Letters to the Editor

Circular Housing Plan

Sir,—I have recently read a most interesting article in your issue of August 29th, on the subject of "Engineering Possibilities of Circular Housing Plan," by Mr. Lamb, and as an engineer interested in housing I have been trying to winnow out the good suggestions of Mr. Lamb's article with a view to a practical utilization.

I gather that Mr. Lamb has convinced himself that his schemes cannot be adapted to the ordinary street layout which he condemns and without doubt rightfully so, but there are so many pleasant variations en route between the stiff rectangular and stiff circular planning that will appear far more than the extremes, that I think Mr. Lamb would be well repaid in adapting his ideas of public services to more rational planning.

I would like to call Mr. Lamb's attention to several of the items in his comparison of costs, as it is here that I assume he finds his greatest justification for his scheme.

In the first place the development of 333 houses in either plan would take place on unoccupied land and the whole development would be done as one piece of work. Why will houses on a circular scheme cost \$300 less than

the same houses arranged on a straight line. Why will excavation cost only one-quarter for circular

housing? Where can he install seven 125 horse-power steam plants with cold storage, pumps, power houses, stacks and three miles of heavily insulated high pressure mains and three miles of heavily insulated return mains, etc., for

\$28,000? Where, too, can he show a saving of two-fifths the cost of heating installation in his houses (over say hot water, which is no doubt contemplated in the block system although in the houses he shows hot air heating

would be suitable)? In plumbing can he save one-third by only reducing the length of the service connections?

And then when he gets down to roads, would there really not be considerably more paved area in the circular plan than in any well laid out rectangular system? And then, too, can residents be asked to walk a long distance in the middle of a driveway to approach their houses?

In the middle of a driveway to approach the cost of a circular If these items are adjusted, is not the cost of a circular system already higher than the cost of a block system?

system already higher than the cost of a blowley will be But, further, what about the tunnel which will be built? Here is where the engineering comes in and the tunnel will have to be a real one. There is 40 feet of tunnel for each house. Can a waterproof tunnel, with lighting, drainage, and various openings, be built for less than \$20 per foot? It appears to me that this item is overlooked, and it involves \$800 per house, or \$266,400 for the whole development, which adds just one-third to the total shown, without the proper allowances being made for the other items mentioned,

In capital cost I fear Mr. Lamb can find no justifica-In capital cost I fear Mr. Lamb can find no justification, but it is just possible that he might be able to show a real annual saving by such an arrangement of his public utilities service and provide a great improvement in the actual living conditions of the people

Actual living conditions of the people P. H. MITCHELL, Vice-President and Managing-Director, Toronto Housing, Company, Ltd Toronto, Ont., November 21st, 1918.

Friction of Water in Pipes

Sir,-Under separate cover I am sending you a copy of our bulletin on "The Friction of Water in Pipes and Fittings." This bulletin describes in detail a series of experiments made at the University of Texas to determine the friction of water in pipes and fittings, with particular references to the application of the developed data to the design of hot water heating systems. The experiments described in this bulletin show that the friction of water decreases as the temperature of the water increases and that, for ordinary ranges of temperature, the friction of water in one foot of new and clean black pipe is $(.01533v^{1.77})/(t^{.19}d^{1.275})$ feet of water of the same temperature as that flowing through the pipe; t being the temperature of the water in Fahrenheit degrees; v, velocity of the water in feet per second; and d, the internal diameter of the pipe in inches.

The experiments also show that the friction of water in galvanized iron pipe is slightly greater than that in black pipe; that is somewhat greater in used pipe than in new pipe; that the friction in drainage elbows is considerably greater than in ordinary elbows; that the relation between the friction in short radius and that in long radius elbows is quite variable; that the friction due to unreamed ends is relatively much greater in small pipes than large pipes; and other interesting facts.

A copy of the bulletin may be secured by writing the chairman of the Committee on Publications, University of Texas, Austin, Tex. We should be very much pleased to have you call the attention of your readers to this bulletin and to its free distribution.

F. E. GIESECKE, Head of the Division of Engineering, Bureau of Economic Geology and Technology, University of Texas.

Austin, Texas, November 7th, 1918.

RULES FOR CANAL NAVIGATION

The Canadian Lake Protective Association has issued the following bulletin:----

"The particular attention of masters is again called to the rules governing the navigation of the Dominion canals, a copy of which should be in the hands of every canal navigator. The rules relating to bridges may throw an unfair burden upon the ship, particularly in view of the difficult conditions often encountered, due to current, wind or dangerous banks, all requiring the maintenance of steerage way. Nevertheless every effort must be made to observe the rules, and no master is entitled to assume that a bridge is going to be opened, merely because he has signalled to it. The courts have taken the same view in Ontario in cases relating to bridges, and until some change is made in the rules, too much reliance upon the promptness or efficiency of bridge tenders will simply result in damage claims to be met by the ship and her owners. The Canadian Lake Protective Association's committee will make further representations to the Railways and Canals Department, renewing the request for the operation of an effective signal from each bridge in answer to signals from vessels, but until the situation is improved in this way the existing rules must be strictly observed in every way possible.

"A casualty reported with reference to the Morrisburg canal upper entrance calls attention to pending proposals for improvement of conditions there. The committee is aware of the special difficulties at this point and has sought to hasten the work of improvement which has been under consideration by the Railways and Canals Department. The application of the New York and Ontario Power Co. to the International Joint Commission for approval of their plans for nower at Waddington brings this question prominently forward, and the difficulties at this point are again called prominently to the department's attention "