

3-1920

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Recommended Citation

Hofford, George M. (1920) "Accounting for Railroad Construction," *Journal of Accountancy*. Vol. 29: Iss. 3, Article 4.

Available at: <https://egrove.olemiss.edu/jofa/vol29/iss3/4>

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Accounting for Railroad Construction*

By GEORGE M. HOFFORD

A railroad corporation, like other corporations, is organized under the laws of the state. Articles of incorporation are drafted and signed by the incorporators; the stock is subscribed, and the necessary payments are made thereon, in accordance with the laws of the state; directors and officers are elected; by-laws are drafted and the articles of incorporation, with information as to the board of directors, general officers, subscribers, amount of capital authorized, amount paid and any other information required, are filed with the properly designated state and other public officers. The secretary of state then issues a charter authorizing the corporation to do business, with the right of eminent domain.

The directors are chosen by the stockholders and in turn elect the general officers, whose duties and authority are prescribed by the by-laws.

The elective officers are president, vice-president, secretary, treasurer and auditor. A chief engineer is appointed by the president; the engineering staff is selected; and the work of reconnaissance, locating and surveying routes is begun. As the company is under the necessity of acquiring land for right-of-way, one who is familiar with land values is appointed right-of-way agent to attend to purchasing the land required for right-of-way when the route has been selected.

As the locating engineers send in their field notes and the routes are approved by the chief engineer, maps and profiles, together with description of the location, showing starting point, direction, contour and end of the survey for a particular location, are submitted by the chief engineer to the directors, who in regular session and in lawful manner approve and sign the maps submitted, adopt the route and file a copy of maps and description with the proper state officer. This establishes the corporation's right to enter upon and construct the railroad, after, of

* A thesis presented at the November, 1919, examinations of the American Institute of Accountants.

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course, acquiring title to the land either by agreement with the owner or by condemnation proceedings.

It is the auditor's duty so to arrange the accounting plan that the receipt and disbursements of funds are carefully and systematically chronicled and safeguarded and the cost of road and equipment is kept in accordance with the classification prescribed by the interstate commerce commission.

As a safeguard in the matter of purchasing and paying for right-of-way and other lands the auditor should secure from the chief engineer blue prints of the routes adopted, and as contracts are delivered by the right-of-way agent the land acquired should be sketched on the map, showing the contract number, in order that the auditor may be in a position to reject any duplicate contract which may through inadvertence or otherwise be offered him. It follows that when the land has been acquired for the entire route it will be an easy matter to find a contract, deed or abstract of the property, as all title papers will bear the same numbers as the contract and be filed with it as permanent records. When a voucher is offered for payment by the right-of-way agent for the purchase of land the auditor before approving the voucher for payment by the treasurer should require evidence of

1. Approval of contract by the chief engineer,
2. Approval of title by the law department,
3. Notation of contract number on right-of-way map,
4. Entry on record of right-of-way purchases,
5. Entry on tax records,
6. Entry on insurance records (if a building is included in the purchase),
7. Entry in rental ledger (if a building is included in the purchase),
8. Entry in voucher register.

When these things have been done, the auditor is in position to see that taxes are not allowed to become delinquent, that insurance is not allowed to lapse on buildings and that rents are collected on buildings occupied by tenants.

The record of right-of-way purchases should be in loose-leaf form, with certain spaces for showing the contract number, description of property, name of vendor, number of acres (if

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country property), lot, block and addition (if city property), cost of property, date of deed and when deed is received. There should be space also for recording sales either of land or buildings, so that the net cost of land retained for corporate use will appear. The total of these records should always equal the cost of land, as shown by the general accounts.

Contracts for the purchase of land should be filed promptly with the proper county officer of the county in which the land is situated, in order that the company's equity may be duly protected. As soon as the deed is received it should be immediately recorded in the county records.

As the auditor is, or should be, custodian of the abstracts of property, an abstract record should be kept. When an abstract is borrowed by the legal or other department a receipt should be obtained and a note made in the abstract record showing in whose hands the abstract is.

The chief engineer, with the approval of the president, contracts for the grading of the roadbed, the rates varying with the nature of the work to be performed by the contractor. It is usual for a monthly estimate to be rendered by the chief engineer covering the work done to date. From the total amount to date of estimate is deducted the amount previously paid, and an agreed percentage is withheld to guarantee completion. The auditor should keep a record of each contract and the progressive payments thereon, in order that he may quickly check the latest estimate rendered. When the contract is completed the amount heretofore held as guarantee of completion is included in the final estimate. The contractor should be required to furnish bond guaranteeing completion of contract, and also to protect the corporation from suits for injuries to persons or property by the contractor.

Tunnels, bridges and the several classes of buildings should be numbered or otherwise identified, and the records so kept that the cost of each unit may be recorded in subsidiary ledgers.

Rolling stock, timber, ties, rails and rail fastenings are purchased subject to certain specifications. When they are inspected by the inspection bureaus, the reports are forwarded to the chief engineer. The material yard superintendent forwards daily reports of the arrival of material and rolling stock. These reports,

with the inspection report and copy of freight bills, should be attached by the chief engineer to the suppliers' invoices when forwarding them to the auditor. All the papers should be retained by the auditor as his permanent record.

It happens that during construction of the road there are revenues from various sources, principally from rentals of buildings on land purchased for right-of-way and station purposes, as well as from transportation charges before the road is completed and ready to be delivered to the operating department. These revenues are credited and the cost of securing them is charged to an account entitled "revenues and operating expenses during construction," one of the primary accounts in the cost of road and equipment.

The interstate commerce commission authorizes the inclusion of organization expenses as one of the primary accounts in investment in road and equipment, but does not allow the cost of obtaining loans or expenses incident to the sale of securities to be charged to this account.

Taxes and interest on bonds or other evidences of indebtedness during the period of construction are chargeable to investment in road and equipment and a reasonable charge for interest may be made to this account for the carrier's own funds expended for construction purposes until the property becomes available for operation.

PURCHASING OF SUPPLIES BY FIELD ENGINEERS

Because new railroad locations are frequently remote from points where supplies for the field engineers may be obtained by the purchasing agent, it is necessary for such engineers to purchase their subsistence and field supplies from other sources. In order that such purchases may be made in an orderly and systematic manner, requisitions printed in triplicate, consecutively numbered and bound in books with 50 sets to each book, should be furnished the field engineer in charge.

The original and duplicate, of different colored paper, should be perforated for removal from the book. When the requisition is written, a carbon copy should be made on the duplicate and triplicate. The original is then handed to the vendor, the duplicate forwarded to the chief engineer and the triplicate retained

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by the foreman. When the vendor renders his bill he should attach the requisition to the bill; the triplicate should have a notation "bill passed (date)" and the bill should be forwarded to the chief engineer to check against his duplicate requisition, which should be attached to the bill when sending it to the auditor.

The requisition books should be pocket size, so that they may be readily carried by the employee authorized to use them. The auditor should keep a record of all such books purchased and names of employees to whom they are issued.

PAYING EMPLOYEES DISCHARGED OR RESIGNED

Time vouchers should be supplied the chief engineer, care being taken by the auditor to keep records of purchases and issues, as explained above, covering requisitions. The chief engineer should sign each of the time vouchers and show thereon by whom they must be countersigned to make them valid before sending them to his subordinates. He should notify the auditor of the names of his subordinates to whom time vouchers have been sent so that the auditor may have a record of location of each time voucher. When time sheets and payrolls are sent in at end of month a record of time vouchers issued should accompany the payroll, and the time voucher number issued should be shown in space provided on the payroll opposite the name of employee who has been paid off. On the payroll should be shown the lowest number of time vouchers unissued, to be sure that there has been an accounting for all that have been issued. Arrangements should be made with the banks to accept the time vouchers, when signed by the chief engineer and countersigned by the employee duly authorized to sign them.

After payrolls have been received from the chief engineer or from heads of other departments they should be examined and audited in the office of the auditor, and an office bill should be registered to the credit of payrolls and the debit of the proper accounts. Pay vouchers then should be drawn and recorded on the record of pay vouchers issued, which with the record of time vouchers issued should equal the amount of all payrolls. Entry is then made charging payrolls and crediting the new liability accounts, time vouchers and pay vouchers. As the banks present them the treasurer will take them up by issuing

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his cheque for the total amount demanded by the bank and will render a list of time vouchers paid and pay vouchers paid, charging the total of such list to time vouchers or pay vouchers, as the case may be. These vouchers with lists and cashbook should be delivered to the auditor daily, with all other vouchers and cash receipts; and the auditor will then be in position to make a daily audit of the treasurer's accounts.

The auditor should then stamp the date paid opposite the entry for each of the time vouchers, pay vouchers and audited vouchers; and at the end of the month a list of outstanding vouchers should be prepared, the total of which should agree with the general ledger control accounts.

Mileage books purchased for the use of various employees for travel on other railroads should be charged to the departments' mileage book accounts at their cost when purchased. In order to clear these mileage book accounts, monthly reports should be required for each mileage book, showing the beginning number, number of miles traveled chargeable to each of the primary construction accounts and lowest number on hand unused. The mileage used for each account multiplied by the rate per mile for which the book has been purchased will indicate the amount chargeable to each account. The unused balance at the cost per mile will necessarily agree with the balance to the debit of mileage book account.

WORK-TRAIN EXPENSES

A clearing account called work-train expenses should be maintained, and to it should be charged the wages of enginemen and trainmen and the cost of fuel, oil and other supplies used by the work train.

Time-sheets should be prepared, showing the various jobs on which the work train has been used each month, and the total work-train expenses should be allocated to the proper primary construction accounts on the basis of hours spent by the work train on each job, thus clearing the account work-train expenses.

Tools used in the construction of bridges and buildings should be charged to the bridge or building where first allocated, and as they are moved therefrom they should be inventoried in order

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that the wear and tear and loss may be charged to the structure on which they have been used.

The sale of any material or supplies should be made only on approval of the president. The purchasing agent should make a sale order, in triplicate, sending the original to the departmental head authorized to make the sale. The duplicate should be sent to the auditor in order that he may be in position to watch for the accounting for the material sold. The triplicate should be retained by the purchasing agent, who should send the auditor a monthly report of sales authorized.

Bills rendered to the purchaser by the head of a department should have a reference to the sale order; and the auditor should attach his copy of the sale order to his office copy of the bill for his permanent record and authority to take the bill into the accounts.

Sale of real estate or the buildings thereon should be authorized by the president and board of directors, and the contract should be given to the auditor, who should record it on his records of property purchased and retain the authority with his copy of bill rendered the purchaser.

Monthly reports should be rendered showing the classified cost of road and equipment for the current month and the total to date.

It is desirable also that there be statements of deferred payments on right-of-way contracts, showing amounts due by different periods, the different classes of vouchers payable and amounts retained on contracts. These are needed in order that the president may have information in regard to further financing.

It will be the auditor's duty to prepare the accounting forms and instructions in ample time that when the railroad is ready to be delivered to the operating officers there may be no confusion of operating accounts.