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THE CIVIL ENGINEER'S PLACE IN COUNTY BRIDGE WORK.

In his annual report on Highway Improvements, Mr. W. A. McLean, C.E., Provincial Engineer of Highways, devotes some space to discussing the place the civil engineer should hold in reference to county bridge construction. Mr. McLean's remarks are particularly well chosen, and we look forward to their being extensively quoted in the agricultural papers of Canada, for they bring home, very pointedly, a number of truths that councils, at times, forget when, in addition to their legislative duties, they constitute themselves engineering experts for their municipality.

The average council should look with suspicion upon the publication which purposes to enable him to draw plans and specifications for bridges. Bridge building is strictly within the sphere of the civil engineer, and municipalities that disregard this fact not only add to the first cost of their structures, but usually secure bridges that are much inferior to those contracted for. The experienced farmer looks with amusement, and sometimes contempt, upon attempts at farming made by the remittance man or the provincial man from the city who wishes to take up farming as a hobby. The merchant gives one to clearly understand that he is very sympathetic for the farmer who attempts store-keeping. Councillors who will give the matter any consideration will realize that their own well-meant attempts to build steel and concrete bridges without trained advice usually make mistakes as disastrous as those of the inexperienced farmer in agricultural proceedings.

When a bridge is required in a municipality, even where they have a successful county engineer, unless he be a man experienced in bridge construction, he will usually find it to his advantage and to the advantage of his clients to employ a consulting engineer of experience in that particular kind of work.

In this connection it may be noted that the allowing of the companies submitting tenders to prepare their own strain-sheets and specifications is not by any means a wise proceeding. The corporations requiring the structure must pay for this work. Then why not have it entirely under their own control? If the bridge company prepares the strain-sheets, plans and specifications, they simply add the cost of this work to their tender for the bridge, and if the corporation have it prepared, it is included in the engineer's fee. When the engineer prepares his own plans and specifications the bids are more uniform, and the engineer is in a better position to decide upon the most favorable tender.