



BOMA International Guide to Exterior Maintenance Management

P. Marc Fischer, MBA, CPM®, RPA, CCIM



About BOMA International

Founded in 1907, the Building Owners and Managers Association (BOMA) International is an international federation of more than 100 local associations and affiliated organizations. The 16,500-plus members of BOMA International own or manage more than 9 billion square feet of commercial properties in North America and abroad. BOMA's mission is to enhance the human, intellectual and physical assets of the commercial real estate industry through advocacy, education, research, standards and information. On the Web at www.boma.org.

BOMA International has developed this publication as a service to the office building industry and to the public. Use of this publication is voluntary and should be undertaken after an independent review of the applicable facts and circumstances of the particular projects. Although BOMA International has made all reasonable efforts to present comprehensive and accurate information, NO GUARANTEES OR WARRANTIES, INCLUDING EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS ARE MADE WITH RESPECT TO THIS PUBLICATION BY BOMA INTERNATIONAL, ITS OFFICERS, DIRECTORS, EMPLOYEES, OR AGENTS, WHO ALSO ASSUME NO LEGAL RESPONSIBILITY FOR THE ACCURACY OF THE PRESENTATIONS, COMMENTS, OR OTHER INFORMATION IN THIS PUBLICATION. IN ADDITION, NO LIABILITY IS ASSUMED AND ALL LIABILITY IS EXPRESSLY DISCLAIMED FOR NEGLIGENCE OR DAMAGES OF ANY KIND, ANY DECISIONS, CONTRACTS, COMMITMENTS, OBLIGATIONS OR ANY OTHER ACTIONS UNDERTAKEN OR MADE ON THE BASIS OF THE INFORMATION CONTAINED IN THIS PUBLICATION. These documents have important legal and financial consequences, and independent consultation with an attorney is advised and encouraged with respect to execution or modification.

No part of this publication may be reproduced, recorded or copied in any manner or by any means, in whole or in part, without the prior permission of BOMA International, 1101 15th St., NW, Suite 800, Washington, DC, 20005, 202-408-2662 or from other individuals or organizations owning copyright interests in other parts of the publication as identified.

BOMA International
Suite 800
1101 15th Street, NW
Washington, DC 20005
202.408.2662
www.boma.org

BOMA International Guide to Exterior Maintenance Management ©2012 Building Owners & Managers Association (BOMA) International, Washington, DC. All rights reserved.

ISBN # 978-0-9778587-6-7

Acknowledgements

About the Author

P. Marc Fischer, MBA, CPM®, RPA, CCIM is Senior Vice President and Director of Management Services with Transwestern. A former president of BOMA/Baltimore, Fischer has chaired the BOMA International's Careers in Real Estate Task Force and the Education Advisory Council. Fischer is the author of BOMA International's Foundations of Real Estate Management course and the BOMA International *Guide to Developing a Standard Operating Procedure Manual*. He is a frequent lecturer on commercial real estate topics.

Principal Author

P. Marc Fischer, MBA, CPM®,
RPA, CCIM
*Senior Vice President
Director of Management
Services
Transwestern
Columbia, Maryland*

Project Manager and Editor

Lisa M. Prats, CAE
*Vice President
Communications, Marketing
and Meetings
BOMA International
Washington, DC*

Reviewers

Table of Contents

- Gary LeFrancois, LEED® AP
*Senior Vice President
Director of Engineering
Transwestern
Vienna, Virginia*
- Frank Rutkowski
*Regional Engineering Manager
Transwestern
Vienna, Virginia*

Chapter 1: Maintenance

- N. Robert Burgess RPA®, CEM,
CEA, LEED® GA
*Principal
Advanced Building Engineer-
ing Services, LLC
Gaithersburg, Maryland*
- Robert Schiller
*Vice President, Business
Development and Marketing
Support
ISS Facility Services
Phoenix, Arizona*

Chapter 2: Maintenance of Roofing Systems

- Richard S. Pineau
*TectaAmerica
Baltimore, Maryland*
- Helene Hardy Pierce, FRCI
*Vice President of Technical
Services
GAF Materials Corporation
Wayne, New Jersey*

Chapter 3: The Building Envelope

- David J. Rodler, PE
*Principal
Smislova, Kehnemui &
Associates
Potomac, Maryland*

- Horace C. Willis
*Associate
Smislova, Kehnemui &
Associates
Potomac, Maryland*
- Roy Turner
*Vice President,
Waterproofing Division
Valcourt Exterior
Building Services
Bradenton, Florida*
- Adam Hibshman
*General Manager
Valcourt Exterior Building
Services of Washington, DC,
LC
Bowie, Maryland*
- Cal Duncan
*Executive Vice President, COO
Valcourt Exterior Building
Services of Florida, LC
Bradenton, Florida*

Chapter 4: Window Washing

- Jon Capon
*Chief Operating Officer
Valcourt Building Services
McLean, Virginia*
- Bruce Lapham
*General Manager
Valcourt Building Services
of New Jersey
Edison, New Jersey*

- Jason Robertson
Window Cleaning General
Manager, Washington
DC/Baltimore
Valcourt Building Services
Alexandria, Virginia

Chapter 5: Site Work

- Richard Restuccia
Director, Water Management
Solutions
ValleyCrest Landscape
Maintenance
Calabasas, California
- Jerry McDonough
Project Manager
Freedom Restoration LLC
Crofton, Maryland
- Rich Nelson
PCM Services
Beltsville, Maryland

Chapter 6: Roads, Grounds, and Parking

- Gary LeFrancois, LEED® AP
Senior Vice President
Director of Engineering
Transwestern
Vienna, Virginia
- Ronald Burton
BOMA International
Codes Consultant
President
PTW Advisors, LLC
Point of Rocks, MD

Chapter 7: Landscaping and Irrigation

- Richard Restuccia
Director, Water Management
Solutions
ValleyCrest Landscape
Maintenance
Calabasas, California
- Steve Sullivan
Horticulturalist
The Brickman Group, Limited
Columbia, Maryland
- Lucas Castor
National Account Manager
The Brickman Group, Limited
Gaithersburg, Maryland

Chapter 8: Snow Removal

- Wayne Shively
Vice President,
DC Metro Region
ValleyCrest Landscape
Maintenance
Chantilly, Virginia
- Marc L. Longenecker, CLT,
SIMA Member
Division Snow Manager
The Brickman Group, Limited
Columbia, Maryland

Chapter 9: Life Safety

- Michael R. Faith, CSP, CFS
President
Patapsco Safety
Consultants, Inc
Elkridge, Maryland

Chapter 10: Generator

- Cassandra Wolfe, PE,
LEED® AP
ARIUMae
Columbia, Maryland

Chapter 11: Exterior Lighting Maintenance

- Richard Heinisch, FIES, LC,
LEED® AP
Manager, Energy and
Environmental Standards
Acuity Brands Lighting, Inc.
Conyers, Georgia

Chapter 12: Pest Management

- Ron Harrison, Ph.D.
Director of Technical Services
Orkin, LLC
Atlanta, Georgia

Design

Pittny Creative

BOMA International Officers

Chair and Chief Elected Officer
Boyd R. Zoccola
Hokanson Companies, Inc.
Indianapolis, Indiana

Chair-Elect
Joseph W. Markling
CBRE
Los Angeles, California

Vice Chair
Richard W. Greninger, CPM®
Carr Properties
Washington, DC

Secretary/Treasurer
Rebecca B. Hanner, CPM®, RPA
Cassidy Turley
Raleigh, North Carolina

President and Chief Operating
Officer
Henry H. Chamberlain, APR,
FASAE, CAE
BOMA International
Washington, DC

Table of Contents

About BOMA International	ii
Acknowledgements	iii
Chapter 1: Maintenance	1
Chapter 2: Roofing Systems	8
Chapter 3: Building Envelope	23
Chapter 4: Window Cleaning	32
Chapter 5: Site Work	38
Chapter 6: Roads, Grounds, and Parking	45
Chapter 7: Landscaping and Irrigation	59
Chapter 8: Snow Removal	71
Chapter 9: Life Safety	77
Chapter 10: Generators	93
Chapter 11: Exterior Lighting	100
Chapter 12: Pest Management	106

Chapter 1: Maintenance

Fade to a commercial: an auto mechanic (identified as “Jerry” from the patch that is sewn on his shirt) stands in the foreground of a dirty garage holding a simple orange oil filter. In the background another mechanic, named Joe, is rebuilding an engine, its parts scattered all over the workbench. While Jerry extols the virtues of changing the engine oil and replacing the oil filter on a regular basis, Joe makes it clear during the conversation that his work to rebuild the engine is very expensive. At the end of the commercial, we hear the famous tag line: Jerry says, “You can either pay me now,” and then Joe stops working on the motor long enough to add, “or, you can pay me later.”

That commercial, which was shown extensively in the 1980s, offers a useful summary of the basic concept of “maintenance.” In almost everything we do in our management and oversight of a commercial building, it is almost always significantly less expensive to maintain a building system than to repair or replace it prematurely.

What is “Maintenance?”

In order for the building systems to remain fully operational, maximally efficient, and within design parameters, the real estate manager and the building’s engineering team need to develop a comprehensive maintenance program.

There are three basic types of maintenance:

- Reactive maintenance
- Preventive maintenance
- Predictive maintenance

To a certain extent, it is likely that most properties include all three types of maintenance in their maintenance programs. However, the degree to which the property dedicates its resources to each form of maintenance depends a great deal on the owner’s objective for the property, the staffing level and skill set of the engineering employees assigned to the property, and a host of other factors.

Reactive Maintenance

As the name implies, reactive maintenance occurs when the building system has already broken and has to be repaired after the fact. This type of maintenance is typically the most disruptive to occupants because there is no warning to the occupants that the system will be out of service. In addition, reactive maintenance can be tremendously disruptive to the engineering team members because, when reactive maintenance is prevalent at a property, the engineers no longer control the work schedule—the work schedule controls them. In reactive maintenance, engineers often go from one system failure to another. As soon as they get one component fixed, something else breaks down.

To a certain extent, all buildings employ some degree of reactive maintenance. No maintenance system can predict or prevent failures with 100 percent certainty, and even if such a system could be designed, it would be prohibitively expensive to manage in most commercial buildings.