PART 1 - INTRODUCTION

1.01 OVERVIEW

A. This Section addresses minimum codes, guidelines, regulations and standards that must be appropriately applied in designing facility systems and components.

B. Design MD Anderson construction projects to comply with all applicable codes, guidelines, and standards referenced herein and those not referenced herein that are pertinent based upon Project Scope.

C. The date Owner authorizes the A/E to proceed with the Construction Document Phase of the Project shall determine the applicable edition of an adopted code, regulation, standard, amendment and/or addendum.

D. The A/E shall obtain and become familiar with requirements of Owner's insurance underwriter, and incorporate all applicable provisions into the Contract Documents for compliance.

E. The A/E shall thoroughly and clearly document all project related communications with code and regulatory agents and expediently forward communication documentation to the Owner's Project Manager.

F. Where the A/E considers that compliance is not possible, the A/E shall communicate such concerns in writing to the Owner's Project Manager and resolve all non-compliance issues in sufficient time during the design phase of the Project to meet contract schedule obligations.

PART 2 - GENERAL REQUIREMENTS

2.01 CODES AND STANDARDS ANALYSIS

A. The A/E shall prepare a written codes and standards analysis, “Building Code Analysis”, for each Project and submit for review by Owner. Refer to Exhibit 1 “Building Code Analysis Template” (attached).

B. The Building Code Analysis shall provide a side-by-side comparison of listed codes and standards requirements and an indication of which code requirement is being applied to the Project.

C. In the presence of a specific non-life safety conflict between codes, the default is to design to the more stringent or robust code. In the presence of a life safety conflict, follow requirements in 2.03 Life Safety Compliance. These code discussions are to be Project specific and on a point-by-point basis within the codes.

2.02 AUTHORITY HAVING JURISDICTION

A. The State Fire Marshal is the code authority having jurisdiction for all issues pertaining to NFPA 101 Life Safety Code and NFPA 1 Fire Code.
B. The Environmental Health and Safety (EH&S) department of MD Anderson is the local code authority having jurisdiction for all issues pertaining to ADA, TAS, NFPA, and NEC. EH&S will relay any changes in code requirements as mandated by the State Fire Marshal specifically relating to NFPA 101 Life Safety Code and NFPA 1 Fire Code.

C. If local code interpretation for any aspect of the Project is needed, the A/E shall inform Owner of the need for an interpretation and Owner will establish requirements for resolution.

2.03 LIFE SAFETY CODE COMPLIANCE

A. Conflicts between NFPA 101 NFPA 1 and other codes shall be resolved according to the following:

1. NFPA 101 and NFPA 1 supersedes all other codes on fire and life safety issues.

2. In the case of a conflict between NFPA 101 and NFPA 1 the issue is to be brought to the Project Management team and EHS, as local AHJ and liaison with the State Fire Marshal’s Office for direction on resolution.

3. If NFPA 101 and NFPA 1 is silent on the conflict, the issue is to be brought to the Project Management team and EHS, as local AHJ and liaison with the State Fire Marshal’s Office for direction on resolution.

B. The Project Architect/Engineer acknowledges that construction projects for the University of Texas MD Anderson Cancer Center must, at a minimum, be designed in accordance with the requirements of National Fire Protection Association (NFPA) 101-2015, Life Safety Code, as currently adopted by the University of Texas System and NFPA 1 -2015 Fire Code, as currently adopted by the State Fire Marshal, Texas Government Code sec. 417.008(e).

C. Therefore, Project Architect/Engineer affirms that, to the best of his/her professional judgment, knowledge, and belief, the design of this project satisfies the requirements of NFPA 101, Life Safety Code, and NFPA 1, Fire Code, as well as, any other codes or standards made applicable to the project by the professional services agreement.

2.04 APPLICABLE CODES, GUIDELINES, AND STANDARDS

A. Determine applicability of the codes, guidelines, and standards listed herein and identify any and all other pertinent ordinances and assure compliance thereto. As per the A/E’s “Building Code Analysis”, design and construction shall meet the minimum standards prescribed in all applicable codes and standards, including, but not limited to, the following:

1. 2015 International Building Code
2. 2015 International Mechanical Code
3. 2015 International Plumbing Code
4. 2015 International Fuel Gas Code
6. 2015 NFPA 1, Fire Code except those chapters listed below per TAC 34.303
Z2005 Codes and Applicable Regulatory Agencies

a. Chapter 1 Administration, to the extent that subsections 1.6 Enforcement, 1.7 Authority, 1.8 Duties and Powers of the Incident Commander, 1.9 Liability, 1.10 Fire Code Board of Appeals, 1.11 Records and Reports, 1.12 Permits and Approvals, 1.13 Certificates of Fitness, 1.14 Plan Review, and 1.16 Notice of Violations and Penalties do not apply to State Fire Marshal inspections;

b. Chapter 30 Motor Fuel Dispensing Facilities and Repair Garages, to the extent it conflicts with standards adopted in Subchapter A of this chapter and Health and Safety Code Chapter 753;

c. Chapter 60 Hazardous Materials, to the extent it will not be applied to laboratories and laboratories in health care occupancies; and

d. Chapter 65 Explosives, Fireworks, and Model Rocketry, to the extent it conflicts with subchapter H of this chapter and Occupations Code Chapter 2154;

7. Attention shall be paid to editions of NFPA codes or standards referenced in other NFPA documents. See Exhibit 2 for further details (attached).


Element Z  General Design Requirements
Z2005 Codes and Applicable Regulatory Agencies


* The Texas Electrical Safety and Licensing Act requires the Texas Department of Licensing and Regulation (TDLR) to adopt the revised National Electrical Code (NEC), as set forth by the Texas Commission of Licensing and Regulation, which oversees TDLR, and amended to Chapter 73.100 of the Electricians Administrative Rules as the electrical code for the state of Texas.


Element Z

General Design Requirements

Z2005 Codes and Applicable Regulatory Agencies


8. 2012 Texas Accessibility Standards (TAS), Elimination of Architectural Barriers, Texas Government Code, Chapter 469

9. 2010 ADA Standards for Accessible Design


11. Title 25 Texas Administrative Code, Chapter 133, Hospital Licensing Rules, (Applicable for all issues not addressed within FGI Guidelines)

12. Title 25 Texas Administrative Code, Chapter 135, Ambulatory Surgical Centers Licensing Rules (Applicable for all issues not addressed within FGI Guidelines)

13. Texas Department of Licensing and Regulation, Elevator Safety and Licensing Health and Safety Code

14. ANSI/ASME A17.1 Safety Code for Elevators and Escalators

15. Texas Natural Resource Conservation Commission Standards

16. ACI - 318, building code requirements for reinforced concrete

17. AISC, Specification for the Design, Fabrication and Erection of Structural Steel

18. SMACNA Sheet Metal Standards

19. ASHRAE Guidelines and Standards

20. Associated Air Balancing Council Standards (AABC)

21. Lightning Protection Institute Standard LP1-175

22. Underwriters’ Laboratories Standards

23. Illuminating Engineering Society Standards

24. TIA Telecommunication Industry Association

25. Texas Health and Safety Code, Chapter 372, Environmental Performance Standards for Plumbing Fixtures

26. 10CFR20.1302 Compliance with dose limits for individual members of the public – Gaseous and Liquid Effluent Monitoring
Element Z | General Design Requirements

Z2005 Codes and Applicable Regulatory Agencies

27. City of Houston Codes for connections to municipal domestic water, storm sewer, and sanitary sewer systems

28. Local Utility Regulations (CenterPoint Energy, etc.)


30. Water Conditioning Foundation

31. ANSI/ASHRAE/IESNA 90.1 – 2010


33. Texas Government Code Chapter 447, State Energy Conservation Office (SECO), Section 447.004 Design Standards


35. OSHA 29 CFR 1910 General Industry Standards

36. OSHA 29 CFR 1926 Safety & Health Regulations for Construction

B. Additional Industrial Hygiene Requirements:

1. Texas Administrative Code Title 25 Part 1 Chapter 297 Subchapter A

2. ASHRAE/ASHE Standard 170, Ventilation of Health Care Facilities

3. ANSI/AIHA Z9.5-2012, American National Standard: Laboratory Ventilation

4. Guidelines for Environmental Infection Control in Health Care Facilities (Center for Disease Control)

5. Texas Mold Assessment and Remediation Rules Texas Administrative Code (TAC) 25 TAC §§295.301-295.338

6. Texas Asbestos Health Protection Rules 25 TAC §§295.31-295.73

C. Additional Environmental Requirements:

1. EMERGENCY GENERATORS, 40 CFR §89.112(a), Table 1


3. SPCC Regulation (40 CFR 112)

4. Regulations of the Department of Health for Dining Service Area (FDA Standards & 25 TAC 229)

5. Water Quality & Service (30 CFR 131, 141, 142 and 30 TAC 290)
6. SWPPP Regulation (40 CFR 122 & TPDES TXR150000)

7. NIOSH, Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks

8. BOILERS, Title 30 of the Texas Administrative Code (30 TAC § 117.206(c)(1), and all other applicable regulations under 30 TAC § 117.206.

9. SURFACE COATING BOOThS (for application of surface coatings such as paint or adhesives), Texas Administrative Code (Title 30) 106.433 (6)(A) – (6)(C) and all other applicable regulations under 30 TAC 106.433 or 30 TAC, Chapter 115.

10. ETHYLENE OXIDE (EO) STERILIZATION UNITS, Texas Administrative Code (Title 30) 106.417

D. The Joint Commission:

1. NIOSH, Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks

2. Joint Commission Accreditation Manual for Hospitals, Environment of Care Standards

E. Additional Laboratory Design Requirements:

1. Centers for Disease Control/National Institutes of Health (CDC/NIH) Biosafety in Microbiological and Biomedical Laboratories (BMBL)

2. ANSI Z358.1, Safety Shower and Eyewash Stations

3. ANSI/AIHA Z9.5, Lab Ventilation Requirements

4. ASHRAE 110, Chemical Fume Hood Testing

5. ASHRAE HVAC Applications Handbook, Exhaust Requirements

6. Scientific Equipment and Furniture Association (SEFA) 1.2, Fume Hood Design

7. Scientific Equipment and Furniture Association (SEFA) 2.3, Installation of Scientific Laboratory Furniture and Equipment


9. Safety in Academic Chemistry Laboratories, American Chemical Society, (suggestion for design and use)

10. NIH, National Institutes of Health; Design Policy and Guidelines for Laboratories and Vivariums

11. NIH Guidelines for the Laboratory Use of Chemical Carcinogens, (US DHHS)

12. CDC-NIH Biosafety in Microbiological and Biomedical Laboratories, (US DHHS)


15. AAALAC, American Association for Accreditation of Laboratory Animal Care

16. ASHRAE Laboratory Design Guide

17. USDA, United States Department of Agriculture, Animal Welfare Act and Amendments

18. National Research Council (NRC) Guide for the Care and Use of Laboratory Animals

19. National Research Council (NRC) Occupational Health and Safety in the Care and Use of Research Animals

F. Regulatory Reference for Radiation Shielding Standards:

1. Shielding for ionizing radiation shall meet requirements as stated in 25 Texas Administrative Code (TAC) 289 and in particular, as applicable, in 25 TAC 289.202, 227, 228, 229, 230, 231, and 232.

2. Shielding calculations shall be performed by or reviewed and approved by a medical physicist licensed by the Texas Board of Licensure for Professional Medical Physicists with a specialty in Medical Health Physics or the applicable specialty of Diagnostic Radiological Physics, Therapeutic Radiological Physics, or Medical Nuclear Physics.

PART 3 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

3.01 GENERAL

A. The final approved Building Code Analysis shall be placed within the Contract Drawings for future reference.

B. The A/E shall familiarize themselves with the codes, guidelines, and standards and incorporate all applicable requirements within Contract Drawings and Specifications.

C. Note that Owner takes various exceptions to the International Plumbing Code and has adopted the more stringent requirements that are included within these Elements and MD Anderson Master Construction Specifications. These exceptions shall be indicated within the Contract Documents.

D. The A/E shall be required to provide an affirmation statement that the Project is designed in compliance with applicable codes and standards. The following statement shall be located on the Drawing index page or adjacent the Project building code summary:

1. “Life Safety Code Compliance: The Project Architect/Engineer acknowledges that construction projects for the University of Texas M.D. Anderson Cancer Center must, at a minimum, be designed in accordance with the requirements of National Fire Protection Association (NFPA) 101-2015, Life Safety Code, as currently adopted by the University of Texas System and NFPA 1-2015, Fire Code, as currently adopted by the State Fire
Element Z General Design Requirements

Owner Standards and Other Requirements

Z2005 Codes and Applicable Regulatory Agencies

Marshal, Texas Government Code sec. 417.008(e). Therefore, Project Architect/Engineer affirms that, to the best of his/her professional judgment, knowledge, and belief, the design of this project satisfies the requirements of NFPA 101-2015, Life Safety Code, NFPA 1-2015, Fire Code, as well as, any other codes or standards made applicable to the project by the professional services agreement.

E. Owner requires the A/E to comply with certain provisions of the local fire department that provides fire protection services for the Institution. These provisions may include locations and dimensions for firefighting access, including fire lanes; locations and specifications for standpipes, fire hose cabinets, fire control room, and fire hose connections; elevator requirements; and other similar matters.

F. Specific consideration must be given to ANSI/ASHRAE/IESNA Standard 90.1. The Engineer of Record will be required to sign and seal certification that stipulates that the design complies with the requirements of this standard. This written certification with backup documentation must be submitted to Owner at the time of completion of the Construction Documents. Refer to Design Guideline Element Z2010 Design Submittal Requirements, for specific requirements.

G. The A/E must provide a flood elevation certificate and a flood proofing certificate (if applicable) as a deliverable to Owner at the time of Project Substantial Completion.

PART 4 - CODE COMPLIANCE CONFIRMATION REVIEW

4.01 GENERAL

A. Owner will directly contract with an independent, third-party code consultant to perform, document, and submit a Project design “Code Compliance Confirmation Review” at Schematic Design and Design Development phases to ensure compliance with all applicable codes as they apply to a specific Project.

B. This Code Compliance Confirmation Review does not relieve the A/E from complying with all relevant codes and standards for the Project.

PART 5 - DOCUMENT REVISION HISTORY

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<th>Issue</th>
<th>Date</th>
<th>Revision Description</th>
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<tr>
<td></td>
<td>01-01-07</td>
<td>Initial Adoption of Element</td>
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<tr>
<td>Rev. 1</td>
<td>02-27-07</td>
<td>Part 1 – changed the word ‘apply’ to ‘applied’. Part 3 – deleted reference to the Uniform Plumbing Code.</td>
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<td>Rev. 3</td>
<td>12-22-09</td>
<td>Paragraph 2.04 A. 6. – Added reference to the 2009 Edition of the Standard for Electrical Safety in the Workplace, NFPA 70E</td>
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<td>Rev. 4</td>
<td>02-04-10</td>
<td>2.04 B. 2. Added reference to ASHRAE / ASHE Standard 170</td>
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<td>Rev. 5</td>
<td>03-02-10</td>
<td>1.01 D – Deleted the insurance reference of FM Global. 2.04 A 31 – Added the reference of ANSI/ASHRAE/IESNA 90.1 – 2007.</td>
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<td>Rev. 6</td>
<td>07-08-10</td>
<td>Revised 2.04 A.10: FGI Guidelines replace AIA Health Care Guidelines.</td>
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<td>08-18-11</td>
<td>2.01 F. – Revised ASHRAE table reference number.</td>
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<td>09-15-11</td>
<td>2.04 A. - Added references to applicable NFPA Standards.</td>
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<td>Rev. 9</td>
<td>01-19-12</td>
<td>2.04 A. – Added SECO and State of Texas reference standards for design.</td>
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<td>Rev. 12</td>
<td>05-17-12</td>
<td>Revised references to TAS and ADA Standards. Paragraphs 2.04 A. 6 &amp; 7.</td>
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<td>02-26-13</td>
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<td>Rev. 17</td>
<td>07-21-15</td>
<td>Added references to NFPA 1 - 2012 and the exceptions that were not adopted per TAC 34.303. Revised International Code editions from 2009 to 2012.</td>
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<td>Rev. 20</td>
<td>08-03-17</td>
<td>Changed NFPA 101 Life Safety Code edition reference from 2012 TO 2015.</td>
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END OF ELEMENT Z2005
### Exhibit 1

**Building Code Analysis [Template]**

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<td>Etc.</td>
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Exhibit 2

Referenced Codes within NFPA

In effort to keep NFPA codes and standards within a reasonable size, NFPA uses Chapter 2 of many of its publication to reference other regulatory publication including other NFPA documents. When referencing these publications the user must pay particular attention to the publication edition referenced in the document they are currently reviewing.

For Example: