priced Vocabulary of Stores" and are known as "*vocabulary stores*." Articles not appearing in the Vocabulary are known as "*non-vocabulary stores*." When the A.O.D. is unable to supply vocabulary stores, or when inconvenience would arise from delay in awaiting their supply, direct purchase by the Engineers, if so requested by the A.O.D., is permissible (see para. 22).

545. Stores obtained from the A.O.D. are to be at once brought on charge by voucher.

546. Instruments, apparatus, &c. supplied by the A.O.D. requiring repair which cannot be effected by military labour will be handed over to that department. For procedure see Regulations for A.O. Services, Part 1.

547. Artificers' tools need not be demanded in sets, but only such particular articles as are applicable to, and necessary for, the station.

548. Estimates for stores supplied by the A.O.D., either to complete establishments of stores authorized by the equipment or other

regulations, or to meet requirements for other engineer services, will be prepared and submitted as shown in the subjoined table.

Service.	Estimate prepared (in duplicate).	Date to be submitted to C.O.O.	If Establ. exists.	Remarks.
(i) Defence Electric Lights, Permanent Army Signalling, &c.	A.F. G 896	1st August	Yes	
(ii) Brennan Torpedo Establishment.	... ..	Nil	Yes	Obsolescent, but still held in reserve at certain stations.
(iii) Military Engineering ...	A.F. G 989	1st August	Yes	
(iv) Engineer services generally.	A.F. G 991	15th Sept.	No	
(v) Machinery ... ..	... ..	... ..	...	See paras. 296, 297.
(vi) Surveying, &c.	A.F. G 1017	1st August	No	
(vii) Limewhiting, &c. ...	As for (iv) above ...	...	No	

549. The following rules are to be observed in preparing estimates for vocab. stores:—

- If the establishment laid down for the stores quoted in para. 548 (i), (ii) and (iii) above is insufficient, estimates showing the additional establishment required are to be submitted at the same time and on the same army forms to the C.O.O. with an explanation of the necessity for the increase.
- Estimates will be based on the anticipated requirements during the ensuing financial year for such Part 1, Part 2, or Part 3 services as are not to be executed by contract.
- Estimates for vocab. stores for engineer services (A.F. G 991) will show separately the requirements for each Part 1 service, but the total requirements for each engineer district for Part 2 and Part 3 services respectively are to be lumped together. The estimates for F.A.E., A.O.B.A.E., and B.A.E. services respectively are to be prepared on separate forms.
- Estimates for stores not drawn by the end of the financial year for which the estimate was furnished will be considered cancelled.
- The A.O.D. supply timber for engineer services only at those stations where reserves of timber exist and when those reserves require turning over; the O. i/c stores is to ascertain therefore from the C.O.O. that those conditions obtain at his station before including supplies of timber in estimates.

550. "Estimates" must not be confused with "demands." The former are submitted merely to enable the A.O.D. to supply the stores on receipt of the latter.

551. The following rules are to be observed in demanding vocab. stores:—

- (a) Demands (to be made on A.F. G 993) are to be signed by the C.R.E. or by an officer deputed by him, and to be forwarded to the C.O.O. as, and when, the articles are required.
 - (b) Demands for racers, racks, arcs, pivots, blocks, &c. required for batteries, and for those armament emplacements where such stores are not issued with the mounting are to be prepared in MS. (*vide* Appendix VII), and forwarded in quadruplicate, as soon as the execution of the service has been authorized, through the C.R.A. to the C.O.O., who will submit them to the W.O.
- One copy will be returned to the C.O.O. and one to the requisitioning officer.
- (c) Demands for vocab. stores for Part 1 engineer services must specify the particular item for which the stores are required, and for Part 2 or Part 3 services the particular subhead and part of the F.A.E., A.O.B.A.E., or B.A.E. for which they are required.

By Purchase.

552. Stores purchased (*see* para. 21) except those referred to in para. 553 below, are to be brought on charge at once and vouched for by contractors' invoices, either on their own trade forms, or on A.F. G 990; these invoices should accompany all goods delivered. When this cannot be insisted upon, a copy of the order on the contractor will be utilized as a receipt voucher. The invoices or vouchers are to bear a reference to the bill on which the stores have been paid for, and also to the ledger sheet in which the articles have been brought on charge.

553. The exceptions referred to in para. 552 above are as follows:—

- (a) In the case of stores purchased by the W.D. from special contractors for works in the course of execution by contract, which on arrival are issued at once to the building contractor, the entry in the ledger sheet may be dispensed with, the invoice (A.F. G 990) from the contractor supplying the articles, properly receipted by the officer in charge of the works, and by the building contractor to whom they are issued, being retained in a guard book kept specially for the purpose. These guard books are then considered as a portion of the store accounts. Such invoices must be numbered consecutively and bear a reference to the bill upon which the stores were paid for, and the bill must bear a cross-reference to the invoice.

A further certificate will be given on each invoice when the articles in question have been incorporated in the work or taken on store charge. (*See* paras. 567, 568, and 618.)

- (b) Invoices for other stores which may under special circumstances be delivered direct to the works will be treated similarly.

554. When materials, tools, or patented articles are ordered from manufacturers, contractors, or patentees, the O. i/c Stores will endeavour to arrange that the prices shall provide for delivery in proper condition, so that articles arriving damaged can be refused.

555. When this cannot be done :—

1. Unpacked articles arriving damaged are not to be accepted.
2. Packed articles will be examined immediately on receipt, and a claim for the replacement of any that are damaged made within 48 hours to the agent or carrier by whom they may have been delivered. Should there be any difficulty in arranging the matter the proceedings will be reported to the W.O.

556. It is left to C.R.Es. to make arrangements as regards the allotment of funds for payment of bills for stores purchased for replenishment of stocks for all Minor Services for the common use of two or more D.Os.

557. The regulations relating to purchase of stores from special contractors are contained in paras. 336 and 340, and as regards the purchase of stores in the open market in paras. 338 and 339.

Stores ordered from Triennial Contractors.

558. Purchases of stores from T.Cs., unless obligatory under the terms of the contracts, are to be sparingly made to meet current necessities only, and not for the general replenishment of stock.

(See para. 324 (d) and Notes II and III thereto.)

By Purchase, Stations Abroad.

559. Non-vocab. stores for stations abroad will be obtained :—

- either (i) by purchase locally, or
- (ii) on demand, through the W.O.

560. Before non-vocab. stores are demanded from home, it should be considered whether, taking the cost of transport into account, the articles cannot be bought more economically on the spot, in which case the rules given in paras. 338, 339, governing purchase at home stations, and 353, will apply.

561. Demands for non-vocab. stores for all services included in the statements of services which it is decided to obtain from England will be prepared in duplicate on A.F. K 1313 and transmitted so as to arrive at the W.O. by the 1st April.

Demands for non-vocab. stores to be supplied from England required for services submitted after the statements of services have gone in are to accompany the proposal.

On the receipt of the notification of final allotments, G.O.Cs. will report to the W.O. by letter or telegraph as to what demands are to be complied with. Supply will then proceed.

562. The following rules are to be observed in preparing demands for non-vocab. stores:—

- (a) The demands will show separately the requirements for each Part 1 service, but the total requirements for each engineer District for Part 2 and Part 3 services respectively are to be lumped together.

Separate demands are to be rendered for F.A.E., A.O.B.A.E., and B.A.E. services respectively.

- (b) The nature, quality, size, and pattern of the articles required are to be clearly stated.

Dimensioned sketches will be furnished if necessary.

In demands for steel or ironwork the varieties of sections should be as few as possible. When small quantities only are required it is often more economical to use "stock" sections theoretically too large.

The thickness of steel plate is to be measured by the wire gauge. Its nature, whether blister, shear, or cast, is to be stated.

Demands for renewals of parts of machinery, boilers, &c., must quote the makers' number of the original machine, and also the W.O. correspondence dealing with its supply.

- (c) In order to obviate delays in supply it is desirable to demand only British Standard sections.
- (d) Articles for which special contracts exist are to be demanded under these contracts, unless required for experimental purposes (*see* para. 387).
- (e) Imperial weights and measures are to be adopted.

563. An invoice (in duplicate) of the articles supplied on these demands will be forwarded from the W.O. to the C.R.E. He will retain one copy, and the other, after being certified by him, will be returned to the W.O. as soon as the stores have been received; on it will be noted damages or deficiencies as to quantity; comment will also be made should any of the articles supplied prove to be unsuitable or of inferior quality. The number of the voucher by, and period of store account during, which the articles have been brought on charge will also be noted. As the statement of cost on A.F. G 990 is only approximate, the amount stated in the W.O. letter notifying the payment of the bill is to be taken as correct.

564. When materials, tools, or patented articles are ordered from manufacturers, contractors, or patentees at home, for use at a station abroad, the packages containing the articles will be consigned in transit to the A.O.D. at the station; the cost of their delivery will not be a charge against the vote for Works. (*See* paras. 263-4.)

565. The C.R.E. at a station abroad, on receiving a notification from the A.O.D. that packages or building materials for the Engineers have arrived in a damaged condition, will make arrange-

ments for their immediate examination in the presence, if possible, of the master of the ship, or his representative. Particulars of any damages or deficiencies will at once be notified to the C.O.O. for insertion in the bill of lading, and will be sufficiently detailed to enable an assessment of the value to be made at the W.O. In the case of damaged stores which can be repaired locally, the particulars will include the approximate cost of such repairs. The C.R.E. will put forward a demand for stores which cannot be repaired locally, and which it may be necessary to replace.

566. Should any article be delivered at a station abroad in an unserviceable or non-repairable condition, it will be taken on charge according to the invoice and struck off charge by a certificate voucher, A.F. G 1033, or conversion voucher, A.F. G 1049. All vouchers will be retained for reference and examination.

Surplus Stores arising from Completed Services.

567. All such surplus stores are to be brought on charge by certificate vouchers—A.B. 108—signed both by the D.O. and the O. i/c Stores; these vouchers are to be kept by the O. i/c Stores as vouchers for his ledger entries.

568. In the case of services executed by contract, ordinary building materials, surplus to requirements, remain the property of the contractors; the only stores to be taken on charge are special stores ordered by the W.D. from other contractors and not used in the work. It should be the exception and not the rule for stores to become surplus in this manner.

Old Materials &c. arising from Demolitions, Alterations, Maintenance Services, &c.

569. Old fittings and materials may be classified as follows:—

(a) *Fittings*—

- (1) Serviceable.
- (2) Repairable.
- (3) Unserviceable (i) of value as old material,
(ii) valueless.

(b) *Materials*—

- (1) Valuable, such as lead, copper, brass, &c.
- (2) Of comparatively small value, such as iron, wood, &c.
- (3) Valueless.

570. It is inevitable that in carrying out maintenance services, whether by the T.C. or by directly employed military and civil labour, large accumulations of old materials should arise. Owing to the great variety of such materials and the ever differing circumstances in which they come to hand, it is impossible to lay down any precise rules for their disposal.

571. It is obviously undesirable to accumulate in engineer stores old and useless fittings and materials which, on disposal, may not realize the amount spent on cartage, handling, and storage, nor

justify the time and labour involved in book-keeping. On the other hand, the D.O. must be held responsible that there is no loss to the public, and that no temptation is placed in the way of workmen or other subordinates, through any laxity of procedure in dealing with what in many cases are articles and materials of considerable value.

572. Broadly speaking, all old fittings and materials not likely to be required, and the sale value of which, in the opinion of the D.O., is not likely to compensate for the cost of removing them to store and taking them on charge, are to be disposed of or destroyed on the site of the work. Other stores are to be returned to store and brought on charge as previously directed.

573. When sale upon the spot is contemplated, or when any doubt arises regarding the most economical method of dealing with old fittings and materials, the D.O. is to consult the local A.S.C. and Ordnance officers.

574. In the case of demolitions, reconstructions, large alterations, &c., carried out by lump sum contract, it will be found convenient and economical, as a general rule, to provide for the re-use or disposal of all old fittings and materials in the specification and bills of quantities.

575. In the case of demolitions, reconstructions, alterations, &c., carried out by the T.C., unless there are some special stores which the D.O. desires to keep for future use, the items in the T.C. schedule which apply to the disposal of old materials by the contractor are to be made use of.

576. In the case of demolitions, reconstructions, alterations, &c., carried out by direct labour, all old materials, &c., which are of value, and which cannot at once be re-used are either to be taken to store and brought on charge, or sold on the site of the work.

577. All old fittings and materials actually taken to store, or retained in the charge of the D.O., are to be brought on ledger charge by certificate vouchers (A.B. 108).

These should be in duplicate, signed by both the D.O. and the O. i/c Stores. One copy will form a voucher for the ledger entry, the other will be retained by the D.O.

578. Contractors' bills containing items for "returning to store" will be accompanied by the D.O.'s copy of the voucher referred to in the preceding para., or will bear a reference to the store account bringing the old fittings or materials returned on charge.

579. *Fittings, both serviceable and repairable*, are to be brought on charge as *articles*, by name.

580. *Fittings, unserviceable*, but of value as old material, are to be brought on charge as old materials.

581. *Old materials* are to be brought on charge as such, by weight or measurement.

4.—ACCOUNTING.

General.

582. There will be normally one general engineer store account for each engineer District, which will be kept at the head quarters of the District.

583. The accounts office, which will be in charge of the O. i/c Stores and his ledger keepers, will be distinct and separate from the storehouses.

584. All stores, for whatever purpose held, will be kept as one general store charge.

In the case of stores for which fixed establishments (*see* para. 548) exist, each ledger sheet will have the establishment entered on it, below which the totals of such articles kept on charge must not be allowed to fall.

585. Each account will be subdivided into:—

(i.) Class A Store Account.

(ii.) Class B Store Account.

Stations will be shown separately on each ledger sheet so as to show separate sub-accounts for each store charge.

586. The accounts for both class A and class B stores will be kept on the "loose-leaf" system, on Ledger Sheet A.F. K 2403.

587. It is imperative that the issue and distribution of these sheets should be closely supervised. Supply from the W.O. will be made direct to the O. i/c Stores, who will be personally responsible for the issue of those required for current use and for the custody of all blank sheets. He will keep a record of the sheets issued. Any sheet that may be spoiled will be returned to him before a fresh sheet is issued.

588. Sheets in current use will be kept between boards or in some suitable form of binder. When a sheet is filled up, the balances will be transferred to a new sheet which will be attached to the sheet already filled up, both sheets being retained in their place in the current file.

589. No Ledger Keeper or Assistant Ledger Keeper is allowed to divulge to any unauthorized person particulars of entries, totals, or remains, standing in any books or documents accessible to them. (*See* para. 96.)

Class A Stores.

590. Ledger sheets will be arranged in alphabetical order.

591. Class A stores may be subdivided as follows:—

(a) Articles held on semi-permanent charge in works of defence, or elsewhere, such as electric light projectors, telephones, &c. in works of defence, and machinery, lathes, boilers, &c. in workshops, &c.

(b) Tools, implements, plant, &c. held temporarily by the troops, workmen, &c. for instruction, works, &c.

(c) Articles actually in store.

NOTE.—Articles under (a) are to be held on ledger charge as well as on inventory charge in the work of defence, workshop, &c. to which they are allotted, unless they can be regarded as fixtures (*see* para. 529).

592. Storemen will be responsible for all A stores on charge at their respective stations.

593. Tally cards (A.F. K 2418), upon which will be entered remains and *ledger* receipts and issues, will be kept by the storeman in trays provided for the purpose in storehouses by the engineers.

594. A separate receipt for each description of article will be taken and guarded behind their respective tally cards. These will serve as vouchers for the semi-permanent and temporary issues, but no entries regarding them may be made on the tally cards. These receipts are not to be altered. Any adjustments should be effected by cancelling old receipts and obtaining new.

595. When any articles have been used up or converted in the execution of the service for which they were issued, the necessary expenditure or conversion vouchers, A.F. G 1049, will be passed through the storeman.

596. When a military working or fatigue party requires tools, the Storeman will hand over the necessary articles to the officer or N.C.O. in charge of the working party, obtaining at the same time a receipt for them. This officer or N.C.O. will be responsible for them until they are returned. On the return of the tools into store stock will be taken, and any deficiencies will be brought to the notice of the officer or N.C.O. Any loss will be immediately reported to the O. i/c Stores on A.F. K 1345, and the cost of making good will be charged against the working party, or referred as laid down in the K.R.

597. The C.R.E. will cause to be prepared in triplicate a priced statement of all stores damaged or deficient, the value whereof is to be recovered through whichever officer of the Army Pay Department the case may require. The original and triplicate priced statement will be sent to the paymaster concerned, and the duplicate to the officer or individual liable for the amount. The paymaster will retain the triplicate as his voucher for crediting the public with the money, and he will note on the original claim the date of the cash account and the number of the cash voucher in which credit will be found. He will return the completed claim to the C.R.E., who will annex it as a voucher to clear his store account.

In assessing the value of non-vocab. stores, reasonable allowance is to be made for fair wear and tear when the D.O. considers the circumstances of the case justify such action. No reduction will be made below half the original value. For procedure as regards vocab. stores *see* the Regulations for A.O. Services, Part I.

Class B Stores.

598. To facilitate reference and to admit of simple registration and guarding of requisitions (A.B. 43), each article of store, class B, will have assigned to it a certain index number.

599. A schedule of B stores, giving these numbers, will be prepared by the O. i/c Stores.

The schedule will include all articles held on charge. As fresh articles arrive index numbers are to be assigned to them by the O. i/c Stores.

Every storeman is to have a corrected copy of this schedule.

600. Each ledger sheet will bear not only the name of the particular article of store with which it deals, but also its index number. Ledger sheets will be kept in the binders in numerical order.

601. Storemen will keep their store accounts on tally cards (A.F. K 2418).

Each card will agree as regards name and index number with its corresponding ledger sheet. Cards will be arranged in numerical order and kept in the trays or boxes provided by the engineers for the purpose.

Receipts and issues will be entered up daily upon the cards in indelible pencil.

602. Stores will only be issued on an order in writing signed by the D.O. or by someone deputed by him to authorize such issue on Issue Order Form A.B. 43. These orders will show the item or work for which the issue is required, sufficient information being given to identify the service on which the stores have been used. In the case of stores required for minor maintenance services, &c. the number of the requisition must be quoted. The individual receiving the stores will sign the order on receiving them, adding his status to his signature. The order will then be retained by the storeman as a voucher for the issue. In cases of emergency the written order may be dispensed with, but a receipt will always be taken. A separate form is to be given for each description of article required.

603. The D.O. will periodically review all the counterfoils not originally signed by him, and will initial the last counterfoil to shew that he has done so and that he is satisfied that the stores issued have been used on the public service. (See para. 618.)

604. The stock of A.B. 43 will be held by the C.R.E. and issued by him to D.Os. on requisition. When all the counterfoils have been filled up, the books will be returned to the C.R.E. and kept for five years.

605. *Each Form A.B. 43—whatever the actual wording thereon may be—is to be marked by the storeman with the index number of the article actually issued.* This is essential to ensure agreement between ledger sheets and tally cards.

606. All Forms A.B. 43, and other vouchers, after being duly entered upon the tally cards and stamped in blue **ENTERED on TALLY CARD** will be sent daily to the store account office.

607. Storehouses are to be closed one hour or more (depending on the extent of the store charge), before working hours cease, in order to give time to storemen to enter the day's transactions upon the tally cards.

On receipt from the storemen of the forms A.B. 43 and other vouchers, the ledger keepers will at once enter them upon the ledger sheets, stamp them in red **ENTERED on LEDGER SHEET** and guard them. Forms A.B. 43 will be kept in card index trays or boxes behind the guide cards (A.F. K 2419) bearing their respective numbers; all other vouchers will be guarded in the usual way.

NOTE.—If several forms A.B. 43 deal with issues of one particular article at any one station, it will suffice to make one ledger entry of the total.

608. Erasures or pencil entries are not to be made in either ledger sheets, or vouchers. Any necessary corrections are to be made in ink in such a way as to leave the original entry legible, and initialed by the officer responsible for making them.

609. When F.W.'s are placed in charge of stores (*see* para. 542) detailed accounting for such items of class B stores as paint, putty, screws, nails, tallow, glass and emery paper, driers, glue, grease, soda and whiting, cement, sand, plaster of Paris, and ballast, which cannot be identified after use, will be dispensed with. The D.O. will demand from the central store such quantities as may suffice for 3 months. These articles will not be taken on charge and vouchers accounting for their disposal will not be required, but the F.W. will keep a rough day book showing issues to his workmen. He will be responsible for the economical use of such articles.

The C.R.E. may permit foremen of works who are in charge of sub-divisions at a considerable distance from the storehouse to adopt similar procedure.

For all other articles the procedure laid down in paras. 598 to 607 will be followed.

5.—STOCKTAKING AND AUDIT.

By Storemen.

610. As the tally cards record all receipts and issues, storemen can verify at any time their stock in hand. They should be encouraged to take stock as frequently as time admits, as this adds to the interest of their work and gives them a feeling of security.

The date of taking stock of any articles is to be noted on the tally cards, and any discrepancies at once reported to the O. i/c Stores.

By the O. i/c Stores.

611. The O. i/c Stores will arrange to take stock once during a year of the whole of the stores in his charge. The stocktaking should be continuous, about 25% of the remains being verified during each quarter.

He will prepare lists on A.F. G 987 of the articles which are to be verified, filling in the ledger balances. The stores shown upon the stocktaking lists will be counted, measured, or weighed; the quantities found in stock, as well as the balances shown by the tally cards, will be entered in A.F. G 987 in the columns provided for the purpose; at the same time the quantities found to be in stock will be entered on the tally cards, a line being drawn under all previous entries.

612. The remains will be struck both on ledger sheets and tally cards at the date of the stocktaking. When discrepancies are found to exist between the actual stock and the ledgers, the O. i/c Stores will order them to be provisionally adjusted by means of certificate receipt or issue vouchers, and will call for explanations from the storeman.

613. In the case of class A Stores, discrepancies should not occur if the accounts have been carefully kept, but with class B stores, discrepancies from waste and makeweight cannot always be avoided, and, with certain kinds of materials, such as slates, bricks, &c., are inseparable from detailed issues.

614. The A.F. G 987 will be submitted to the C.R.E. at the end of each quarter.

615. The A.F. G 987, shewing action taken thereon, will be attached to the store accounts when submitted for audit. (See para. 618.) The procedure as regards writing off deficiencies is given in K.R.

Stock Accounts.

616. An annual stock account of the stores held for defence electric lights and electrical communications at each station is to be prepared on A.F. G 896 and forwarded to the W.O.

617. The account must show the establishment of stores specially authorized for defence lights and communications and the numbers or quantities of these stores, serviceable or reparable, at the station.

618. The ledger sheets will be balanced annually at all stations on the 31st March and sent, together with vouchers and guard books, to the L.A., or if there is no L.A. to the W.O., where they will be retained. The account thus closed will be accompanied by a certificate from the C.R.E. to the effect that he is satisfied that:—

(1) The stores shown as issued have been used on the public service.

(2) Articles delivered direct to the work (*vide* para. 553), have been incorporated in the work or taken on charge.

(3) The account has been properly kept.

(4) Discrepancies have been dealt with as laid down in the K.R. The accounts may be inspected and the correctness of store balances verified at any time by representatives of the War Office.

6.—DISPOSAL OF UNSERVICEABLE, OBSOLETE, OR SURPLUS STORES AND MATERIALS HELD ON LEDGER CHARGE.

Articles originally obtained from the Army Ordnance Department.

619. Unserviceable, obsolete, or surplus stores and equipment from services for which fixed establishments are laid down in the Equipment or other Regulations, will be returned to the A.O.D. under the general rules laid down in the Equipment Regulations.

620. Tools and stores for works and building services drawn from the A.O.D. under paras. 544 to 550, when unserviceable or obsolete, or if they become surplus to requirements, will be returned to that Department subject to the conditions of the following paragraph.

621. If such stores are in charge at a station where there is no ordnance depôt, lists of them will be furnished by the C.R.E. to the C.O.O., who will then arrange to have them inspected by an ordnance officer in conjunction with an engineer officer. If the C.O.O. does not consider this further inspection necessary, it may be dispensed with. If he approves of the sale of those which are unserviceable, he will return the list to the C.R.E. with a request that he will call for tenders, and on receipt of them he may authorize the C.R.E. to dispose of the stores. As regards the disposal of surplus tools and materials, the C.O.O. will arrange for the disposal of those tools and stores which it is decided not to sell. When the stores are disposed of locally without return to an A.O. depôt, they will be written off

charge from the engineer ledgers on A.F. P 1957, a reference being made to the C.O.O.'s minute authorizing their local sale. All vocab. articles bearing government marks must be properly marked with the condemned mark prior to disposal if sold without being reduced to "produce."

Articles obtained by purchase or otherwise than from the Army Ordnance Department.

622. A list of the articles, unserviceable, obsolete, or surplus, showing probable value, will first be prepared.

The C.R.E. will then consult the C.O.O. as to the best means of disposal.

623. If local sale by the engineers is decided upon, this will be carried out either by auction, or, if no auctioneer is available, by tender.

The stores will be written off engineer charge on A.F. P 1957. The auctioneer's cash receipts are to be attached to the account and the stores not delivered to purchasers without the production of a certificate from the auctioneer or the paymaster that they have been paid for.

624. Attention is directed to the regulations governing sales, given in Regulations for Supply, Transport and Barrack services.

7.—MISCELLANEOUS.

625. At stations where reserves of material for military operations are maintained in engineer charge (without relation to any estimate for works and repairs), information will be sent from the W.O. as to the proportions authorized.

626. The C.R.E. is responsible that the authorized proportions are maintained in a state of efficiency.

627. The C.R.E. will furnish the responsible officer annually with a statement of the quantity of coal, coke, fuel-wood, candles, oil for lighting, or wick, required for engineer services, or for workshops and electric light establishments, with a view to the necessary provision for the cost being made in the annual estimates, and he will requisition from the O. i/c Bks. such supplies of the above-mentioned articles as he may from time to time require.

The supplies received under this paragraph will be accounted for on expense vouchers A.F. F 771, to be rendered monthly to the O. i/c Bks.

SECTION XIII.—CONTROL OF EXPENDITURE.

1.—GENERAL.

628. Efficient control of expenditure is shewn by the economical execution of wisely selected services.

The wise selection of services depends on a carefully thought out scheme for the most advantageous expenditure of available funds and an intimate knowledge from day to day of the sums available.

The economical execution of the selected services depends on constant supervision to ensure that the expenditure taking place at any time (a) is directed solely to the accomplishment of the selected services, (b) in the case of each service is within the original estimate of the cost of that service.

629. The funds to be expended both on minor new services and on maintenance are largely based on averages. It is possible therefore in Commands, engineer Districts, and engineer Divisions to forecast the sums likely to be available over a series of years. It is the duty of an officer on taking over a charge to make a general survey of the engineer requirements of his charge, and to select the schemes to which he considers he can best devote the funds at his disposal. To secure the best distribution of funds it is essential to work to definite schemes; to do otherwise involves the dissipation of money on alterations of merely passing urgency and on numerous scattered repairs, many of minor importance, to the exclusion of work of greater or more permanent value.

630. The means by which officers keep in touch with their financial position from day to day are the various books ordered in Section XIV to be kept in engineer offices. The use of these books is given in paras. 708-9.

To ensure that they fulfil their purpose:—

- (i) No order is to be given without a previous estimate of the liability thereby incurred and a record of that liability made in the appropriate book.
- (ii) The books are to be kept written up to date daily.
- (iii) Requisitions and bills are to be dealt with promptly.

631. In the absence of exceptional circumstances lapses of funds or excesses at the end of the financial year are due to inefficient control. In the former case the officer responsible has failed to watch his expenditure sufficiently closely to foresee and avoid the coming lapse, in the latter case he has not ensured that his orders were carried out in accordance with the previous estimate. In both cases his estimates may have been faulty.

2.—ALLOTMENT OF FUNDS.

632. The allocation of the lump sums allotted to Commands for Major Part 2 and Major Part 3 services is left to the G.O. i/c Adm. subject to the following conditions. (*But see* para. 273.)

- (i) Services specified by the W.O. must be provided for.
(Part 2 services of £500 or more will always be named by the W.O.)
- (ii) Funds must be retained for all services for which A.F. M 1426 (Skeleton Estimate) has been rendered to the W.O. until definite instructions have been received as to their execution or otherwise.
- (iii) No service may be commenced without W.O. approval which :—
 - (a) Has not been reviewed at the W.O. either by being included in the statements of services or by being otherwise brought to notice.
 - (b) Has been struck out of the statements of services at the W.O.
 - (c) Involves alterations to a work of defence (*see* para. 283).
 - (d) Is a hospital service. (This also applies to Part 2 Minor services for hospitals.)
 - (e) Involves re-appropriation, or increased expenditure for lodging, fuel, light, water, or the issue of barrack stores and furniture beyond what the G.O. i/c Adm. is empowered to approve of under the K.R. or other regulations.
- (iv) The local head of the A.O.D. is to be consulted before the A.O. services to be executed are decided on.

633. Subject to para. 632 iii (c), (d), and (e) and iv, the allocation of the funds allotted to commands for Minor Part 2 and Minor Part 3 services is left to the G.O. i/c Adm.

634. The G.O. i/c Adm. will usually select some of the more important services to be undertaken in the Command and will allot to Districts part of the funds (both Part 2 and Part 3) at his disposal in lump sums, at the same time delegating to C.R.Es. the power of selecting the smaller services to be undertaken and paid for out of those lump sums.

635. Similarly C.R.Es. will select the more important Minor services in their Districts which have to be paid for out of the lump sum allotment to the District and will allot lump sums to Divisions, delegating to D.Os. the power of selecting the smaller services to be undertaken and paid for out of those lump sums.

636. The powers of C.R.Es. and D.Os. in selecting services are given in table H, page 30.

637. The principal services to be provided for out of lump sum allotments for Minor Part 3 services are given in para. 281. It frequently happens, however, that very trifling services involving capital expenditure which cannot be foreseen and provided for out of Part 2 funds are included in requisitions for repairs. Such small services up to a limit of £5 per service may be charged to Minor Part 3 funds.

638. D.Os. are to subdivide the Minor Part 3 funds allotted to them in lump sums among the several works, forts, A.O. establishments, and barracks in their charge according to their relative

importance and requirements. They are to endeavour each year to maintain each sub-division up to a definite standard of repair at a less expenditure than in the previous year.

639. The sums available for the smaller repairs are to be spread over the four quarters of the year. The points enumerated in paras. 11 and 377 must be borne in mind in regulating the expenditure on other services.

640. Before giving orders for the execution of a Part 2 or Part 3 service the officer empowered to do so (shewn in Table H) is to consider whether it could with advantage be postponed either wholly or in part, to provide funds for others found more urgent or to meet excesses or to provide a reserve for other services that may be brought forward later in the year.

3.—TRANSFERS OF FUNDS.

641. Sums allotted out of the F, A.O.B., or the B.A.E. can only be expended on services included under that estimate unless W.O. authority is obtained for the transfer.

642. Part 1 funds are not to be used for any but Part 1 services, Part 2 funds for Part 2 services, and Part 3 funds for Part 3 services (*see* para. 3). The only exception is given in para. 637.

643. Subject to the general rule given in para. 641, G.Os. i/c Adm. may transfer a saving on a specific Part 1 item to meet an excess on the yearly provision for another specific Part 1 item within their command, provided that no excess on the total estimate for the latter item is thereby occasioned. Subject to the same proviso, savings available on one service executed under a General Part 1 item may be transferred to another service executed under the same Part 1 item.

While it will always happen that unforeseen delays will prevent the expenditure of the whole allotment in the case of certain services, there will be others on which the surplus can be spent with advantage. In order that the W.O. may be able to make such transfers of funds as may be possible, G.Os. i/c Adm. will review every month the financial situation of all the Part I services which are being executed in their command, and will report (if necessary by telegram) every case in which they anticipate either that:—

(a) A lapse of part of the allotment for the year must occur; or that

(b) A further allotment could advantageously be expended.

644. Excess expenditure on Part 2 services estimated at £500 or more when such excess amounts to 10% or more on the estimate is not to be incurred without W.O. sanction. Savings on such services which amount to £50 or more are not open to transference locally, but must be reported to the W.O.

645. Subject to the general rules given in paras. 641 and 642 and the particular rule given in para. 643, the officer to whom a lump-sum allotment is made is at liberty to make such local transfers among the items which he undertakes on that lump sum as he wishes. In the case of services ordered by the G.O. i/c Adm. and for which definite sums have been provided by him, the C.R.E. may

either be required to report savings or excesses or may be directed to deal with them locally, at the discretion of the G.O. i/c Adm.

646. Similarly when the C.R.E. orders a particular service and allots funds for its execution, he may either require savings and excesses to be reported to him by the D.O. or order them to be dealt with in the Division.

4.—ISSUE OF ORDERS.

647. No new Part 1 service is to be commenced until authority to do so is received from the W.O.

648. Part 1 continuation services, services chargeable to General Part 1 items, and Part 2 and Part 3 services, may be proceeded with under the orders of the officer empowered to approve of the execution of the service (*see* paras. 9, 378-382, and Table H page 30) as soon as funds are available.

649. Minor services, particularly minor maintenance services, may be commenced in anticipation of the usual annual allotment of funds for such services. (*See* para. 639.)

650. Services involving reappropriation are not to be commenced until the reappropriation has been sanctioned. (*See* paras. 29, 30, and 378.)

651. Orders to contractors to commence work or to supply stores are to be in writing, signed by the officer i/c the execution of the service.

652. Each order is to bear a reference to the service for which the order is required, and on each order is to be specified the period within which the work, or when large, each portion of the work, is to be completed.

653. Orders for additions, omissions, and deviations from approved plans and specifications are to be given in writing and in detail. Contractors are to be warned that no claim for extras which cannot be supported by a written order will be recognised.

654. Orders on contractors for work which has been detailed on A.F. K 1315 are to be made out on A.F. K 1261A (*see* para. 449).

All other orders are to be given on A.F. K 1261.

655. Every A.F. K 1261 and K 1261A issued to a contractor is to be tissue copied in A.B. 213.

Every A.F. K 1315 is to be press copied on loose sheets. (*See* para. 450.)

656. The particulars of each A.F. K 1261 are to be entered in A.B. 221, Contractors' Journal.

657. When an order on A.F. K 1261A accompanied by a press copy of A.F. K 1315 is issued as the result of a requisition for repairs the necessary entries as to the order are to be made in A.B. 143, Register of Requisitions. In other cases the particulars are to be recorded in A.B. 221.

658. When a detailed estimate on A.F. M 1417 has been made of a service and an order on A.F. K 1261 is given to a T.C. for the execution of the service under a special agreement (*see* para. 367) the order is to contain a copy of the detail of the work to be

done (extracted from the detailed estimate) and the whole is to be tissue copied in A.B. 213 and registered in A.B. 221.

659. When an order on A.F. K 1261 for a work for which no detailed estimate has been made is issued to a contractor the order itself must shew in detail the exact work to be done. In the case of work to be performed for an agreed price in accordance with plans and specification (*see* para. 368) it is sufficient to insert on the order that the work is to be performed "in accordance with the accompanying plans and specification," copies of the original plans and specification on which the contractor's tender was based being forwarded with the order.

5.—PREPARATION OF BILLS BY CONTRACTORS.

660. Bills are to be prepared by contractors who are required to submit an unsigned duplicate, marked "Copy," at the same time as the original.

661. In the case of small contracts with illiterate contractors the preparation of bills in the engineer office is occasionally unavoidable. Such clerical work is only to be undertaken on the direct order of the D.O. (*see* para. 49) and is to be strictly limited to unavoidable cases. It is not permissible in the case of a contractor on any of the W.O. lists (*see* para. 308).

662. Bills are to be made out on the following forms:—

A.F. P 1902. For ironwork and machinery.

A.F. P 1903. For stores and materials, except:—

(a) Such as are ordered and paid for at the W.O.

(b) Stores required for small services which cannot conveniently be paid for as measured work, but of which the quantities used are ascertained on completion and paid for on A.F. P 1901.

A.F. P 1907. For payments "on account" for all other engineer services.

A.F. P 1901. For final payments of all other engineer services.

663. Sums chargeable to different subheads of the parliamentary estimates are not to be claimed on the same bill form. Each sum chargeable either wholly or in part to another public department must be shown on a separate form.

664. Each service is to be kept separate in the bill.

665. Schedule items are to be entered in numerical order for each service.

666. In the case of bills for work performed on requisition the amount due on each requisition is to form a separate item in the bill, the items being numbered to correspond with the registered number of the requisition.

667. The T.C.'s percentage is to be added to or deducted from the total of the bill and not from each separate item or requisition, except in the case of bills for damages, when the T.C.'s percentage is added to or subtracted from each item in the damage voucher. (*See* para. 493.)

668. A T.C. being entitled to a fixed addition of 15% to the cost of day labour supplied by him while the percentage to be applied to the cost at schedule rates of measured work varies according to the terms of his contract, any day labour supplied during the execution of a service must be kept separate in the bill from the measured work. In the case of bills for work done on requisition, the amount of measured work on each of a number of requisitions is to be entered first and the schedule percentage applied to the total. The amounts of day labour chargeable on the same requisitions is to be entered below and the fixed addition of 15% made to the total of the entries for such day labour.

669. Advances on account claimed on A.F. P 1907 are to be lump sums; a detailed statement of previous advances on account of the same service is to appear on the bill.

The larger and more frequent the payments to a contractor on account the greater the facility with which he can execute the work and the lower the terms at which he can afford to tender. Such advances therefore may be made up to 75% of the value of the work done in the case of all services executed by contract the total estimated cost of which exceeds £100. (*See para. 323.*) This applies to the T.C. also.

670. Final bills are to be made out as follows:—

- (a) In the case of measurement contracts the bill is to include detailed measurements of the whole service.
- (b) In the case of lump sum contracts:—
 - (i) Provisional sums shewn in the bills of quantities are to be deducted in full in the bill whether any work has been done under them or not.
 - (ii) The measurements of any work executed under the provisional sums are to be shewn in detail and the cost added.
 - (iii) The measurements of any addition to or deduction from the work contracted for are to be shewn in detail and their cost added or deducted, unless such alterations have been the subject of special lump sum agreements, in which case the agreement must accompany the bill and takes the place of the detailed measurements.

671. In the case of both measurement and lump sum contracts the reserve to be retained and previous advances on account are to be deducted from the total amount due on the final bill for the whole service.

672. Works bills are to be submitted to the D.O., bills for stores and materials to the O. i/c Stores. The latter, after signature of the stores certificate, is to pass the bill to the D.O. concerned for completion.

6.—EXAMINATION OF, AND ENTRIES TO BE MADE IN, BILLS IN DIVISION OFFICES.

673. The procedure as regards the payment of the establishment for engineer services, of civilian subordinates, and of military labour is laid down in the Financial Instructions.

674. The certificates on bill forms given by the O. i/c the work and by the O. i/c Stores form the basis of the system of accounting

for engineer services. They are not to be signed by anyone below the rank of commissioned officer. In the absence of any other officer they are to be signed by the C.R.E. Under no circumstances are certificates to be signed in anticipation of the completion of the work to which they refer.

675. In the Division office is to be inserted on the bill:—

- (a) A reference to the contract under which the amounts are claimed.
- (b) At the head of each service the name of the service or the item of the estimates to which the cost of that service is chargeable.

676. In the Division office are to be appended to the bill:—

- (a) Any requisitions (with their accompanying details) for which payment is claimed on the bill. (*See* para. 364.) When the work performed on a requisition entails payment to more than one contractor the requisition is to accompany the first bill submitted, the number of the requisition and of the first bill being quoted on subsequent bills from other contractors.
- (b) The abstract of the measurements on A.F. K 1291, if any. (*See* para. 365.)
- (c) In the case of bills for services carried out under special agreements with the T.C. the agreement and estimate. (*See* paras. 368, 370-1.)

When payments on account are made the agreement is to accompany the first bill and the estimate the final bill.

- (d) In the case of final bills the Completion Report in duplicate and the contractor's certificate of no further claim (para. 322).
- (e) When the bill contains an item for "taking down and removing to store," a certificate from the O. i/c Stores that the article has been taken on charge in the store account. (*See also* the instructions regarding accounting for old materials in paras. 567 to 581.)
- (f) When the bill contains charges for day labour, a brief statement describing the work performed by each rate or class included in the claim.
- (g) In the case of "star" prices, the C.R.E.'s written approval (*see* para. 317).

677. The D.O. is responsible:—

- (a) For the accuracy and completeness of the measurements shewn in the bill (*see* paras. 402-4); in the case of store bills for the quality, but not the quantity, of the stores.
- (b) For the correctness of the whole bill except the abstract at the end.
- (c) That no portion of the amount claimed has been previously paid.
- (d) That no delay occurs in the completion and checking of the bill in the Division office or in its being forwarded to the C.R.E.

(e) That the necessary entries are made in the appropriate books before the bill is passed to the C.R.E.

678. The D.O. having taken such steps as he considers necessary in view of his responsibilities is to sign the certificate on the bill and forward the bill to the C.R.E.

7.—EXAMINATION AND COMPLETION OF BILLS IN C.R.E.'s AND C.E.'s OFFICES.

679. The abstract at the end of each bill is to be made in the C.R.E.'s office. For his own information the C.R.E. may require the abstract on the copy bill to be filled in, in the Division office.

680. The sum chargeable against each Part 1 or Major service is to be kept separate in the abstract.

681. The authority for and description of the service (in the case of Part 1 services to be worded exactly as it appears in the parliamentary estimates) is to be quoted together with the subhead of the estimate to which the service is chargeable.

682. Alterations or erasures are to be initialed by the C.R.E.

683. Fractions of 1d. are to be omitted.

684. Fines which are to be enforced are to be endorsed on the abstract in red ink and deducted from the gross amount claimed.

The balance is to be quoted as the actual cost of the service.

685. Sums due by a contractor for old lead or other materials which may have been available for sale but are taken by him under his contract are to be treated similarly. But in this case the gross amount is to be quoted as the cost of the service, the sums deducted being credited to Appropriations in Aid.

686. Expenses incurred in consequence of the default of a contractor are recoverable from him in accordance with the terms of his contract. In such cases the following note will be made on the abstract of the bill for the work done in default. "Purchase (or service) in default of contractor. Amount to be recovered from him £....." A reference should be given to the voucher on which the sum is recovered from the defaulting contractor and *vice versa*.

687. The C.R.E. is responsible:—

- (i) For the preparation of the abstract.
- (ii) For the general accuracy and completeness of the whole bill.
- (iii) That no delay occurs in checking, completing, and forwarding the bill.
- (iv) That the necessary entries are made in the books in his office.

688. The copy of each bill, accompanied by the details on A.F. K 1315 and abstracts of measurements on A.F. K 1291 supporting entries in the bill, is to be guarded in the C.R.E.'s office.

689. Bills other than final bills on A.F. P 1901 are to be forwarded by the C.R.E. to the C.P.

690. Final bills on A.F. P 1901 are to be forwarded by the C.R.E. to the C.E. for examination prior to payment of such a proportion of them as the C.E. may think desirable. This examination is to be of a technical and administrative rather than financial character, and

need not include every item in a bill. It in no way relieves C.R.Es. and D.Os. of their responsibilities.

691. When as the result of this examination it is proposed to make any alteration or adjustment in the final bill the payee may be afforded an opportunity of discussing the question with the C.E. In case of disagreement the matter is to be referred to the W.O.

Star prices (*see* paras. 317 and 676) though open to technical criticism by the C.E. are not liable to alteration unless the contractor concerned agrees.

692. After any necessary adjustment has been made the C.E. and S.I.W. will sign the certificate on the last page of the bills examined. When the C.E. decides to dispense with examination a note to that effect is to be stamped on the bill. The bill will then be forwarded to the C.P.

693. Both the C.R.E. and C.E. when forwarding bills to the C.P. are to forward at the same time but under a separate cover a list of the bills shewing the amounts and to whom due. (*See* Financial Instructions.)

694. The financial year closes on March 31st. The payment of bills received by the C.P. after March 20th out of the funds of the year ending March 31st cannot be ensured. The 20th March must therefore be regarded in engineer offices as the close of the financial year, before which all the procedure antecedent to bills being passed for payment must be completed. It is particularly important to bear this point in mind in the case of final bills which have to be submitted to the C.E. before being passed to the C.P. To avoid congestion, as many bills as possible must be passed for payment before February 15th.

S.—PAYMENT OF BILLS.

695. Payment of sums chargeable to the vote for Works will be made by the C.P. (*see* Financial Instructions). Payments will be made direct to contractors or to their agents duly authorized in writing or by a revocable power of attorney.

696. Should a contractor die or become insolvent :—

- (a) At home stations a report is to be made at once to the W.O. Payment is not to be made until instructions have been received.
- (b) At stations abroad payment is to be suspended until it has been ascertained to whom it is due, legal advice being obtained when advisable. A report of the action taken is to be made to the W.O.

697. The cost of stores, machinery, electrical fittings, &c., chargeable to the vote for Works and ordered at the W.O. for home or abroad, either at the request of the station or in accordance with annual demands (*see* Sect. XII, Stores) will be billed and paid for at the W.O. A notification as to the cost, which will usually be charged to local allotments, will be sent to the station.

698. "Fully matured" bills (*see* para. 700) chargeable to the vote for Works for any financial year are to be paid before the 31st of March of that year.

If not paid by that date they have to be paid out of funds for the following financial year, thus decreasing the money available for that year. (*See para. 11.*)

699. In the case of current minor maintenance services the expenditure on which is based on averages and is approximately the same year by year, bills which cannot be completed in time for payment before March 31st for work performed during the March quarter may be paid for out of the allotments for the subsequent year. This does not apply to pay lists for day labour.

700. Payment, however, of a bill that is "mature," *i.e.* for which all the procedure antecedent to payment is complete, is not to be postponed to the next financial year on account of lack of funds. The bill is to be paid forthwith, and a report explaining the circumstances which led to the lack of funds and asking for a further allotment is to be submitted to the G.O. i/c Adm. If the G.O. i/c Adm. cannot provide the funds he must refer the matter, from stations abroad by telegram, to the W.O.

In this case the certificate on the last page of the bill is to be amended as follows:—

"Except as stated in the special report to the.....
dated.....19....."

701. When for any reason a bill duly passed to the C.P. is not paid in the financial year to which it belongs, the C.P. must, after payment, notify the C.R.E. that he is charging the amount to the vote for Works for the ensuing year. In the case of Part 2 or Part 3 services funds must be provided from the local allotments for the new year. In the case of Part 1 services the facts are to be reported to the W.O.

9.—RECORDS OF FINANCIAL TRANSACTIONS.

702. In Districts and Divisions a record of the sums allotted for expenditure in the District or Division is to be kept in A.B. 179, Expense Ledger.

703. A record of orders on contractors involving a monetary liability is to be kept in Divisions:—

- (a) By the tissue copy of the actual order itself, made in A.B. 213, tissue copy book. (*See para. 655.*)
- (b) By an entry of the particulars of the order in either A.B. 221, Contractor's Journal or A.B. 143, Register of Requisitions. (*See paras. 656-7.*)

It is usually convenient to keep two copies of A.B. 213 in use concurrently, one for orders given on A.F. K 1261, and the other for orders on A.F. K 1261A.

704. A record of expenditure on civilian day labour is to be kept by the D.O. in A.B. 198, Check Book of Workmen's Time. When the number of civilians employed is small the record may be kept in A.B. 63. Military labour is to be recorded in A.B. 63. For further instructions see the Financial Instructions.

705. A record of bills and pay lists passed for payment is to be kept:—

1. *By C.R.Es.*

(a) By means of entries in the expense ledger of the amount, &c. of each bill under the appropriate item.

(b) By entries in A.B. 144, Register of Contractor's bills.

2. *By D.Os.*

(a) By means of entries in the expense ledger of the amount, &c. of each bill under the appropriate item.

(b) By entries against each order in A.B. 221 and against each requisition in A.B. 143 of the number and date of the bill on which the service is paid for.

(c) By noting on the tissue copy in A.B. 213 of each order on A.F. K 1261 the number and date of the bill on which the service is paid for.

Entries made in accordance with (a) and (c) are to be initialed by the D.O.

706. In addition to the particulars entered in the expense ledger of bills and pay lists chargeable against each item, a separate account of the gross expenditure on the item is to be kept in the expense ledger or elsewhere for all services of £500 or more, in order that the completion report may be prepared as required by para. 416.

707. C.R.Es. are to call for such returns from Divisions and C.E.'s from Districts as they find necessary to keep themselves informed of the services in progress and of the financial position of their charges.

708. The financial position of a Division on any item can be obtained from the above books by an abstract in the following form:—

		£	
Amount allotted	... ..	£ ...	<i>Shewn in</i>
Deduct:—			Expense Ledger.
1. Amounts already billed			Expense Ledger
2. Liabilities for:—	...		
(a) Orders on con-			
tractors for		*	A.B. 221 & A.B. 143.*
work			
(b) Orders for stores			A.B. 221.
(c) Wages earned but			A.B. 198 & A.B. 63
not yet paid			
Total liabilities	£		
Balance available for			
further orders in-			
volving expenditure on			
the item	... ..	£

* The liabilities shewn in A.B. 143 are the costs of works at schedule rates. The T.C.'s percentage must be applied to them before inserting them here

709. A summary of the position on each of the items in the Division gives the financial position of the Division as a whole.

A summary of the position of each of the Divisions in a District gives the financial position of the District as a whole.

A summary of the position of each District in a Command gives the financial position of the Command.

W.O. control is exercised through the medium of the quarterly progress reports on A.F. K 1301 required from Commands (*see* para. 400) shewing the position of the Command.

10. MISCELLANEOUS.

710. Nothing in these regulations will alter any law or custom according to which military works or buildings executed for Colonies possessing representative assemblies are paid for out of the revenue of such Colonies.

711. C.R.Es. are to certify, if required, that services executed for the W.D. by other departments have been satisfactorily executed, and are to endorse the pay vouchers accordingly, specifying the subhead to which the service is to be charged. If the voucher refers to the supply of stores a certificate is to be added to the effect that the articles have been brought on charge, the number of the engineer store voucher being quoted.

712. The procedure to be adopted as regards claims for stores, labour, light, gas, or water, supplied to the Admiralty, and as regards claims for Navy stores issued at foreign stations for engineer services, is laid down in the Financial Instructions.

713. No claim is to be made by or upon other departments for the mutual use of Government vessels, cranes, or sheers.

SECTION XIV.—OFFICE PROCEDURE.

1.—GENERAL.

714. Office hours in engineer offices are normally to be 6 hours a day, exclusive of any interval in the middle of the day, but no person employed in an engineer office is entitled to extra pay for overtime when his duties require him for work outside the usual hours.

715. Correspondence is to be conducted as laid down in the K.R. The following additional rules are to be observed:—

- (a) Plans and drawings are to be signed in the left hand lower corner by the draughtsman and the D.O., in the right hand lower corner by the C.R.E. The date is to be appended to the signatures.
- (b) When an officer signs for a C.E. or C.R.E. the cause of absence of the proper officer is to be stated.
- (c) A copy of each telegram despatched is to be sent by the next post to the addressee.

716. Correspondence with H.M. Office of Works with regard to barracks maintained by that office is to be conducted as follows:—

- (a) In the case of services of the nature of minor maintenance or minor alterations application is to be made in writing direct by the O.C. Troops to the local representatives of the Office of Works.
- (b) In the case of any service likely to cost £100 or more the correspondence with the Office of Works is to be conducted by the G.O. i/c Adm. through his C.E.
- (c) If there is any difficulty in carrying out a service asked for under (a) or (b) the local representative of the Office of Works will inform the O.C. Troops or the C.E., as the case may be. The G.O. i/c Adm. will refer to the W.O. such cases as he considers of sufficient importance.
- (d) Cases involving expenditure other than normal are to be referred to the W.O. in the first instance.

717. Legal and other documents bearing the stamp "This document is not to pass out of W.D. custody" are not to be shewn to anyone not employed by or on behalf of the W.D.

718. C.R.Es. and D.Os. are responsible for the maintenance in their offices of an efficient system of registration, indexing, and filing of correspondence and other papers.

719. Details on A.F. K 1315 of requisitions are to be guarded in dockets (A.F. K 1331), identifying them with the station and bill to which they belong. Abstracts of measurements on A.F. K 1291 are to be similarly marked and guarded.

720. Copies of bills together with details, abstracts of measurements, and other documents relating to payments for works are to be guarded in the C.R.E.'s office for 5 years from the date of the last payment on account of the works to which they refer.

721. In the case of contracts made locally (*see* para. 315 (h) and (j))—

- (a) Tenders which have been declined are to be retained until the 15th of January of the next financial year after the contract is completed.
- (b) The original of the accepted tender with the accompanying documents is to be retained for 7 years.

722. Obsolete and useless documents are to be disposed of in accordance with the K.R. and the Allowance Regulations.

2.—BOOKS.

723. The following books are to be kept in engineer offices. "A" denotes that the book is one which must always be kept; "B," that the book must sometimes be kept (*see* para. 724).

TABLE O.

Book.	No. of Army Book.	In the office of			Referred to in para.	Remarks.
		C.E.	C.R.E.	D.O.		
Correspondence Register ...	121 or 193	—	A	A	718	C.E.'s correspondence is registered in the central registry of the Command.
Guard book for periodical returns ...	23A	A	A	A		
Guard book for Army orders ...	A	A	A	A		
Stationery ledger, A.B. 125, 127 or 129	—	—	A	B	729	
Ledger for drawing materials ...	36	—	A	B	729	<i>See Regulations for Civilian Subordinates.</i>
Register of measurement books	MS	—	—	A	411	
Record of service, civilian subordinates ...	294	—	A	B		
Copy of schedule amended to date ...	—	A	A	—	325	
Record of schedules issued ...	MS	—	A	—	328	
Statement of W.D. property on A.F. K 1304 ...	—	—	A	—	146	
Guard book for deeds ...	22A	—	A	—	143	
Register of encroachments ...	299	—	A	—	152	
Guard book for perambulation reports on A.F. K 1293	23A	—	A	—	151	
Register of lettings on A.F. K 1296 ...	—	—	A	—	171	
Guard book for abstracts of leases ...	22A	—	A	—	192	
Guard book for lists of fixtures, etc., in hired buildings ...	—	—	A	—	220	
Register of rent claims ...	62	—	A	—	225	
Register of Plans ...	145	—	A	—		
Register of requisitions ...	143	—	—	A	443	
Guard book for copies of special contracts ...	22A	B	B	A		
Copies of orders on contractors	213	—	—	A	703	
Contractors' journal ...	221	—	—	A	703	
Register of contractors' bills ...	144	—	A	B	705	
Guard book for copies of contractors' bills ...	22A	—	A	—	688	
Check book of workmen's time	198 or 63	—	—	A	704	
Military working pay book ...	63	—	—	B	704	
Sick pay book ...	244	—	—	A		
Guard book for copies of pay lists ...	22	—	A	—		
Expense ledger ...	179	—	A	A	702	
Guard book for copies of progress reports ...	23A	—	A	—	709	

TABLE O.

Book.	No. of Army Book.	In the office of			Referred to in para.	Remarks.
		C.E.	C.R.E.	D.O.		
Estimate books	MS	—	A	—	271	
Record of new services proposed	MS	—	—	A	269	
Record of maintenance services proposed	MS	—	—	A	270	
Officers' diary and morning distribution	194	—	—	A	392	
Register of fuel and engine time	347	—	—	B		
Meter readings book	—	—	—	B		A.B. 171 is suitable.
Record of drain tests	MS	—	—	A	520	
Register of interments	MS	—	A	—	249	
Issue order book	43	—	—	A	604	
Day book, small stores	MS	—	—	B	609	
Guard book for inventories of fixtures	22	—	—	A	420	
Guard book for store vouchers	29	—	—	—	553	
Store ledger, Class A stores	—	—	—	—	583	
" " " B "	—	—	—	—	588	
Record of ledger sheets	MS	—	—	—	597	
Schedule of B stores	—	—	—	—	599	
Order book counterfoils	43	—	—	—	604	
Record of photographers' work	125	—	B	—		
" boiler inspections	337	—	A	—		
" steam engines "	335	—	A	—		
" miscellaneous						
machinery	336	—	A	—		

724. The table in para. 723 shews the books that must normally be kept in engineer offices. But in certain cases additional books may be necessary, *e.g.* a register of plans may be required in the office of a C.E. when there are many plans kept there; a register of meter readings may be required in a Division where water, gas, or electric current is supplied from W.D. sources. C.Es., C.R.Es. and D.Os. are responsible for keeping such additional books as may be required (a) as records of past transactions, (b) to shew daily, weekly, or at other intervals as frequent as may be necessary for proper supervision, what is actually in progress at the time.

3.—REPORTS AND RETURNS.

725. As a C.E. compiles his returns from information supplied by C.R.E.s. and a C.R.E. obtains his information from particulars supplied by D.O.s., C.R.E.s. and D.O.s. will usually be required to submit returns for their Divisions and Districts on subjects on which C.E.s. submit returns to the W.O.

726. The following list gives particulars of the returns required at the W.O. and elsewhere in accordance with the para. quoted.

TABLE P.

Nature of Return.	Referred to in para.	No. of Army Form	Compiled by			Date due.
			C.E.	O.R.E.	D.O.	
<i>Monthly.</i>						
Return of barrack damages ...	496	K1279	—	—	A	5th of each month.
„ „ fuel, etc. used ...	627	F771	—	—	A	
<i>Quarterly.</i>						
Progress report	400	K1301	—	A	—	10th Jan., Ap., July, Oct.
Return of articles purchased subject to royalty		MS	—	A	—	1st Jan., Ap., July, Oct.
Confidential reports on Military Foreman of Works, Mechanists, Engineer Clerks and Ledger keepers		C2110	A	A	—	1st Jan., Ap., July, Oct.
<i>Half-Yearly.</i>						
Tithe variation return	229	K2415	—	A	—	7th Ap., 7th Oct.
Statement of barracks and other properties at home not actually occupied	235	K1305	—	A	—	7th Ap., 7th Oct.
Statement of new or reoccupied property	236	K1319	—	A	—	7th Ap., 7th Oct.
<i>Yearly.</i>						
Confidential reports on civilian personnel	727	C326	A	A	—	1st Jan.
Proposals for land purchases ...	141	MS	A	A	—	1st Aug.
Return of new hirings	214	K2413	—	A	—	1st Oct.
Return of surrendered hirings ...	214	K2414	—	A	—	1st Oct.
Perambulation report	151	K1283	—	A	—	15th Oct.
List of lettings	173	K1286	—	A	—	After Dec. 31st.
Estimate of establishment for engineer services	301	M1436	A	A	—	15th Oct.
Distribution return	304	C329	A	A	—	With A.F.M. 1436.
Statements of services:—						
Fortifications and artillery ranges	279	M1401	—	A	—	1st Oct.
Barracks and rifle ranges ...	279	M1401	—	A	—	1st Oct.
Army ordnance buildings (in duplicate)	279	M1400	—	A	—	1st Oct.
Hospitals (in duplicate)	279	M1400	—	A	—	1st Oct.
Lands estimate	287	M1430	—	A	—	1st Oct.
Photographic estimate		Spcl.	—	A	—	With M1401 for Bks
Estimate of expenditure on camps	299	MS	—	A	—	After receipt of circular.
Estimate of telephone connections		M1428	—	A	—	1st Oct.
Estimate for electrical communications		M1427	—	A	—	1st Oct.
Defence electric lights, estimate of funds for hire of civilian labour		MS	—	A	—	15th Sept. See D.F.W. Circular (E.S.) No. 11.

TABLE P.

Nature of Return.	Referred to in para.	No. of Army Form.	Compiled by			Date due.
			C.E.	C.R.E.	D.O.	
Defence electric lights, estimate of stores for	548 (i)	G896	—	A	—	1st Aug. Original to C.O.O., duplicate to W.O.
Vocab. stores, estimate for ...	548 (iv)	G991	—	A	—	15th Sept.
Demands for stores:—						
Non-vocab., for estimate services	561	K1313	—	A	—	1st April.
Vocab. stores for estimate services	551	G993	—	A	—	As required.
Military engineering ...	551	G993	—	A	—	As required.
Stock account of stores for defence electric lights, telegraph and telephone and Brennan torpedo installations	616	G896	—	A	—	1st July.
Demands for:—						
Stationery	728	L1378	A	A	B	See the Allowance Regulations. C.E.'s demands are embodied in demand of Command headquarters.
Army forms and books ...	728	L1353	A	A	B	
Maps and charts	728	L1387	A	A	—	
Confidential maps and plans	728	L1376	A	A	—	
Drawing materials	728	L1374	A	A	—	
Surveying and drawing instruments	548	G1017	A	A	—	To C.O.O. Aug. 1st. In duplicate from abroad.
Estimate of fuel and light ...	627	—	—	A	—	
Electrical communications:—						
Route plans			—	A	—	See Instructions for .. Electrical Communications.
Circuit diagrams		K1297	—	A	—	
Returns of lines		K1299	—	A	—	
Returns of offices and apparatus		K1299	—	A	—	
Return of progress with record plans due		K1332	—	A	—	1st June.
Certificate of alterations to skeleton record plans ...		MS	—	A	—	With barrack statements of services.
Appendix to progress reports ...	400	K1303	—	A	—	With report for March quarter.
Report on photography		MS	—	A	—	Soon after March 31st.
Report on machinery	127	G927	—	A	—	To be rendered in accordance with W.O. circular letter No. 7613/5590 (L.G.F. 1) of 20.5.93.
Report on steam engines	127	G926	—	A	—	
Report on boilers	127	G928	—	A	—	
Report on defence electric lights		K2408	—	A	—	
<i>Biennial.</i>						
Inspection report on lightning conductors	128	MS	—	A	—	On completion of inspection.

727. In making out the annual confidential report on A.F. C 326 on Temporary Clerks of Works and Draughtsmen not more than three names are to be entered on one sheet. When men are changed frequently it is sufficient to note in the column of remarks against the names that such is the case, without giving the whole of the information called for in the case of men permanently employed.

4.—MISCELLANEOUS.

728. Instructions as to demands for stationery, books, forms, etc. are contained in the Allowance Regulations.

729. An officer whose demands go direct to the W.O. is to keep a stationery ledger shewing the stationery and drawing materials received and the issues to subordinate offices and to individuals in his own office. The ledger will be kept by the senior clerk and is to be examined and signed by the officer in April each year.

730. The cost of the stationery, drawing materials, printing, and binding required by all government departments is chargeable to a Civil Service vote and is in no case payable out of Army funds. Local expenditure on such matters may only be incurred under the conditions laid down in para. 334 of these Regulations and in the Allowance Regulations.

731. Advertisements for tenders are only to be issued when open competition is resorted to. They are to be confined to a brief general description of the supplies or work required, the advertisement referring persons interested in further particulars to the engineer office. (See paras. 183 and 326.) Advertisements for the same service are not to be inserted more than once in any one newspaper without the sanction of the G.O. i/c Adm.

732. Officers inserting advertisements in newspapers are responsible for selecting the most suitable papers and for not incurring expense out of proportion to the amount to be realized.

733. Advertisements to be inserted in metropolitan papers are to be sent by C.R.Es. direct to the advertising agents, Messrs. R. F. White and Son, 33, Fleet Street, London, E.C., except in the case of triennial contracts. The general advertisement of triennial contracts for all engineer Districts in which such contracts are made will be issued from the W.O. In the case of the London District the additional advertisement in local newspapers required by para. 326. is not necessary.

734. Orders for advertisements in provincial papers, made out on A.F. K 1257, are to be sent to the respective editors by C.R.Es., who are to instruct the editors to forward their accounts and vouchers to, and to claim payment from, the London agents. A return of advertisements ordered, made out on A.F. K 1258, is to be forwarded by C.R.Es. to the agents at the same time. The advertisements are to be worded in accordance with the form shewn in Appendix III.

735. At stations abroad arrangements for advertisements are to be made by the staff officer concerned on the information supplied by the C.E.

APPENDIX V

006

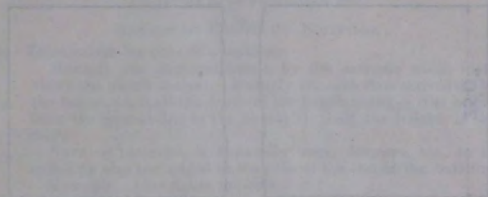


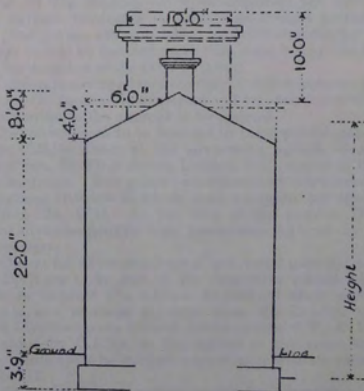
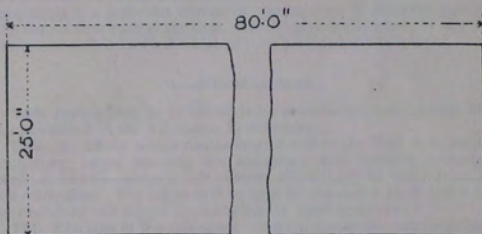
Diagram of the ...

Diagram of the ...

Diagram of the ...

Diagram of the ...





APPENDIX I.

(Referred to in paragraph 292.)

METHOD OF CUBING UP BUILDINGS.

(a) To calculate the cube of a building—

Multiply the extreme length by the extreme width (both above the plinth course). Multiply the area thus arrived at by the height, i.e. (half the depth of the foundations) + (the height from the ground line to the eaves) + (half the height of the roof).

NOTE.—Chimneys, if unusually large, dormers, etc., to be cubed up also and added to the cube of the rest of the building.

Example. (See figure opposite.)

Length multiplied by width = $80' \times 25' = 2000$.

Area multiplied by height = $2000 \times (\frac{3' 9''}{2} + 22' 0'' + \frac{8' 0''}{2}) = 55750$

Add one large chimney

$10' 0'' \times 10' 0'' \times 1' 10\frac{1}{2}'' = 188$

Add two dormers

Twice $\frac{1}{2} (4' 0'' \times 4' 0'') \times \frac{1}{2} (6' 0'') = 32$

Total cube of building ... 55970

(b) To arrive at the approximate total cost of a building—

Multiply the cube of the building, calculated as above, by the cube rate suitable for the class of building, and add the cost of:—

External paving.

Drainage.

Gas and water services outside the building.

Roads, parades, boundaries, and yard walls.

Foundations in excess of ordinary depths.

(c) To arrive at the cube rate of a finished building—

Add together the cost of:—

The building with foundations of ordinary depth.

Asphalt work.

The stores supplied by the W.D. for the building only.

Divide the cost so arrived at by the cube of the building calculated as in A above.

APPENDIX II.

(Referred to in paragraphs 322 and 676.)

CONTRACTOR'S CERTIFICATE IN MANUSCRIPT ON THE DETAILED BILL.

I hereby certify that I have no further claim under my Contract, dated _____, beyond the amount of this Bill, viz., £ _____ (and the amount of the Reserve, viz., £ _____).

APPENDIX III.

(Referred to in paragraph 326.)

FORMS OF ADVERTISEMENTS FOR CONTRACTS.

Form A.

War Department Contracts for Repairs and Materials.

Tenders are required for the Triennial Contracts, from April 1st, _____, in the following Engineer Districts in the Command:—
District.* (Address of Engineer Office.)

Forms of Tender, Conditions of Contract, and all necessary information, may be obtained upon application at the above-named Engineer Offices, by letter, addressed to the Commanding Royal Engineer, or in person, between the hours of and o'clock, up to instant.

Tenders are to be forwarded to the Director of Army Contracts,
War Office, London, S.W., not later than 19
 Commanding Royal Engineer,
Engineer Office, District.
Date

Form B.

War Department Contracts for Repairs and Materials.

Triennial Contracts, from 1st April.

Tenders are required for the undermentioned Stations and Out-Stations in the Engineer District.

Separate Tenders will be accepted for each Contract.

Contract 1.—

Contract 2.—

Contract 3.—

N.B.—For all works executed, or time and materials expended, at the undermentioned places, there will be allowed, in addition to the Schedule rates, the percentages stated against them, such percentages being subject to the percentages, if any, of the Contracts :—

* Districts only (not Barracks) to be entered.

MEMORANDUM.—Contractors must observe that they are, in every Division, liable to be called on to perform repairs to all military roads, War Department civil buildings, fences, &c., at the same contract rates as for military buildings, whether so expressed in notice or not.

Forms of Tender, Conditions of Contract, and all necessary information may be obtained on application by letter, addressed to the Commanding Royal Engineer, or in person, between the hours of _____ and _____ o'clock, up to _____ at the undermentioned Royal Engineer Office.

Engineer Office,
Date _____

Commanding Royal Engineer,
District.

APPENDIX IV.

(Referred to in paragraph 368.)

FORM OF SPECIAL AGREEMENT FOR SERVICES UNDER £400.

the undersigned, do hereby agree, under the Terms and Conditions of Triennial Contract with the War Department, to supply the necessary materials and to execute in a complete manner to the satisfaction of the Commanding Royal Engineer—all the work set forth and described in the accompanying plans and specification, for the sum of

have examined the plans and specification as prepared by the Commanding Royal Engineer and have satisfied that they correctly represent the amount of work to be done, and will make no further claim on account of inaccuracies; and hereby undertake to complete the work by

19 .

also agree to execute all authorized additions to, and to allow for any deductions from, the said work at the rate and prices of Triennial Contract.

further agree to a deduction of per day, for each day on which the completion of the Works may be in arrear of the date aforesaid.

APPENDIX V.

*(Referred to in paragraph 412.)*LETTERING OF EMPLACEMENTS AND ACCESSORIES IN, WORKS OF
DEFENCE.

1. The name of each fort or battery is to be painted in large block letters on some conspicuous part, at or near the main entrance where practicable.

2. In each portion of a fort or battery requiring to be distinguished, a title is to be painted in large block letters in a conspicuous place.

3. Chambers and recesses for the reception of ammunition and buildings appropriated for the use of the artillery, are to have their distinctive titles painted on the door lintels in block letters, the titles to show the use for which the store or chamber is intended, thus :—

GUN AND TACKLE STORE.

ARTILLERY GENERAL STORE.

4. Cartridge stores and shell stores in coast batteries for heavy guns are to be lettered to show the group markings of the guns the ammunition for which is placed in them, thus :—

No. 2. SHELL STORE FOR

*

No. 3. CARTRIDGE STORE FOR

*

Where fuze and tube stores exist, they are to be so lettered.

* Here insert group marking of guns.

5. Chambers and recesses appropriated for particular guns are to have the group markings of the guns with which they are connected painted in Roman letters below the title, thus :—

STORE FOR SMALL STORES.

.

SHELL RECESS.

.

6. Lifts are to be lettered to indicate the object for which they are intended. In the case of ammunition lifts the group markings of the guns served by each lift are also to be noted at both the top and bottom in Roman letters, thus :—

SHELL LIFT.

.

If the fort has more than one tier of guns, a reference in brackets to the tier served by the lift is to be added.

7. Lamp recesses to take wall lamps for lighting magazines and their passages, or lamp holes to take overhead lamps, are to be distinguished by numbers, so that lamps notified to the lamp man in charge as requiring attention may be readily identified. These lamp recesses are to be numbered from right to left of the work throughout the basement, and the number indicated by block figures inside the chamber of the lighted passage, as well as on the lamp passage side of the recess, the two numbers being in all cases identical.

8. All permanent emplacements for guns in a work are to be numbered from right to left without regard to the nature or calibre of the guns. They are to be numbered independently for each battery, tier, or distinct portion of a battery or fort. The numbers are to be in Roman figures.

* Here insert group marking of guns.

9. In casemated batteries the numbering is to be above the gun on the soffit of the arch or on the overhead girder, and on the side of the right hand merlon when the gun is in open battery.

10. In casemated batteries in which the rear portions of the gun casemates are occupied as soldiers' quarters, the numbering of the casemates is to follow the rule in para. 7. The number and group marking is to be repeated in Roman characters on the doors of the inhabited part of the casemates in rear of the guns.

11. The letters, where practicable, are to be at least 5 feet 6 inches from the ground, and unless otherwise described, the primary identifications are to be in stout block letters, large enough to be easily discernible. The secondary identifications or explanations are to be in roman letters. Lettering on a light ground is to be black, and on a dark ground white. In basements of works, where there may not always be woodwork to take the lettering (as in the case of lifts), metal labels may be used.

12. All quarters and shelters for peace or war garrisons in defence works are to have the details of the accommodation painted in 2-inch block letters over the entrance of each quarter and shelter. Where accommodation is allotted for peace as well as for war purposes the details of accommodation for both are to be given.

The following show how the details should be given in each of the above cases :—

CARETAKER'S QRS.

PEACE, 1 M.Q.

WAR, 12 MEN.

SHELTER.

WAR, 9 MEN.

APPENDIX VI.

(Referred to in paragraph 412.)

LETTERING OF MOBILIZATION STOREHOUSES, &c.

1. Inscriptions are to be affixed in a prominent position on the outside of all Gun Sheds, Wagon Sheds, and Mobilization Storehouses, to name the building and describe the unit or units of the Expeditionary Force, the stores for which the building contains.

2. For the description of units the abbreviations shewn in Appendix XVII to Part I of the Equipment Regulations are to be used.

3. The inscriptions will vary according as the stores may be:—

A. In charge of the unit to which they belong.

B. Held permanently or temporarily by the A.O.D.

C. Those of Reservists.

A. (1) The inscriptions for wagon sheds are to read:—

“WAGON SHED PEACE EQUIPMENT” or

“MOB. EQUIPMENT” (or both, when both peace and mobilization equipment vehicles are stored under one roof).

“2 E. LAN. R. 5 INF. BDE.” (or other unit)

For storehouses, the inscription is to read:—

“STORE HOUSE MOB. EQUIPMENT 10 HRS. 4 CAV. BDE.” (or other description of unit).

(2) For Artillery units, the words “GUN SHED” are to be used instead of “WAGON SHED,” other details being as given above.

B. In the case of units whose mobilization equipment is held by the A.O.D., the inscriptions are to be:—

“MOB. WAGON SHED” and “MOB. STOREHOUSE” respectively, after which is to follow a list of the units, as, for example:—

HD. QRS. 3 DIV.

NO. 4 FD. AMB.

CAV. DIV. T. AND S. COL.

1 MANCH. R. ARMY TPS.

21 LRS. 2 MTD. BDE.

12 FD. CO. 6 DIV.

} &c. units held permanently in upright block letters.

} &c. units held temporarily in italic block letters.

C. (1) For Reservists the inscriptions will vary according as the arms and clothing may be stored in the same or separate buildings; in the former case, the inscription will read:—

“RESERVISTS ARMOURY AND STOREHOUSE C. GDS.” or “RIF. BRIG.” or other authorized abbreviation.

(2) In the case of R.A.M.C. Reservists, the units will be detailed, for example:—

“5 DIV. FD. HOSPITAL,” &c.

4. Lettering:—

For the heading of the inscription the letters are to be 2-inch block, except where the inscription is painted on a door inside a building. The description of the units may be in smaller block letters, but the size depends upon the position of the inscription or of the board which carries it. The inscriptions must be clear and legible.

(Referred to in paragraph 551.)

War Office.

19 .

RACERS, &c., required at the undermentioned Works in the

District.

[illegible]

INDEX.

Words for which abbreviations are used in the body of these regulations are in most cases given in the index at full length.

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