

# MUNICIPAL DEPARTMENT

## GOOD STREETS.\*

By HERBERT J. BOWMAN, Town Engineer,  
Berlin, Ont.

A great movement has arisen during the past few years for "Good Roads." It is the purpose of the writer in this paper to touch upon the kindred question of "Good Streets," keeping in view, more particularly, the needs of the villages, towns, and smaller cities of Ontario, and it is hoped that the discussion by the members of the Association will contain much valuable experience gained throughout the province.

**LOCATION.**—A few of the older town sites were laid out by the government usually where, at the time of the survey of the district, a considerable population had gathered. In this way the town of Niagara (formerly New Ark), at one time the seat of the Government, came to possess its broad and well located streets. Later on the Canada Company, when subdividing its wild lands in the province, also laid out sites for future towns, that on which the City of Stratford now stands being one planned by their surveyors. However, a great many of our present population have never had the advantage of any well considered plan for the location of the streets. At some water privilege a grist mill was perhaps first built, soon to be followed by a blacksmith's shop, a general store, a hotel, and a few dwelling houses, located on a more or less direct trespass road leading to the nearest Government road allowance. This road has probably for years been all that the hamlet required till the advent of a railway brought a demand for more building lots. Some enterprising owner of adjoining lands then decided to supply the demand and located new streets as he thought best, to enable him to sell his lots. Fortunately during the last forty years, our laws have required that before deeds of these lots should be registered, a plan, prepared by some provincial land surveyor, should be filed in the Registry office. Thus the land owner had the assistance of a more or less competent man, whose advice, however, he was free to follow or disregard. Usually the owner's object has been to get the greatest number of lots out of a given area with little consideration for the future, and so we often see new streets laid out without any regard to existing streets, or to future extensions and without any examination as to grade or drainage. It is high time that this lack of system be remedied and the writer would suggest that all plans be assented to by the Municipal Council before they may be filed, and not, only those showing streets of less than standard width, as the law now is.

**WIDTH.**—The Registry Act now requires that all plans with streets of less than the standard width of 66ft. must be assented to by resolution of the Municipal Council, but this assent is far too easily obtained by an influential land-owner. A by-law of the council should be required to be carried by a two-thirds vote at its third reading, before any plan showing new streets is filed; and where the width is less than 50 ft. it should be confirmed by the County Council, as is now required when a Township or Village Council opens up a street less than 66ft. in width.

A greater width than 66ft. is seldom required even for a busy city street, and for residential streets 60ft. is an ample width and probably 50ft. is sufficient in most cases, as the tendency in the country towns is to allow the untravelled portion to become overgrown with grass and weeds; however, with streets as narrow as this, a "building line" should be laid down on every plan, say 25 feet from the street line, so that the rows of houses would really be 100 feet apart on a 50ft. street. Where comparatively narrow streets are laid out, the owner of the property can afford to dedicate an occasional square or gore as a public park, and as years roll by these will be the "lungs" of the future city.

**CROSS-SECTION.**—A business street should have sidewalks at from eight to twelve feet in width slightly inclined towards the gutters. At the edge of the walk there should be a nearly vertical curb separating the walk from the carriage way which occupies the balance of the street surface. A residential street unless calculated for street car tracks, does not require more than twenty-four feet between the curbs for the carriage way and from four to six feet will be wide enough for the walks, while the remainder of the street service should be sodded. In some cases the walk is placed upon the property line and separated from the carriage way by the sodded portion, while in others the walk is placed along the curb, and again in some few cases the walk divides the sodded portion into two parts. When the walk is placed along the curb, the sodded portion really becomes, to all intents and purposes, a part of the adjacent property and as such will undoubtedly have better care taken of it, and if a row of shade trees is planted between the walk and the houses, no unsightly fences will be required, and in addition the trees will not be damaged by being used as hitching posts for horses. However, the chief advantage is that in streets having a "titled" cross-section it is much easier to fit in the street grade to suit the properties, and it is also easier to arrange street intersections when the walks are along the curb lines.

**GRADE.**—In very few of our towns is the attempt made to fix the grades on streets; hence a person about to erect a building is unable to form any idea of the proper elevation at which to put the ground floor so that it may conform with the finished surface of the street, and it is a common occurrence to find buildings

too low and others set ridiculously high in order to be out of harm's way. Every village, town and city should have the grades of its principal streets fixed by by-law, as this power is apparently given to every Municipal Council by the Municipal Act (Sec. 550), which provides that councils "may pass by-laws for opening, making, preserving, improving, repairing, widening, altering, diverting or stopping up roads, streets, squares, alleys, lanes, bridges, or other public communications, and for entering upon, breaking up, taking or using any land in any way necessary or convenient for the said purposes; for setting apart and laying out such portions of any such roads, streets, squares, alleys, lanes, bridges or other communications, as the Council may deem necessary or expedient for the purpose of carriage ways, boulevards and sidewalks, or for the improvement or beautifying of the same."

**SIDEWALKS.**—Wood has until recent years been the usual material used in the construction of sidewalks, although expensive stone flagging has been used to a limited extent in the larger cities. A mixture of coal-tar and gravel, erroneously called asphalt, has been tried in a number of places but usually with poor results. However, since the general introduction of Portland cement, it has become possible, with the addition of sand and gravel only to make artificial stone walks that are satisfactory in every respect, and the cheapest of all walks when the lifetime is considered. A harder and more durable walk is made with crushed granite instead of sand, in the wearing surface, but it has the disadvantage of being very slippery under certain conditions.

**CURB.**—On gravelled or macadamized residential streets cedar planking forms an inexpensive curb, but where a more permanent roadway is to be constructed, stone curbing should be used. The writer however, sees no reason why artificial stone curbing of superior form and capable of being laid with closer joints, could not be made at half the cost of cut stone.

**ROADWAY.**—In the majority of towns having good gravel close at hand this material continues to be used for the surfacing of all except the busiest streets, as a good gravel roadway thoroughly tilled drained can be made for 25 cents per square yard. For streets having more traffic a good macadam roadway with stone foundation can be laid for less than 40 cents per square yard provided suitable stone may be obtained within 50 miles by rail. Wood as a paving material for roadways is now practically out of the field. In our larger cities there is a demand for a roadway with a minimum of dust and dirt and a smooth surface. A concrete foundation is the first requisite and on top of this the surfacing material is placed. Asphalt at the present time is very popular, but the cost is great, being from \$2 to \$2.75 per square yard according to specification. Vitrified brick is used very largely in the Western States; but as all brick is now imported, it has not been used to any great extent in Canada, and on a concrete foundation is no cheaper than asphalt. For the heaviest traffic of a city street granite sets on concrete foundation are used, costing about \$4 per square yard.

**PAYMENT OF COST.**—Before much progress can be made in any town towards good streets the local improvement system must be adopted, and to avoid any chance of trouble in the future a by-law should be submitted to the people providing that all street improvements shall be paid for by special assessment on the property benefitted and according to the frontage thereof.

\* Paper read before the Ontario Association of Provincial Land Surveyors, Toronto.