

ARTICLE XLV.

CORPS OF ENGINEERS AND TOPOGRAPHICAL ENGINEERS.

1211. . . . The duties of these corps usually relate to the construction of permanent and field fortifications; works for the attack and defense of places; for the passage of rivers; for the movements and operations of armies in the field; and such reconnaissances and surveys as may be required for these objects, or for any other duty which may be assigned to them. By special direction of the President of the United States, officers of engineers may be employed on any other duty whatsoever. (See 63d Article of War.)

1212. . . . No permanent fortification, or other important work assigned to either corps, shall be undertaken, until the plans have been submitted to a board composed of such officers of the corps as the Secretary of War may designate. The report of the board, with complete drawings and specifications of the work, and detailed estimates of the cost, shall be made to the bureau of the corps in the War Department, and be submitted to the Secretary of War, without whose sanction no plan shall be adopted. A dissenting member of the board may present his own project, memoir, plans, and estimates.

1213. . . . The chief engineer, with the approbation of the Secretary of War, will regulate and determine the number, quality, form, and dimensions, &c., of the necessary vehicles, pontoons, tools, implements, arms, and other supplies for the use and service of the engineer company of sappers, miners, and pontoniers, to be procured, as far as practicable, by fabrication in the government establishments of the Engineer and Ordnance Departments.

1214. . . . In any work carried on under the direction of the chief of either corps, his authority must be obtained for the erection of any temporary buildings required in the progress of the work, or the purchase of any vessel or boat, or for furnishing medicines or medical attendance to hired men, and to determine the number and wages of clerks, foremen, and overseers.

1215. . . . An engineer superintending a work or operation shall disburse the money for the same, and when informed of the funds applicable to the work, he will furnish to the bureau or office through which he receives his instructions, a detailed report of the manner in which he proposes to apply the funds.

1216. . . . Public works in charge of either corps shall be inspected once a year, and when completed, by such officers of the corps as the Secretary of War shall designate. A report of each inspection shall be made to the Secretary of War through the bureau of the corps.

1217. . . . On the completion of any fortification or other work, the officer in charge will transmit to the appropriate bureau all the books, papers, and drawings relating to it. Of fortifications, the following drawings are required: a plan of the finished work and the environs within the scope of investment, on a scale of 12 inches to a mile; a plan of the main work and outworks, on a scale of 1 inch to 50 feet, with sections, profiles, and elevations, on a scale of 1 inch to 25 feet; and a plan of the masonry, on a scale of 1 inch to 50 feet, with profiles and elevations, on a scale of 1 inch to 25 feet; and such other drawings as may be necessary to show important details of the work.

1218. . . . An officer charged with a survey will procure the books and instruments for the execution of the duty by requisition on the appropriate bureau, and upon his return from field operations will report to it the condition of the instruments in his charge; on the completion of the survey he will transmit to the bureau a full report thereof, with the field notes, and all necessary drawings.

1219. . . . The following reports and returns for a work or operation under the direction of the chief of either corps are to be sent to the appropriate bureau of the corps by the officer in charge:

1220. . . . Monthly returns, within five days after the month to which they relate, viz.: report of operations, Form 1; return of officers and hired men, Form 2; money statement, Form 3;

1221. . . . An estimate of funds for one month, in time to receive the remittance for the service of the month;

1222. . . . Quarterly returns, within twenty days after the quarter to which they relate, viz.: a money account current, Form 4; with abstract of disbursements, Form 5, and vouchers, Forms 6, 7, 8; and a return of property, Form 9, with abstracts of receipts and issues, Forms 10, 11, 12, 13, and 14;

1223. . . . A quarterly return of instruments, books, &c., Form 15, by every officer accountable for them;

1224. . . . A report, in time to reach the bureau by the 20th of October, of the operations on the work or survey during the year ending 30th of June, with the necessary drawings, and showing the condition of the work, the extent and cost of the principal operations (as brick-work, stone-work, earth-work, surveys), accompanied by a summary statement of the expenditures during the year, with an estimate of the funds required for the next year, and an estimate of the amount required to complete the work.

1225. . . . When disbursements are made by the same individual on account of different works, a separate set of accounts for each must be kept and rendered, as above required, as well as separate esti-

mates, returns, and reports; the quarterly accounts being accompanied by a general statement, Form 3, of receipts and expenditures during the quarter on all the works.

1226. . . . The following books and files for each work will be kept by the officer in charge: a letter-book, for copies of his official letters; file of letters received; file of orders received; a journal, containing a daily record of the occupations of the persons employed on the work; a book of materials, in which must be entered, under the appropriate head, every kind of material received, specifying date of delivery and payment, from whom received, the kind, quality, price, and cost—in this book the various articles will be entered under the same heads as in the quarterly return of property; a ledger, in which an account will be opened with every person of whom materials or supplies are purchased for the work, including every person not on the rolls; an account-book, containing entries, according to Form 5, of all expenditures and copies of the quarterly accounts current, and estimates of funds; a roll-book, showing the name, occupation, rate of pay, of each hired person, and time made by him daily in each month; a book of miscellanies, containing accounts of experiments and miscellaneous information relating to the work.

1227. . . . Printed forms allowed will be furnished from the bureaus, unless otherwise directed, on requisition in May for a year's supply.