

**MUNICIPAL IMPROVEMENTS: A
MANUAL OF THE METHODS,
UTILITY, AND COST OF PUBLIC
IMPROVEMENTS, FOR THE
MUNICIPAL OFFICER**

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Municipal Improvements: A Manual of the Methods, Utility, and Cost of Public Improvements,
for the Municipal Officer by W. F. Goodhue

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W. F. GOODHUE

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MUNICIPAL IMPROVEMENTS.

A MANUAL

OF THE

METHODS, UTILITY, AND COST OF
PUBLIC IMPROVEMENTS,

FOR THE

MUNICIPAL OFFICER.

BY

W. F. GOODHUE,
CIVIL ENGINEER.

SECOND EDITION, ENLARGED.

FIRST THOUSAND.



NEW YORK:

JOHN WILEY & SONS,

53 EAST TENTH STREET.

1894.

TO MY FRIEND
The Honorable Frederick Schnette,—
A Merchant of Manitowoc, Wis.; twice successively
elected to the Mayoralty of that City;
an earnest, judicious Advocate of Municipal Improvements,
which are essential to public prosperity;
economical and progressive in the discharge of
his administrative duties,—
This work is respectfully dedicated by
THE AUTHOR.



PREFACE.

THE writer of this work has avoided to a certain extent the use of technical words and phrases, also mathematical tables and formulæ, because it is intended for the non-professional reader.

Once in every year throughout our broad land there are chosen, from among the citizens of every city and town, a number of councillors who will sit in the council chamber and assist the chief magistrate in the government of the municipality which they represent. The members of the council are perhaps familiar with the general plan and scope of the various public improvements contemplated during their administration, but of the details of the work proposed they are uninformed. It is in the nature of things that this should be so; their education and training have been in other work and its rewards. Yet, being men of affairs, they will not hesitate to seek such information regarding any proposed improvements as will enable them to discharge their official duties in a manner that will be commended by their constituents.

If the contents of this book can assist the prudent,

conscientious magistrate or councillor to secure, in a judicious and economical way, those improvements which are essential to the welfare and prosperity of a municipality, the writer will believe that his aim has been good, although the arrow may fall short of the mark.

W. F. GOODRUE.

MILWAUKEE, Wis., October 13, 1892.

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MUNICIPAL IMPROVEMENTS.

A SEWERAGE SYSTEM.

A TOWN or city should have a sewerage system planned for its entire area, having in view at the time the work is done its prospective future population and enlarged area. It does not follow that because a plan is made for the whole city the entire system should be built at once; on the contrary, a sewerage system is never completed unless a city stops growing. When the main sewers are once built, the street sewers are put in street by street, a certain amount each year is laid, —just so much as the property owners on each street may petition for. Consequently the expenditures and growth of the sewer work of a city are almost entirely in the hands of the property owners. In fact, in some of our smaller cities the sewer work done is altogether too much in the hands of the property owner: he not only controls the laying of sewers, but dictates their course, depth, and outfall; and the result of it all is: there is a sewerage system for every two or three blocks, and