## Contents

Preface xv
Acknowledgments xvii
About the Guidelines xxv
Major Additions and Revisions xxix
Glossary xxxv
List of Acronyms xli

### Part 1 General

1.1 Introduction 3

1.1-1 General 3

1.1-1.1 Application 3

1.1-1.2 Minimum Standards for New Facilities and Major Renovations 3

1.1-2 New Construction 3

1.1-3 Renovation 3

1.3-3.1 General 3

1.3-3.2 Facilities Subject to Compliance with the Guidelines 3

1.3-3.3 Undiminished Safety 3

1.3-3.4 Long-Range Improvement 3

1.1-4 Government Regulations 5

1.1-4.1 Design Standards for Accessibility 5

1.1-4.2 Regulations for Earthquake-Resistant Design for New Buildings 5

1.1-4.3 Flood Protection 5

1.1-4.4 National Standards for the Protection of Patient Health Information 5

1.1-4.5 Environmental Regulations 5

1.1-5 Building Codes and Standards 6

1.1-5.1 Safe Environment 6

1.1-5.2 Code Compliance 6

1.1-6 Equivalency Concepts 6

1.1-7 English/Metric Measurements 7

1.1-8 Codes, Standards, and Other DocumentsReferenced in the Guidelines 7

1.2 Planning, Design, Construction, and Commissioning 13

1.2-1 General 13

1.2-1.1 Application 13

1.2-1.2 Multidisciplinary Project Team 14

1.2-1.3 Environment of Care and Facility Function Considerations 14

1.2-2 Functional Program 14

1.2-2.1 General 14

1.2-2.2 Functional Program Content 15

1.2-3 Space Program 15

1.2-4 Safety Risk Assessment 16

1.2-4.1 General 16

1.2-4.2 Infection Control Risk Assessment 16

1.2-4.3 Patient Handling and Movement Assessment 16

1.2-4.4 Fall Prevention Assessment 16

1.2-4.5 Medication Safety Assessment 16

1.2-4.6 Behavioral and Mental Health Risk Assessment 16

1.2-4.7 Security Risk Assessment 16

1.2-5 Environment of Care Requirements 26

1.2-5.1 Delivery of Care Model Concepts 26

1.2-5.2 Patient, Visitors, Physicians, and Staff Accommodation and Flow 26

1.2-5.3 Building Infrastructure and Systems Design 26

1.2-5.4 Physical Environment Elements 26

1.2-6 Planning and Design Considerations and Requirements 29

1.2-6.1 Acoustic Design 29

1.2-6.2 Sustainable Design 29

1.2-6.3 Wayfinding 29

1.2-6.4 Accommodations for Care of Patients of Size 29

1.2-6.5 Emergency Preparedness and Management 29

1.2-7 Renovation 39

1.2-7.1 Phasing 39

1.2-7.2 Isolation of Construction Areas 39

1.2-7.3 Maintenance of Air Quality and Utilities 39

1.2-7.4 Existing Conditions 39

1.2-8 Commissioning 40

1.2-8.1 Commissioning Requirements 40

1.2-8.2 Commissioning Activities 40

1.2-8.3 Commissioning Agent 40

---

*Guidelines for Design and Construction of Outpatient Facilities*
CONTENTS

2.2-3.6 – 2.2-3.7 Reserved
2.2-3.8 Support Areas for General and Specialty Medical Services Facilities
2.2-3.9 Reserved
2.2-3.10 Support Areas for Patients

2.2-4 Patient Support Facilities 134
2.2-4.1 Laboratory Services
2.2-4.2 Pharmacy Services
2.2-4.3 Sterile Processing
2.2-4.4 Linen Services

2.2-5 Building Support Facilities 135
2.2-5.1 Materials Management
2.2-5.2 Waste Management
2.2-5.3 Environmental Services
2.2-5.4 Engineering and Maintenance Services

2.2-6 Public and Administrative Areas 135
2.2-6.1 Reserved
2.2-6.2 Public Areas
2.2-6.3 Administrative Areas
2.2-6.4 Support Areas for Staff

2.2-7 Design and Construction Requirements 136

2.2-8 Building Systems 136
2.2-8.1 Reserved
2.2-8.2 HVAC Systems
2.2-8.3 Electrical Systems
2.2-8.4 Plumbing Systems
2.2-8.5 Communications Systems
2.2-8.6 Fire Alarm System

2.3 Specific Requirements for Outpatient Imaging Facilities 139
2.3-1 General 139
2.3-1.1 Application
2.3-2 Accommodations for Care of Patients of Size 139
2.3-3 Patient Care and Diagnostic Areas 139
2.3-3.1 General
2.3-3.2 Imaging Services
2.3-4 Patient Support Facilities 139
2.3-4.1 Laboratory Services
2.3-4.2 Pharmacy Services
2.3-4.3 Sterile Processing
2.3-4.4 Linen Services
2.3-5 Building Support Facilities 140
2.3-5.1 Materials Management
2.3-5.2 Waste Management
2.3-5.3 Environmental Services
2.3-5.4 Engineering and Maintenance Services
2.3-6 Public and Administrative Areas 140
2.3-7 Design and Construction Requirements 140
2.3-8 Building Systems 140

2.4 Specific Requirements for Birth Centers 141
2.4-1 General 141
2.4-1.1 Application
2.4-1.2 Functional Program
2.4-1.3 Site
2.4-2 Birth Center Facilities 142
2.4-2.1 Examination Room
2.4-2.2 Birthing Room
2.4-2.3 – 2.4-2.7 Reserved
2.4-2.8 Support Areas for the Birth Center
2.4-2.9 Support Areas for Staff
2.4-3 Reserved 144
2.4-4 Patient Support Facilities 144
2.4-4.1 – 2.4-4.3 Reserved
2.4-4.4 Linen Services
2.4-4.5 Food Services
2.4-5 Building Support Facilities 144
2.4-5.1 Materials Management
2.4-5.2 Waste Management
2.4-5.3 Reserved
2.4-5.4 Engineering and Maintenance Services
2.4-6 Public and Administrative Areas 144
2.4-6.1 Reserved
2.4-6.2 Public Areas
2.4-6.3 Administrative Areas
2.4-7 Design and Construction Requirements 145
2.4-7.1 Building Codes
2.4-7.2 Architectural Details and Surfaces
2.4-8 Building Systems 145
2.4-8.1 General
2.4-8.2 Reserved
2.4-8.3 Electrical Systems
2.4-8.4 Plumbing Systems
2.4-8.5 Reserved
2.4-8.6 Security Systems
2.4-8.7 Elevators

2.5 Specific Requirements for Urgent Care Centers 147
2.5-1 General 147
2.5-1.1 Application
2.5-2 Accommodations for Care of Patients of Size 147
2.5-3 Patient Care and Diagnostic Areas 147
2.5-3.1 General
2.5-3.2 Examination and Treatment Rooms
2.5-3.3 Observation Facilities
2.5-3.4 Reserved
2.5-3.5 Imaging Services
2.5-3.6 – 2.5-3.7 Reserved
2.5-3.8 Support Areas for Patient Care and Diagnostic Areas
2.5-4 Patient Support Facilities 149
2.5-4.1 Laboratory Services
CONTENTS

2.8-3.7 Reserved
2.8-3.8 Support Areas for the Freestanding Emergency Care Facility
2.8-3.9 Support Areas for Staff
2.8-3.10 Support Areas for Patients

2.8-4 Patient Support Facilities
  2.8-4.1 Laboratory Services
  2.8-4.2 Pharmacy Services
  2.8-4.3 Sterile Processing
  2.8-4.4 Linen Services
  2.8-4.5 Food and Nutrition Services

2.8-5 Building Support Facilities
  2.8-5.1 Materials Management
  2.8-5.2 Waste Management
  2.8-5.3 Environmental Services
  2.8-5.4 Engineering and Maintenance Services

2.8-6 Public and Administrative Areas
  2.8-6.1 General
  2.8-6.2 Public Areas
  2.8-6.3 Administrative Areas

2.8-7 Design and Construction Requirements

2.8-8 Building Systems

2.9 Specific Requirements for Endoscopy Facilities

2.9-1 General
  2.9-1.1 Application
  2.9-1.2 – 2.9-1.3 Reserved
  2.9-1.4 Facility Layout and Circulation

2.9-2 Accommodations for Care of Patients of Size

2.9-3 Patient Care and Diagnostic Areas
  2.9-3.1 Single-Patient Examination Room
  2.9-3.2 Endoscopy Procedure Room
  2.9-3.3 Pre- and Post-Procedure Patient Care Areas
  2.9-3.4 – 2.9-3.7 Reserved
  2.9-3.8 Support Areas for the Endoscopy Procedure Area and Other Patient Care Areas
  2.9-3.9 Support Areas for Staff
  2.9-3.10 Support Areas for Patients

2.9-4 Patient Support Facilities
  2.9-4.1 Laboratory Services
  2.9-4.2 Reserved
  2.9-4.3 Endoscopy Processing Room

2.9-5 Building Support Facilities
  2.9-5.1 Reserved
  2.9-5.2 Waste Management
  2.9-5.3 Environmental Services

2.9-6 Public and Administrative Areas
  2.9-6.1 Reserved
  2.9-6.2 Public Areas
  2.9-6.3 Administrative Areas
  2.9-6.4 Support Areas for Staff

2.9-7 Design and Construction Requirements
  2.9-7.1 Reserved
  2.9-7.2 Architectural Details, Surfaces, and Furnishings

2.9-8 Building Systems
  2.9-8.1 Reserved
  2.9-8.2 HVAC Systems
  2.9-8.3 Electrical Systems
  2.9-8.4 Plumbing Systems
  2.9-8.5 Communications Systems
  2.9-8.6 Fire Alarm System
  2.9-8.7 Elevators

2.10 Specific Requirements for Renal Dialysis Centers

2.10-1 General
  2.10-1.1 Application

2.10-2 Accommodations for Care of Patients of Size

2.10-3 Patient Care and Diagnostic Areas
  2.10-3.1 Examination Room
  2.10-3.2 Hemodialysis Treatment Area
  2.10-3.3 Home Training Room
  2.10-3.4 Special Patient Care Rooms
  2.10-3.5 – 2.10-3.7 Reserved
  2.10-3.8 Support Areas for the Renal Dialysis Center
  2.10-3.9 Support Areas for Staff
  2.10-3.10 Support Areas for Patients

2.10-4 Patient Support Facilities
  2.10-4.1 – 2.10-4.4 Reserved
  2.10-4.5 Dialysis Support Facilities

2.10-5 Building Support Facilities
  2.10-5.1 Reserved
  2.10-5.2 Waste Management
  2.10-5.3 Environmental Services

2.10-6 Public and Administrative Areas
  2.10-6.1 Reserved
  2.10-6.2 Public Areas
  2.10-6.3 Administrative Areas

2.10-7 Surfaces

2.10-8 Building Systems
  2.10-8.1 Reserved
  2.10-8.2 HVAC Systems
  2.10-8.3 Electrical Systems
  2.10-8.4 Plumbing Systems
  2.10-8.5 Communications Systems
  2.10-8.6 Fire Alarm System
  2.10-8.7 Elevators

2.11 Specific Requirements for Outpatient Psychiatric Centers

2.11-1 General
  2.11-1.1 Application
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.11-2</td>
<td>Reserved</td>
<td>185</td>
</tr>
<tr>
<td>2.11-3</td>
<td>Patient Care and Diagnostic Areas</td>
<td>185</td>
</tr>
<tr>
<td>2.11-3.1</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>2.11-3.2</td>
<td>Areas for Patient Services</td>
<td></td>
</tr>
<tr>
<td>2.11-3.3-2.11-3.7</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.11-3.8</td>
<td>Support Areas for the Outpatient Psychiatric Center</td>
<td></td>
</tr>
<tr>
<td>2.11-3.9</td>
<td>Support Areas for Staff</td>
<td></td>
</tr>
<tr>
<td>2.11-4</td>
<td>Reserved</td>
<td>189</td>
</tr>
<tr>
<td>2.11-5</td>
<td>Building Support Facilities</td>
<td>189</td>
</tr>
<tr>
<td>2.11-5.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.11-5.2</td>
<td>Waste Management</td>
<td></td>
</tr>
<tr>
<td>2.11-5.3</td>
<td>Environmental Services</td>
<td></td>
</tr>
<tr>
<td>2.11-5.4</td>
<td>Engineering and Maintenance Services</td>
<td></td>
</tr>
<tr>
<td>2.11-6</td>
<td>Public and Administrative Areas</td>
<td>189</td>
</tr>
<tr>
<td>2.11-6.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.11-6.2</td>
<td>Public Areas</td>
<td></td>
</tr>
<tr>
<td>2.11-6.3</td>
<td>Administrative Areas</td>
<td></td>
</tr>
<tr>
<td>2.11-7</td>
<td>Design and Construction Requirements</td>
<td>190</td>
</tr>
<tr>
<td>2.11-7.1</td>
<td>Security</td>
<td></td>
</tr>
<tr>
<td>2.11-7.2</td>
<td>Architectural Details</td>
<td></td>
</tr>
<tr>
<td>2.11-8</td>
<td>Building Systems</td>
<td>190</td>
</tr>
<tr>
<td>2.11-8.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.11-8.2</td>
<td>HVAC Systems</td>
<td></td>
</tr>
<tr>
<td>2.11-8.3</td>
<td>Electrical Systems</td>
<td></td>
</tr>
<tr>
<td>2.11-8.4</td>
<td>Plumbing Systems</td>
<td></td>
</tr>
<tr>
<td>2.11-8.5</td>
<td>Communications Systems</td>
<td></td>
</tr>
<tr>
<td>2.11-8.6</td>
<td>Electronic Safety and Security Systems</td>
<td></td>
</tr>
<tr>
<td>2.11-8.7</td>
<td>Elevators</td>
<td></td>
</tr>
<tr>
<td>2.12</td>
<td>Specific Requirements for Outpatient Rehabilitation Therapy Facilities</td>
<td>193</td>
</tr>
<tr>
<td>2.12-1</td>
<td>General</td>
<td>193</td>
</tr>
<tr>
<td>2.12-1.1</td>
<td>Application</td>
<td></td>
</tr>
<tr>
<td>2.12-1.2</td>
<td>Functional Program</td>
<td></td>
</tr>
<tr>
<td>2.12-2</td>
<td>Accommodations for Care of Patients of Size</td>
<td>193</td>
</tr>
<tr>
<td>2.12-3</td>
<td>Patient Care and Diagnostic Areas</td>
<td>193</td>
</tr>
<tr>
<td>2.12-3.1</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>2.12-3.2</td>
<td>Physical and Occupational Therapy</td>
<td></td>
</tr>
<tr>
<td>2.12-3.3</td>
<td>Other Patient Care Areas</td>
<td></td>
</tr>
<tr>
<td>2.12-3.4-2.12-3.7</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.12-3.8</td>
<td>Support Areas for Therapy and Other Patient Care Areas</td>
<td></td>
</tr>
<tr>
<td>2.12-3.9</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.12-3.10</td>
<td>Support Areas for Patients</td>
<td></td>
</tr>
<tr>
<td>2.12-4</td>
<td>Reserved</td>
<td>196</td>
</tr>
<tr>
<td>2.12-5</td>
<td>Building Support Facilities</td>
<td>196</td>
</tr>
<tr>
<td>2.12-5.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.12-5.2</td>
<td>Waste Management</td>
<td></td>
</tr>
<tr>
<td>2.12-5.3</td>
<td>Environmental Services</td>
<td></td>
</tr>
<tr>
<td>2.12-6</td>
<td>Public and Administrative Areas</td>
<td>196</td>
</tr>
<tr>
<td>2.12-6.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.12-6.2</td>
<td>Public Areas</td>
<td></td>
</tr>
<tr>
<td>2.12-6.3</td>
<td>Administrative Areas</td>
<td></td>
</tr>
<tr>
<td>2.12-7</td>
<td>Design and Construction Requirements</td>
<td>197</td>
</tr>
<tr>
<td>2.12-7.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.12-7.2</td>
<td>Architectural Details, Surfaces, and Furnishings</td>
<td></td>
</tr>
<tr>
<td>2.12-8</td>
<td>Building Systems</td>
<td>197</td>
</tr>
<tr>
<td>2.12-8.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.12-8.2</td>
<td>HVAC Systems</td>
<td></td>
</tr>
<tr>
<td>2.12-8.3</td>
<td>Electrical Systems</td>
<td></td>
</tr>
<tr>
<td>2.12-8.4</td>
<td>Plumbing Systems</td>
<td></td>
</tr>
<tr>
<td>2.12-8.5</td>
<td>Communications Systems</td>
<td></td>
</tr>
<tr>
<td>2.12-8.6</td>
<td>Fire Alarm Systems</td>
<td></td>
</tr>
<tr>
<td>2.12-8.7</td>
<td>Elevators</td>
<td></td>
</tr>
<tr>
<td>2.13</td>
<td>Specific Requirements for Mobile/Transportable Medical Units</td>
<td>199</td>
</tr>
<tr>
<td>2.13-1</td>
<td>General</td>
<td>199</td>
</tr>
<tr>
<td>2.13-1.1</td>
<td>Application</td>
<td></td>
</tr>
<tr>
<td>2.13-1.2</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.13-1.3</td>
<td>Site</td>
<td></td>
</tr>
<tr>
<td>2.13-2</td>
<td>Reserved</td>
<td>202</td>
</tr>
<tr>
<td>2.13-3</td>
<td>Patient Care and Diagnostic Areas</td>
<td>202</td>
</tr>
<tr>
<td>2.13-3.1</td>
<td>Mobile/Transportable Units</td>
<td></td>
</tr>
<tr>
<td>2.13-3.2</td>
<td>Pre- and Post-Procedure Patient Care</td>
<td></td>
</tr>
<tr>
<td>2.13-3.3-2.13-3.7</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.13-3.8</td>
<td>Support Areas for Mobile/ Transportable Medical Units</td>
<td></td>
</tr>
<tr>
<td>2.13-3.9</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.13-3.10</td>
<td>Support Areas for Patients</td>
<td></td>
</tr>
<tr>
<td>2.13-4-2.13-5</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.13-6</td>
<td>Public and Administrative Areas</td>
<td>204</td>
</tr>
<tr>
<td>2.13-6.1</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>2.13-6.2</td>
<td>Public Areas</td>
<td></td>
</tr>
<tr>
<td>2.13-7</td>
<td>Design and Construction Requirements</td>
<td>204</td>
</tr>
<tr>
<td>2.13-7.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.13-7.2</td>
<td>Architectural Details and Surfaces for Unit Construction</td>
<td></td>
</tr>
<tr>
<td>2.13-8</td>
<td>Building Systems</td>
<td>204</td>
</tr>
<tr>
<td>2.13-8.1</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>2.13-8.2</td>
<td>HVAC Systems</td>
<td></td>
</tr>
<tr>
<td>2.13-8.3</td>
<td>Electrical Systems</td>
<td></td>
</tr>
<tr>
<td>2.13-8.4</td>
<td>Plumbing Systems</td>
<td></td>
</tr>
<tr>
<td>2.13-8.5</td>
<td>Communications Systems</td>
<td></td>
</tr>
<tr>
<td>2.13-8.6</td>
<td>Safety and Security Systems</td>
<td></td>
</tr>
<tr>
<td>2.14</td>
<td>Specific Requirements for Dental Facilities</td>
<td>209</td>
</tr>
<tr>
<td>2.14-1</td>
<td>General</td>
<td>209</td>
</tr>
<tr>
<td>2.14-1.1</td>
<td>Application</td>
<td></td>
</tr>
<tr>
<td>2.14-1.2</td>
<td>Functional Program</td>
<td></td>
</tr>
<tr>
<td>2.14-2</td>
<td>Reserved</td>
<td>209</td>
</tr>
</tbody>
</table>
List of Tables

Part 1

Table 1.2-1: Safety Risk Assessment Components 44
Table 1.2-2: Infection Control Risk Assessment Design Considerations 46
Table 1.2-3: Categorization of Outpatient Facility Sites by Exterior Ambient Sound with Design Criteria for Exterior Shell for Sound Isolation in New Construction 47
Table 1.2-4: Minimum Design Room Sound Absorption Coefficients 49
Table 1.2-5: Maximum Design Criteria for Noise in Interior Spaces Caused by Building Systems 50
Table 1.2-6: Design Criteria for Minimum Sound Isolation Performance Between Enclosed Rooms 51
Table 1.2-7: Design Criteria for Speech Privacy for Enclosed Rooms and Open-Plan Spaces 52
Table 1.2-8: Maximum Limits on Floor Privacy Caused by Footfalls in Outpatient Facilities 53
Appendix Table A1.2-a: Safety Risk Assessment Team Member Expertise 45
Appendix Table A1.2-b: Approximate Distance of Noise Sources for Use in Categorization of Outpatient Facility Sites by Exterior Ambient Sound 48

Part 2

Table 2.1-1: Electrical Receptacles for Patient Care Areas in Outpatient Facilities 126
Table 2.1-2: Station Outlets for Oxygen, Vacuum, Medical Air, and Instrument Air Systems in Outpatient Facilities 127
Table 2.1-3: Locations for Nurse Call Devices in Outpatient Facilities 128
Table 2.1-4: Examination/Treatment, Procedure, and Operating Room Classification 129
Table 2.1-5: Classification of Room Types for Imaging Services 130
Appendix Table A2.1-a: Waiting Area Seating Capacity 131
Appendix Table A2.1-b: Maximum Length of Hot Water System Pipe or Tube 132