

From time to time objections have been made to the City Architect's Department by those having to do with building construction, and in at least one instance representations have been made directly to the Mayor and the Board of Control. Thus far little or no improvement has been effected by these criticisms, due in part, no doubt, to the diverse opinions often expressed by different persons with respect to the same portion of the by-law. The City Architect has therefore quite properly taken the stand that until architects, engineers, contractors and builders could come to some agreement among themselves as to the manner in which they wished the by-law modified, he could take no action in the matter.

With the belief that those financially and professionally interested in building construction could reach such a desirable understanding, a meeting was held on October 18th, 1910, on the invitation of the Engineers' Club of Toronto, at which representatives of the following business and technical organizations were present: The Toronto branch of the Canadian Manufacturers' Association, the Ontario Association of Architects, the Toronto Society of Architects, the Engineers' Club of Toronto, the Toronto branch of the Canadian Society of Civil Engineers, the Canadian Cement and Concrete Association, the Builders' Exchange of Toronto.

The attitude taken throughout has not been one of antagonism to the City Architect, but the aim has been to assist rather than to embarrass a department which by reason of the duties it has to perform must always be subjected to much adverse criticism. Consequently every effort has been made to render the labors of this committee constructive in character, and, where it has been necessary to criticize the by-law, at the same time recommendations have been made for its improvement.

The objectionable features of the by-law upon which the committee bases its request for revision may be stated briefly as follows: 1. The exacting and unreasonable demands of many of its provisions; 2. Undue laxity in certain other provisions; 3. Incompleteness; 4. Faulty editing.

Exacting and unreasonable demands are met with in many sections of the written by-law. In the interests of brevity only the most important of these will be indicated here, the remainder being cited and discussed in Part II. It should be noted in passing that the objectionable requirements enumerated below are those of the written code only, and that the faulty interpretation of the by-law constitutes an additional grievance. The features to which most objection is raised on the ground of undue severity are as follows:

(a) Ten inches of fireproofing (nine inches of brick work and one inch of Portland cement grout) *all around* external iron and steel columns, and the compulsory use of fireproofing for iron and steel columns in timber construction buildings.

(b) The requirement of curtain walls fourteen inches or more in thickness for all materials, parapet walls fourteen inches thick, and the fixing of the thickness of basement bearing walls, however lightly loaded, at not less than fourteen inches.

(c) Ridiculously low allowable bearing pressures on brick work, necessitating 50 per cent. excess material in piers, pilasters or walls in which the compressive resistance of the brick work is the determining factor of the design.

(d) Unduly exacting rules respecting the number of piles in certain pile foundations.

(e) An allowable bending stress on encased grillage beams much less than is commonly adopted; excessive thickness of the encasing concrete, and the requirement of unnecessary asphalt and plaster coatings.

(f) Impossible assumptions as to the amount of live load on columns, involving in the case of tall office buildings a load in some instances as much as 50 per cent. greater than the maximum probable load.

(g) Lower allowable stresses and severer assumptions of design for plate girders than are customary in good practice; low permissible stresses on shop rivets; the requirement of excessive material for steel columns in the lower storeys of buildings.

(h) Exceptionally low allowable stresses on timber columns.

(i) Specification of impossible floor loads in a number of classes of buildings.

(j) The provision that the *horizontal* wind pressure on sloping roofs shall be considered as acting with the full specified intensity of 30 pounds per square foot on the sloping area of the roof.

(k) Excessively low allowable stresses on plain and reinforced concrete; untenable assumptions respecting the design of reinforced concrete structures; the impossible requirement that the deflection of a slab loaded beyond the elastic limit shall be proportional to the load.

This committee wishes it to be clearly understood that the primary object of its labors was not to cheapen building construction in Toronto, but to secure the enactment of a reasonable, safe and workable by-law. Consequently, wherever certain provisions were, in the opinion of the committee, such as to permit questionable construction, more stringent requirements have been recommended. The more important instances of undue laxity in the written by-law are as follows:

(a) The allowing of the use of inferior grades of Portland cement.

(b) The limitation of the use of fireproof shutters, wired glass or outside sprinklers, to warehouses and factories over two storeys in height.

(c) The permission of non-fireproof public schools up to 55 feet in height.

(d) The allowing of woodwork within four feet of cupolas of foundries, and the requirement of only four inches of brick work on a 3-16 inch sheet of metal under boilers or furnaces resting on wooden floors.

(e) Insufficient strength in steel columns in the upper storeys of buildings.

(f) Higher allowable stresses on wind bracing than are usually permitted.

(g) Insufficient protection against corrosion of steel towers supporting water tanks.

(h) The omission of special stair protection in fac-