

Letters to the Editor

MIX FOR PAVEMENT FOUNDATIONS

Sir,—In my paper on "Road Foundations, Drainage and Culverts," on page 284 of your issue of March 6th, 1919, the proportions in the mix of concrete used as a foundation for city pavements should have read "1 part cement, 3 parts sand and 6 parts broken stone" as this is the usual mix used, and I would be obliged if you would note this correction.

GEO. HOGARTH,

Chief Engineer, Department of Public Highways, Ontario.

Toronto, Ont., March 11th, 1919.

STOP, LOOK AND LISTEN!

Sir,—The following branch of engineering was not mentioned in your list of February 27th:—

Who is the modern Atlas who is hiking down the track, With a cable post foundation and stick relays on his back? Block signaling and interlocking tracks, both far and near, The concrete-mixing, bond-wire-fixing, Signal Engineer.

Yours truly

SIGNAL DRAUGHTSMAN.

Montreal, P.Q., March 7th, 1919.

RESPONSIBILITY AND RECOGNITION OF ASSISTANTS

Sir,—In a letter published in *The Canadian Engineer* for January 30th, 1919, the writer spoke of the relationship and ethics between a chief engineer and his assistants. Another connected subject is responsibility and how it should be distributed.

It has been said that both parties should aim at companionship. That is essential. However, it is impossible if one has to endorse all the actions of a subordinate; or if the latter does not receive the proper appreciation from his chief regarding such duties as may be delegated to him. Good organization comes from a happy combination of leaders and followers. Under good management, recognition of services is the basis of success. It is the goad which stimulates personal energy and directs it toward the summit of efficiency.

To be responsible is to have such qualities and means as will guarantee the fulfilment of conditions exacted under contract. Morally, this depends on the practice of the duties of life to which one is pledged; financially, it is having the monetary standing to vouch for the proper execution of undertakings. In the former case, that is what prevails generally and to which are bound probity and qualifications. That is the character embodied in subordinates and men ordered to apply their own ability in a certain field of action so as to get the best results. In the latter, it is the position of a man who commands, whose influence added to his financial power creates a certain degree of independence.

"Knowledge is Power" (Francis Bacon). This sentence may be applied in engineering. Qualifications are recognized as the guarantee of the proper execution of a work. Engineering science represents this power by itself. Engineers, for the greatest percentage, are dependent on it as salaried men. They are chiefs or assistants, both being morally responsible to their patrons. They must be ready to accept their own share of responsibility as professionals.

There exists some misunderstanding on this point. Many think that all must fall upon the chief's shoulders. He is a man directed to approach the council; the hyphen between the executive and the technical staff; he who distributes charges amongst subordinates (who are themselves

responsible as engineers), so that the principals derive the greatest benefits possible.

"The master minds are those who through their knowledge of fundamental principles are able to organize and direct the efforts of others." (Jenkins). Engineers must be master minds. So they ought to use their judgment to interpret the value of their confreres and to dispose of same in the right way, by acquiring a habit of making observations and keeping record of same.

It is what they expect from their employers and they ought to apply same to their assistants. The engineer has to advise on questions relating to the industry, economy and natural resources. For this purpose he is helped by professional co-operators. He is chief or assistant. When a chief, he receives instructions to go over a question or to resolve a problem, he makes a distribution of duties and gives the impulse to a program he himself defines. When an assistant, he has to apply his knowledge, judgment and reliability as a qualified and responsible person to execute a portion of the program outlined by the chief.

If he succeeds in doing so, credit ought to be allowed him by bearing to the knowledge of the executive this man's ability to interpret the question. It is the assistant's right to be recognized and to receive the benefit of his own work.

Recognition is the best stimulus to incite initiative. This is not only a word to be used with the expectation of getting results from the community, but also to attain to the right spirit of justice which must govern every act of a chief.

When assistants are reporting on an engineering datum, the solution is from duly qualified engineers. A chief must not correct it, still less make use of it for his own advancement. Professional ethics require that he transmit it to whom it may concern, with a word of appreciation or disapproval of the question brought in point.

The man of lower grade thus receives due consideration, comes in touch with the executives, who are not ignorant of the activities of the technical staff and unconsciously indebted towards any of the assistants.

Then this man may expect a brighter future. He feels his merit is appreciated. He aspires to better himself by constant study. He dreams of attaining to a perfect achievement, not only in posting himself on the questions relating to his daily work, but in anticipating future problems, by becoming familiar with progressive discoveries and new appliances for promoting the interests of which he makes a specialty. He proves the truth of this opinion:—

"Chiefly the mould of a man's future is in his own hand." (Francis Bacon).

The chief is duly protected, as the responsibility is largely accepted by his assistants, who show themselves worthy of it. They are proud to see that every day gives them the opportunity of becoming an important factor in engineering. Discouragement finds no place in their heart.

ROMEO MORRISSETTE.

Three Rivers, P.Q., March 5th, 1919.

NEW FURNACE IN ALBERTA

ANNOUNCEMENT is made by the Canadian Western Steel Co., Ltd., Calgary, Alta., that they have just completed a new 25-ton basic open-hearth furnace at Redcliffe, Alta., the equipment being modern in every respect. The company's plants are at Redcliffe and Medicine Hat. They are manufacturing reinforcing steel, bolts, nuts, angle and channel iron, bands, bars, etc. George A. Mackenzie is the managing-director.

It is expected that a start will be made this year on the scheme for the reclamation of 30,000 acres at Sumas Lake, British Columbia, to be used under the land settlement scheme. A special loan will be necessary to finance the project. The cost of the scheme is estimated at \$1,000,000, and may be charged against the lands reclaimed.