



## Risk Management Series

# Primer

for Design of Commercial Buildings to Mitigate  
Terrorist Attacks

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# FEMA



**RISK MANAGEMENT SERIES**

Primer *for*  
Design of Commercial  
Buildings to Mitigate  
Terrorist Attacks

**PROVIDING PROTECTION TO PEOPLE AND BUILDINGS**



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# FOREWORD AND ACKNOWLEDGMENTS

This *Primer for Design of Commercial Buildings to Mitigate Terrorist Attacks – Protecting Office, Retail, Multi-Family Residential, and Light-Industrial Facilities*, provides guidance to building designers, owners and state and local governments to mitigate the effects of hazards resulting from terrorist attacks on new buildings. While the guidance provided focuses principally on explosive attacks and design strategies to mitigate the effects of explosions, the document also addresses design strategies to mitigate the effects of chemical, biological and radiological attacks. In addition to applicability to the design of new commercial office, retail, multi-family residential, and light-industrial buildings, many of the concepts presented are also applicable to other building types and/or existing buildings.

## ACKNOWLEDGEMENTS

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This manual will be revised periodically, and comments and feedback to improve future editions are welcome. Please send comments and feedback by e-mail to [riskmanagementseriespubs@dhs.gov](mailto:riskmanagementseriespubs@dhs.gov)

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- 4-3** Photograph courtesy of Exponent Failure Analysis Associates
- 4-4** Photograph courtesy of the U.S. Air Force
- 4-5** Photograph courtesy of U.S. Department of State
- 6-1** Based on Figure 3-6, *Security Engineering - Concept Design*, Army TM5-853-2, Air Force AFMAN 32-1071, Vol. 2, Department of the Army, and the Air Force, May 1994.
- 6-2** Based on Figure 14.9.6.1.3, *Architectural & Engineering Design Guidelines for U.S. Diplomatic Mission Buildings*, Office of Building Operations, U.S. Department of State, Washington D.C., June 1997.
- 6-7** From Figure 4-1, *ISC Security Design Criteria for New Federal Office Buildings and Major Modernization Projects*, The Interagency Security Committee, Washington, D.C., May 28, 2001.
- 6-9** *Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks*, Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, May, 2002.
- 8-1** Courtesy of Joseph Smith of Applied Research Associates, Inc.

