

RESURFACING OLD ROADS.

By WILLIAM D. UHLER (Chief Engineer, Pennsylvania State Highway Department).

One of the most important problems confronting road authorities today is the question of resurfacing or rehabilitating old stone roads. This condition in most cases is the result of neglect. Failure to make repairs or to restore the worn-out portions before a road has deteriorated through to the foundation necessitates the rebuilding of the road and a large expenditure; whereas, through skilled maintenance, the outlay can be reduced materially and spread over a period of years. There are, of course, other reasons for resurfacing old roads, as, for instance, the improper selection of the original material, which is responsible for rapid deterioration; and the constantly increasing and varied traffic causing abrasive action too severe for the type of road. This latter condition is noticeable particularly in suburban communities and communities where water bound macadam roads were laid in the early stages of development, and where the population has increased rapidly and where all classes of vehicular traffic have caused the original roadway to deteriorate more rapidly than would have been the case had the development not occurred, thus creating the necessity for repairing and resurfacing in order to make the wearing qualities of the road as good as those in the nearby cities.

The essential points to be considered in the selection of a proper type of surface for an old stone road are the character and amount of traffic, the grades, and, as a rule, that most important factor, the funds available for the work. When the traffic has been determined and the character of surfacing selected a thorough study should be made of the existing foundations and drainage facilities. Many surfaces have been sacrificed for the want of proper attention to the foundation, and too often it is taken for granted that any stone road is a suitable base for almost any type of surface. Test holes should be made at sufficient intervals in the road to determine the depth of the existing foundation, and usually it is found that a considerable portion must be restored before a surface can be applied. Irrespective of the type of surface selected, the preparation of the foundation must be given the same careful attention. Too much stress cannot be laid on the desirability of having proper lines and grades before resurfacing, in order to avoid increasing or perpetuating the difficulties of future improvement of these roads.

WAR TAX EXEMPTIONS.

Under the Ontario New Assessment Act the following are the exemptions which a municipality in Ontario may grant upon houses:

If a house is assessed at not more than \$2,000 that it be actually assessed at 50 per cent of the value, thus a \$2,000 house would be assessed for \$1,000.

If a house is assessed at not more than \$2,500, the actual assessment will be at 60 per cent.

If a house is assessed at not more than \$3,000, the actual assessment will be at 70 per cent.

If a house is assessed at not more than \$3,500, the actual assessment will be at 80 per cent.

If a house is assessed at not more than \$4,000, the actual assessment will be at 90 per cent.

A house assessed at more than \$4,000 will be actually assessed at the full value.

This exemption is on dwelling, exclusive of land.

In the country, instead of confining the exemption to dwellings, it shall apply to all buildings up to the same value of assessment as in the urban centres, and at the same rate of exemption.

It is provided in that act, however, that these exemptions shall only be granted after the electors have expressed their willingness to make the change on a by-law being submitted to a vote.

GOOD ROADS THE CONCERN OF ALL.

"Road improvement is fundamentally an economic problem and affects either directly or indirectly our entire citizenship, regardless of whether its members live in the country, the town or the crowded city; regardless of whether they drive a pleasure car, a lumber wagon, or walk the streets of the tenement district. The greatest direct benefits will come to the users of the road; but in each instance there are indirect benefits reaching a greater number of people, and hence of greater importance finally than the direct benefits."—S. E. Bradt.

MUNICIPAL SALVAGE OF HOUSE REFUSE.**Collection and Treatment of Waste Material to Redeem Its Value Yields Good Results.**

The war has not so much taught us certain things, as it rather has demonstrated facts previously recognized but considered as of little moment, things which in times of peace it would have taken many years of persistent propaganda to awaken an extravagant and indifferent public to the importance of.

Among other questions, that of the salvage of house refuse was not the least important. The most successful, and in many ways, the most advanced municipality in this regard is the Salvage Department of Birmingham, Eng., and a brief study of its successful operation cannot fail to be of benefit now.

Here the question is one of the adoption of new processes of waste prevention and not merely that of waste disposal.

In the matter of treatment of condemned meat and fish, whereby valuable fertilizers and fat are produced, Birmingham has long been active and, recently, a laboratory for analytical and research work has been added with a view to further developments in the treatment of all kinds of refuse.

The results obtained during the war, in connection with the waste paper campaign, unquestionably warrant the continuation of this part of the work of the department. To insure saving the waste paper of the city, and to permit of easier separation of the garbage generally, a system of dual refuse bins has recently been adopted by the Birmingham authorities. One bin, for the reception of domestic ashes and sweepings only, must be provided by the householder; the second is provided gratis by the corporation. This is the salvage bin for all other household wastes, such as rags, tins, bones, scrap iron, paper, glass, etc.

In like manner, the garbage will be collected separately in newly provided electric vehicles, these vehicles being divided into two groups. The ashes, on arrival at the works, will be screened; the fine portion, constituting approximately one-half of the whole, will pass direct into waggons or boats and will be disposed of to mix with heavy clay land; the coarser material will be used as fuel.

The contents of the salvage bins will be sorted and graded. The tins are first de-tinned, then de-soldered, and subsequently bundled by means of hydraulic pressure. The rags are sorted by a mechanical picking belt into cotton and woollens, passed through a mechanical washer, a turbine hydro-extractor and, finally, into a mechanical dryer and then baled.

It may not be possible for Canadian cities to carry on this important work of municipal salvage on the same lines as Birmingham, but there is certainly room for improvement everywhere in the collection, separation and subsequent disposal of the municipal wastes of large as well as of smaller municipalities.

Birmingham has passed the experimental stage, has profited by its own war experiences and is satisfied with its system both from the economic and the hygienic standpoint.—C.A.H.

FIRE PROTECTION.

A city owning and operating its own water plant is not liable for damages resulting from a low water pressure when fire occurs. Many business men do not know this to be true, and believe that they could obtain damages from the city if water pressure should fail at the time of a fire and lead to destruction of their property. A business man making a careful contract with a privately owned water power company for water supply can make the company clearly liable for failure to maintain a certain pressure during time of fire. But it is not good business to rely on collection of damages for re-imbursement of fire losses. The prudent business man will provide all the private fire protection he can afford instead of relying upon public agencies entirely.