Productivity Improvement FOR Construction AND Engineering

Implementing Programs That Save Money and Time

J. K. Yates, Ph.D.

ASCE PRESS

Productivity Improvement for Construction and Engineering

Other Titles of Interest

***Constructability Concepts and Practice*, edited by John A. Gambatese; James B. Pocock; Phillip S. Dunston** (ASCE Technical Report, 2007). Examines constructability and the integration of construction knowledge and experience in the planning, design, procurement, construction, operation, maintenance, and decommissioning phases of a project consistent with overall project objectives.

***Managing Gigaprojects: Advice from Those Who've Been There, Done That*, edited by Patricia D. Galloway, Ph.D., P.E.; Kris R. Nielsen, Ph.D., J.D.; Jack L. Dignum** (ASCE Press, 2013). A stellar group of financial, legal, and construction professionals share lessons learned and best practices developed from working on the world's biggest infrastructure construction projects.

***Project Administration for Design-Build Contracts: A Primer for Owners, Engineers, and Contractors*, by James E. Koch, Ph.D., P.E.; Douglas D. Gransberg, Ph.D., P.E.; Keith R. Molenaar, Ph.D.** (ASCE Press, 2010). Explains the basics of administering a design-build project after the contract has been awarded.

***Public-Private Partnerships: Case Studies on Infrastructure Development*, by Sidney M. Levy** (ASCE Press, 2011). Demystifies public-private partnerships as an innovative solution to the challenges of designing, financing, building, and operating major infrastructure projects.

***Quality in the Constructed Project: A Guide for Owners, Designers, and Constructors*, Third Edition, prepared by the Construction Institute of ASCE** (ASCE Manual of Practice, 2012). Provides information and recommendations on principles and procedures that are effective in enhancing the quality of constructed projects.

Productivity Improvement for Construction and Engineering

Implementing Programs That Save Money and Time

J. K. Yates, Ph.D.

ASCE PRESS

Library of Congress Cataloging-in-Publication Data

Yates, J. K., 1955–
Productivity improvement for construction and engineering : implementing programs that save money and time/J.K. Yates, Ph.D.
pages cm
Includes bibliographical references and index.
ISBN 978-0-7844-1346-3 (print : alk. paper) — ISBN 978-0-7844-7832-5 (ebook) 1. Building—Superintendence. 2. Construction industry—Management. 3. Industrial productivity. I. Title.
TH438.Y38 2014
620.0068'5—dc23

2014007427

Published by American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, Virginia, 20191-4382
www.asce.org/bookstore | ascelibrary.org

Errata: Errata, if any, can be found at http://dx.doi.org/10.1061/9780784413463.

ISBN 978-0-7844-1346-3 (paper)
ISBN 978-0-7844-7832-5 (PDF)
Manufactured in the United States of America.

21 20 19 18 17 16 15 14 1 2 3 4 5

Instructors: A PDF manual providing worked answers for the problems presented in this book and sample test questions is available at no charge. Contact ASCE by e-mail (pubsful@asce.org) or telephone (1-800-548-2723, domestic U.S.; 1-703-296-6300, international). Ask for *Productivity Improvement for Engineering and Construction: Solution Manual and Test Questions*, ISBN 978-0-7844-7833-2, Stock No. 47833.

Cover photo: Reproduced with permission. Copyright 2014 Joseph A. Blum. josephablumphotography.com

Dedication

To my former students who contributed to this book by providing examples, case studies, figures, and photographs. To the students who over the years continually inspired me to be a better professor and administrator. I am very proud of what all of my former students have accomplished since they graduated from college.

This page intentionally left blank

Contents