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PURDUE ENGINEERING EXTENSION SERVICE

SOME POINTERS FOR PUBLIC OFFICIALS HANDLING HIGHWAY WORK

By LAWRENCE F. ORR, State Examiner, Indiana State Board of Accounts.

The results obtained by those who have services to perform for the public in the construction and maintenance of public highways are more directly observable by the taxpayers than any other public service. Those of you who have such duties to perform have an opportunity of producing something that will be well appreciated by the taxpayers, if you devote your energies and ability toward getting the best results with the money appropriated for that purpose.

It can not and will not be expected of you to go beyond the limits by which you are bound. If you contract beyond your means then you will be criticised for so doing, although you may attain good results thereby. You should keep within the appropriations provided and not attempt to exceed your authority although it may appear expedient to do so. Your limits have been prescribed both by statute and by those who have the authority to determine the means allotted for the work vou have to do. Do not permit those who are to build or contract under your jurisdiction to deviate from the plans and specifications governing the work in hand. Our engineer examiners complain that they frequently find that plans and specifications are not carefully drawn and consequently contain some items which are in conflict. The engineer in preparing plans, profiles, and specifications, should exercise extreme care and see to it that such specifications provide exactly what is desired for that particular project. Local conditions will be encountered on most any road construction, requiring special treatment. The policy of taking a set of general specifications and setting them up to govern all of your road projects is a dangerous proceeding and will very likely lead to the making of changes after the contract has been awarded and the work started. The Supreme Court has ruled that all specifications must be sufficiently plain to describe thoroughly the work to be performed. If this is not done the whole project may be set aside as an illegal proceeding. A great deal of controversy will be avoided by detailing the work with sufficient clearness to admit of no misinterpretation before the contract is let.

Duties of Commissioners, Inspector and Engineer

It is the duty of the Commissioners to go over the plans, profiles and specifications with the engineer before advertising the work and eliminate all questionable or debatable items. All bidders should be compelled to bid exactly the same kind, quality and quantity of work and material. The legality of substantial changes made after the letting of a contract is seriously questioned, and in most cases will lead to trouble for both the commissioners and the contractor. Court rulings set out in no uncertain language that unless the work is done in substantial compliance with the plans and specifications, it is not a fulfillment of the contract, even though the work as performed is better and more costly than that which is specified. **Specify what you want and then see that you get it**.

The inspector or superintendent appointed by the Board of Commissioners to supervise the construction of a new road should be a man of intelligence and experience. His position is one of considerable responsibility. Frequently he must decide without delay upon a question of the intent of the specifications and he should be qualified to act with firmness and fairness. It is a mistake to clothe an irresponsible man with the authority that goes with this position.

The engineer should give close attention to the road under construction as the proper performance of the contract rests very largely on him. He should allow the contractor no estimate for work in place until he has satisfied himself that the work and material are actually on the job and that they are the kind specified. The commissioners should also satisfy themselves that they are not making an allowance in excess of the proper amount, and under the provisions of the statutes enough should be retained to take care of any labor and material claims which may be filed against the contractor. A construction bond should be drawn in such a manner that it will protect the county against defects in the road during the guaranteed period.

If it should be found to be absolutely necessary to depart from the original plans and specifications or make some changes after work has been started, the same should be set out in detail on the record book of the commissioners and written authority approved by the engineer should be given the contractor. Additions or deductions must be agreed upon between the board and the contractor before same are authorized and same should be made a matter of record. The records concerning the construction of a new road must be made full and complete because if our examiners are called upon to make an examination of the road, they must necessarily go into every detail and report conditions just as they find them. If the records are incomplete the examination may lead to a situation embarrassing to those responsible for the omissions.

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Limitations of State Board of Accounts

The State Board of Accounts is authorized to make examinations and investigations of contracts for public work under the provisions of the Acts of 1923. Before such examinations may be made, a petition therefore must be filed with the State Examiner, alleging that the contractor has failed to comply with the plans and specifications and that local relief has not and can not be obtained. The petition must be signed by at least twenty-five taxpayers who are directly interested in the improvement named.

Neither the State Examiner, Deputy Examiners, nor the Field Examiners are given any authority whatever to supervise the construction of such work or to prepare plans and specifications therefor. We are sometimes called upon to do this kind of work, but we must necessarily refuse, for reasons stated and further for the reason that as an examining department, we would be in an embarrassing position were we called upon to examine our own work.

Financing Highway Construction

In the matter of highway construction, I desire at this point to offer some information as to the provisions of the statutes pertaining to certain financial phases of such construction.

In the matter of advancing from county fund per diem of engineer and his assistants—if the improvement is under the County Unit Road Law, there would be no need of refund to be made to county revenue in case bonds do not sell, as the expense pertains to the whole county as a unit.

If the bonds do not sell for three mile gravel road law construction, and moneys have been advanced, same should be repaid to county revenue from the proceeds of a tax levy against the township or townships wherein the improvement was petitioned for.

In case of highway improvement under the inspection of the State Highway Commission, no claim can be legally allowed except with the approval of the inspector representing said commission.

County Commissioners are entitled to reinbursement for their actual expenses in and about the construction of highways under the County Unit Road Law and Three Mile Gravel Road Law, but they are not entitled to payment for services in connection therewith.

The surplus in the several gravel road bond funds in the township shall be transferred to a "general gravel road by taxation fund," which fund shall be used to liquidate the indebtedness of any free gravel road in such township for which the bond issue may have been insufficient. If a surplus still remains in the fund, such surplus should be applied to the payment of the gravel road bonds of the township.

Bonds shall be sold in sufficient amount to pay all preliminary expenses and costs of construction, including the per diem of engineer and superintendent of construction.

The County Unit Road Law provides that the bond issue shall provide for a sufficient sum in addition to other expenses to pay for any extras or changes not contemplated in the original plans, specifications and contract, which the board shall deem necessary, not to exceed three per cent of the contract price.

No part of the bond redemption fund can be used to pay a deficiency in the construction fund.

There are many other points that could be brought out in relation to road construction work, but I feel that I should proceed now with matters pertaining to highway repairs and maintenance.

Laws Pertaining to Highway Financing and Accounting

There are many statutes relating to maintenance and repair of highway. At this point, however, I wish to explain some of the essential provisions of the law in so far as they pertain to financial and accounting provisions.

The proceeds of the gasoline tax distribution to counties under the provisions of the statutes:

"Shall constitute a special fund for construction, maintenance or repair of any public highway in the county."

The statute is clear in the providing for a "special fund" and therefore, the proceeds of such tax should be so carried and not placed in the free gravel road repair fund.

The gravel road repair fund can only be used for repair of free gravel roads while the special fund from the gasoline tax distribution may be used either for repair maintenance or construction.

No debts may be created against the gravel road repair fund except the money is on hand, or the debts be contracted against an existing levy in anticipation of its collection. Incurring of overdrafts in the gravel road repair fund as well as in any other fund, is illegal.

Claims against the gravel road repair fund must have the approval of the highway superintendent before the Board of County Commissioners may allow such claims. Publication of allowances on reports filed by assistant superintendents should show the total amounts paid to each laborer therein named.

Claims of material firms should be filed directly with the auditor, and allowed to the claimant and not to the assistant superintendent.

Any repairs made by the County Highway Superintendent upon a road, must be paid for from the gravel road repair fund, if the road has been taken over by the County Commissioners.

Receipts for payments made by assistant superintendents must be filed with the county auditor, to show that payments have been properly distributed by the assistant superintendent.

Aside from the requirements of the statutes which I have summarized herein there are many other ideas which are prompted by a desire to attain the best results from an economical and businesslike administration of your various offices. For example, it is very important in road work to determine the actual cost of placing material on roads and keep this data on file for reference. If this were done, I believe many instances would be found in which the cost, if known beforehand, would be considered prohibitive. Statistical data of this kind would be of great value in determining the cost of work to be done and in arranging appropriations and fixing levys. You should keep your material and labor costs on each project in such a way that they will be serviceable in estimating future work.

Our department is also recommending that all officials who have charge of any public property should keep a complete inventory of same. The total expense of county government when considered merely as an expense, oftentimes seems large, but if some thing tangible can be shown for such expenditures, or a part of it, in the way of machinery, equipment, tools, supplies on hand and buildings and land purchased we will then have something to show for the money so expended.

The keeping of such an inventory we regard as good business, and we regret to state that such a method has not been pursued to any extent in the state. The Department of Conservation, where a complete inventory is kept, is the one exception and most surprising results are evident.

In conclusion, I want to say just a few words concerning the State Board of Accounts. Some erroneous impressions have gone abroad concerning the activities of this department, some of which are not only erroneous but unfair. Like yourselves, we who have the administering of the Public Accounting Law are governed by statute, and we do not go any further in our examinations than the law requires of us. Sometimes our examiners are compelled to report things which some people do not like. This is not a pleasure to the examiners, but the statutes place responsibilities upon us which we must meet, and we do meet them fairly and squarely. Regardless of the consequences, our reports must speak the truth and show the facts as they are found to exist.

The law places the same authority with the department as to examinations of state offices and departments that it does in the examination of county, township and other public offices.

An office or department in the State House is not entitled to any more privileges in an examination of its accounts and affairs than the smallest town or township in the state.

Our examinations will be made without fear or favor and we will carry out our duties as provided by law.

During my administration as State Examiner I have endeavored to make the department helpful to all public officials and I invite you to send your problems and questions to me. We extend to you our services in the spirit of co-operation and assistance to the end that we may all serve to the best of our abilities in the interest of efficient, economical and honest government.

THE RESURFACING OF BADLY WORN CITY PAVEMENTS

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The resurfacing of badly worn city pavements is a subject that is receiving considerable attention at the present time. The large increase in motor traffic has brought about a demand for smooth roadways, and many cities are attempting to transform their old pavements into boulevards by the use of some type of bituminous surface. Most of our highway engineers have also recognized the economy of salvaging whatever value there is in their old roads, and are resurfacing gravel and macadam roads with asphalt or other bituminous material. The increase in the construction of this type of pavement is no doubt due to the fact that the financing of a paving program, in most communities, is becoming a serious problem, and any saving that can be made in construction cost, which does not lower the value of the service rendered by a pavement, is certainly justified. In some cities this work is being done by the application of a thin layer of asphalt, having a thickness of one-half or three-quarters of an inch, and frequently this is feathered out to zero at the curb and